

# SUPPORTING SUSTAINABLE GROWTH IN ONTARIO'S GREATER GOLDEN HORSESHOE

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Submission by Sustainable Prosperity to  
the 2015 Ontario Co-ordinated Land Use  
Planning Review

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## Executive Summary

Sustainable Prosperity (SP) welcomes this opportunity to comment on the 2015 coordinated review of four provincial plans working to manage growth, protect the environment and stimulate the economy of Ontario's Greater Golden Horseshoe region. Land use planning is a complex and multi-dimension field. SP's research is focused on the role of public policy to set price signals that support sustainable land use choices. The research summarized in this submission offers suggestions for how market based instruments can be applied in the context of the goals identified for the Greater Golden Horseshoe.

The intention of this submission is not to provide a comprehensive brief on all aspects of the wide-ranging Land Use Planning Review, but rather to summarize and highlight SP research that is relevant to the goals and questions listed in the *Our Region, Our Community, Our Home* discussion paper. With this context, SP recommends the Land Use Planning Review:

- Consider compact, complete urban form, and access to multi-modal transport as the foundations for the Greater Golden Horseshoe's social, economic, and environmental goals.
  - Further amend the Development Charges Act to:
    - Include all costs imposed by new developments in the list of eligible costs for development cost charges.
    - Remove the backward-looking 10-year average service level cap for development cost charges
    - Remove the 10% discount on services in development cost charges.
  - Use environmental markets to protect nature and water in the Greater Golden Horseshoe
    - Create a biodiversity offsets exchange platform
    - Consider the use of biodiversity offsets beyond endangered species
    - Expand the knowledge base on biodiversity offsets.
    - Explore use of water markets through water quality trading
  - Promote livable, walkable communities
    - Consider road patterns as indicators of future development when designing communities
    - Reduce congestion by designing development cost changes to fund transit
  - The need for critical infrastructure to support economic growth with environmental protection
    - Use water pricing as a mechanism to reduce infrastructure costs and achieve water conservation goals
  - Public and active transportation
    - Explore the use of policy bundles to encourage alternative transportation
    - Consider mobility hubs to better connect services and provide links between transportation corridors
  - Building communities that attract workers and create jobs
    - Consider Community Energy Plans as part of the formula for communities that attract workers and businesses
  - Addressing climate change and building resilient communities
    - Continue to address sprawl to both reduce greenhouse gas emissions from transportation and preserve ecosystem resilience to climate change
    - Consider green infrastructure as a tool for both climate mitigation and adaptation
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## Introduction

Sustainable Prosperity (SP) welcomes the opportunity to comment on the 2015 coordinated review of four provincial plans working to manage growth, protect the environment and stimulate the economy of Ontario's Greater Golden Horseshoe region.

This area is a culturally, economically and environmentally vibrant region of Ontario with a population forecast to increase by 50% in the next generation. Rapid growth will exacerbate existing challenges such as sprawl congestion, pressure on infrastructure, loss of agricultural land and natural spaces, water quality challenges, changing demographics, and a changing climate. SP agrees that smart and careful planning, through this coordinated review, is an opportunity to build a stronger, prosperous, and more sustainable Ontario.

Sustainable Prosperity is Canada's leading green economy research and policy institute. SP focuses on market-based approaches to build a stronger, greener economy in Canada. We bring together business, policy and academic leaders to the table with expert researchers to both design and apply innovative policies and programs.

SP's expertise is on approaches to align market prices to support environmental goals. Growing cities, industries, farms and other economic activities are increasingly eroding critical environmental goods and services. These activities impose environmental costs on our society that are not factored into the prices of goods and services, so there is no (or little) market incentive to minimize that harm and conserve ecological services. By changing prices to "internalize" these external environmental costs, market-based tools – like environmental fees, taxes or markets -- can raise prices for activities that create negative environmental impacts, or decrease prices for activities that have positive environmental impacts. This incentivizes people and businesses to change their behaviour too – for example, by using energy more efficiently, reducing environmentally demanding activities (like driving), and protecting ecologically important natural areas.

