The Ontario government has launched a series of important initiatives intended to improve the pattern of urban development and protect farmland and natural heritage features in the Toronto Metropolitan Region. These legislative reforms and changes in provincial planning policy — of which the proposed Greenbelt is one — have the potential to contribute greatly to the region’s economic, social, and environmental health.

Responding to the government’s call for comments on its proposed Greenbelt Plan, the Neptis Foundation has reviewed the plan in light of research it has commissioned on the implications of “business-as-usual” development patterns, greenlands in the region and their degree of protection, agriculture in the region, development pressures in Simcoe County, and growth management initiatives in other urban regions. Based on the observations and conclusions of this research, and on further consultations with the researchers themselves, the Foundation offers the following commentary on the proposed Greenbelt Plan.
Introduction

The proposed Greenbelt would protect a continuous band of countryside across the middle of the Toronto Metropolitan Region,* preserving farms, woodlots, wetlands, and other identified natural features, that are gradually disappearing in the region. If successfully implemented, this would be a remarkable and historic accomplishment.

Yet the proposed plan will not solve the problem of protecting the vulnerable lands at the scale of the region. Most of the problems the government has vowed to rectify are not, in fact, confined to the Greenbelt. Most of the region’s environmentally sensitive lands and features, and much of its prime agricultural land, lie outside the proposed Greenbelt and are already facing strong development pressure. A limited belt of protection will not only leave lands outside the belt vulnerable, but could actually increase pressure on them by deflecting development beyond the belt and by implying that they are somehow less deserving of protection.

As well, the proposed Greenbelt will do little to promote a more compact, efficient, transit-supportive form of development at the edges of the region’s cities and towns. The plan would provide a swath of unprotected farmland more than twice the size of the City of Toronto between its southern and eastern boundaries and the current edge of urban development in the GTA and Hamilton. Without the introduction of a range of new policies, plans and programs, these lands will likely be converted over the coming decades to the same business-as-usual auto-dependent sprawl that the government aspires to avoid.

In areas such as south Simcoe and Wellington Counties, the Greenbelt may engender unplanned “leapfrogging” beyond the belt. Protecting the region’s farmland and natural features, and encouraging more efficient and livable development are regional issues in nature and scope. Regional policies, plans and programs will be required to achieve these Provincial ambitions and the integration of the Greenbelt with the full range of measures for effective growth management.

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* The “Toronto Metropolitan Region” is Neptis’s term for the region centred around Toronto and western Lake Ontario. Its specific boundaries can be seen in the map on the following page. It was developed on the basis of several criteria, including commuting patterns, economic relationships, and political boundaries, and has been used in several Neptis regional studies. It is slightly smaller than the current Provincial government’s “Greater Golden Horseshoe,” which also includes Brant and Haldimand-Norfolk Counties to the south-west.
The Greenbelt

What land will it cover?
The proposed Greenbelt covers a wide swath of countryside from Northumberland County to Niagara Region, a total of over 760,000 hectares. Slightly less than half of the lands are already protected under the Oak Ridges Moraine Conservation Plan and the Niagara Escarpment Plan, to which the new act would add over 400,000 hectares. The area includes hundreds of working farms, as well as wetlands, woods, river valleys, and open green space. The Greenbelt includes almost no land north or west of the Regional Municipalities that make up the Greater Toronto Area. This is the result of the government’s earlier decision to confine the Greenbelt Study Area to the southern part of the region.

How will the Plan work?
Within the Greenbelt area, the Plan would generally prohibit the re-designation of farmland or green space to allow urban development. It would also prevent development next to rivers, lakes, and wetlands, or next to parks and farms, and promote the creation of parks and recreational trails.

The Plan would govern land use in the area it covers. All other planning documents would have to conform to what it says. Lands within the Greenbelt would be classified into four categories — agricultural, natural, settlement areas, and open space — with specific policies applying to each.

What activities will be permitted inside the Greenbelt?
Existing land uses within the Greenbelt would continue. Some additional development would be permitted in and around existing towns and hamlets, provided that there is sufficient infrastructure to support it and that it does not encroach on natural heritage features or specialty crop areas.

