



# transportation

## CHALLENGES

IN THE GREATER TORONTO AREA

# transportation

## CHALLENGES

IN THE GREATER TORONTO AREA

AN INDEPENDENT STUDY FUNDED BY  
THE RESIDENTIAL AND CIVIL CONSTRUCTION ALLIANCE OF ONTARIO

NOVEMBER 2006

### CONTRIBUTORS

RICHARD SOBERMAN

DAVID CROWLEY, HAROLD DALKIE, PETER DALTON, STEPHEN KARAKATSANIS,  
ED LEVY, THOMAS MCCORMACK, JACK VANCE

# abstract

Transportation gridlock in the Greater Toronto Area (GTA) is driven by the gap between growth in population and investment in the transportation system. Because there is no comprehensive transportation plan for the GTA, this study attempts to begin the process of identifying transportation challenges that will have to be addressed within the broad context of Ontario's *Places to Grow* policy. It does so from the perspective of the entire GTA as opposed to the perspective of any individual regional municipality.

The study concludes that a comprehensive assessment of the GTA's transportation needs and priorities related to roads, transit, and goods movement should be the first order of business for the new Greater Toronto Transportation Agency (GTTA).

Main messages that apply in developing such a GTA Transportation Plan are:

- 1) Effective governance is key because it determines how, when, and for what purpose funding is allocated. Governance bodies should be structured to provide executive oversight in ways that are sensitive to long term needs, guarantee objectivity, and offer a diversity of relevant experience and expertise.
- 1) The availability of predictable long term funding is almost as important. No organization can function properly in the absence of predictable revenues. Moreover, provincial and federal funding should be plan oriented rather than project oriented.
- 2) The GTTA can only play a meaningful role if it controls the allocation of a substantial proportion of both provincial and federal (excluding the Gas Tax Transfer) funding for GTA transportation. Experience with the Greater Toronto Services Board proves that without funding leverage, regional authorities cannot achieve meaningful accomplishments.
- 3) Transit service and fare integration is essential. The first step should focus on 'seamless' transit that connects the TTC, YRT, Mississauga Transit, and GO Transit.
- 4) There is no doubt that road expansion will be required in many areas of the GTA and some areas within the City. Without the radical shift in lifestyle implied by the provincial growth policy, requirements for road expansion will be even more significant.
- 5) Efficiency in the use of limited funds must drive transit priorities, with the goal of achieving broader coverage and better service for the greatest number of people.
- 6) The Environmental Assessment process must be revised so that it does not merely continue as a vehicle for interminable delay.

## summary

Increasingly, concerns about transportation gridlock in the GTA are receiving greater attention, driven in large part by the obvious gap between growth in population and investment in the transportation system. Deterioration of the overall transportation system can also be attributed to the manner in which growth has evolved, generally in ways that are very difficult to serve by efficient public transportation and which have resulted in lifestyles that are increasingly automobile dependent.

For these reasons, efficient and sustainable forms of growth within the Greater Golden Horseshoe (GGH), which includes the GTA, has received considerable provincial government attention. Ontario's 2005 *Places to Grow Act*, for example, is intended to provide a framework for guiding decisions on a range of issues including transportation and other infrastructure in the GGH.

The plan is founded on the belief that urban sprawl and the deficit in current infrastructure are key challenges that must be faced if the GGH is to maintain its competitiveness as a region in which to live, work, and play. "An extensive multi-modal system anchored by efficient public transit, together with highway systems" is one of the major policy directions within this growth plan.

Recent planning for transportation within the GTA, however, has typically been characterized by numerous announcements and relatively few accomplishments. Our collective ability to 'get things done' appears to be on the decline, largely due to conflicting objectives, a multiplicity of government agencies, questionable models of transportation agency governance, the lack of realistic financial models, and a very cumbersome process for the review of transportation decisions.

At present, there is no comprehensive transportation plan for the entire GTA. The purpose of this study is to identify important challenges that will have to be addressed if such a plan is to be developed. It does so from the perspective of the entire GTA as opposed to the perspective of any individual regional municipality.

Transportation needs obviously depend upon the magnitude and nature of growth in population and jobs. Forecasts of future travel demand, therefore, are based on projections consistent with the provincial growth policy, summarized in Table S.1. Possible new employment growth, which drives much of the demand for improved transportation, is illustrated in Figure S.1.

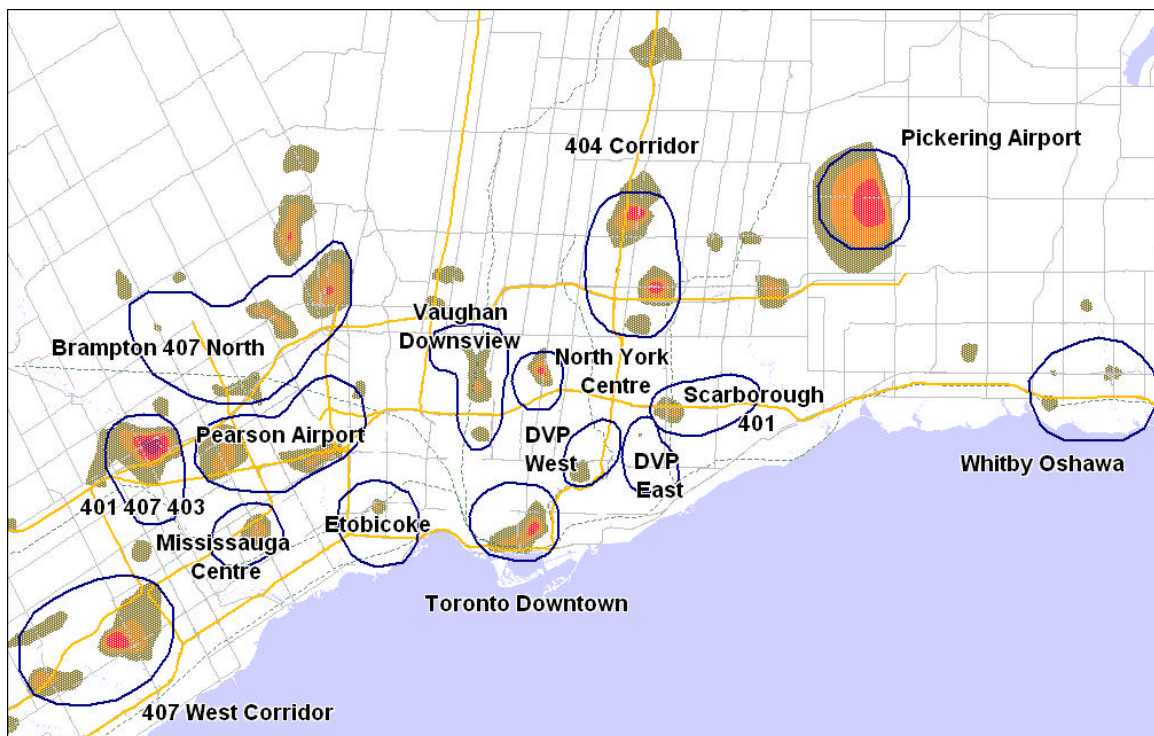
These growth forecasts assume the extensive achievement of high densities, intensification, and redevelopment within the GTA. Some of the more important implications of the travel analysis based on such assumptions include the following:

- ▶ The *Places to Grow* forecasts of growth distribution imply a major shift in the way people choose to live and commute that does not reflect past behaviour. Such changes in behaviour would require radical changes in land use and urban form, substantial new investments in transit infrastructure, and probably, constraints on automobile use such as auto free streets and/or congestion pricing.

TABLE S.1 PLACES TO GROW ADJUSTED GROWTH IN POPULATION AND EMPLOYMENT

Region	Population (1000s)			Employment (1000s)		
	2001	Growth	2031	2001	Growth	2031
Toronto	2,590	491	3,081	1,440	201	1,641
Durham	530	429	959	190	159	349
York	760	738	1,498	390	388	778
Peel	1,030	605	1,635	528	336	864
Halton	390	390	780	190	201	391
Total GTA	5,300	2,654	7,954	2,738	1,284	4,022

FIGURE S.1 POSSIBLE NEW AREAS OF EMPLOYMENT GROWTH BY 2031



- ▶ Accepting the provincial growth policy estimates, the dispersed pattern of development, particularly in the outer fringe, presents serious challenges for efficient public transit. Where transit is a viable alternative to the automobile, there is an important challenge related to obtaining meaningful commitments for service integration among different transit agencies.
- ▶ There will be a significant increase in the demand for more and better roads and highways in all suburban municipalities, as well as in the City of Toronto.
- ▶ Although relative growth outside of the City of Toronto is forecast to exceed, by far, growth within the City, in absolute terms, the current and continuing dominance of Toronto's central area as the primary employment centre is telling. It clearly demonstrates why strengthening the high-capacity transit network is of paramount importance in areas of maximum residential and employment density.
- ▶ If growth continues to evolve as it has over the last 10 to 30 years or so, contrary to the provincial growth plan, transportation challenges will become even more acute and will occur sooner. Under such conditions, severe congestion can be expected on roads throughout the GTA, including the City of Toronto.

In addition to these observations, the final conclusions and recommendations of the study also recognize a number of institutional and financial challenges, as summarized below.

- 1) The first order of business for the new Greater Toronto Transportation Authority (GTTA) is to undertake a comprehensive assessment of the GTA's transportation needs and priorities that explicitly treats:
  - ▶ GTA priorities for integration,
  - ▶ Improving the efficiency of goods movements, and
  - ▶ The most effective means of achieving more sustainable transportation.
- 2) Due to practical limits on funding, the goal of transit planning should be to make investments that provide positive benefits for the largest number of people. For many areas within the GTA, excluding high density corridors in Toronto, 'appropriate' investments probably mean more bus-based and less rail-based transit.
- 3) Unpopular decisions with regard to the use of street space in ways that give transit vehicles higher priority are required.
- 4) For most of GTA growth in regions beyond the City of Toronto, significant road improvements will be required.
- 5) Development of a staged plan for the integration of GTA transit services is an important task for the GTTA, the first element of which should provide 'seamless' transit between the TTC, GO Transit, YRT, and Mississauga Transit.
- 6) Adoption of a universal fare collection system, such as a 'smart' card, electronic purse, or other advances in information technology, based on a uniform fare policy,

is a fundamental requirement for achieving seamless transit within the GTA. Regardless of the technology, what is required is a medium that can be used on any transit service and associated parking within the GTA.

- 7) The 'culture' of political appointments should be modified to ensure that both the composition and rules of conduct of transit governing bodies conform to well known practices for good governance.
- 8) For the GTTA, good governance means appointment of members who are not elected officials, who accept a fiduciary responsibility to act in the best interests of the GTTA, and who, collectively, offer a broad range of experience and expertise to ensure that executive oversight is provided objectively.
- 9) If the GTTA is to play a meaningful role, it should become the channel for a substantial proportion of both provincial and federal (excluding the Gas Tax Transfer) funding for urban transit and roads.
- 10) For all road and transit agencies, alternative delivery models that leverage the financial capacity and capabilities of the private sector should be investigated.
- 11) In particular, municipalities within the GTA should give more serious consideration to alternative methods, such as contracting on the basis of 'design, build, and maintain', to expand transportation infrastructure at lower cost.
- 12) The provincial government should enact legislation to minimize service disruptions resulting from the failure of management and labour to reach satisfactory collective agreements.
- 13) The environmental assessment process has become one of the surest means of ensuring that nothing gets done. Streamlining the entire review and appeal process to reduce costs, accelerate decision-making, and, where applicable, facilitate implementation, should be a high priority for the Government of Ontario.
- 14) All federal and provincial funding programs for urban transportation should be altered from time-limited, earmarked funding for individual, highly politicized projects, to funding for formally approved transportation plans and priorities.
- 15) Long-term, predictable funding commitments are essential for effective transportation planning and implementation.
- 16) Legislation that permits leveraging long-term, guaranteed funding commitments to attract private investment (notably, pension funds) using loans, revenue bonds, or other debt instruments is necessary.

The main messages to be drawn from this study that apply to the development of a comprehensive GTA Transportation Plan are as follows:

- 1) Effective governance is key because it determines how, when, and for what purpose funding is allocated. Governance bodies should be structured to provide executive oversight in ways that:
  - ▶ Are sensitive to long term needs,
  - ▶ Guarantee objectivity and the absence of conflict of interest, and
  - ▶ Offer a diversity of relevant experience and expertise.
- 2) The availability of predictable long term funding is almost as important. No organization can function properly in the absence of predictable income, revenues, or funding.
- 3) The GTTA can only play a meaningful role if it controls the allocation of a substantial proportion of both provincial and federal (excluding the Gas Tax Transfer) funding for GTA transportation. Experience with the Greater Toronto Services Board proves that without funding leverage, regional authorities are likely to achieve little.
- 4) Transit service and fare integration is essential. Employment aspirations of the City of Toronto in the face of suburban, more dispersed residential growth, are more likely to be realized with a GTA system of 'seamless' transit that connects the TTC, at least with York Region and Mississauga Transit
- 5) There is no doubt that road expansion will be required in many areas of the GTA and some areas within the City. Transportation needs implied by the provincial growth policy for the GGH cannot be satisfied by transit alone. In fact, without a radical a shift in lifestyle implied by the provincial policy, requirements for road expansion will be even more significant.
- 6) Efficiency in the use of funds must drive transit priorities, with the goal of achieving broader coverage and better service for the greatest number of people. Maintaining and increasing transit ridership, as well as improving service quality should drive the choice of technology most appropriate to provide required capacity
- 7) The EA process must be revised so that it does not merely continue as a vehicle for interminable delay.

