

# PART 1: WHY THIS STUDY?

## 1.1 BACKGROUND

This study originates with the City of Toronto's interest and involvement with the protection of the Oak Ridges Moraine, north of Toronto. In early 2000, when it appeared that the continued existence of the moraine was under threat from urban development, Council decided to do what it could to try to protect this part of the Greater Toronto countryside. At the same time, it became clear that the protection of the Oak Ridges Moraine was inextricably intertwined with the nature and pace of development in the City of Toronto and in the Region generally.

In order to address this issue, Council decided in June of 2000, to "undertake a study on regional strategies for managing development patterns, protecting valuable countryside such as the Oak Ridges Moraine, and reducing greenhouse gas emissions and air pollution".



Source: City of Toronto

In August and September 2001 the Provincial Advisory Panel on the future of the Oak Ridges Moraine outlined a draft strategy for "community growth and natural protection" for the Moraine. The proposals were revised and elaborated during the public consultation process, which was completed on September 14, 2001. On November 1, 2001 the Ontario Government introduced Bill 122, the Oak Ridges Moraine Conservation Act, 2001. The Bill provides a framework for the establishment of the Oak Ridges Moraine Conservation Plan, which would govern land use in the area of the moraine. The Bill which was enacted on December 13, 2001, allows the government to protect natural and water resource features on the Moraine, preserve agricultural land and focus development in approved settlement areas. A clause in the legislation is intended to prevent environmentally sensitive core and linkage areas from ever being diminished.

**The protection of the Oak Ridges Moraine is inextricably intertwined with the nature and pace of GTA development.**

In addition, some 1,000 acres of sensitive land have been secured so natural areas can be protected. This is being accomplished through land donations and exchanges for provincially owned developable lands off the Moraine. A corridor across Yonge Street will be created to protect vital natural features, such as Bond Lake and its catchments. The province also plans to create a continuous east-west trail along the Moraine. Supporting the trail will be an Oak Ridges Moraine Foundation with a mandate to fund activities such as securing land, research, monitoring and public education.



Source: Derek Griffiths - Canadian Imaging Associates Inc.

However, the issue of how the Toronto Region could continue to grow and prosper without development on the moraine remains unanswered. In other words, the policy for protecting the moraine as an important part of the countryside of the Toronto Region needs to be placed in the context of future development patterns and infrastructure investment decisions, particularly for transportation services.

Our research shows a surprising level of unanimity amongst Provincial, Regional and local officials in the GTA about desirable directions for the future. Most would agree with the objectives articulated by City of Toronto staff for sustainable regional development

based on environmental sensitivity, upgrading of existing areas and improved transit. And most would characterize this as striving to improve the quality of life for residents. Yet most also agree that if the Toronto Region were to continue to grow as it has in the past without a corresponding policy and investment framework to support these objectives, we may face a disaster of unparalleled proportions in the not too distant future, particularly with respect to transportation, air quality, jobs and other aspects of quality of life.

The objective of this study then, is to explore some of the things that need to be put in place to achieve a superior quality of life for all residents of the Toronto Region in the future. The characteristics of a high quality of life include:

- pleasant, attractive neighbourhoods, commercial districts and green spaces;
- clean air and water;
- services and facilities that are equally accessible to all: the young, the disabled, the elderly and the poor;
- affordable housing;
- economic prosperity which implies the ability to compete with other Regions;
- ease of movement for people and goods within the Region; and
- protected natural areas and countryside within the Region.

Our approach for conducting this study was to first examine past and current population growth and land consumption patterns in the Greater Toronto Area and beyond. Secondly we looked at what might happen if we were to continue to grow according to these same patterns in the future, knowing what we know about existing plans to invest in transportation improvements, housing, sewage and water distribution systems. Finally, we explore how this trend could be improved through strategic interventions covering both policy and public investment decisions.

## 1.2 THE RELATIONSHIP BETWEEN THE BUILT AND NATURAL ENVIRONMENTS



Source: Oakville Economic Development Alliance



Source: Derek Griffiths - Canadian Imaging Associates Inc.