* Area calculations exclude designated and currently urbanized lands that fall within the plan areas. See Map 7 on page 8.
What are the main benefits of the Greenbelt?

A structured region
The memorable, permeating presence of the Greenbelt in the region will establish a broad distinction between city and country in its organization.

A system of natural heritage features
Wetlands, woods, and creeks within the proposed Greenbelt, some of which are quite small, form part of a larger system of greenlands. The Greenbelt Plan would protect this system by embedding individual features in a continuous swath of countryside. The Greenbelt Plan would also protect the valleys of rivers that flow south from the Oak Ridges Moraine to the edge of the land designated for future urban expansion.

A landscape of working farms
The Toronto Metropolitan Region contains some of Canada’s best agricultural land. Much of this land, however, is threatened by land speculation. Prohibiting urban expansion onto farmland while ensuring that farmers have the freedom to expand or alter their operations — which the Plan does do — would insulate working farms from development pressure and better allow them to manage and expand their operations.

Living rural communities
While the Greenbelt Plan seeks to protect rural life, it does not propose to fossilize it. The plan recognizes that for communities to be sustainable, certain commercial and institutional activities used by the local population must continue in the countryside and hamlets within the Greenbelt.

The top map shows identified greenlands (wetlands, woods, and river valleys) in Durham Region, as compiled for the Neptis study *The State of Greenlands Protection in South-Central Ontario* (2004). The bottom map shows the province’s Greenbelt for the same area. Assembling many small features into larger connected areas protects the health and stability of the overall natural system.
What are the Greenbelt’s shortcomings?

A. Many important natural heritage features in the region will remain poorly protected

Greenlands are vulnerable
A recent major study for the Neptis Foundation, *The State of Greenlands Protection in South-Central Ontario* (July 2004) showed that although the region’s important natural features are clearly identified in official plans and other government documents, many are not adequately protected. Some features, such as provincially significant wetlands, are quite secure and likely to persist. But every year, less well-protected features — such as wetlands that have not been defined as provincially significant, as well as certain wildlife habitats and environmentally significant areas — are lost to urban development.

Greenlands outside the Greenbelt deserve equal protection
The Greenbelt covers, by area, only 30.4% of the identified greenlands in the Toronto Metropolitan Region. The remaining 69.6% will be unaffected by the Greenbelt. Important natural heritage features outside the Greenbelt deserve equal protection with those in the Greenbelt area. Indeed, their absence from the Plan may place them under increased development pressure.

† Security levels 1 and 2 from Donald M. Fraser and Bernard P. Neary, Gartner Lee Ltd., *The State of Greenlands in South-Central Ontario* (Neptis Foundation, 2004).
B. Farms outside the Greenbelt need protection too

Farming: a valuable and sustainable industry
Neptis has conducted extensive research on agriculture in the Toronto Metropolitan Region. Agriculture in the Central Ontario Zone was published in 2003 and two other reports, one on the region’s agriculture production and one on the perspective of farmers in the region, will be published in 2005. The reports explain that not only does the region contain some of Canada’s best farmland, but the region also has sustainable sources of water, relatively long growing seasons, and access to a large urban market.

Agriculture in the Toronto Metropolitan Region, if properly managed and supported, could flourish indefinitely. Even land that has been degraded by short-term farming practices — in the expectation that it will one day be developed — can be restored to productivity. Moreover, relatively small farms producing high-value crops close to an affluent urban market can be both profitable and sustainable.

About three-quarters of the region’s prime farmland lies outside the proposed Greenbelt. This land will thus receive no additional protection beyond municipal zoning regulations which, Neptis research has shown, are rarely effective at protecting farmland in fast-growing areas.* Some of the areas excluded from the Greenbelt — such as in the southern part of Simcoe County and parts of the GTA south of the Greenbelt — contain the prime farmland most threatened by urban expansion.

Protecting agricultural land will not, on its own, protect agriculture. To ensure the viability of agriculture in the region, additional government action will likely be needed. But land protection is the first, essential step. Other farm-friendly policies are pointless if the land base is gone.