## table of contents

abstract	i
summary	ii
1. introduction	1
2. defining a transportation plan	4
3. the “planning deficit”	5
4. study approach	9
5. land use forecasts	13
6. travel forecasts	19
7. likely improvements	33
8. planning challenges	38
9. institutional challenges	41
10. financial challenges	45
11. conclusions and recommendations	49
references	55

# 1. introduction

Increasingly, concerns about transportation gridlock are receiving greater attention at all levels of government, driven in large part by the obvious gap between growth in population and commercial/cultural activity on one hand, and expansion of the transportation system on the other. In a recent *Globe and Mail* article, for example, citing a Toronto Board of Trade survey, John Barber writes “there is no factor more influential in determining where businesses locate than how long it takes the boss to get home from work”.

Between 1986 and 2001, population of the Greater Toronto Area and Hamilton (GTAH) grew by 33 percent to about 5.4 million persons. By 2031, it is expected to increase by another 2.6 million, or almost 50 percent. Since 1986, however, investment in infrastructure, including transportation, has not kept pace with the overall growth of the region, a perception that is reflected in rising levels of congestion and frustration of all types, and one that is recognized almost on a daily basis, in the media and elsewhere.

This perception is not without basis. Figure 1.1, for example, shows that between 1992 and 2006, Ontario’s budget increased by about 60 percent in current dollars. During the same period, interpolating from the data, population of the GTAH increased by about 33 percent. Total provincial spending on transportation, however, declined by about 24 percent. In 1992, provincial spending on transportation represented about 4.7 percent of the total Ontario budget; in 2006, it represented less than 2.2 percent.

Moreover, in addition to the reduction in provincial expenditures on transportation, including municipal roads and transit, around 1998, a number of social services, as well as new charges for GO Transit previously covered entirely by the Province, were downloaded to the municipalities, further exacerbating the ability of municipal governments within the GTA to meet their transportation requirements.

The reasons for the transportation ‘deficit’ within the GTA are fairly obvious. Other priorities for provincial and municipal spending, notably health and education, have simply become more demanding and have received much larger allocations of all budgets. Thus everything cannot be blamed on changes in political colours. It was a Conservative government, under William Davis, that greatly increased spending on municipal transportation in late 1972. Some 25 years later, it was a Conservative government, under Mr. Harris, that took almost all of it away.

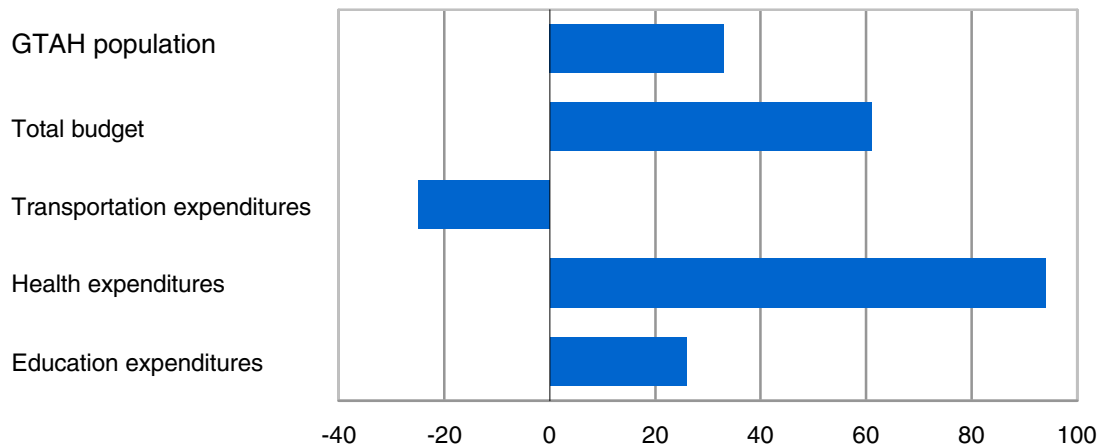
These observations have sown the seed for some action by both federal and provincial governments. The original Canada Infrastructure Works Program (CIWP), for example, leveraged about \$2 billion of federal government investment to generate about \$6 billion of total investment in needed municipal infrastructure and associated employment creation. That program was well received, accomplished its short-term objectives, produced measurable outcomes, and set the stage for future tri-level cooperation in major municipal capital programs.

It is important to note, however, that the CIWP, as well as subsequent federal and provincial infrastructure programs were, and continue to be, almost entirely project oriented. At this time, there is simply no long term, predictable funding for transportation in the GTA, from either the provincial or federal governments, that can be 'taken to the bank'. Without such funding commitments, area and regional municipalities still have a responsibility to plan and establish priorities. Without funding commitments, however, they simply do not have the wherewithal to actually 'do' very much.

---

FIGURE 1.1 PERCENT CHANGE IN SELECTED ELEMENTS OF THE ONTARIO BUDGET 1992-2006

---



Aside from funding issues, much of the perceived increase in congestion, gridlock, and general deterioration of the overall transportation system can also be attributed to the manner in which growth has occurred. Simply stated, the spatial distribution of a very high proportion of growth in new residences and employment has occurred in ways that are very difficult to serve by efficient public transportation, and which have resulted in lifestyles that are increasingly automobile dependent.

Most new developments, for example, assume that both residents and workers will have access to a car. The only places where people live without cars are in Toronto, primarily in pre-war areas. In inner city areas, a 2006 survey showed fewer than 20 percent of new condominiums without cars. Thus, hand-in-hand with increased funding for infrastructure, the ability to achieve more efficient and sustainable forms of growth within the GTA, and the even larger Greater Golden Horseshoe (GGH), has become the focus of provincial government interest in broader scale growth management.

Ontario's 2005 *Places to Grow Act* provides the policy basis. The Act is intended to ensure that a long-term vision guides decision making and provides for co-ordination of growth policies among all levels of government. The *Growth Plan for the Greater Golden Horseshoe*, prepared under the Act, provides a framework for guiding decisions on a range of issues including transportation and other infrastructure in the GGH. The plan is founded on the belief that urban sprawl and the deficit in current infrastructure are key challenges that must be faced if the GGH is to maintain its competitiveness as a region in which to live, work, and play.

One of the major policy directions defined within the growth plan is “to identify and support a transportation network that links urban growth centres through an extensive multi-modal system anchored by efficient public transit, together with highway systems for moving people and goods”.

The transportation deficit and the perception of both physical and institutional ‘gridlock’, of course, has already been recognized as having serious negative impacts on the economy of the GTA, as well as its vitality, competitiveness, and attractiveness.

According to the Federation of Canadian Municipalities (FCM), for example,

*Cities and communities are central to Canada’s prosperity and quality of life. They are where economic wealth is generated, the crucibles of our national identity and the places people call home.*

The FCM also argues that the lack of resources and fiscal tools to meet transportation and other needs:

*has caused the deferral of much-needed investments in infrastructure, leading to a physical decay that harms the capacity of our cities and communities to compete in the global economy and contribute to prosperity.*

In more specific terms, the FCM cites the TD Bank Financial Group conclusion that “the loss from congestion and shipment delays in the Greater Toronto Area totals \$2 billion annually”.

At present, there is no comprehensive transportation plan for the GTA. The purpose of this study is to identify important challenges that will have to be addressed if a GTA transportation plan is to be developed. It does so from the perspective of the entire GTA, as opposed to the perspective of any individual regional municipality.

## 2. defining a transportation plan

A real transportation plan is more than lines on a map. 'Lines on maps', of course, represent a useful starting point but, by and large, they represent some form of all-inclusive consensus intended to satisfy the major players within the relevant constituency. Lines on maps simply offer too much opportunity for interventions based on political interests rather than priority needs. In the GTA, consider, for example, the proposed extension of the Spadina subway from the Downsview station in the City of Toronto to the intersection of Keele Street and Highway 7 in the Region of York.

Previously, the TTC had identified extensions of the Spadina subway to York University and the Sheppard subway to the Scarborough City Centre as the two highest priorities for rapid transit expansion. In April 2006, however, the provincial Minister of Transportation announced that the Ontario government would provide \$700 million (on a matching fund basis) for the Spadina extension well into York Region, an announcement that tipped the TTC's priorities in favour of that project.<sup>1</sup>

In some respects, neither the provincial nor the federal governments can be blamed for their precipitous actions (or inactions). In the absence of a formal GTA transportation plan, it is not unreasonable to expect officials to make decisions primarily on political grounds.

A transportation plan, pure and simple, is comprised of five distinct elements, namely:

- 1) routes on maps defined by technology (roads and transit, by category) and specific location.
- 2) a clear statement of priorities for capital investment in these routes that corresponds to the most pressing needs.
- 3) associated policies for the management and delivery of transportation service, most notably:
  - ▶ transportation demand management (TDM) measures, such as high occupancy vehicle (HOV) lanes, and
  - ▶ policies regarding the use of road space by automotive traffic and transit, such as transit priority schemes and parking regulations.
- 4) consistent land use policies regarding the location and density of growth and redevelopment of population and employment areas.
- 5) a financial model for meeting capital and operating costs.

Without a plan, naturally, politicians make decisions on political grounds.

---

<sup>1</sup> Interestingly enough, in August 2006, the federal Minister of Finance announced that there were no guarantees that federal funding would be available to match the provincial promise.

### 3. the “planning deficit”

Recent planning for transportation within the GTA has typically been characterized by numerous announcements and relatively few accomplishments. The ability to ‘get things done’ appears to be on the decline, with a few notable exceptions. Some of the more important reasons are treated below.

---

#### CONFLICTING VIEWS AND OBJECTIVES

---

The lack of a comprehensive GTA transportation plan derives, in part, from conflicting views on the nature of the gridlock solution. Many government programs and studies initiated by Transport Canada, the National Roundtable on the Environment and the Economy, the Federation of Canadian Municipalities (FCM), and a host of sustainable transportation proponents, are premised on the belief that transportation solutions can only be achieved by significant expansion of public transportation infrastructure. In a recent interview for example, Toronto’s former Chief City Planner noted:

*People are fed up with declining transit service and frustrated with their inability to get around the region by transit. They also want to see continuous subway expansion, starting with such dense corridors as Eglinton Ave. They see how other cities of similar size have found a way to keep expanding their subway systems and wonder why we can’t do the same.*

On the previous day, writing in the *Globe and Mail*, columnist Margaret Wentz, perhaps a bit tongue-in-cheek, argued that “the war against the car will never succeed” because

*The idea that public transit can replace the car in people’s busy lives is a fantasy.*

In weighing these contradictory views, of course, one must ‘consider the source’. In one case, the views are those of a highly experienced former chief planner whereas, in the other, they are the views of a respected columnist who deals with a much broader range of issues. Nevertheless, although the need for a comprehensive, region wide, transportation plan is not in doubt, there are constituencies that firmly believe the plan should be based almost entirely on expanded and continuous investment in public transit and others who hold the view that “the automobile genie is out of the bottle and there is no way to stuff it back in”.

In other words, there are those who perceive the private automobile as a major threat to a livable region, and others who view further investment in public transportation as wasteful of increasingly scarce resources. Hopefully, the truth lies somewhere in the middle and should lead to transit investments in appropriate technology where they make sense, recognizing that a great deal of travel and goods movement require expansion of the road system as well.

More recently, respected planners have argued that people are simply just going to have to live closer to where they work and that, in general, the only solution to the GTA transportation problem lies in subway expansion (the *Toronto Star*, 10 September 2006). A long time ago, of course, Don Mills was designed to balance residential and employment development. Reasonable success was actually achieved. However, few of those who live in Don Mills work there, and few of those who work in Don Mills, live there.

To be fair, it is important to recognize that the ‘live-work paradigm’ is in constant flux as people’s needs for living space change according to financial and demographic changes in their lives, and as employers constantly change locations to obtain benefits of better, newer, cheaper, or more appropriate floor space. In a fast growing, fast changing metropolis like GTA/GGH, it is difficult to maintain a widespread, stable live-work pattern.

Where transit is concerned, the impact of Toronto’s first subway on growth and development has already been immortalized in the literature. But elsewhere in the GTA, transit use is often indiscernible. Even within the City of Toronto, there are subway stations that have stimulated little or no development or have attracted relatively low ridership.

These examples are cited simply to point out that commonly accepted ‘truths’ and wide ranging views as to what has to be done probably bear further scrutiny. A recent submission to government from a reputable association, for example, is premised on the principle that “public transit is the only universally accessible form of urban transport, providing *everyone* with access to employment, education, health care and recreation”. That is simply not correct.

---

## A MULTIPLICITY OF GOVERNMENTS AND AGENCIES

---

Within the GTA, transit service is provided by ‘local’ transit agencies such as the Toronto Transit Commission and York Region Transit, as well as by GO Transit, a provincial agency that provides inter-regional commuter rail and bus services. Each is governed differently, reports to different constituencies, and makes most of their decisions, more or less, independently of the others. Services offered are dictated by geographic boundaries that may bear little relationship to actual travel patterns.

Similarly, although there are many examples of cooperation, particularly at interfaces, road systems also involve both provincial and municipal elements that are frequently planned independently of one another. The multiplicity of agencies and jurisdictions simply means that no one body is responsible for developing a GTA wide integrated road and transit system.