“Urban form directly affects habitat, ecosystems, endangered species, and water quality through land consumption, habitat fragmentation, and replacement of natural cover with impervious surfaces.”

Many studies have documented the extent to which the built environment has an impact on the natural environment—both direct and indirect. The US Environmental Protection Agency for example, has published a document called *Our Built and Natural Environments* which provides an assessment of how “urban form directly affects habitat, ecosystems, endangered species, and water quality through land consumption, habitat fragmentation, and replacement of natural cover with impervious surfaces.”<sup>1</sup> These effects are caused by building on undeveloped land and constructing impervious surfaces such as roads and rooftops. For example, a runoff volume for a 1 acre parking lot is “almost 16 times as large as the runoff volume produced by an undeveloped meadow”.<sup>2</sup>

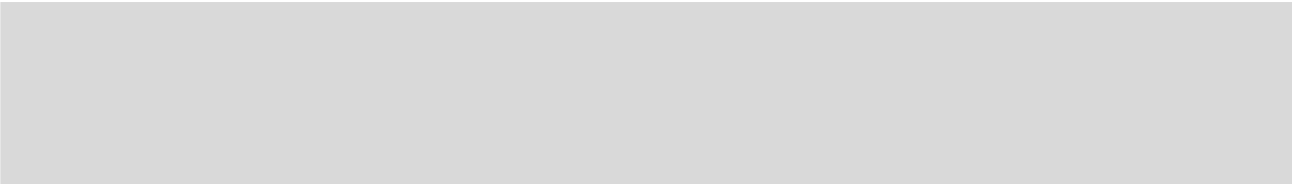
Additional impacts involve the extent to which urban form affects travel patterns resulting in increased car use, and hence greater emissions of air pollutants and greenhouse gases that contribute to global climate change. These can in turn indirectly affect water quality and habitat and pose serious threats to human and ecological health.

The core of this report examines how current and future growth patterns in the Toronto Region will affect the natural environment and what will need to be done to minimize the environmental impacts of future growth in the Region. Clearly, if impacts on habitat, ecosystems, endangered species and water quality are to be minimized, using less land in the future to accommodate the same population and employment growth in the Toronto Region will be preferable to using more land.

Similarly, designing communities which are compact and hence transit supportive and pedestrian friendly and where people travel less by car get from place to place, will reduce air pollution, greenhouse gas emissions and minimize impacts on global climate change.

<sup>1</sup> United States Environmental Protection Agency, *Our Built and Natural Environments: a Technical Review of the Interactions Between Land Use, Transportation, and Environmental Quality* (Washington D.C: Environmental Protection Agency, 1999).

<sup>2</sup> Ibid p ii.



There is mounting evidence that communities that are able to organize development patterns that create a harmonious relationship with the natural world, and where direct and indirect impacts are minimized, will succeed as economically vibrant and highly desirable places to live and work in the future. In the Toronto Region this cannot happen unless the City and the Regions work together to realize a development pattern that is significantly different from how the Region has developed in the recent past.

### 1.3 THE CHALLENGE AHEAD

One conclusion that we reach is that the projected population increases well into the future, if accommodated according to existing development patterns, do not require more urban development on the Oak Ridges Moraine. However, our other conclusions are far less promising for the future environmental health of the Region and quality of life for residents, even in the short term, despite increasing evidence that new developments are more intensive than in the past. If development patterns were to continue according to the same patterns as in the past without a shift to more transit use, the implications for deteriorating air quality, road congestion, increased travel to work time and environmental degradation are significant.

So, we examine options for addressing these pessimistic findings. We believe these options are supported by a large majority of officials, community leaders and business representatives right across the Region. The options we examine are practical, implementable and absolutely essential. But, to put together a plan for transforming these options into action plans will require an immense amount of hard work, an unprecedented amount of collaboration across the Region and most importantly, an ability to imagine and act on possibilities where none now appear. We have no choice, the future is upon us and if we continue as we have in the past, it does not bode well.