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C. The Greenbelt, on its own, will do little to help manage urban growth

When the proposed Greenbelt Plan was released, the government announced that the plan would “curb unplanned urban sprawl” by setting “strict limits on urban boundaries.”* While this might hold true within the Greenbelt, the plan will do very little to curb sprawl outside the belt.

Sprawl in the Region
Although there is no agreed-on definition for the word “sprawl,” it is commonly understood to mean single-use, automobile-dependent development, with low overall density, on the urban fringe.

The Neptis Foundation has analysed recent and present development patterns, which it calls “business-as-usual” development, and has modelled the likely effects of 30 more years of similar development in the region. This research, published as the Toronto-Related Region Futures Study: Implications of Business-As-Usual Development (June 2002), leaves little doubt that, if present trends continue, the problems of sprawl will increase. It shows that if current development patterns remain unchanged, urban development would consume, by 2031, an area slightly less than twice the size of the current City of Toronto, and that problems of congestion, air quality, and the inefficient use of infrastructure — already bad — would worsen.

The problems of future sprawl will be particularly acute for those who live at the edge of the urban area, in places like north Oakville, north Brampton, Woodbridge, Richmond Hill, and Markham. These areas are already experiencing traffic congestion, but are not designed to accommodate public transit networks. Neptis research has shown that these dysfunctions will increase as the areas that are currently on the urban fringe become enveloped by further business-as-usual urban expansion. (See map, above.)

Will the Greenbelt help?
Although the Greenbelt would prohibit urban expansion within its own boundaries, it would not generally serve as an effective regional growth management tool, at least not for several decades. The claim in the plan that the Greenbelt will serve as the “cornerstone” of a new regional growth plan is overstated.

For much of its length, the Greenbelt is many kilometres from the current edge of urban development. Urban expansion can thus continue in its current form for years — perhaps two generations or more — before coming up against the protected lands of the belt. In fact, the Greenbelt is even farther from the urban edge than it appears on the government’s maps. The urban area shown on these maps is the entire designated urban area, not the extent of actual urban development. (See map above and next page.) In most places, the outer fringe of this designated urban land has yet to be built on, and is in place because Ontario municipalities are required to maintain a supply of land for future urban expansion. The Greenbelt Plan will leave, altogether, approximately 146,000 hectares of land between the current edge of urban development and the belt’s proposed southern boundary, nearly all of it under strong development pressure. It is therefore hard to see how the Greenbelt will affect the pattern of urban expansion in the region for the foreseeable future.

Furthermore the Greenbelt, being limited to the municipalities of the inner part of the region, will not affect development to the north and west. A recent Neptis study, Simcoe County: The New Growth Frontier (May 2004), showed that lands have already been assembled and plans prepared for large developments in this area. To control sprawl, south Simcoe County and other areas beyond the Greenbelt will need to be brought under scrutiny as well. (See map, right.)
A slice of Peel Region

The map and satellite image further illustrate the difference between the built-up urban area and designated urban expansion lands. Apart from a few gaps, Mississauga is now almost completely built out to its borders. To the north, Brampton is growing rapidly — it added more than 57,000 new residents between 1996 and 2001. Its southern half is largely built up, so the municipality has designated most of its northern half for urban expansion over the next decade. Caledon, the most northerly municipality in Peel and partly covered by the Greenbelt, remains largely rural. One can see the large band of countryside between the southern limit of the Greenbelt and the northern limit of Brampton. Some of this land is designated for urban growth and some is not, but none of it is protected by the Greenbelt. Nearly all of it is prime agricultural land currently being farmed.

GREENBELT

The Greenbelt protects both agricultural land and natural heritage features.

UNPROTECTED COUNTRYSIDE

Between the Greenbelt and the present urban boundary, a wide strip of land remains unprotected by the Greenbelt. Nearly all of it is currently being farmed.

DESIGNATED URBAN EXPANSION LANDS

The land designated for future urban expansion contains working farms.

BUILT-UP URBAN AREA

The edge of the built-up area abuts working farms.