---

## QUESTIONABLE GOVERNANCE MODELS

---

Most transit agencies within the GTA are governed by bodies comprised of political appointees and, in some cases, comprised entirely of serving elected officials. The role of such bodies is to provide executive oversight and final approval of proposals put forward by management. Good governance models suggest that the composition of executive boards should offer a diversity of backgrounds and experience relevant to the main objectives of the operating agency. Good governance also requires these ‘overseers’ to act in the best interests of the organization which they govern.

Boards of transportation organizations with strong political representation, however, are hardly conducive either to comprehensive or long-range transportation planning at the regional level, since individual representatives:

- ▶ have difficulty responding to needs other than those of the constituencies they represent,

- ▶ tend to be 'short term maximizers', and
- ▶ often have difficulties distinguishing between executive and management functions.

The short term nature of elected office also presents fundamental problems in trying to achieve and maintain consistency and continuity of planning process.

---

## AD HOC PROJECT FUNDING

---

Although federal government initiatives such as the Canada Strategic Infrastructure Fund (CSIF), the Infrastructure Canada Program (ICP), and the Federal Gas Tax Transfer are interpreted as a signals of the federal government's interest in developing a long-term and predictable framework for funding municipal infrastructure, these programs are time limited and almost entirely project oriented. Similarly, the Ontario government has introduced funding mechanisms, partly to compensate for cancellation, in 1998, of the former Municipal Transit and Municipal Roads programs that existed for over 25 years. As with federal programs, provincial funding is primarily earmarked for projects rather than comprehensive plans.

In order to develop a transportation plan for the GTA, therefore, one of the key challenges is to shift the orientation of both federal and provincial infrastructure initiatives from ad hoc, time-limited projects to long term and predictable commitments.

---

## THE LACK OF REALISTIC FINANCIAL MODELS

---

Both road and transit improvements rely predominantly on public finance. In the case of roads, this reliance derives from the fact that, aside from the Highway 407 toll road, there are no direct user charges that can be related to expenditures. In the case of public transportation, almost everywhere in the world and, certainly everywhere within the GTA, fare revenue is less than the costs of operating and maintaining service. (GO Transit comes close to recovering its operating costs.) All GTA transit services rely on operating subsidies from municipal property taxes and provincial contributions. Moreover, since there are no operating surpluses, transit operators and agencies have no capacity to generate capital funds for vehicle replacement, system maintenance and rehabilitation, or the construction of new facilities.

Most municipalities do prepare 5 or 10 year capital budgets, both for transit and road investment. In most cases, however, funds are only appropriated on an annual basis in accordance with a particular municipality's fiscal budgeting process. Thus, even relatively short term funding is unpredictable and rarely guaranteed for more than one fiscal year. As a result, the disparity between agreement on large projects or long range plans and the ability to actually implement them serves as a major impediment to long range, comprehensive transportation planning.

A simple example illustrates the fiscal realities of long range planning. In August 2006, the TTC approved a 5-year capital budget that shows a significant shortfall between estimated 'needs' and available funds. That budget included some \$700 million for the procurement of replacement subway cars.

The TTC's capital budget, however, requires subsequent approval by City Council where decisions will be influenced by a wide variety of factors including, other City non-transportation needs, and the likelihood of provincial and/or federal assistance. In other words, largely due to the uncertainty of future funding, there are no guarantees that approved plans will actually materialize.

Recognizing that many transit operators within the GTA now have very large financial requirements to meet both immediate and longer range objectives, this practice of 'death by a 1000 financial cuts' can only be remedied by predictable and guaranteed funding as the basis for realistic planning.

In general, it is unrealistic to expect substantive, comprehensive, regional transportation plans to be developed in isolation of any real knowledge of what guaranteed funding will be available from all levels of government, and over what time period. Clearly, predictable and guaranteed funding is a pre-condition for the development of meaningful regional transportation plans in precisely the same way as no corporation can succeed without reasonable predictions of future revenues. Predictable funding also allows (provincial regulations permitting) municipalities and transportation agencies within the GTA to capitalize a guaranteed stream of funding, through a variety of debt instruments such as loans and revenue bonds, as a means of advancing the implementation of large capital projects.

---

## THE REVIEW AND IMPLEMENTATION PROCESS

---

Funding issues aside, plan development and implementation is often hampered by needless and unending requirements for environmental assessment (EA), as well as never-ending delays resulting from sometimes frivolous appeals to the Ontario Municipal Board or requests for judicial reviews. That there is a need for assessments of environmental impacts is not in question. That there must be some right to appeal is also not in question. That the processes are too costly, too repetitive, and too time consuming, is.

## 4. study approach

---

### THE INTERDEPENDENCE BETWEEN TRANSPORTATION AND LAND USE

---

Transportation needs obviously derive from the pattern of residential and employment distribution. But just as transportation needs derive from land use, where residents and firms locate is equally influenced by accessibility, or the availability of good transportation. Thus the pattern of development that actually emerges (as opposed to predicted) both defines transportation needs and is influenced by the availability of adequate transportation. As Ed Levy, one of the study contributors, has noted elsewhere, “transportation and land use are two sides of the same coin”.

In the case of public transportation, for example, the large concentration of employment in downtown Toronto historically served as the focus for almost all subway and commuter rail services. Expansion of rapid transit also stimulated new development, as in the case of the North York and Scarborough City Centres, and encouraged residential growth in areas well served by commuter rail, such as Oakville, Pickering, and Ajax.

Roads and streets serve similar functions even though expressway expansion and road widening, as a matter of policy, are no longer acceptable within the City of Toronto. But because roads and streets are more ubiquitous, they provide greater flexibility for those who have a car to travel between almost any origin and any destination, with varying degrees of reliability, congestion, and travel times. For those who do not have access to an automobile, the flexibility of transit is more limited and usually more time consuming. As a result, those who rely on transit have fewer choices as to where they can live in relation to where they work. Firms, as well, may equally be more particular about where they locate in relation to their labour pools and the nature of their customer base.

In this regard there is one important distinction between car users and transit riders. The best level of service for car users is obtained on routes where traffic volumes are low. The best level of service for transit riders is obtained on routes where volumes are high. On high volume transit routes, service is more frequent, waiting times are lower, and transit technology itself (surface bus, streetcar, LRT, or subway) is more likely to be superior. Public transit is most efficient where population and employment densities are the highest, at least for one end of the trip. Thus downtown Toronto attracts high transit use on the subway and commuter rail systems. Within the City, users access subways either by walking or transferring from feeder surface transit services. The network of surface bus and streetcar routes also provides reasonable accessibility for a broad range of origins and destinations both within the City and the immediately adjacent suburbs.

In suburban areas, users also access rapid transit (subways and commuter rail) by surface transit connections and, in the case of commuter rail, predominately by automobile (either kiss ‘n ride or park ‘n ride). Within built up, generally high-density areas, reasonably efficient transit service can be provided. Between low-density areas, transit is far less efficient and competitive. Thus, as is well known, it is easier to provide transit service efficiently within the City of Toronto or southern York Region than say, between Pickering and Brampton.

---

## ALTERNATIVE APPROACHES

---

Comprehensive transportation planning typically involves a lengthy process of data collection, forecasting future travel patterns, formulation of alternative plans (comprised of different mixes of road and transit systems), public consultation, and the evaluation of alternatives in terms of a very broad variety of impacts and costs. Conceptually, two fundamental approaches can be considered. They can also be combined. The first begins with projections of land use, that is, the future distribution of population and employment.

These serve as the basic inputs for predicting:

- ▶ origin-destination patterns,
- ▶ choice of travel mode, and
- ▶ utilization (volumes or ridership) of various road and transit components of alternative plans to be evaluated.

Travel prediction involves the use of transportation models, most of which are based on some form of mathematical or macro-economic relationships derived from detailed analysis of data collected from travel surveys.<sup>2</sup> The important point in this approach is that future transportation needs are determined, to a large extent, by comparing expected demand for transportation with the capacity of proposed improvements of the transportation system.

The second approach relies less on travel prediction and more on providing broad coverage of the area under study. Coverage concerns the extent to which a network of transportation facilities allows individuals to reach a variety of destinations, at reasonable cost, and with a reasonable quality of service. Coverage is also influenced by connectivity and integration provided by operators of independent services.

The road system within the GTA, of course, now offers this capability, though increasingly, with unacceptable quality of service as characterized by congestion and delay. In the case of transit, however, for many types of travel, transit is presently not a practical alternative.

---

## THE CURRENT STUDY

---

As noted in the introduction, the primary purpose of this study is to identify transportation challenges within the GTA presented by the Ontario government's new growth policy for the Greater Golden Horseshoe. At the same time, the intent is to provide, where applicable, some type of reality check regarding *Places to Grow* from the standpoint of consistency with the ability of the transportation system to support the preferred pattern of development. The simplified approach used in this study is based on the main elements shown in Figure 4.1.

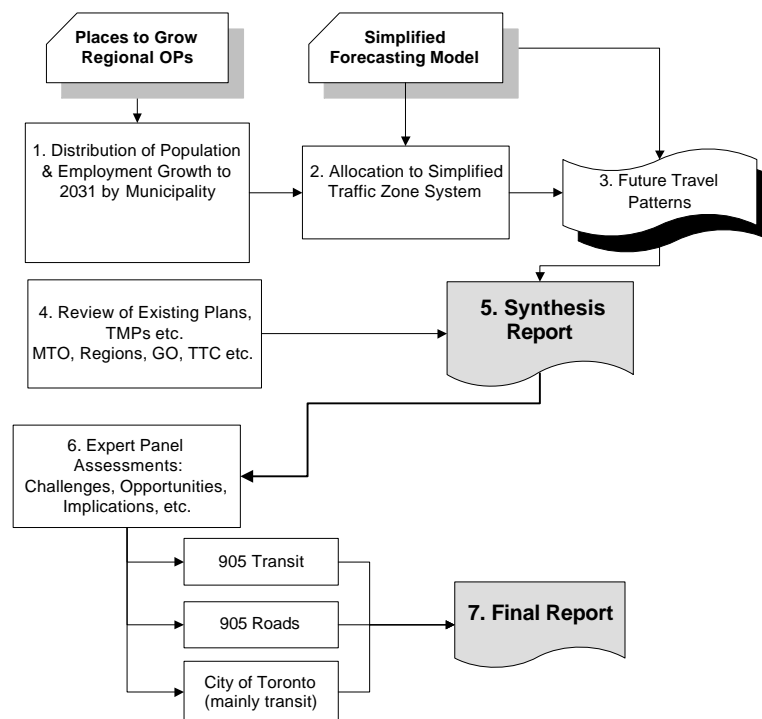
---

<sup>2</sup> In the GTA, surveys are carried out every five years by the Data Management Group of the University of Toronto's Joint Program in Transportation.

Two main inputs serve as starting points, namely, the growth in population and employment for the GTA implied by the provincial growth policy, and a simplified model for the prediction of future travel patterns. Land use, or the change in population and employment, covers the period 2001 to 2031. The simplified transportation model has been used for two main reasons.

- 1) More complex models such as the GTA Transportation Model (used by the City of Toronto) require very detailed descriptions of the road and public transportation system being modelled. These details do not presently exist, the main reason why the objective of this study is to begin the process of developing networks that are consistent with regional growth policy by identifying the key challenges.
- 2) The uncertainty associated with 25-year projections of population and employment distribution does not justify the level of precision in estimating future travel demand required by more complex transportation models.

FIGURE 4.1 STUDY ELEMENTS



The work program itself involves 7 distinct tasks, including the preparation of this report.

Tasks 1 and 2 essentially translate provincial growth policies into estimates of growth in population and employment, first at the municipal level and second, at a finer distribution within each municipality. In Task 3, the travel demand model is used for the estimates of land use change developed in Task 2. Independently of the travel demand analysis, Task 4 is concerned with those transportation improvements most likely to be in place by 2031. For such a long time period, the

results are highly speculative, given the political and funding uncertainties that now exist. Using these demand and supply forecasts and assumptions, a synthesis report was prepared (Task 5) to serve as the basis, in Task 6, of advisory panel assessments. Advisors were asked to review the synthesis report, provide comments, and participate in a workshop with the view to achieving consensus on the key GTA transportation challenges presented by the provincial growth policy.

As shown in Figure 4.1, the views of the panel focussed on issues and challenges related to:

- ▶ Public transportation in the 905 regions,
- ▶ Roads and highways in the 905 regions, and
- ▶ Public transportation within the City of Toronto.

These distinctions are not intended to suggest there are no serious road deficiencies or traffic control concerns in the City. However, the City's Official Plan basically excludes new road construction of any consequence, a fact that may turn out to be a major challenge.

## 5. land use forecasts

### GROWTH PROJECTIONS

Projections of growth in population and employment for the GTA from 2001 to 2031 derive from the Ontario government's *Places to Grow* documentation. Figure 5.1 and Table 5.1 summarize these growth projections by regional municipality. The large increases in York and Peel stand out.