The challenge to change direction is particularly daunting since it presupposes a significant shift in societal norms on the part of the regional population. The key to transforming regional growth patterns in a more sustainable direction is to improve transit. We argue that the pattern of development also needs to be organized in a manner that supports transit use.

But improving transit and organizing land use to make transit more accessible will not necessarily in and of itself result in greater use of transit by the regional population. It will provide more choice for the population, particularly for people who do not own a car, and so from an equity perspective improving transit is critically important to allow the elderly, youth and low income people the same mobility choices as the rest of the population. But getting a larger proportion of the remaining population out of their cars and into transit will require a huge cultural shift that would represent reversing dominant trends towards increasing car use across North America and Europe, even in places which have excellent transit systems.

The challenge then is even greater than to shift development patterns, or improve transit provision, or to get the regional and municipal governments to work together; the challenge is to change behaviour. This ultimately is what growth management is about. It will require an investment in creating pleasant pedestrian oriented neighbourhoods where it is possible

to walk a reasonable distance from home to a variety of services and activities. It also means organizing and providing more convenient transit service to work locations as well as a campaign to get people out of their cars. This study can only point in the direction that needs to be taken—the rest must be formulated as part of a larger strategy by all of the Regions and local governments in the area.

To conduct this study we did three things that have rarely been done before. First, we look at urban development and population distribution patterns across a much larger area than the GTA, including all of South Central Ontario, from Niagara to Hamilton Wentworth, Kitchener-Waterloo to Guelph, Barrie to Peterborough.

The implication of this is that the Toronto Region is in reality a much larger entity than the GTA and that planning and investment decisions need to be based on an assessment of the implications for this larger region. The larger region is linked economically, with different sectors functioning across the region (e.g. the automobile industry). It also shares a common transportation network along highways and rail lines as well as a system of post secondary educational institutions including amongst others, Waterloo, Brock, Trent as well as the GTA based Universities and Colleges.

In this study we are not in a position to make suggestions on what kind of infrastructure linkages are needed for this larger region. At some point, the implications of future population growth will need to be assessed in the context of economic and infrastructure linkages but this will require much more analysis. Our intent is to show where population growth is likely to occur if current patterns were to continue, in order to provide some indication of the need for a larger regional response to future pressures for urbanization.

Secondly, we look at a longer term population growth horizon for this area than has been the case in previous studies. In fact, our horizon stretches to when the GTA population reaches 10 million with corresponding increases in the remaining parts of South Central Ontario. The implication of this is that the foundation we are in the process of laying will determine what this larger region will be like that far into the distant future. To lay this foundation properly represents an immense responsibility to future generations.

Thirdly, we integrate environment and planning questions and opportunities including water resource issues, countryside and urban boundary issues, transportation, sustainable communities, affordable housing and economic competitiveness. One example of this integration is the modelling capability we have developed to generate twenty-four hour estimates of travel behaviour for future years in the GTA. Prior to this study such a modelling capability did not exist. This model allows us to generate estimates of transportation CO<sub>2</sub> emissions for a “typical” twenty-four hour period which can be expected to result from alternative land use scenarios for the GTA as well as other important impacts of the transportation system such as other air quality related emissions, road congestion levels etc.



Urban Development Services, City of Toronto

**Without a shift to more sustainable travel options, the implications for deteriorating air quality, road congestion, increased travel time to work and home and environmental degradation are significant.**

Prior to this study it was only possible to generate these numbers for peak hour periods in the GTA. In fact as we show, the twenty-four hour travel behaviour represents a more complete picture of emission and congestion activity across the GTA. This is particularly true since increasingly travel patterns for various purposes (work, school, shopping, family responsibilities, errands, entertainment etc) are distributed over the course of the entire day and not just concentrated during peak hours.

## 1.4 THE CITY OF TORONTO AND REGIONAL GROWTH ISSUES



Source: Urban Development Services, City of Toronto

The pattern of future growth for the Toronto Region will affect the well being of all residents of the area, and is equally important to the economic and social well being of the City of Toronto. The Toronto Region is one economic and physical entity made up of different geographic places, each with their own distinctive characteristics. But what happens in one part of the Region affects other parts of the Region. All areas are intertwined. Hence the City and the Regions must work together to create a more liveable GTA in the future.