RIVER VALLEY PROTECTION

The Greenbelt’s protection of river valleys ends at the designated urban boundary.
Beyond the Greenbelt

A region-wide approach is required
The Greenbelt would be a historic advance in Provincial policy. By establishing a permanent, continuous, and large-scale band of countryside across the middle of the Toronto Metropolitan Region that incorporates environmentally significant, agricultural, and recreational lands, the initiative would bring widespread benefits within its boundaries.

But the broad problems that the government proposes to address through its regional Growth Plan — the gradual loss of farmland and important natural features and the negative effects of sprawl at the edges of the region’s cities and towns — will not be solved by the introduction of the Greenbelt. In fact, the Greenbelt may exacerbate these problems, which are essentially regional in nature and scale. To address them now would require that Provincial planning and policies move beyond the Greenbelt, both by introducing measures other than the Greenbelt, and by addressing problems at the broader scale of the Toronto Metropolitan Region.

Effective protection of non-urban lands
The Province may wish to consider an approach that would make a clear distinction between urban and non-urban lands. In such a system, all non-urban lands would be provided a far higher degree of security than that currently afforded by municipal land use designations. Non-urban land would be redesignated for urban use only as part of a provincially established region-wide growth strategy that includes economic, transportation, infrastructure, and environmental objectives, not simply in response to local growth and market pressures.

That is what occurs in Sydney, Australia, — a comparable fast-growing and diverse region. The State government of New South Wales protects and controls all non-urban lands, or “green landscapes” which, altogether, account for about 85% of the land area of the Greater Metropolitan Region of Sydney. Half of these are National Park, State Forests, water catchment areas, regional and local open space, and wetlands that are permanently protected from any urban development. In the remaining non-urban lands, urban development may be permitted from time to time, but only on land released by the state government in accordance with regional development strategies. New South Wales has recently released land for two satellite towns for the Sydney region. Together, they are planned to accommodate expected greenfield growth over the next 30 years, with rail and other infrastructure.

The urban areas of Sydney’s Greater Metropolitan Region are embedded in a “green landscape” that represents 85% of the region’s total area. The Green Landscape includes conservation and environmental protection areas, farmlands, recreational lands, water catchment areas, and national and state parks and forests.
that is integrated with existing regional networks. A bold approach such as this — which combines high protection for non-urban land with a highly strategic approach to infrastructure and land use — might be what the Toronto Metropolitan Region needs to successfully and imaginatively accommodate the growth expected in the decades to come.

**The need for an integrated plan for urban growth**

In its draft growth plan *Places to Grow*, the government of Ontario stated its intention to improve the efficiency of urban land use by promoting both the intensification of existing urban areas and more compact forms of new development on greenfield sites. Furthermore, it stated that new development would occur primarily in prescribed growth centres and be supported by appropriate investments in transportation. The need for such action by government has been repeatedly shown by Neptis research. So it is of some concern that the proposed Greenbelt boundaries have been drawn in advance of the region’s growth plan, with no sign of how the Greenbelt itself will further the Province’s laudable goals. Leaving a large swath of unprotected land south of the Greenbelt belt could, in fact, be interpreted as a willingness to continue “business-as-usual.”

The history of greenbelts in the region suggests that a Greenbelt unrelated to regional growth strategies is unlikely to survive. It is essential, therefore, that the Greenbelt be made an integral part of the as-yet-unreleased regional growth plan. Perhaps, as the Greenbelt is incorporated into Official Plans, its boundaries might be modified to accommodate well-conceived development nodes and the transit infrastructure they will need.

**Appendix A:**

**Notes on Data Sources and Methodology**

All maps created by the Cartography Office, Department of Geography, University of Toronto.

**Map 1. Components of the Greenbelt in the Toronto Metropolitan Region**

**DATA SOURCES:**
- Greenbelt Draft Plan Area, Ontario Ministry of Municipal Affairs and Housing, 2004
- Niagara Escarpment Plan Area, Niagara Escarpment Commission, 2002
- Oak Ridges Moraine Plan Area, Ontario Ministry of Municipal Affairs and Housing, 2003
- Regional Municipal Boundary, Statistics Canada, 2001
- Built-up Urban Area, Neptis Foundation, June/August 2004

**ADDITIONAL DATA DESCRIPTION:**
- a. Area calculations exclude designated and currently urbanized lands that fall within the plan areas. See additional data description for Map 7.