The intention of this submission is not to provide a comprehensive brief on all aspects of the wide-ranging Land Use Planning Review, but rather to summarize and highlight SP research that is relevant to the goals and questions listed in the discussion paper. In this submission, SP has summarized our research and recommendations that are relevant to five of the six goals identified in the Discussion Document, *Our Region, Our Community, Our Home*:

- Protecting agricultural land, water and natural areas
- Keeping people and goods moving, and building cost-effective infrastructure
- Fostering attractive, livable and healthy communities
- Building communities that attract workers and create jobs
- Addressing climate change and building resilient communities

Many of the approaches we cite have multiple benefits, and support more than one goal. While this submission discusses SP research in the context of the four provincial plans up for review, it is important to state that many of our recommendations apply in a larger land use planning context and should be considered in light of broader planning priorities. For example, many of our recommendations relating to urban sprawl are not only relevant to the Growth Plan for the Greater Golden Horseshoe (Growth Plan) but also to other policies and plans, such as Metrolinx's regional transportation plan, and the forthcoming renewal of Ontario's climate change strategy.

## Compact development: the cross-cutting challenge

Two cross-cutting challenges to all of the questions posed in the Discussion document are those of managing urban growth without sacrificing the ecosystems which support the region’s health, quality of life, and agricultural economy, and of finding forms of urban growth which enable efficient, multi-modal transportation, and vibrant and complete communities, critical for large populations to live together with a high quality of life. New approaches to urban form, in particular constraining sprawl, and to shifting transportation towards transit and active transport are the interlinked solutions.

The quality of life for many millions of Ontario residents is at stake. The directions taken will also deeply affect the province’s economic and environmental agendas. The economic vibrancy of one of Canada’s core economic engines depends on tackling rising congestion, cost of living, and urban liveability challenges. The success of the Province’s climate plan also rides on many directions on the Growth Plans in the Greater Golden Horseshoe: buildings (both commercial and residential) and especially transportation now making up the bulk of Ontario’s greenhouse gas emissions.

### SP’s recommendation:

- Consider compact, complete urban form, and access to multi-modal transportation as the foundations for achieving the Greater Golden Horseshoe’s social, economic, and environmental goals.

## Goal 1: Protecting agricultural land, water, and natural areas

### Question 1a. How can the plans better direct urban development to areas already developed?

#### Research Summary

##### **Sprawl**

Sprawl is characterized by development on previously agricultural or natural “greenfield” sites;<sup>1</sup> agricultural lands cannot be protected without reigning in sprawl. The opportunities for long-distance commuting and the low cost of farmland attract developers to build suburbs in greenfield areas.

Prices are one cause of sprawl. Prices have a profound impact on the decisions of companies and individuals, including decisions about where to build new developments, establish businesses, and buy houses. Currently, price structures encourage sprawl and pull new development toward city fringes. Undercharging developers for municipal costs caused by new greenfield developments artificially distorts the market in favour of sprawling development, as well as exacerbating the fiscal challenges faced by Ontario municipalities.

<sup>1</sup> Thompson, D. (2013). *Suburban sprawl: Exposing hidden costs, identifying innovation*. Retrieved from [http://thecostofsprawl.com/report/SP\\_SuburbanSprawl\\_Oct2013\\_opt.pdf](http://thecostofsprawl.com/report/SP_SuburbanSprawl_Oct2013_opt.pdf)

<sup>2</sup> Thompson, D. (2013). *Suburban sprawl: Exposing hidden costs, identifying innovation – Government Summary*. Retrieved from

Fiscal tools can be used to reinforce the compact development goals found in many Official Plans. Local governments have a number of these tools at their disposal, including development cost charges, utility charges, property taxes, and transportation pricing reform.<sup>2</sup>

### **Development Cost Charges**

Development cost charges are the fees collected by municipalities to offset capital costs incurred to support growth-related infrastructure projects. The province (Ministry of Municipal Affairs and Housing) is presently reviewing its development cost charges system. This March, Bill 73, *Smart Growth for Our Communities Act, 2015* was introduced to amend the *Development Charges Act, 1997* and the *Planning Act*. If passed, the amendments would support investment in growth related infrastructure, enhance municipal transparency and accountability, and provide certainty and stability while reducing costs.

A working group has been established to consider options for further regulatory amendments. Based on past recommendations made to the Ontario government,<sup>3</sup> SP participates as a working group member.