### **City residents have an interest in protecting green areas like the Oak Ridges Moraine**

As already mentioned, the City's initial interest in this study related to the protection of the Oak Ridges Moraine. The importance of maintaining this environmentally significant part of the countryside within a reasonable distance of the City of Toronto was seen as contributing to the well being of the residents of Toronto. Toronto residents, like other residents of the Greater Toronto Area, use regional natural and recreational features for walking, hiking, cycling, bird watching and generally as a reprieve from the hustle and bustle of everyday urban life. In fact, economists have been able to attach a value to the contribution of environmental features such as the Oak Ridges Moraine to general well being through an analysis called "contingent valuation" and to measure in economic terms how this value would decline if these types of resources were lost.

Contingent valuation is based on a series of surveys to assess what people are willing to pay to receive the benefit of an environmental resource, or alternatively, what they are willing to be compensated to give up that benefit. However the cost and complications of conducting such an analysis are quite high and consequently such an analysis has not yet been done regarding environmentally significant areas like the Oak Ridges Moraine.

### **Toronto's river valleys cut through a number of jurisdictional boundaries**

The valleys of the Toronto Region cut through a number of jurisdictions. From the north these extend along the Don, Rouge and Humber Rivers linking the moraine to Lake Ontario, providing City and Regional populations with green areas and recreational corridors while contributing to the overall ecological well being of the Region. The City has both an obligation to conserve these natural areas and an interest in ensuring that these resources are similarly conserved outside its boundaries. The existence of the Toronto Region Conservation Authority recognizes the interdependence of the all of the areas within the Toronto watershed, and hence integrates the City's interest in this regard.



### **Water and sewage facilities need to be planned in a coordinated way across the GTA**

Planning and investment in clean potable water and safe sewage facilities also affect all parts of the Region. The Toronto watershed coincides with no political boundaries. To ensure that residents of the City are able to enjoy safe drinking water and a clean lakefront, the City must take into account what is happening on a watershed basis and integrate its plans with regional development initiatives. How the Region is growing, and how it is likely to grow in the future, is clearly a critical dimension that must be factored in when making these types of plans and investments within the City.

### **Air quality issues need to be addressed across the Region**

The deteriorating air quality in the Toronto Region, as evidenced by an increasing number of smog alert days in the summer throughout the Region, affects all residents and needs to be addressed on a regional scale. The main source of local air pollution in urban areas is acknowledged to come from car exhaust. Poor air quality has an economic and health cost for the Region and affects the general quality of life of its residents. To tackle air quality issues, we must find ways to get people out of their cars and improve options for walking and transit. This will require an unprecedented level of cooperation among all municipal governments in the Region.

### **Toronto's economic health hinges on moving people and goods efficiently across the GTA**

The City's interest in Regional development extends beyond protecting valuable countryside, protecting natural areas and ensuring clean water, proper sewage treatment and improving air quality. The economic health of the City and the Region as a whole also depends on efficiently moving goods and people from one part of the Region to the other.

A major issue for all municipalities within the Region is that as the Region grows, employment areas and travel patterns become increasingly dispersed resulting in more and more congestion on the roads and highways. This creates significant inefficiencies, delays and disruptions. There is also a need to plan for, and invest in, transit to provide a viable alternative to travel by car. To do this will require a considerable increase in transit investment. It also means that development needs to be organized to encourage higher densities along corridors and in city centres, and that people's behaviour will change. To do this properly is of critical importance to the City and to all other jurisdictions within the Region. If this is not done, the entire economy of the Region will suffer.