**Map 2 and 3. Creating a Continuous Natural Heritage System**

**MAP 2:** Reproduction of Figure 7, Regional Municipality of Durham, in Neptis Foundation, *The State of Greenlands Protection in South-Central Ontario*, July, 2004.


**Map 4. Where are Greenlands Protected?**

**DATA SOURCES:**
- Greenbelt Draft Plan Area, Ontario Ministry of Municipal Affairs and Housing, 2004
- Built-up Urban Area, Neptis Foundation, June/August 2004
- Regional Municipal Boundary, Statistics Canada, 2001

**ADDITIONAL DATA DESCRIPTION:**
- a. See additional data description for Map 7.
- b. In their report, *The State of Greenlands Protection in South-Central Ontario*, Don Fraser and Bernie Neary of Gartner Lee Limited (GLL) developed a system for ranking each greenland feature on the basis of its “security” (or degree of protection) given the policy framework in 2003. The classification consisted of 4 classes, one being the highest degree of protection and four being the lowest. In Map 4 of this document, the focus is on those greenland features outside the proposed greenbelt area. Greenland features ranked by GLL as level one and two are grouped as “minimal security,” and greenland features ranked three and four are grouped as “high or moderate security.” The areal calculations for this map are based on a rasterized version of the original vector data sets. Although the greenlands data were rasterized at a fairly high resolution, 90 m², some loss of data occurred during the conversion process; therefore, the estimates are conservative.
- c. Obtained through the Ontario Geospatial Data Exchange, of which Neptis has been a member since 2002.

**Map 5. How Much Prime Agricultural Land is to be Protected in the Region?**

**DATA SOURCES:**
- Greenbelt Draft Plan Area, Ontario Ministry of Municipal Affairs and Housing, 2004
- Built-up Urban Area, Neptis Foundation, June/August 2004
- Regional Municipal Boundary, Statistics Canada, 2001
Agricultural Lands, Class 1-3, Canada Land Inventory, National Archives of Canada, 1999.

**ADDITIONAL DATA DESCRIPTION:**

a. See additional data description for Map 7.
b. The current Ontario Provincial Policy statement designates class 1, 2, and 3 lands of the Canada Land Inventory as prime agricultural lands.

**Map 6. Traffic Congestion in the GTA and Hamilton**

**DATA SOURCES:**

400 Series Highway, National Road Network, November 2003.

**ADDITIONAL DATA DESCRIPTION:**

a. Auto delay was modeled by the IBI Group for the transportation analysis in "The Toronto Region Futures Study: Implications of Business-As-Usual Development," a report commissioned by the Nepts Foundation and published in August 2002. Map 6 shows for the year 2031 the projected increase in average auto delay per trip per kilometre travelled for trips originating during the morning rush hour. Delay is defined as the difference in time between travelling with and without the effects of other traffic. The transportation impact of Business-As-Usual development would be greatest in the area of the new suburbs, where delays would more than triple, from 4.5 to 15 minutes.

**Map 7. The Urban Fringe in the GTA and Hamilton**

**DATA SOURCES:**


**ADDITIONAL DATA DESCRIPTION:**

a. **Built-up Urban Area.** In June of 2004, the Nepts Foundation commissioned Murray Richardson, a doctoral candidate at the Department of Geography, University of Toronto, and Dr. Ferenc Csillag, a tenured professor at the Department of Geography, University of Toronto, to establish a cost-efficient method of deriving the contiguous built-up urban area for the GTA and Hamilton. Originally created for the Nepts Portrait of a Region project in 1999, was amended using the data sources listed above by GIS analysts at the Cartography Office, Geography Department at the University of Toronto. The data set does not contain small areas that were categorized as hamlets, rural areas, or estate residential in upper-tier official plans; therefore, the areal measurement is a conservative estimate. The shoreline boundary was adjusted to match that of the built-up urban area.