### **SP's recommendations:**

- **Include all costs imposed by new developments in the list of eligible costs for development cost charges.** Costs should include not only all of the initial capital costs imposed directly by new developments, but also the operational costs, infrastructure renewal costs, and externality costs, e.g. due to motor vehicle smog emissions and climate change emissions, vehicle collisions and associated emergency response costs, etc.
- **Remove the backward-looking 10-year average service level cap for development cost charges.** The 10-year historical service level average restricts municipalities' ability to cover costs involved in expanding services. In place of the 10-year historical service level average, municipalities should be required to plan future service levels (such as transit) for at least a 10-year period, and be allowed to collect development charges that would enable them to provide those levels of service.
- **Remove the 10% discount on services in development cost charges.** The discount requires specific services to be subject to a 10% discount. Such a discount means that new growth does not pay for itself, but instead enjoys a subsidy from existing residents and businesses.<sup>4</sup> The operation of this discount has depleted municipal reserve funds, or led to higher property taxes.

<sup>2</sup> Thompson, D. (2013). *Suburban sprawl: Exposing hidden costs, identifying innovation-Government Summary*. Retrieved from [www.sustainableprosperity.ca/dl1050](http://www.sustainableprosperity.ca/dl1050)

<sup>3</sup> Sustainable Prosperity. (2014). *Government of Ontario Development Charges System Review*. Retrieved from <http://www.sustainableprosperity.ca/article3855>

<sup>4</sup> Sustainable Prosperity. (2014). *Government of Ontario Development Charges System Review*. Retrieved from <http://www.sustainableprosperity.ca/article3855>

## Question 1c. What new approaches or tools could be used to protect agricultural land, water and natural areas?

### Research Summary

#### **Environmental Markets**

SP's research points to a number of ways that agricultural land, water and natural areas can be protected both for agricultural purposes and for healthy ecosystem function. These natural areas, and the ecosystem services they provide, have great economic value. A 2008 study estimated that the Greater Golden Horseshoe Greenbelt provides ecosystem services worth \$2.6 billion annually.<sup>5</sup> More specifically, Toronto urban forests provide \$80 million — or about \$8 per tree — worth of environmental benefits including wet weather flow, air quality, energy savings, carbon sequestration and energy emission abatement.<sup>6</sup>

Environmental markets can be employed as new approaches to protect agricultural land, water and natural areas. An environmental market is defined as any market in which the transactions are aimed at either improving or maintaining environmental quality, or minimizing environmental degradation.<sup>7</sup> The market acts as a limit on activities that can cause environmental impacts on others, and the role of the market is to create a monetary value where none exists. That value creates an incentive to protect and promote the environmental asset or minimize the environmental damage. Environmental markets have been used to incentivize the protection of clean air, water quality and quantity, and biodiversity.<sup>8</sup>

#### **Biodiversity Offsets**

Biodiversity offsets are a specific type of environmental market that create a market for biodiversity through the use of biodiversity offsets. Biodiversity offsets work to compensate the negative impacts on biodiversity from development by creating equivalent or greater environmental enhancement in another site.<sup>9</sup>

Biodiversity markets have already been used in Ontario but experience with them is relatively new. In 2012, the Government of Ontario released an action plan to conserve biodiversity, *Biodiversity: It's in Our Nature*. This action plan includes a provision for exploring the use of economic instruments in support of biodiversity conservation, including assessing the opportunity to develop a potential biodiversity conservation market. Ontario already has experience putting a price on biodiversity protection through the use of payment programs, and more recently, it has also started to put a price on biodiversity loss through the use of biodiversity offsets for endangered species through the *Endangered Species Act*. Ontario's experience with endangered species offsets shows that landowners are interested in participating in these emerging offset markets.<sup>10</sup>

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<sup>5</sup> David Suzuki Foundation. (2008). *Ontario's Wealth, Canada's Future: Appreciating the Value of the Greenbelt's Eco-services*. Retrieved from <http://www.davidsuzuki.org/publications/reports/2008/ontarios-wealth-canadas-future-appreciating-the-value-of-the-greenbelts-eco-serv/>

<sup>6</sup> TD Economics. (2014). *Urban Forests: The Value of Trees in the City of Toronto*. Retrieved from <http://www.td.com/document/PDF/economics/special/UrbanForests.pdf>

<sup>7</sup> Sustainable Prosperity. (2014). *Environmental Markets in Canada*. Retrieved from <http://www.sustainableprosperity.ca/article3862>