FIGURE 5.1 REGIONAL GROWTH (2001-2031) PROJECTIONS FOR POPULATION AND EMPLOYMENT

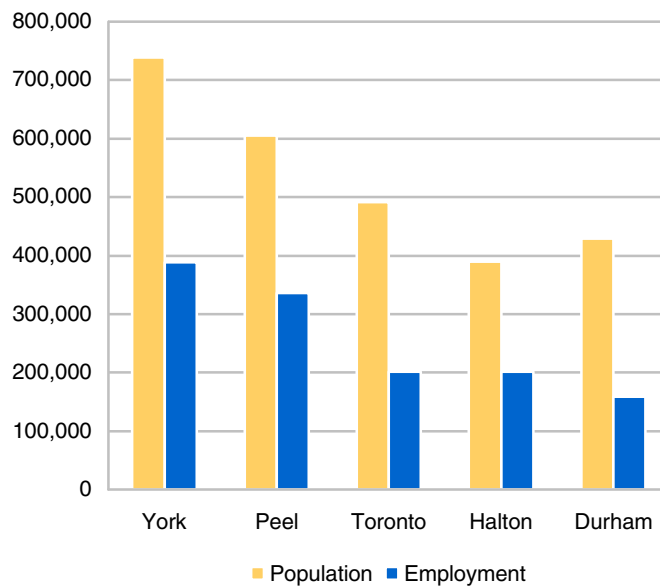


TABLE 5.1 PLACES TO GROW ADJUSTED GROWTH (2001–2031) IN POPULATION AND EMPLOYMENT

Region	Population (1000s)			Employment (1000s)		
	2001	Growth	2031	2001	Growth	2031
Toronto	2,590	491	3,081	1,440	201	1,641
Durham	530	429	959	190	159	349
York	760	738	1,498	390	388	778
Peel	1,030	605	1,635	528	336	864
Halton	390	390	780	190	201	391
Total GTA	5,300	2,654	7,954	2,738	1,284	4,022

Each regional projection is comprised of individual municipality forecasts which, as noted previously, were then allocated to a finer system of sub-areas. In some cases, the spatial allocation of growth to sub-areas within a particular municipality has been altered to take into account such factors as topographical features (e.g. rivers and streams) and existing land use designations incorporated in the relevant municipal official plans. The resulting changes in land use (as defined by changes in population and employment), which serve as the basis for almost all of the remaining elements of the study, are presented primarily in the form of thematic maps.

Figure 5.2 displays existing and projected growth in population, respectively, highlighting what might be called ‘hotspots’ where the increases are greatest. Similarly, Figure 5.3 shows existing and projected growth in employment. The approximate figures for growth in employment growth are also compared in Figure 5.4.

---

FIGURE 5.2 2001 POPULATION AND AREAS OF GREATEST POTENTIAL 2001-2031 POPULATION GROWTH

---

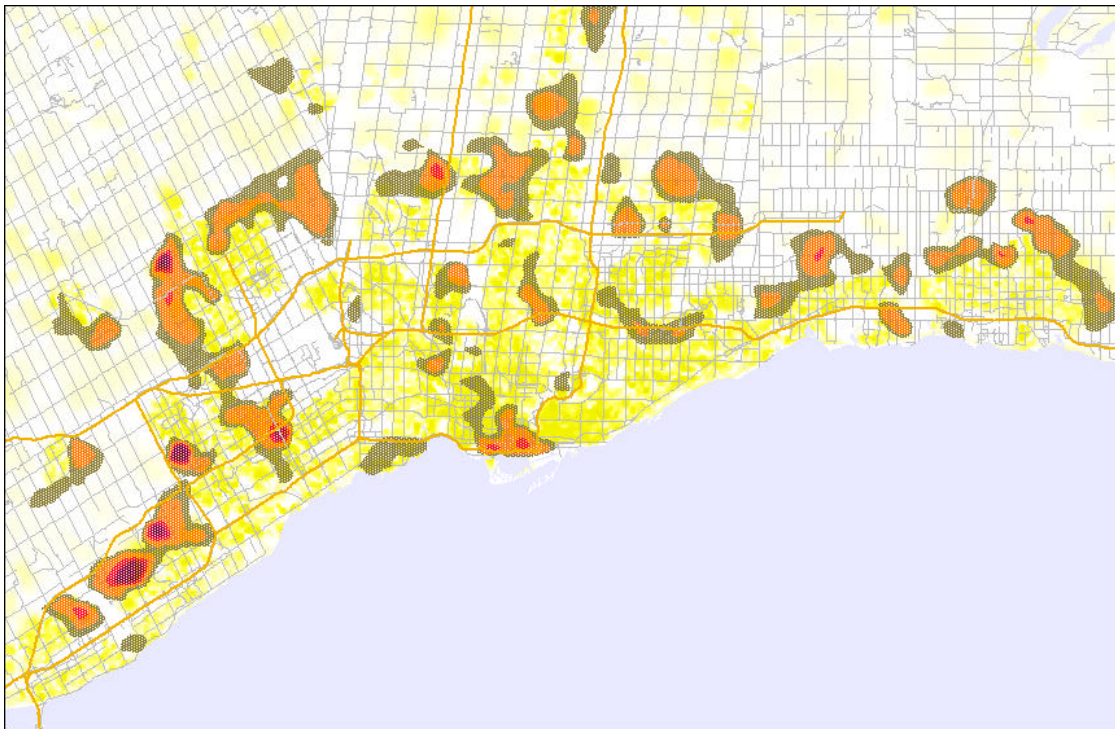


FIGURE 5.3 2001 EMPLOYMENT AREAS OF GREATEST 2001-2031 POTENTIAL EMPLOYMENT GROWTH

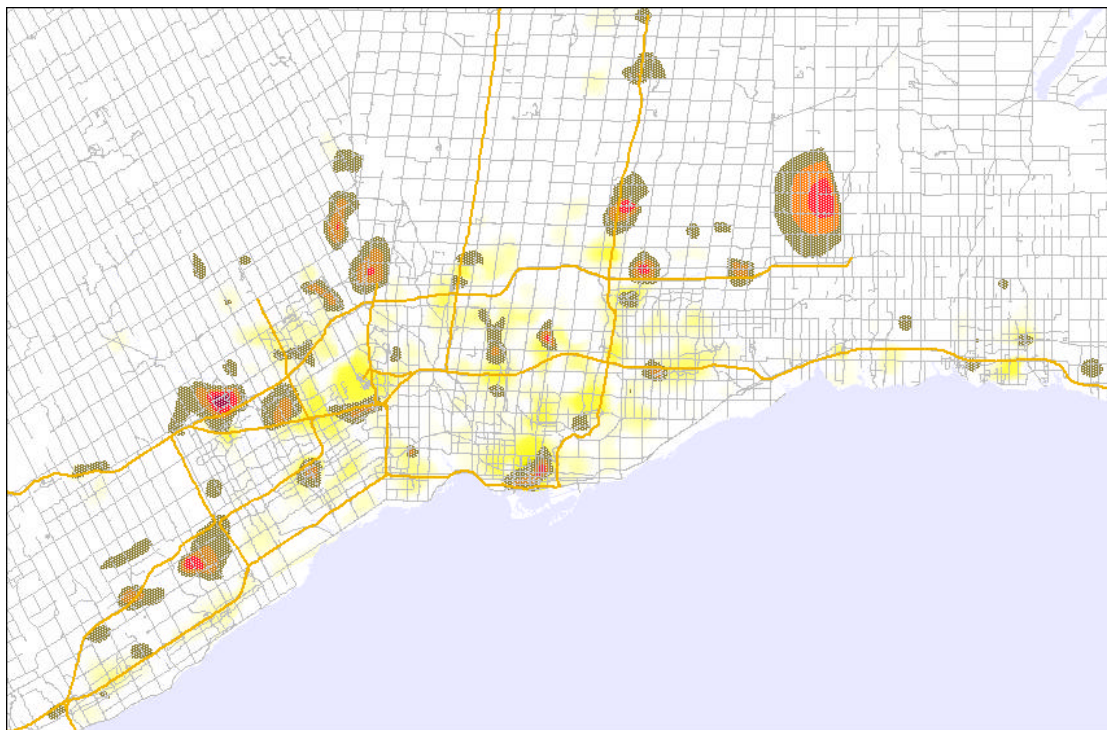


FIGURE 5.4 POSSIBLE MAJOR AREAS OF EMPLOYMENT GROWTH BY 2031

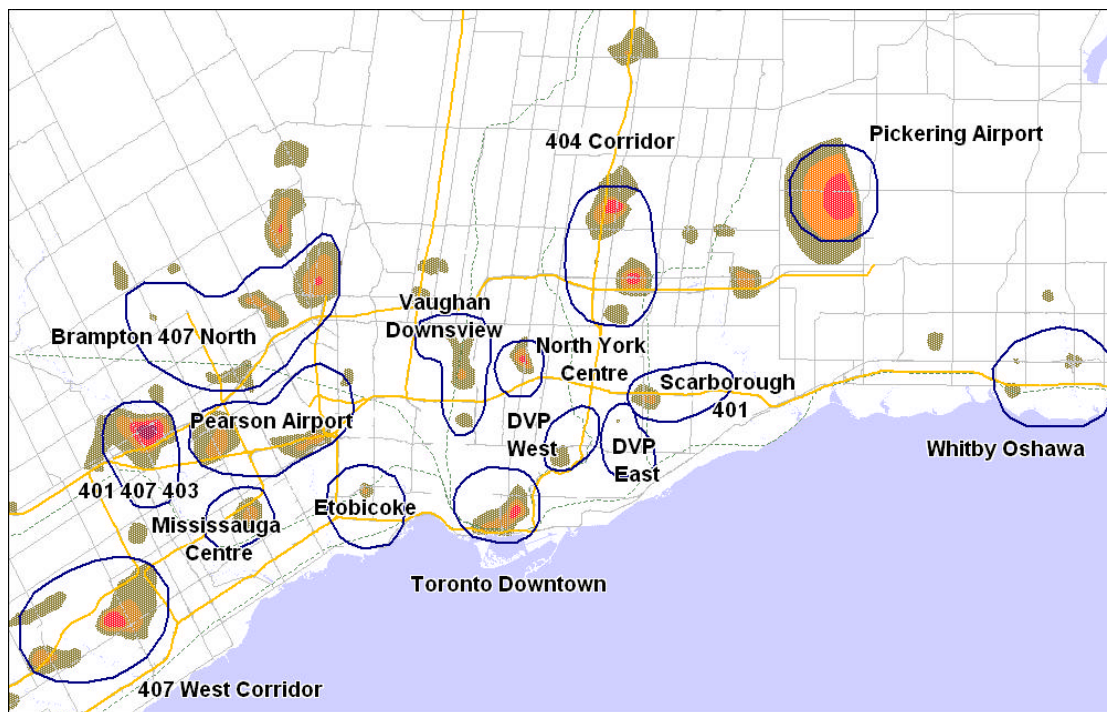
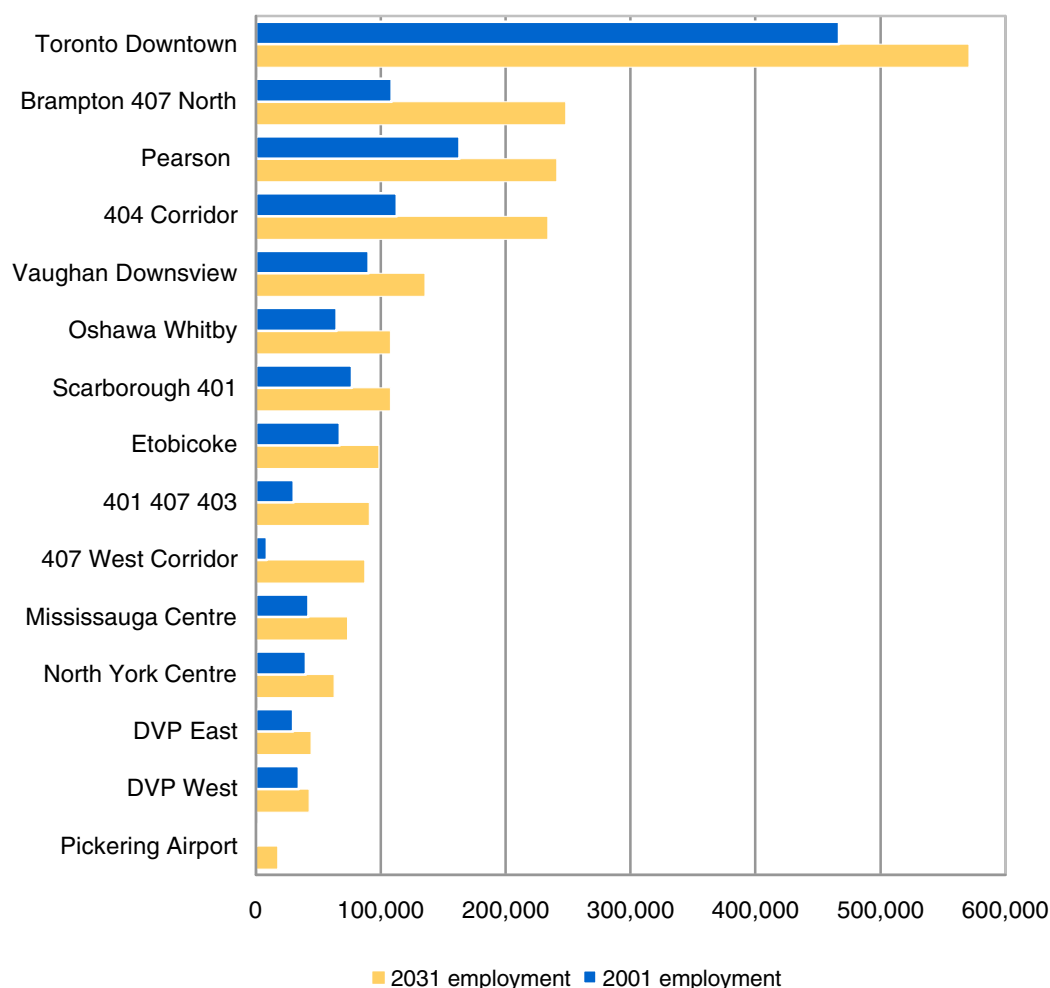