**b. Designated Urban Expansion Land.** A data set of the designated urban expansion area for the GTA and Hamilton, originally created for the Nepts Portrait of a Region project in 1999, was amended using the data sources listed above by GIS analysts at the Cartography Office, Geography Department at the University of Toronto. The data set does not contain small areas that were categorized as hamlets, rural areas, or estate residential in upper-tier official plans; therefore, the areal measurement is a conservative estimate. The shoreline boundary was adjusted to match that of the built-up urban area.

**c. Unprotected Countryside.** This data set was derived and an areal measurement was calculated using ArcGIS software. After a series of GIS operations, several data sets, i.e. the Greenbelt draft plan area, 2004 built-up urban area and the designated urban area, were appended to create one multi-land use data set. This data set also captured an area between the proposed greenbelt and the designated urban expansion area. This area was isolated and subtracted from the multi-land use data set and categorized as “unprotected countryside.”

**Map 8. Development Pressure in Simcoe County**

**DATA SOURCES:**

Built-up Urban Area, Nepts Foundation, June/August 2004.

**ADDITIONAL DATA DESCRIPTION:**

The approximate size of the proposed developments was reported in Simcoe County: the New Growth Frontier, a study commissioned by the Nepts Foundation and published in May 2004.

**a. See additional data description for Map 7.**

**Map 9. A Slice of Peel Region**

**DATA SOURCES:**

Built-up Urban Area, Nepts Foundation, June/August 2004.

**ADDITIONAL DATA DESCRIPTION:**

a. **Built-up Urban Area.** In June of 2004, the Nepts Foundation commissioned Murray Richardson, a doctoral candidate at the Department of Geography, University of Toronto, to establish a cost-efficient method of deriving the contiguous built-up urban area for the Toronto Metropolitan Region. The objectives included creating a semi-automated method that could be repeated inexpensively each year using the same data sources and methods and a different analyst. A basic requirement was that the resultant boundary definition should be sufficient to be used for the purposes of regional assessment and planning. Mr. Richardson performed a series of iterative clustering to derive the original data set, then he performed a focal majority filtering analysis to clean-up any noise captured from the image. An accuracy assessment was completed focusing on the urban fringe within rural areas of the Region. Using 2002 orthophotography, a misclassification matrix was created for 96 randomly selected points. The assessment showed that the classification was at worst, 80% accurate. Finally other data sets were used to further refine the boundary of the built-up urban area in the GTA and Hamilton. For example the designated urban boundary data set was used to adjust the boundary of the built-up urban area along the Lake Ontario shoreline and along the western border of Peel Region. The accuracy of the data set is greater within the GTA and Hamilton since more information was available for verification. The shoreline boundary was adjusted to match that of the designated urban expansion area.

**b. Designated Urban Expansion Land.** A data set of the designated urban expansion area for the GTA and Hamilton, originally created for the Nepts Portrait of a Region project in 1999, was amended using the data sources listed above by GIS analysts at the Cartography Office, Geography Department at the University of Toronto. The data set does not contain small areas that were categorized as hamlets, rural areas, or estate residential in upper-tier official plans; therefore, the areal measurement is a conservative estimate. The shoreline boundary was adjusted to match that of the built-up urban area.

**c. Unprotected Countryside.** This data set was derived and an areal measurement was calculated using ArcGIS software. After a series of GIS operations, several data sets, i.e. the Greenbelt draft plan area, 2004 built-up urban area and the designated urban area, were appended to create one multi-land use data set. This data set also captured an area between the proposed greenbelt and the designated urban expansion area. This area was isolated and subtracted from the multi-land use data set and categorized as “unprotected countryside.”

**Map 10. Sydney Metropolitan Region**

**DATA SOURCES:**

Map created by the Cox Group in Sydney, New South Wales, Australia (http://www.cox.com.au/) with information from Australia National Parks and Wildlife Service, the Sydney Metropolitan Development Program, 2003, and Hema Maps Ltd.

**Appendix B: Cited Nepts Publications**

Travel Demand and Urban Form, March 2003.
Agriculture in the Central Ontario Zone, March 2003.