### **The availability of affordable housing throughout the Region is critical for Toronto's social and economic health**

As travel patterns become more dispersed across the Region, and as service and other low paying jobs are also dispersed, the importance of ensuring that there is an adequate stock of affordable housing throughout the Region becomes critical to the Region's economic health. Many lower income residents of the GTA do not have access to cars and must use transit to get to work. Unless there are opportunities for them to live in all parts of the Region in order to be able to get to jobs, our economic health will deteriorate. This is not just critical for the people who work in these jobs, it is also critical for the businesses who rely on these workers. Rental and affordable housing has not been built in the GTA over the past few years, causing a crisis for many lower income residents and difficulties for businesses in some parts of the Region that cannot find and keep employees in lower wage jobs. The City has a direct interest in working with the other municipalities in the GTA on strategies for addressing this gap, not only within its own boundaries, but also in the rest of the GTA.



Source: Derek Griffiths - Canadian Imaging Associates Inc.

**We are all in this together: what happens in one part of the Region affects other parts of the Region.**

#### **City decisions affect development patterns across the GTA**

While the City clearly has an interest in regional development issues, it also has an obligation to contribute in a constructive and positive way towards an improved pattern of regional development within its own boundaries as its contribution towards improving the quality of life within the Region. The City's proposal in its Official Plan Directions report to increase population is a step in the right direction. Its many decisions on transit maintenance and investment, garbage disposal, natural area protection and environmental cleanup must also be taken in the context of larger regional impacts.

As this study shows, however, there are many other areas that the City needs to improve in order to create a better environment for sustainable transportation and more efficient use of land. Most arterial roads, for example in Scarborough, Etobicoke and North York, resemble arterial roads in the Regions of Durham, York, Peel and Halton; they are underdeveloped, extremely wide, cluttered with signs, unsafe for pedestrians and unattractive. Garbage disposal is another issue that has regional, and not just local, implications and obligations for the City. If the Toronto Region is to move forward, all local governments including Toronto's must pull together to ensure economic health and a high quality of life.

#### **Need to fill policy vacuum left by the demise of the Greater Toronto Services Board (GTSB)**

With the recent demise of the Greater Toronto Services Board there exists a policy vacuum for planning and coordinating regional development issues. The City of Toronto's initiative with this study represents an initial step towards providing a context for future discussion and a basis for bringing all of the Regions together in the Toronto area to prepare a growth strategy that makes sense for the future. A strategy that truly takes the Region into the 21<sup>st</sup> Century based on the principles of environmental sustainability and improved quality of life is needed.

The sum of all these elements represents an attempt to create a high quality of life for all residents of the GTA

All of these elements together affect every neighbourhood across the City and, for that matter all of the neighbourhoods throughout the Region. The quality of life in each neighbourhood is determined to some extent by local factors, but it is also determined by the larger dynamics described above. The quality of the air, water, services, transport system all affect neighbourhood quality of life, and yet must be tackled on a Regional basis.

## 1.5 PREVIOUS STUDIES

There have been a number of recent studies completed on issues related to development patterns in the GTA and the need for future growth management initiatives. These include: a report prepared for the Greater Toronto Services Board called "The State of the GTA"; a report on transit in Toronto prepared by the Toronto Board of Trade"; a report prepared by the IBI Group and Hemson Consulting Ltd. called "Funding Transportation in the Greater Toronto Area and Hamilton-Wentworth"; a series of reports prepared mostly by faculty at the University of Toronto for the Neptis Foundation on analyzing growth patterns in the GTA; the Golden Task Force Report which looked at governance structures for the GTA; and the Greater Toronto Area Agricultural Economic Impact Study prepared for the Ontario Federation of Agriculture. All of these reports raised alarms about future development patterns in the GTA.

We have prepared a synopsis of these and other reports contained in the Background Reports called *City and Regional Strategies to Protect Countryside and Air Quality: A GTA Bibliography and Synopsis of Current Studies and Initiatives*, August 2001". We have also conducted a review of materials on sprawl and smart growth across Canada, the US and Britain called *"City and Regional Strategies to Protect Countryside and Air Quality: A Bibliography and Synopsis of Current Studies and Initiatives in Canada, Britain and The United States"*.