FIGURE 5.5 CHANGE IN EMPLOYMENT FOR MAJOR EMPLOYMENT AREAS



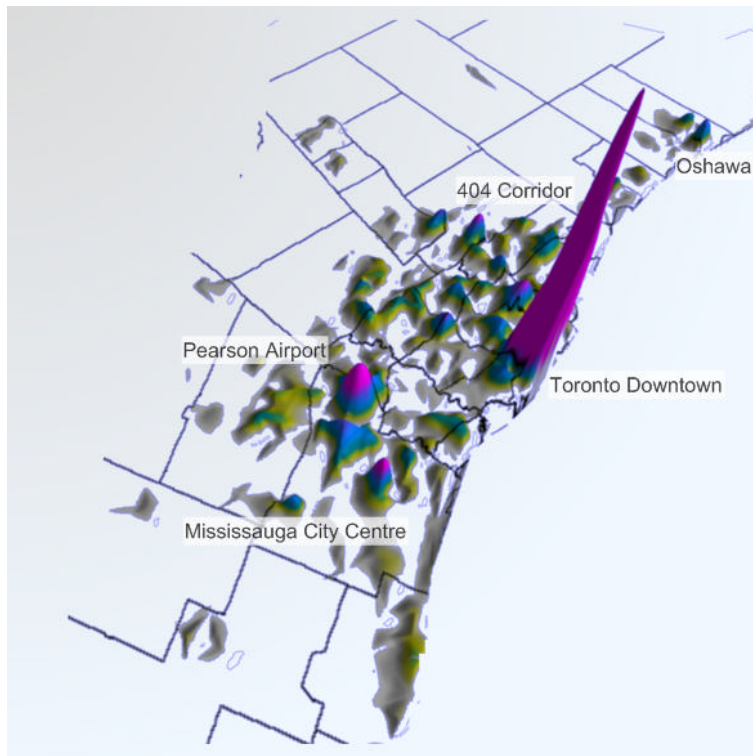
## TOTAL POPULATION AND EMPLOYMENT DISTRIBUTIONS

Although growth is certainly important from the standpoint of provision of a variety of municipal services, as well as where new transportation challenges may arise, the needs of the transportation system, as a whole, derive from the total demand for transportation.

In other words, it is important to have a picture of the combination of existing land use and the opportunities for new development or redevelopment by placing the ‘hotspots’ identified for growth in employment in perspective. For example, although employment growth in the Highway 404 corridor appears large, it pales in comparison with the total employment in downtown Toronto, shown in Figure 5.6, which still retains its dominance (and associated transportation needs) throughout the GTA.

FIGURE 5.6 2031 TOTAL GTA EMPLOYMENT

Destination area	2001	2031	Change
Toronto Downtown	467,100	571,000	103,900
Brampton 407 North	108,500	248,100	139,600
Pearson	163,100	241,100	78,000
404 Corridor	112,800	23,3600	120,800
Vaughan Downsview	90,200	135,500	45,300
Scarborough 401	76,900	107,800	30,900
Oshawa Whitby	64,800	107,800	43,000
Etobicoke	67,400	98,600	31,200
401 407 403	30,500	90,600	60,100
407 West Corridor	8,700	87,100	78,400
Mississauga Centre	42,100	73,200	31,100
North York Centre	40,300	62,500	22,200
DVP East	30,000	44,200	14,200
DVP West	34,500	42,900	8,400
Pickering Airport	400	17,300	16,900



These projections, which are fundamental to forecasting travel, are subject to an important caveat. Projections of this type essentially represent the result of negotiations among various municipal and provincial planning agencies, each of which often have their own, sometimes politically driven, aspirations. In some cases, municipal planning officials responsible for demographic forecasts are very protective of their 'share' of growth in population and employment.

Land development, however, is a complex process involving developers, purchasers of homes, employers, community organizations, and special interest groups. It is also a process that is affected by property taxes, the ease of obtaining necessary approvals, and by the availability of schools, shopping, and recreational facilities. In addition, the location decisions of both firms and households are influenced by accessibility provided by the transportation system and, in many cases, by access to transit.

As a result, there are few guarantees that actual developments will conform to the population and employment forecasts that form the basis of the travel predictions. In fact, a 1998 analysis of travel trends within the GTA carried out at the University of Toronto concluded:

*the land use assumptions that underlie recent and ongoing transportation planning activities should be updated to recognize the distinct possibility that Toronto's employment will be substantially below the then expected 2011 and 2021 levels.*

Within the City of Toronto, the Downsview airport site provides an interesting example. More than 1200 acres in size, this site provides an opportunity for the concentration of new growth that is consistent with the provincial policy of accommodating at least 40 percent of new growth within established built up areas. Downsview airport is extremely well served by the transportation system. It is close to Highway 401 and has the potential for improved transit access by both GO Transit and the TTC. Over the years, however, a variety of proposals have emerged that are not particularly oriented to redevelopment and intensification. In addition, aviation industrial activities currently provide employment opportunities.

Over the long term, however, these aviation activities could be relocated to the Pickering Airport that will probably be constructed within the next 25 years as Pearson Airport reaches its practical capacity. Relocation of Downsview's aviation related employment, of course, could contribute significantly to the financial feasibility of the Pickering airport and would free up considerable property for development of new mixed land use within the Downsview site.

The value of this land, however captured, (recognizing that the federal government is the principal owner) would offset, by an order of magnitude, the costs of relocating some of these commercial activities to such locations as Pickering. In fact, one might envisage a competitive urban design/development proposal process involving all three levels of government for maximizing the location and transportation advantages of this site as a major opportunity for the kind of intensification implied by the new provincial planning policy.

## 6. travel forecasts

---

### CURRENT TRANSIT USE

---

Much of the current transportation controversy within the GTA revolves around the need for expansion of the transit system, establishment of a Greater Toronto Transportation Authority, and the need for both the provincial and federal governments to guarantee long term capital funding for transit rehabilitation and new construction at a very significant scale. Indeed, long term funding for transit has become the mantra of environmentalists, urban planners, local politicians, and such organizations as the Canadian Urban Transit Association, the Federation of Canadian Municipalities, the Association of Municipalities of Ontario, and the Universal Workers Union.

Most official plans and transportation plans of municipalities within the GTA stress the need for major transit system expansion to combat growing congestion. If this is indeed the primary goal for the GTA's future transportation system, the challenge of greatly reduced automobile dependence (i.e. major shifts in modal choice) is paramount for the pattern of population and employment implied by provincial growth policy.

The competitiveness of public transit relative to the private automobile and thus the feasibility of these official plan policies, depends primarily upon travel patterns -- origins and destinations being the determining characteristic. Travel patterns are strongly influenced by a number of highly interrelated factors that include,

- ▶ the spatial distribution and densities of population and employment,
- ▶ automobile ownership,
- ▶ demographic characteristics such as age and income,
- ▶ the service characteristics of the transit network itself, and
- ▶ other factors, such as road pricing, special regulations, and priority treatment for transit vehicles.

Travel patterns that derive from land use characteristics, for example, can be characterized as involving many origins to many destinations ('many-to-many') or many origins to one destination ('many-to-one'). Effectively serving a dispersed pattern of trip origins destined to a dispersed pattern of job opportunities (many-to-many) by transit is much more difficult than serving trip origins destined to one or more highly concentrated employment centres (many-to-one). In addition, work trip patterns are dominated by highly directional flows, namely, one-way in the morning (typically inbound) and the other way in the late afternoon (typically outbound), leading to relatively lower utilization of services in the opposite direction and during off-peak hours.

Population and/or employment densities, in turn, dictate the frequency of transit service that can be justified on specific routes which, in turn, has some influence on overall attractiveness of the service. All other things being equal, higher density residential and employment development leads to more efficient use of transit than low density development simply because the total number of all trips generated per kilometre of route is higher.

Transit service characteristics can be defined primarily by type of technology, route structure, and operating policies. Other factors, such as pricing and priority treatment for transit vehicles, are also important.

Within the GTA, three basic types of transit technology are currently provided, namely:

- ▶ buses and streetcars operating in mixed traffic on streets,
- ▶ buses and streetcars operating in partially reserved rights-of-way such as bus only, bus/HOV only, and segments of segregated streetcar lanes, and
- ▶ high order rapid transit (subway, commuter rail, and the Scarborough RT).

Though widely referenced in planning studies and proposals, there is very little application of higher order transit where buses (BRT) or streetcars (LRT) operate in dedicated rights-of-way, except in the case of York Region Transit's proposed new initiatives.

Regardless of technology, route structure is a particularly important determinant of transit competitiveness relative to the automobile. As illustrated in Figures 6.1 and 6.2, for example, rapid transit in Barcelona and Montreal provides coverage of a much broader range of destinations than the GTA's centrally oriented commuter rail and subway systems.

Perhaps one of the greatest deterrents to transit use derives from operation in mixed traffic where, in addition to congestion itself, transit vehicles are delayed by the time required for stops, as well as additional delays at traffic signals due to times for boarding and getting off, and random delays caused by automobile turning movements.

FIGURE 6.1 COMPARATIVE RAPID TRANSIT NETWORKS – BARCELONA



FIGURE 6.2 COMPARATIVE RAPID TRANSIT NETWORKS – MONTREAL



The use of transit priority schemes for surface transit offers benefits both to users and operators. For example, through priority treatment,

- ▶ travel times are reduced,
- ▶ increased speed attracts additional users, and
- ▶ frequency of service can be increased without any increase in either the number of vehicles or drivers which, in turn,
- ▶ further adds to the attractiveness of the service.

In other words, effective application of transit priority means that higher route capacity can be provided with the same number of vehicles or, alternatively, the same capacity can be provided with fewer vehicles and drivers.

Transit priority can be achieved through a variety of means including reserved lanes, protected right of way (where other vehicles have no practical means of access), and signal priority at intersections. Obviously, there are negative impacts on automobile users and many concerns on the

part of local residents and businesses. As with any traffic regulations, the effectiveness of transit priority schemes depends upon adequate enforcement. Such factors have figured significantly in decision-making within the City of Toronto for the existing Spadina LRT and the highly controversial St. Clair streetcar improvements now under construction.

The University of Toronto's Transportation Tomorrow Survey (TTS) provides a useful data base for examining current transit use.

In 2001, the TTS provided the breakdown of transit and non-transit use for AM peak period trips shown in Figures 6.3, 6.4 and 6.5. These data, based on origin of travel, show that, at the scale of regional municipalities, transit's share of AM peak period trips is very much higher in the City (about 27 percent) than in any of the adjacent regions. In terms of the actual number of transit users, the differences are even more extreme. The dominance of transit users originating in the City of Toronto is further highlighted in the pie chart.

In this regard, however, even where transit use is low on a regional basis, there are still significant generators of transit ridership within suburban areas, precisely why GO Transit has been so successful in attracting traffic from such outlying areas as Whitby, Ajax, Milton, and Oakville, to name but a few. For this reason, the potential for increased transit use, at least to the City of Toronto, should not be under-estimated on the basis of generally low transit dependence in the regional municipality as a whole.

Nevertheless, in terms of absolute numbers, as illustrated in Figure 6.6, 2001 AM peak period transit use is still very much 'City intensive'.