<sup>8</sup> For more information, see SP's report, *Environmental Markets in Canada* at <http://www.sustainableprosperity.ca/article3862>

<sup>9</sup> For more information, see SP's policy brief, *Getting Biodiversity Offsets Right* at <http://www.sustainableprosperity.ca/article3927>

<sup>10</sup> Sustainable Prosperity. (2014). *Getting Biodiversity Offsets Right*. Retrieved <http://www.sustainableprosperity.ca/dl1326&display>

Current and yet unpublished SP research<sup>11</sup> on environmental markets identifies thirteen biodiversity markets in Ontario. Most of these markets are targeted to private landowners — including farmers — creating an economic incentive for biodiversity and habitat conservation to take place beyond protected crown land. Such markets are particularly important in Southern Ontario where there is little crown land due to historic high levels of population settlement.

### **Water Quality Trading**

Another type of environmental market is water quality trading (WQT): facilities with high water pollution reduction costs are allowed to purchase pollution reduction credits from other dischargers in the watershed in order to meet a regulatory standard. In Ontario, elevated nutrient levels, such as phosphorous from agricultural runoff, have been a problem for water quality for decades. Excessive phosphorus loadings in the water have caused an alteration of the natural nutrient balance, or eutrophication, of many ponds and lakes leading to overgrowth of green algae, which is not only unsightly and smelly, but can also threaten aquatic habitat and make water unsafe for drinking and swimming. Current regulations through Ontario’s Environmental Protection Act makes it unlawful to discharge contaminants into the natural environment beyond the allowed levels regulated by the province. But these regulations apply primarily to point source polluters and omit non point polluters (such as runoff from agriculture and municipalities) which are harder to identify. Studies have shown that non-point source pollution is largely responsible for excess nutrient loads in Ontario’s water bodies. WQT could combine regulation of point source emitters with the creation of economic incentives for water quality improvement projects for non-point sources.

Our research finds two WQT markets operated in Ontario by the South Nation River and the Nottawasaga Valley conservation authorities, and a third proposed program for the Lake Simcoe watershed. The 2008 Lake Simcoe Protection Act amended section 75 of Ontario’s Water Resource Act to enable prescribing where WQT can occur, the water quality parameters that can be traded, who can trade and who should administer the program. Although yet to be brought into force, this amendment would be the first legislated WQT in Ontario — and Canada — and could set the stage for the development of a more extensive WQT strategy in the province, including Greater Golden Horseshoe watersheds.

### **SP’s recommendations:**

- **Create a biodiversity offsets exchange platform.** There is currently no platform to link developers required to compensate for adverse impact to species at risk (buyers) with third parties offering to undertake conservation projects (sellers). The creation of such a platform would link project developers with offset providers, lowering transactions costs for both parties. It could also be a useful way to establish a market value that could guide negotiations between buyers and sellers of offsets. Such a platform could either be managed by the provincial government (through the biodiversity action plan or the Endangered Species Act) or by a third party. The Greenbelt Plan could include this provision, which could be passed to the Oak Ridges and Niagara Escarpment regions. In particular, the Oak Ridges Moraine Conservation Plan and the Niagara Escarpment Plan could include provisions for the creation of these markets for the purpose of protecting existing ecological functions under the areas of the plan, while the

<sup>11</sup> Unpublished and forthcoming SP research on environmental markets in Ontario

Greenbelt Plan could have similar provision but relating to the protection of ecological processes for the purposes of agricultural land uses.

- **Consider the use of biodiversity offsets beyond endangered species.** While the Endangered Species Act provides offsets for endangered species, the province could consider greater use of biodiversity offsets through the biodiversity offsets action plan.
- **Expand the knowledge base on biodiversity offsets.** SP has a 10-point research agenda<sup>12</sup> based on the contributions made by participants during the *Biodiversity Offsets Conference in Canada: Making it Right, Making a Difference* held in Ottawa in February, 2014.
- **Explore use of water markets through water quality trading.** Although WQT has already been implemented in the province without the existence of any laws explicitly allowing this practice, the amendment to section 75 of the Water Resources Act could be the legal enabler necessary for a more extensive use of WQT in Ontario. Expanding WQT programs would require partnerships with various stakeholders, such as the Ministry of Environment and Climate Change (who developed the South Nation pilot), conservation authorities, wastewater dischargers, municipalities and other affected Provincial ministries and stakeholders. WQT could be particularly useful for the watersheds in the Greater Golden Horseshoe given concerns of greater urban expansion in the decades to come.