Our study represents somewhat of a departure from the previous reports in that it demonstrates that overall densities in the GTA have been increasing over the past few years, to a larger extent than had previously been assumed. Our research also shows that increased densities have not led to less road congestion. In fact, quite the opposite, road congestion has been increasing and air quality deteriorating over the past few years in the Toronto Region, at the same time that development has been intensifying.

Our report analyzes this new information and focuses on the relationships between increasing density patterns, the form and location of development, transit use, air quality, environmental linkages and urban structure.

## 1.6 THE THEME OF THIS STUDY

The overall theme of this study is "we are all in this together". In order to solve future growth management issues and to define a strategy for achieving an improved quality of life for residents of the GTA, all of the local and regional governments of the GTA must come together. The need is urgent and unprecedented. The GTA risks entering a downward spiral of decline in the absence of full cooperation between the City and the Regions on solving growth management problems.

As already mentioned, Toronto and the surrounding Regions are facing many similar problems, although the dimensions of these problems need to be addressed in different ways depending on local circumstances. There are of course, many areas of friction that will need to be addressed in the process, including finding appropriate funding formulas for social services, sharing costs for operating regional attractions and deciding on priorities

for infrastructure and transit investments. But the issues that bind are potentially much stronger: changing the revenue sources for funding municipal expenditures, investing as quickly as possible in a GTA wide transit grid, organizing land use and growth patterns to support transit, walking and cycling and creating attractive environments designed with people in mind, particularly along arterial roads.

The oldest cities within the Toronto Region, Toronto, Oshawa, and Hamilton (just outside the GTA), face a particular set of issues for their oldest areas that may provide a glimpse of the future for the other Regions. For Toronto, there is virtually no more land to urbanize although there are many opportunities to re-urbanize. To realize these opportunities will require that a number of strategies be put in place to generate quality developments that are transit supportive and which do not unduly impact on existing communities. Both Hamilton and Oshawa have large older historic areas, but they also have greenfield areas within their boundaries where new urban expansion has tended to locate.



Urban development Services, City of Toronto

The main objective for this study is to provide a foundation for an integrated sustainable regional growth management strategy through a cooperative effort.



Source: Derek Griffiths - Canadian Imaging Associates Inc.

The particular issues facing the older areas relate to ageing infrastructure and flattened sources of revenue to pay for maintenance

and upgrading. A number of older areas, are facing decline and need to be upgraded; it is clear that any decaying parts of the Region will negatively affect the Region as a whole. On the other hand, these older areas were organized according to land use patterns that have made transit use sustainable. In all these respects the older cities provide lessons and insights about what the future might bring for the newer areas in the Region.

The bottom line is that it is in everybody's interest for the municipalities and Regions in the GTA to immediately come together to solve their problems, before we reach a point of no return. The main objective for this study then is to provide a foundation for preparing an integrated sustainable regional growth management strategy through a cooperative effort involving all local governments in the Toronto Region.

## 1.7 THE OBJECTIVES OF THE STUDY

As already mentioned, the overall goal of the study is to identify how future population and land development might be managed in a way that improves the quality of life for all residents of the Region, ensures continued economic prosperity and protects the natural environment. Our assessment is that in order to achieve this goal it will be necessary to prepare a strategy based on a framework which:

- Identifies how population and employment growth in South Central Ontario can be managed and accommodated;
- Protects natural areas (Oak Ridges Moraine, Niagara Escarpment, Wetlands, Shorelines etc) and protects valuable farmland to the greatest extent possible;
- Minimizes habitat, air and water quality impacts;
- Identifies ways to invest in transit at a level that responds to the future transit needs of the Region;
- Promotes land use patterns along arterial corridors and in a few strong “City Centres” that are transit supportive and pedestrian friendly;
- Ensures the adequate supply of high quality drinking water and the treatment and safe disposal of wastewater;
- Encourages reinvestment in cities and existing urban areas according to a sustainable financial formula; and
- Identifies opportunities for forging alliances between Toronto and the other cities in South Central Ontario that share the goal of pursuing initiatives resulting in “an urban renaissance”.