---

FIGURE 6.3 2001 TRANSIT USE IN GTA REGIONAL MUNICIPALITIES (PERCENT OF PEAK PERIOD TRIPS)

---

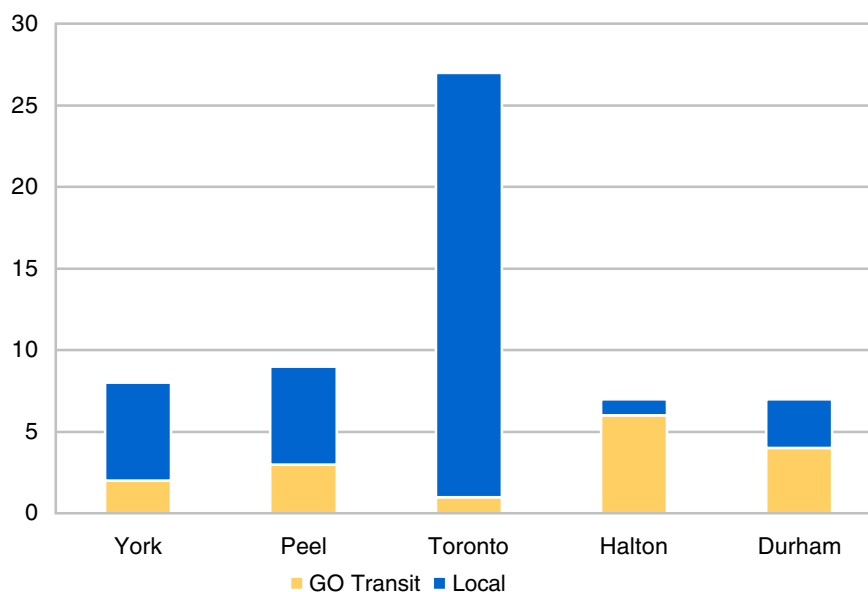


FIGURE 6.4 2001 TRANSIT USE IN GTA REGIONAL MUNICIPALITIES (TOTAL AM PEAK PERIOD TRIPS)

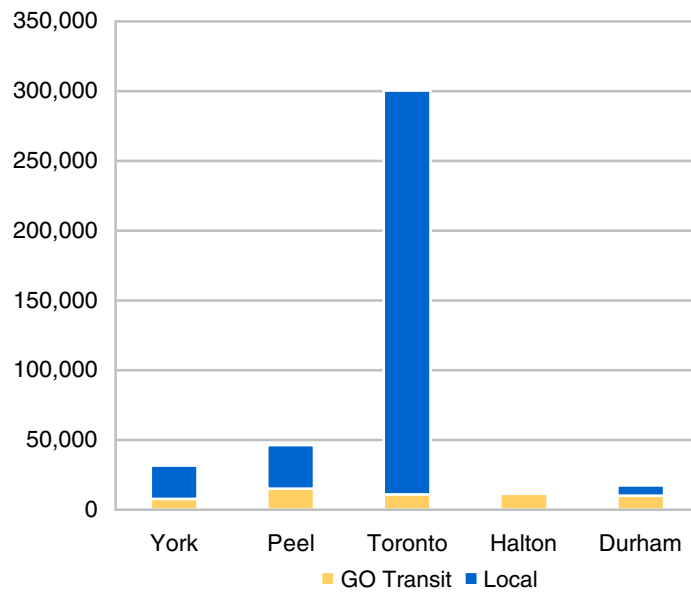
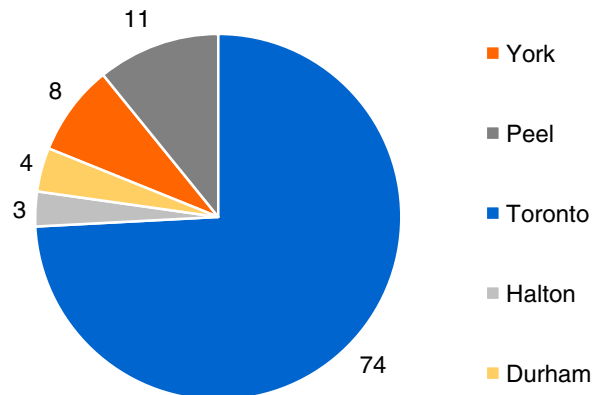


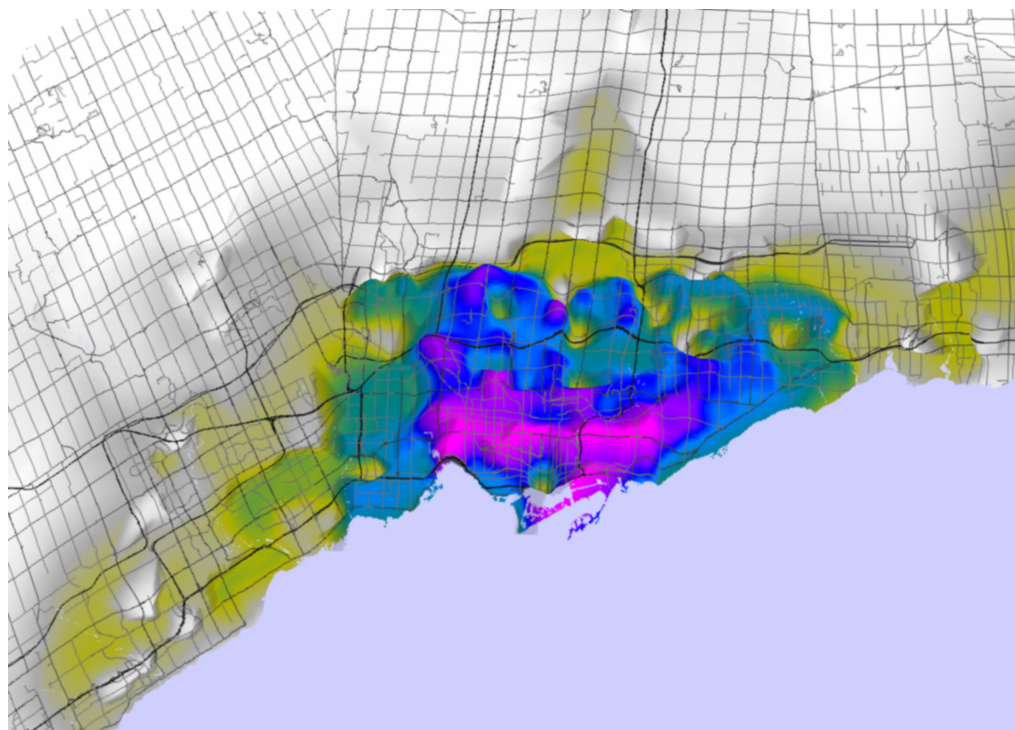
FIGURE 6.5 PERCENT OF GTA AM PEAK PERIOD TRANSIT TRIPS



---

FIGURE 6.6 2001 DENSITY OF TRANSIT USE IN THE GTA <sup>3</sup>

---



---

## FUTURE TRAVEL

---

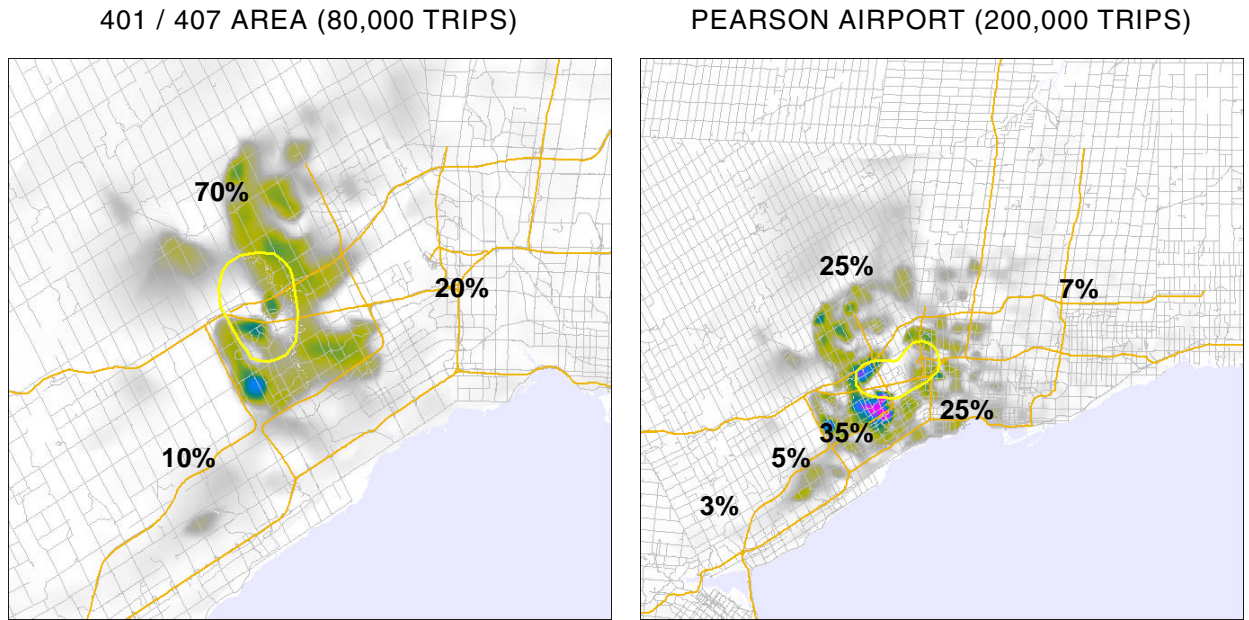
Travel forecasts for 2031 are based on the *Places to Grow* projections of growth in population and employment described in the previous section. Summary results are provided in terms of a series of thematic maps and screen line estimates. For various employment 'hot spots' shown in Section 5, trip origins were aggregated to depict the pattern of origins associated with each. These maps are provided in Figure 6.7 and show the main catchment area for the majority of trip origins destined to the designated 2031 employment area during the morning peak period. The density of trip generation is indicated by colour coding.

These illustrations provide some indication as to the nature of the transportation improvements that may be most appropriate. In the case of Scarborough, for example, given the high concentration of trip origins within a relatively small geographic area that is already served by a grid system of streets and transit services, including the Scarborough RT, improvements in local transit service (routes, technology, and frequency) should accommodate a significant component of new travel demand. By contrast, for employment centred around Pearson airport, the pattern of origins is far more dispersed and the road system is far more extensive, suggesting considerable difficulty in accommodating future needs by transit.

---

<sup>3</sup> ■ reflects a transit mode split of all peak period trips of 20%, ■ approximately 30% and ■ over 40%.

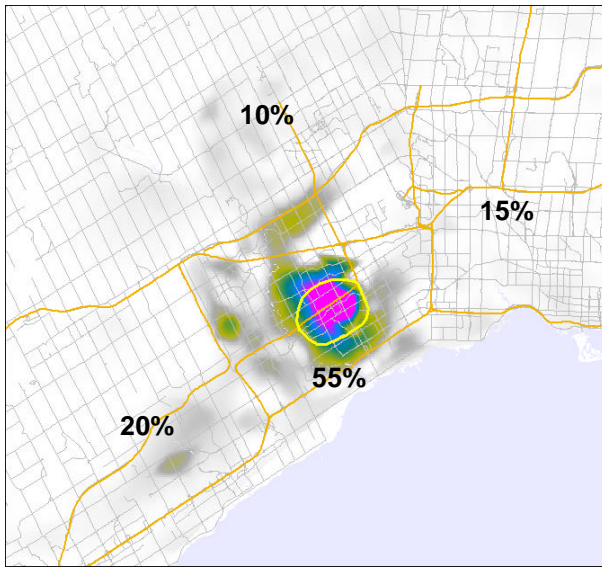
FIGURE 6.7 PROBABLE ORIGINS OF SELECTED 2031 DESTINATIONS <sup>4</sup>



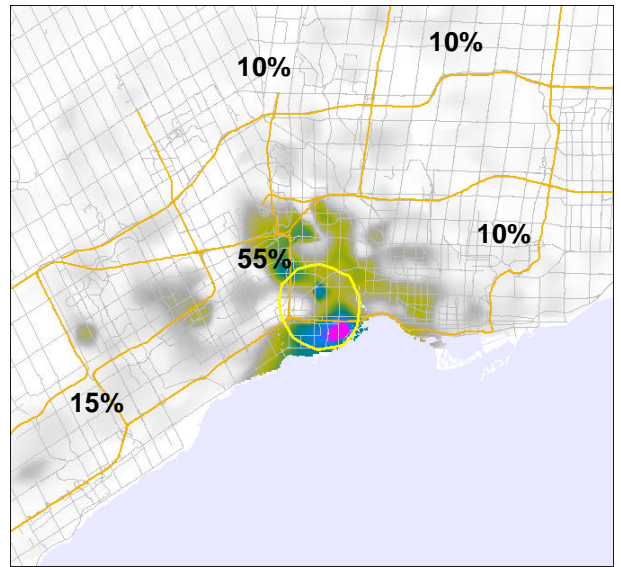
<sup>4</sup> The yellow polygon defines the area of each specific destination zone. Numbers illustrate the percentage of all trips originating from a general area and destined to the specific destination zone. The shading depicts the number of trips within a 1.5 km radius of a given point as follows:



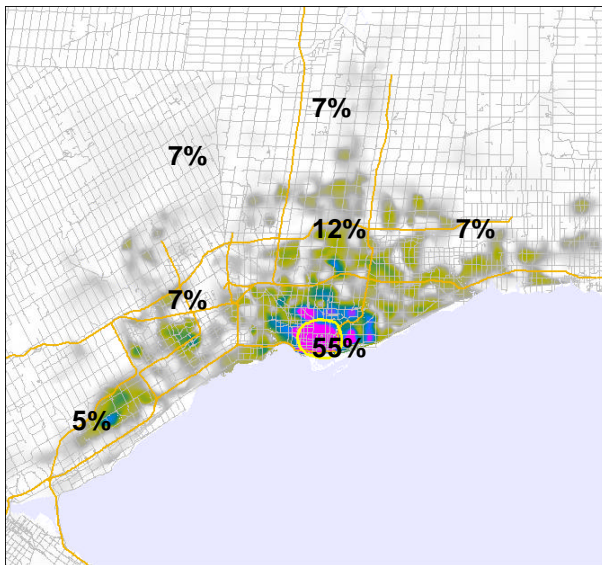
MISSISSAUGA CENTRE (75,000 TRIPS)



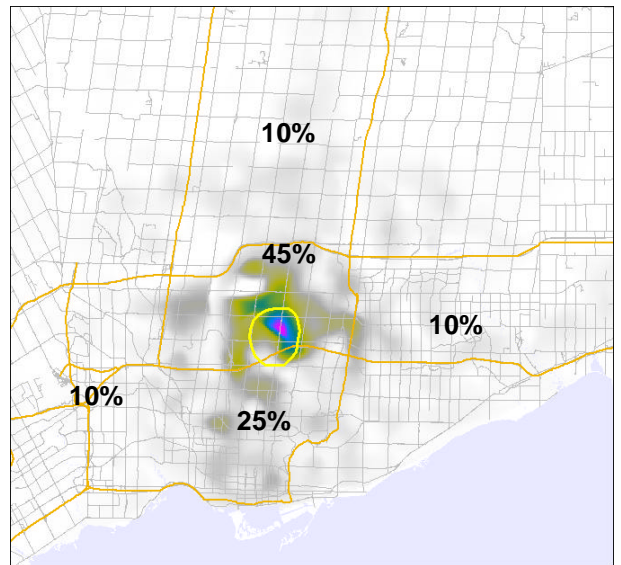
ETOBICOKE (100,000 TRIPS)