## Goal 2: Keeping people and goods moving, and building cost-effective infrastructure

### Question 2b. How can the plans better promote livable, walkable communities that use new and existing infrastructure in the most cost-effective way?

#### Research Summary

##### **Street grids and urban form**

Decisions made about the physical layout of urban areas are among the most important environment and climate-relevant investments we are making. Urban form has a direct impact on urban health, travel mode, energy use and greenhouse gas emissions. Higher-density areas that have mixed land use and connected street networks tend to be more energy efficient and have a smaller impact on the environment when compared to sprawling areas. A high proportion of dead ends, a low intersection density and few local services, all of which favour travel by the private car, characterizes sprawl. In contrast, a dense, gridded street network tends to be more attractive to pedestrians, allows more efficient service by public transit, and reduces travel speeds by the private car through requiring frequent stops.

Research funded by SP<sup>13</sup> finds that the initial organization of streets in relation to each other determines long-term urban form. Regardless of their initial density or zoning, urban sprawl neighbourhoods

<sup>12</sup> Sustainable Prosperity. (2014 ). *Getting Biodiversity Offsets Right*. Retrieved <http://www.sustainableprosperity.ca/dl1326&display>

<sup>13</sup> Barrington-Leigh, C & Millard-Ball, A. (2014). *Urban sprawl in Canada: measurement, history, and implications of road network structure*. Retrieved from <http://wellbeing.ihsp.mcgill.ca/publications/Barrington-Leigh-Millard-Ball-2014-Canada-sprawl.pdf>



characterized by cul-de-sacs and low road connectivity are unlikely to densify, and local services are hard to introduce. Because urban form changes only very slowly once roads are built, the pattern in which urban areas are created is important to reduce the chances of sprawl becoming “locked in” due to existing street patterns.

**Urban form, congestion, and transportation**

Congestion is a major concern in the Greater Golden Horseshoe region. SP’s research<sup>14</sup> finds that the majority of roads in Canada are free to use, but come with many hidden costs. These occur as air pollution, greenhouse gas emissions, noise, vehicle collisions and of course, delays from traffic congestion. Addressing sprawl is one approach to reduce the underlying automobile dependency that leads to congestion, and this greater density is more easily serviced by public and active transportation. Reforming the price signals to make new development pay their full costs, as in the development cost charges discussed in Question 1a, can help alleviate some of the financial pressure of providing increased transit services and infrastructure.

**SP’s recommendations:**

- **Consider road patterns as indicators of future development when designing communities.** As the initial design and placement of roads is an important determination of future urban form, more attention should be given to the planning of roads in new developments. The Growth Plan could more directly address the creation of road networks for any new development by prioritizing grid street patterns that are more attractive to walking and other alternative modes of transportation.
- **Reduce congestion by designing development cost changes to fund transit.** As recommended in Question 1a, removing the backward-looking 10-year average service level cap for development cost charges would enable municipalities to collect these charges to fund public transportation for the future. Similarly, removing the 10% discount would help cover the costs of public transportation that would otherwise be paid from general municipal revenue. For example, the discount reduced the city of Brampton’s transit funding by \$42 million between 2004 and 2009 and the city of Ottawa’s transit funding by \$26 million between 2004 and 2007.<sup>15</sup> Other policy bundles can also be used to fund transit (see Question 3a).

**Question 2 f. How can the plans better balance the need for critical infrastructure to support economic growth with environmental protection?**

**Research Summary**

**Water pricing**

Water infrastructure is an important aspect of municipal service provision, and a particular concern for Canadian municipalities as Canadians are some of the highest water users in the world. High water consumption is a concern not only because of resulting ecological implications, but for municipalities who must invest in water infrastructure and have a responsibility to provide water services to urban

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<sup>15</sup> Sustainable Prosperity. (2014). *Government of Ontario Development Charges System Review*. Retrieved from <http://www.sustainableprosperity.ca/article3855>

residents and businesses. Water consumption stresses existing water and sewage infrastructure, and municipalities are already concerned with the high costs of maintaining and replacing aging infrastructure as well as treating and removing polluted wastewater from freshwater sources. One way that municipalities can address high water infrastructure costs while encouraging water conservation behaviour is through water pricing. Our research<sup>16</sup> shows through recent experience in Toronto that price continues to be an effective tool to reduce residential water consumption.

### SP's recommendations:

- **Use water pricing as a mechanism to reduce infrastructure costs and achieve water conservation goals.** The implementation and use of water pricing can be an effective tool to ensure water is used more efficiently and that municipalities save on water infrastructure costs. Given that the Growth Plan encourages municipalities to grow in ways that use resources more efficiently and ensures that existing infrastructure is used to the fullest potential, support for water pricing could be incorporated into the Growth Plan.

## Goal 3: Fostering healthy, livable and inclusive communities

### Question 3 a ii. How can the plans provide more direction on designing (a) safe and interconnected network of streets that support walking and cycling, and that are connected to our transit networks and key destinations?

#### Research Summary

##### **Transportation Policy Bundles**

Our research on transportation<sup>17</sup> has found that diverse approaches have been successful in encouraging alternative transportation options, but multiple, re-enforcing strategies are needed. Cities like London, Paris and New York bundle their transportation policies to revitalize and expand their transit systems. The mix of tools these cities use include regulations (zoning, traffic calming, driving and parking restrictions), services (spending on transportation infrastructure and services), and market based instruments (such as congestion pricing, road pricing and parking fees).

##### **Mobility Hubs**

Municipalities have many options for designing communities to be more liveable, attractive and better connected to public transit networks. Encouraging transit ridership over personal vehicle use requires that transit systems be not only efficient, but also easily accessible.

Transit-oriented “mobility hubs” are an example of a transportation strategy that addresses existing barriers to transit ridership. Mobility hubs are described as “origin, destination, or transfer points that

<sup>16</sup> Sustainable Prosperity. (2014). *Toronto's Water Policy and Water Consumption Decline*. Retrieved from <http://www.sustainableprosperity.ca/dl1066&display>

<sup>17</sup> Sustainable Prosperity. (2014). *Policy Bundles for Reducing Transportation Emissions in Large Cities*. Retrieved from <http://www.sustainableprosperity.ca/dl1300&display>

integrate diverse modes of transportation through infrastructural supports for transit, cycling, and vehicle-sharing programs”.<sup>18</sup>

Mobility hubs are designed to integrate multiple modes of transportation at strategic areas to provide an accessible and attractive gateway to the transit system. The components of mobility hubs could include secure parking for park-and-ride options, covered bike racks, electric vehicle charging stations, and bike and car sharing infrastructure. Efficient transit systems, high-occupancy vehicle lanes and bike lanes could connect mobility hubs to each other. Mobility hubs can encourage a wide range of transportation options, which provide alternatives to personal vehicle use. Not only do mobility hubs offer multi-modal transportation options, but they also provide a range of community benefits including lower greenhouse gas emissions and improved health outcomes from cleaner local air and increased physical activity.

### SP’s recommendations:

- **Explore the use of policy bundles to encourage alternative transportation.** Bundling multiple policy options can be a useful strategy to encourage alternative transportation. The Growth Strategy could explore how the application of multiple policy options including regulations, services, and market based instruments could be used to encourage greater use of alternative transportation.
- **Consider mobility hubs to better connect services and provide links between transportation corridors.** The Growth Plan could consider mobility hubs as a viable possibility to better connect community services and ensure that transportation corridors are linked for easy use and access. New developments could be designed around mobility hubs to encourage alternative modes of transportation. Existing developments could consider using a wider range of policy tools including regulations, services or market based instruments to reduce private vehicle trips. The Growth Plan should include greater provisions for designing communities around alternative transportation modes.

## Goal 4: Building communities that attract workers and create jobs

### Question 4: How can the plans better support the development of communities that attract workers and the businesses that employ them?

#### Research Summary

##### **Community energy plans**

A community energy plan is “a comprehensive, long-term plan to improve energy efficiency, reduce greenhouse gas emissions and foster local sustainable energy solutions in the community”.<sup>19</sup>

<sup>18</sup> University of Victoria. (2015). Shifting Gears in the CRD: Diversification of Transportation through Mobility Hubs[PPT slides].