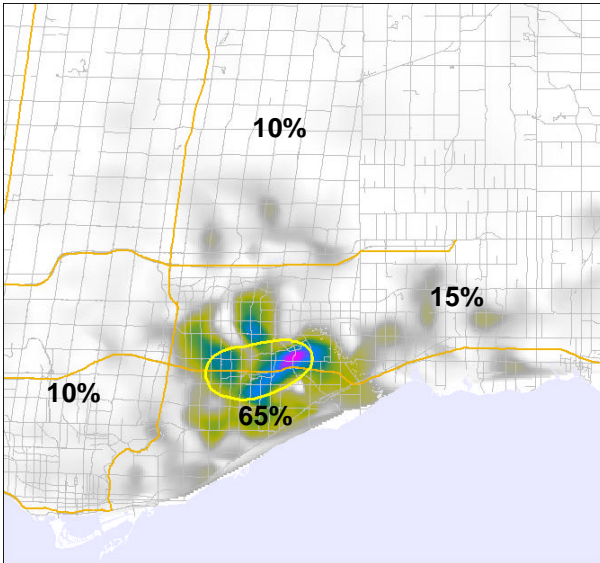
TORONTO DOWNTOWN (425,000 TRIPS)



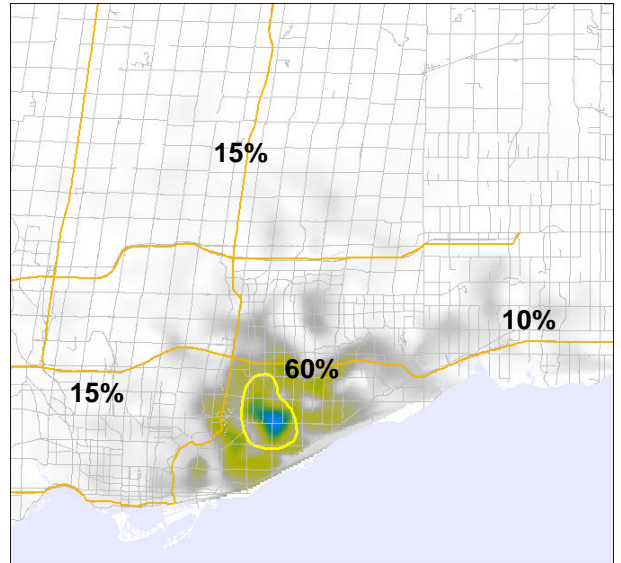
NORTH YORK CENTRE (75,000 TRIPS)



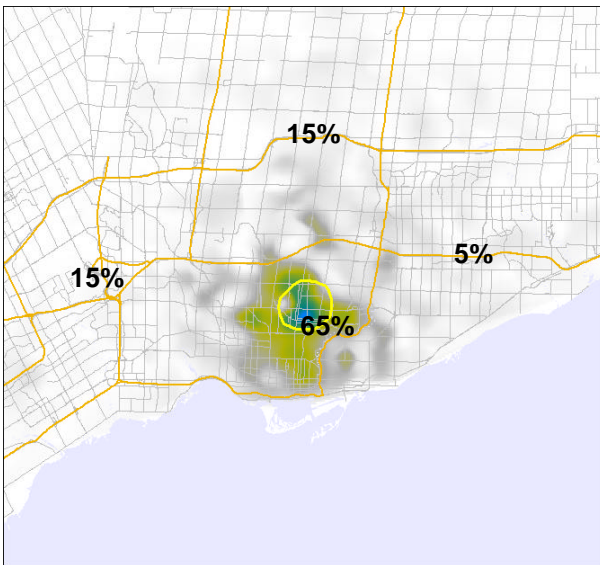
SCARBOROUGH 401 (105,000 TRIPS)



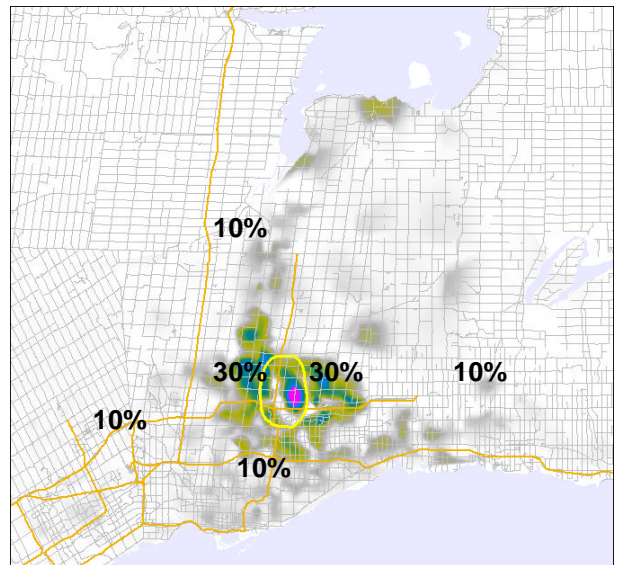
MID SCARBOROUGH (70,000 TRIPS)



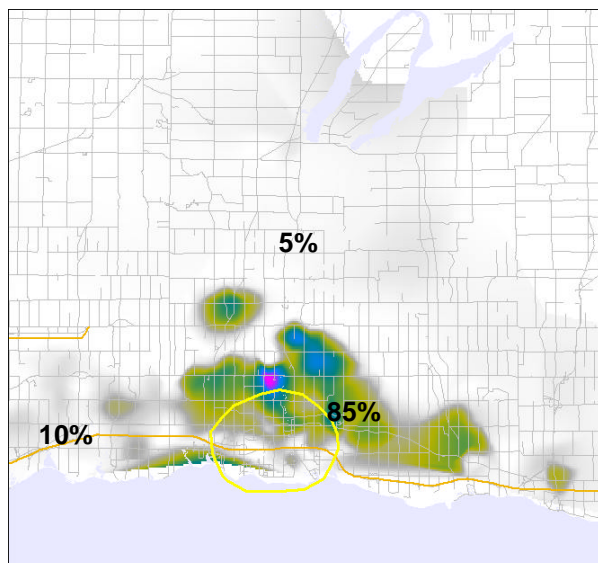
TORONTO MIDTOWN (70,000 TRIPS)



404 CORRIDOR (210,000 TRIPS)



### OSHAWA WHITBY (80,000 TRIPS)



The information displayed in the preceding figures can also be summarized using selected 'screenlines'. Screenlines are imaginary lines within a study area that help define major travel demand corridors. The aggregation of all origin-destinations in a particular period of time that cross a particular screenline can be used to identify major deficiencies relative to the capacity of transportation facilities (both roads and transit) in the same general location. A summary of anticipated flows across selected screenlines are summarized in Table 6.1 and illustrated in Figures 6.8 through Figure 6.13.

TABLE 6.1 SUMMARY OF ANTICIPATED FLOWS ACROSS SELECTED SCREENLINES

Screenline	Total trips	Change	Existing auto mode split
Central York	120,000	57,000	0.94
West Toronto	200,000	37,000	0.74
Highway 404	80,000	35,000	0.89
Brampton / Mississauga	100,000	31,000	0.97
Highway 400	70,000	29,000	0.92
Steeles (outbound)	60,000	19,000	0.86