<sup>19</sup> QUEST. (2013). *Advancing Integrated Community Energy Planning in Ontario: A Primer*. Retrieved from <http://www.questcanada.org/sites/default/files/files/The%20Primer%20-%20reduced%20size.pdf>

SP is contributing to a research project on the direct and indirect economic benefits of community energy plans (CEPs). Our findings show that community energy projects have many positive economic impacts, most of which will be enhanced under the province's future carbon price. Some of these, such as energy cost savings, the recirculation of those savings in the local economy, and creation of local employment, are direct. But we have also found many "value added" economic benefits arising from community energy projects. In Guelph, a CEP provided more secure energy supply, at a lower cost, for a major employer, which led to their decision to stay in the neighbourhood. Clean, stable and affordable energy is a magnet for data centre location decisions. Developers and neighbourhoods find that evolving market preferences for "green" positively differentiate projects integrating district energy and other leading edge environmental design. Revitalized energy systems are an important dimension to neighbourhood revitalization. In regions, such as Toronto, with high housing costs, the use of district energy systems in high density mixed-use development reduces energy bills, one way to keep total household budgets contained.<sup>20</sup>

Employee attraction and retention benefits can accompany positive environmental and energy practices. This is particularly true for young employees who want to be associated with green companies. Employee retention also offers positive economic advantages to firms, who do not need to spend extra resources retraining new employees.

Further, the research is finding that energy efficient buildings are reported to be more comfortable in comparison to traditionally designed buildings. There is evidence that energy efficient retrofits increase the physical comfort of the work environment, which leads to economic benefits, such as to improved employee productivity. Examples of successful retrofits include indoor lighting retrofitting, enhancing natural light through skylights, and other engineering and design considerations, all which helped to either boost productivity or to increase sales.<sup>21</sup>

Moreover, the quality of the natural environment has a role to play in attracting international workers to Canada. Research by the Conference Board of Canada has found that the environment is a main reason why international knowledge workers have chosen to settle in Canadian cities.<sup>22</sup>

### SP Recommendations:

- **Consider Community Energy Plans as part of the formula for communities that attract workers and businesses.** The Growth Plan could include that new or revitalized neighbourhoods adopt leading edge energy and community energy practices.

<sup>20</sup> Sustainable Prosperity. (2015). *Community Energy Planning: Broadening the Business Case* [PPT slides]. Retrieved from <http://gettingtoimplementation.ca/wp-content/uploads/2015/03/Cairns-and-Baylin-Stern-SP-SCC-2015.pdf>

<sup>21</sup> Ibid.

<sup>22</sup> Conference Board of Canada. (2014). *Attracting Skilled Workers to Canadian Cities City Magnets* [PPT slides]. Retrieved from <http://www.conferenceboard.ca/e-library/abstract.aspx?did=6441>

## Goal 5: Addressing climate change and building resilient communities

### Question 5a. How can the plans contribute to reduction in greenhouse gas emissions?

#### Research Summary

Decisions about how land is used and developed can play a large role in both the mitigation and the adaptation to the impacts of climate change. With the shutting of the province’s coal-fired electricity generation assets, Ontario’s emissions are now dominated by the building and transportation sectors. Land use policies, include financial incentives to build cities more compactly to reduce urban sprawl, will be a key dimension to meeting Ontario’s emission targets. Incorporating green infrastructure to building and neighbourhood development will increase the resiliency of communities to deal with the impacts of climate change.

#### Urban Sprawl

Urban sprawl is an inefficient use of land. Sprawl is a primary contributor to the degradation of agricultural land, water, natural areas and the ecosystem services that nature provides, including nature’s resilience to extreme events and climate related impacts.

Sprawl also encourages greater vehicle use that causes greenhouse gas emissions. As cities sprawl outwards and population density decreases, they become less transportation efficient: residents become increasingly auto-dependent, emit more pollution, and pay more for transportation. Alternatively, as urban density increases so does the opportunity for alternative and public transportation (such as walking, cycling, or transit) while the amount of energy used per passenger decreases.

Managing urban growth is an important dimension of reducing greenhouse gas emissions from motor vehicle transport.<sup>23</sup>

#### SP Recommendations:

- **Continue to address sprawl to both reduce greenhouse gas emissions from transportation and preserve ecosystem resilience to climate change.** Addressing sprawl is a reoccurring theme with regards to land use management, and specifically in the context of both climate mitigation and adaptation. Curbing sprawl can reduce demand for transportation which will reduce greenhouse gas emissions. The Growth Plan already outlines a goal to curb sprawl, and current and future climate change impacts provide further support for existing goals.

<sup>23</sup> Sustainable Prosperity. (2014). *Policy Bundles for Reducing Transportation Emissions in Large Cities*. Retrieved from <http://www.sustainableprosperity.ca/dl1300&display>

## Question 5 c. Is there a need to consider new policy approaches in the plans to increase the resiliency of our communities by reducing development pressures on natural areas, open spaces, and flood prone areas?

### Research Summary

The impacts of climate change are felt all over the world, and Ontario is not immune. In particular, Ontario's urban areas are expected to experience extreme heat events, intense precipitation and flooding, high winds and storms, water quality and quantity concerns, variable temperatures and precipitation, and air quality and smog events.<sup>24</sup> Protecting natural areas by constraining urban growth (above) will boost the resilience of urban areas and their ability to respond to the impacts of climate change. Reinstating natural functions to urban areas, through green infrastructure, also boosts the resilience of urban areas.

#### **Green Infrastructure**

Green infrastructure has a large role to play in building resiliency from the impacts of climate change. Green infrastructure is defined as the “natural and human-made elements that provide ecological and hydrological functions and processes...including components such as natural heritage features and systems, parklands, stormwater management systems, street trees, urban forests, natural channels, permeable surfaces and green roofs.”<sup>25</sup>

Not only does green infrastructure mitigate the impacts of climate change (green roofs and urban forests can reduce electricity consumption, reduced run-off into stormwater systems reduces energy consumption of wastewater management), but it also helps communities adapt to the impacts of climate change by protecting communities from extreme weather events. For example, green infrastructure can allow the absorption of precipitation into the soil and water table, which reduces flooding risk and municipal stormwater management costs.

#### **SP's recommendations:**

- **Consider green infrastructure as a tool for both climate mitigation and adaptation.** While the province has already acknowledged the importance of green infrastructure (most recently through the 2014 updates to Ontario's Provincial Policy to encourage planning authorities to promote green infrastructure), further amendments could be considered. For example, the Oak Ridges Moraine plan outlines limits on the amount of impervious surfaces allowable in conservation areas or watersheds. However, these restrictions do not apply within urban Settlement Areas, where most of the development pressures and subsequent risks to surface and groundwater exist.<sup>26</sup> Therefore, further considerations for expanding the use of green infrastructure within urban areas could yield further climate change benefits.

<sup>24</sup> Government of Ontario. (n.d.). Fact sheet: *Climate change impacts and adaptation for urban regions*. Retrieved from <http://www.climateontario.ca/doc/factsheets/UrbanImpactsFactSheet.pdf>

<sup>25</sup> Ontario Ministry of Municipal Affairs and Housing. (2014). *The 2014 provincial policy statement and Environmental protection*. Retrieved from [http://www.mcmillan.ca/Files/174002\\_The%202014%20Provincial%20Policy%20Statement%20%20Environmental%20Protection.pdf](http://www.mcmillan.ca/Files/174002_The%202014%20Provincial%20Policy%20Statement%20%20Environmental%20Protection.pdf)

<sup>26</sup> Canadian Institute for Environmental Law and Policy. (2011). *Greening Stormwater Management in Ontario: An Analysis of Challenges and Opportunities*. Retrieved from <http://cielap.org/pdf/GreeningStormManOntario.pdf>

## Conclusion

SP commends the Ontario Government for conducting this review and inviting submissions. The consultation process is a positive step towards supporting land use practices that lead to a more prosperous and sustainable Greater Golden Horseshoe region. Urban land use and accessible, affordable, multimodal transportation options have a profound influence on the environmental impact, liveability, and prosperity of communities. Land use decisions influence how growth occurs. Land use plans can be designed to account for future growth and aim such growth towards greater densification. This will ensure that natural areas and the ecosystem services that nature provides are protected, but not at the expense of the economic and demographic growth of urban areas.

Land use planning is a complex field of study, and SP's research is focused on the role of public policy to set price signals that support sustainable land use choices. The research summarized in this submission offers suggestions for how market based instruments can be applied in the context of the goals identified for the Greater Golden Horseshoe.

SP hopes this research provides useful insights into the Land Use Planning Review process, and would welcome any opportunity to provide further assistance or partnership in this endeavor.