FIGURE 6.8 ANTICIPATED MAJOR FLOWS: CENTRAL YORK SCREENLINE

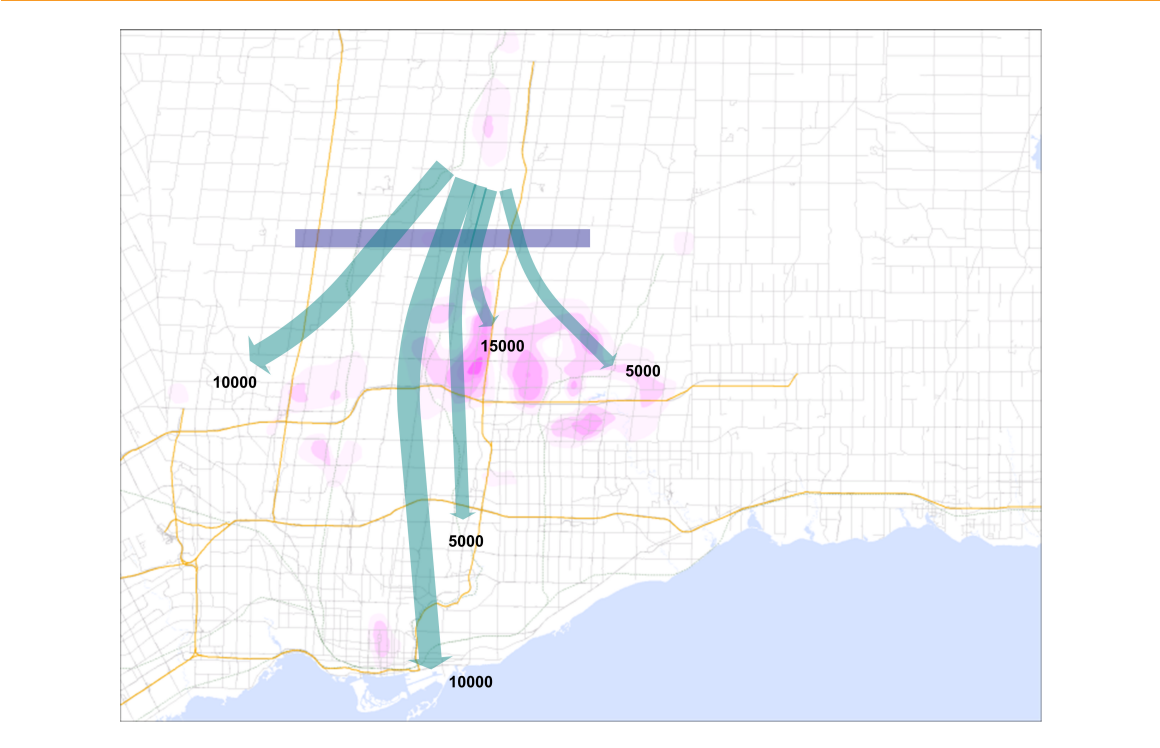


FIGURE 6.9 ANTICIPATED MAJOR FLOWS: CENTRAL WEST TORONTO SCREENLINE



FIGURE 6.10 ANTICIPATED MAJOR FLOWS: HIGHWAY 404 SCREENLINE

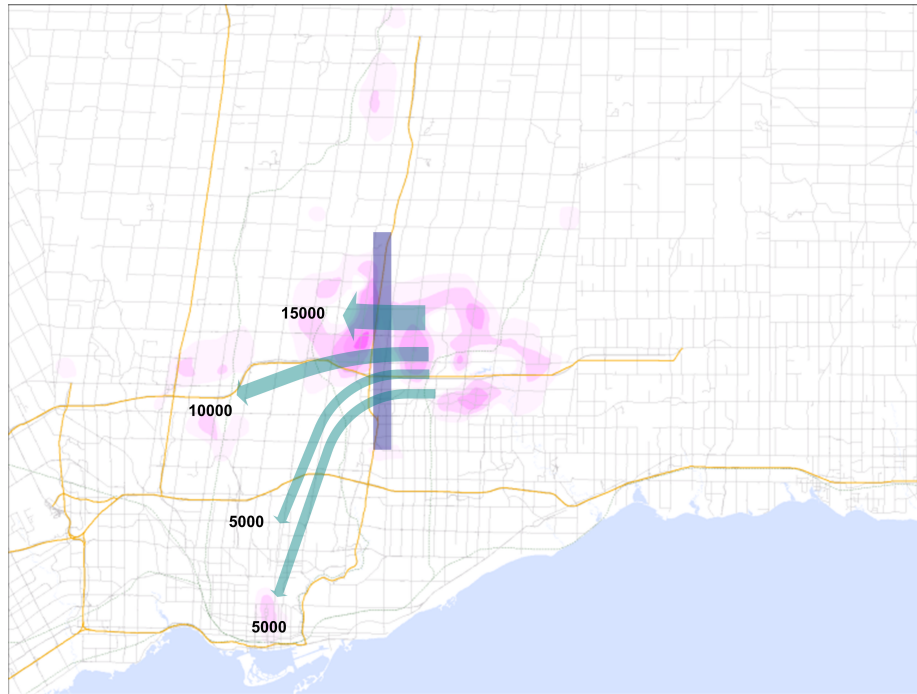


FIGURE 6.11 ANTICIPATED MAJOR FLOWS: BRAMPTON / MISSISSAUGA SCREENLINE

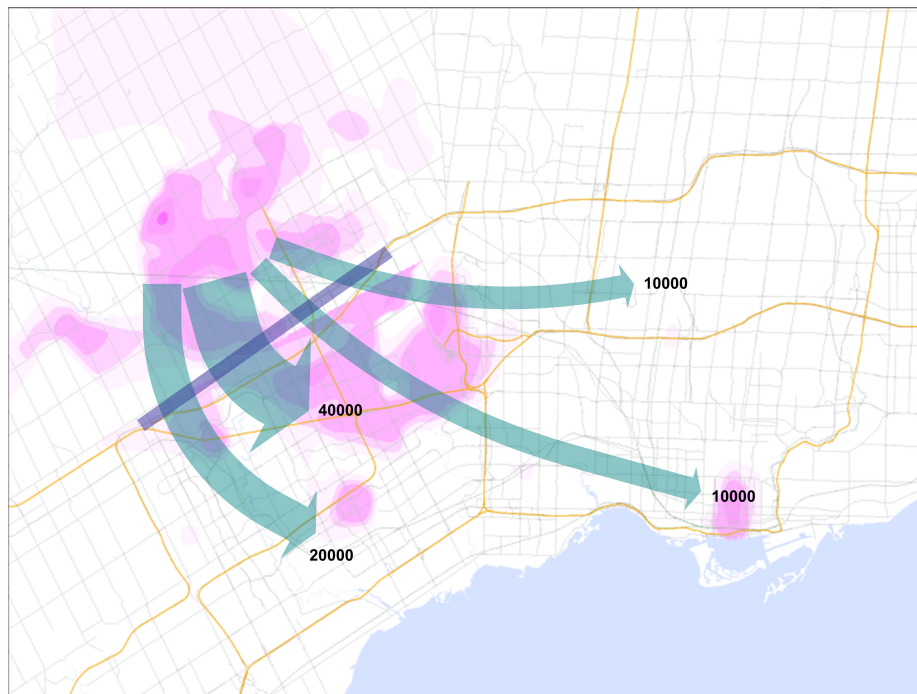


FIGURE 6.12 ANTICIPATED MAJOR FLOWS : HIGHWAY 400 SCREENLINE

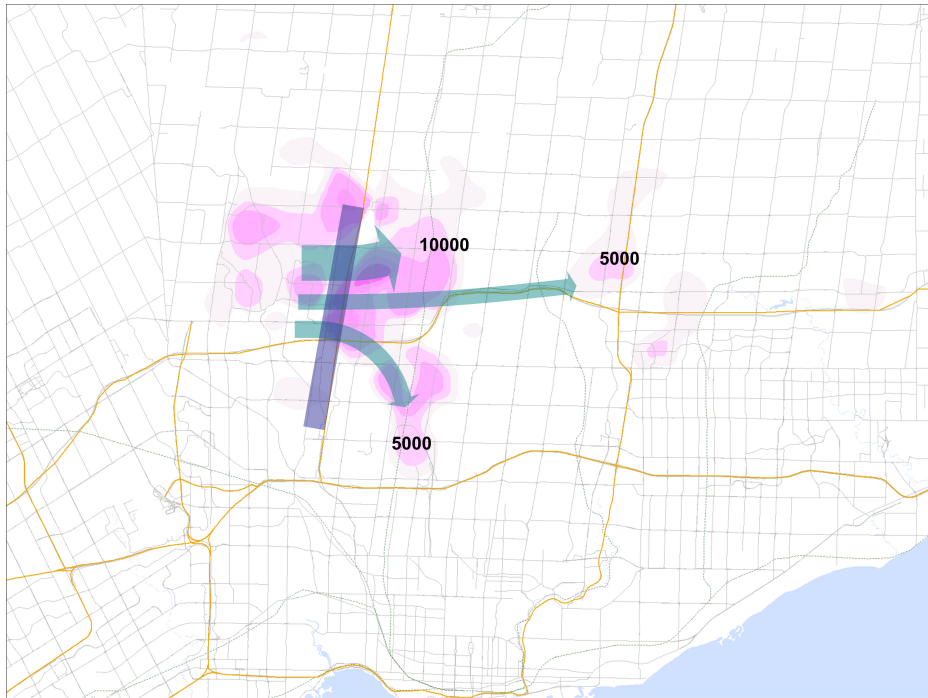
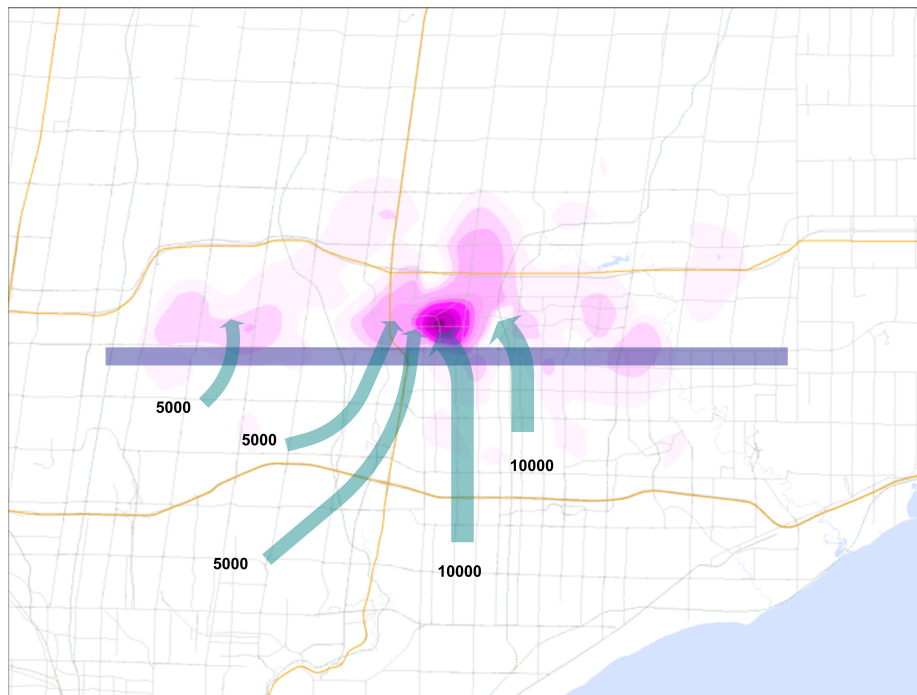


FIGURE 6.13 ANTICIPATED MAJOR FLOWS : STEELES AVE (OUTBOUND) SCREENLINE



It is important to emphasize that the travel demand forecasts, thematic maps, and screenline diagrams shown above have been developed using a simplified travel demand model applied to a distribution of population and employment that is consistent with the Province of Ontario's stated growth policy. In other words, these results and some conclusions of the study reflect the achievement of high densities, intensification, and redevelopment. For these assumptions, the following observations are particularly relevant to the challenge of planning transportation in the GTA:

- ▶ A greater proportion of City of Toronto residents will work in dispersed locations, particularly within the regions of York and Peel which are expected to continue to see rapid job growth.
- ▶ TTC travel demands will increase by more than 25,000 trips during the peak hour. A substantial portion of the net new transit trips to Downtown Toronto could be diverted to GO Rail.
- ▶ The increase in peak hour automobile trips on Toronto streets will be of the order of 50,000, including trips that originate outside the City (including 5,500 destined to Downtown Toronto and 3,000 associated with new auto trips by Downtown residents).

Major increases in travel to downtown Toronto are projected to originate from South Etobicoke; Oakville, Brampton, Vaughan, Markham, and Pickering, most of which are served by GO Transit and will benefit from planned improvements to GO Rail services.

- ▶ Outside of downtown Toronto, the increases in auto person trips to Vaughan, Downsview, Brampton, Richmond Hill, and Markham account for about 65 percent of the projected increase in GTA person trips.
- ▶ Because of the large increases in employment, Markham is estimated to have a net increase of 146,000 AM peak period person trips (with less than 3 percent by transit) and in Vaughan, an increase of about 80,000 total person trips is expected (with about 4 percent by transit).
- ▶ Within Peel, Brampton is expected to account for most of the future growth in employment with projected increases of 154,000 person trips and 3,400 transit trips (2.2 percent) during the AM peak.

Transit's estimated share of the growth in the above cases is based on two assumptions, namely, maintenance of current service levels and a continuation of the travel habits captured in the 2001 TTS survey. Unless there are radical changes in travel behaviour by GTA residents, even with aggressive expansion of transit service throughout the GTA, the net impact of these projected increases is that severe overcrowding (congestion) can be expected on roads throughout the GTA, including the City of Toronto.

## 7. likely improvements

Both regional and area municipalities do have transportation plans that are incorporated in official plans (as in the City of Toronto) or specific transportation master plans (as in the Region of York). Often, however, these plans are really 'shopping lists' that indicate desirable transportation projects and policies, typically unaccompanied by budget approval or council decisions. Several examples are provided for purposes of illustration.

---

### CITY OF TORONTO

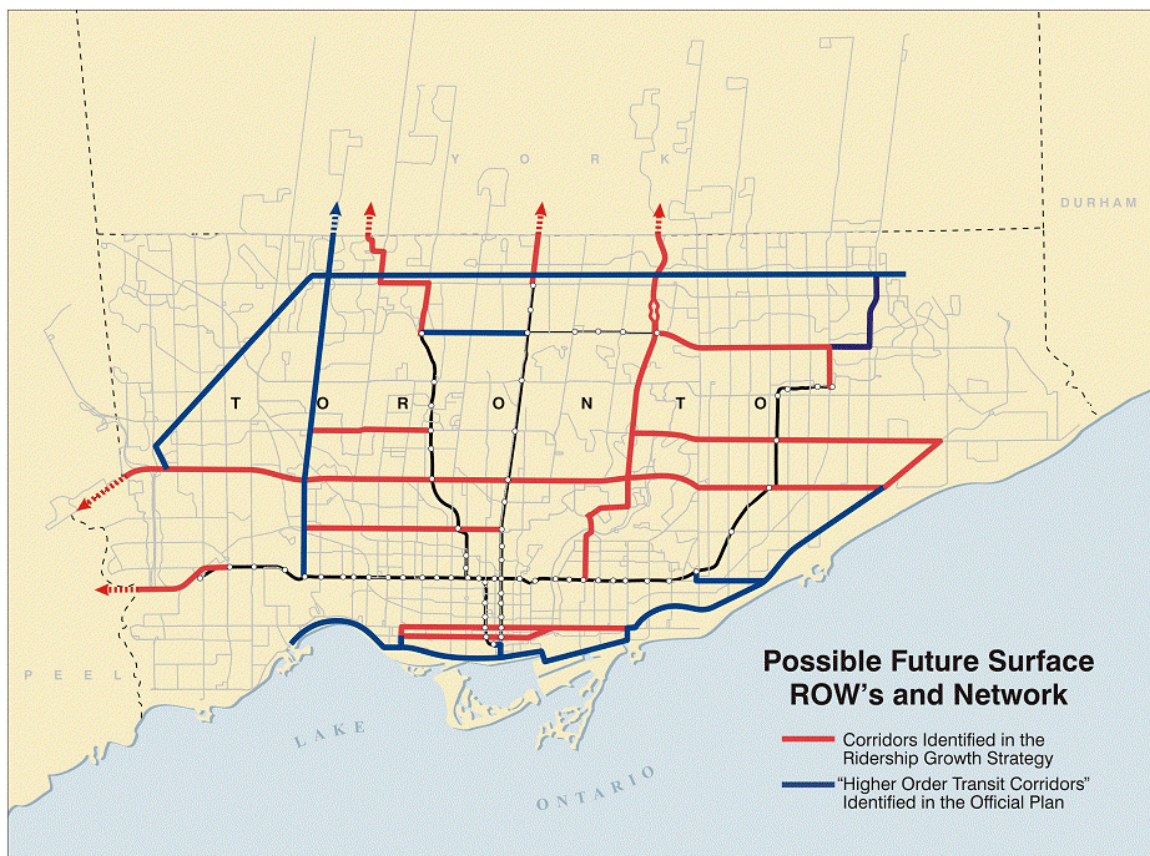
---

A joint City of Toronto/TTC plan titled Building a Transit City envisages a network of higher order transit routes (bus rapid transit or light rail transit) within dedicated rights-of-way, throughout the City, to achieve the goal of 'reduced automobile dependence'. This network is shown in Figure 7.1. Since its adoption by City Council, only the St. Clair route is now under construction following years of controversy, objections by some local residents, appeals, and two judicial reviews.

---

FIGURE 7.1 CITY OF TORONTO/TTC BUILDING A TRANSIT CITY HIGH ORDER TRANSIT NETWORK

---



TTC SP 29-11-2004 DRG. No. 11785

The operative word in the title block of Figure 7.1 is “possible” and thus the question is how much of this transit priority ‘shopping list’ is likely to actually be in place to meet the demand implications of the projected growth treated in the previous sections. Moreover, experience with the Spadina and St. Clair projects raises doubts as to the political feasibility of expanding this concept.

---

## REGION OF PEEL

---

In the Region of Peel, the Mississauga Transitway (shown in Figure 7.2) provides another example of a much discussed, but yet to be implemented new transit initiative. This proposed east-west spine of Mississauga’s rapid transit system has been designed as a bus-only roadway within the Highway 403/Parkway Belt corridor, intended to serve the Mississauga City Centre and link it to the transit systems of adjacent municipalities.

---

FIGURE 7.2 ROUTE OF THE PROPOSED MISSISSAUGA TRANSITWAY

---



However, as one observer puts it:

*Perhaps the most interesting thing about the Mississauga Transitway is that it has never been built. Despite 30 years of planning, comprised of at least 18 studies from 1970 to 1992, Mississauga Transit buses are not at this moment whisking passengers along a transit-only corridor parallel to highway 403.*

In other words, 36 years after it was first approved, the Transitway is still not in existence.

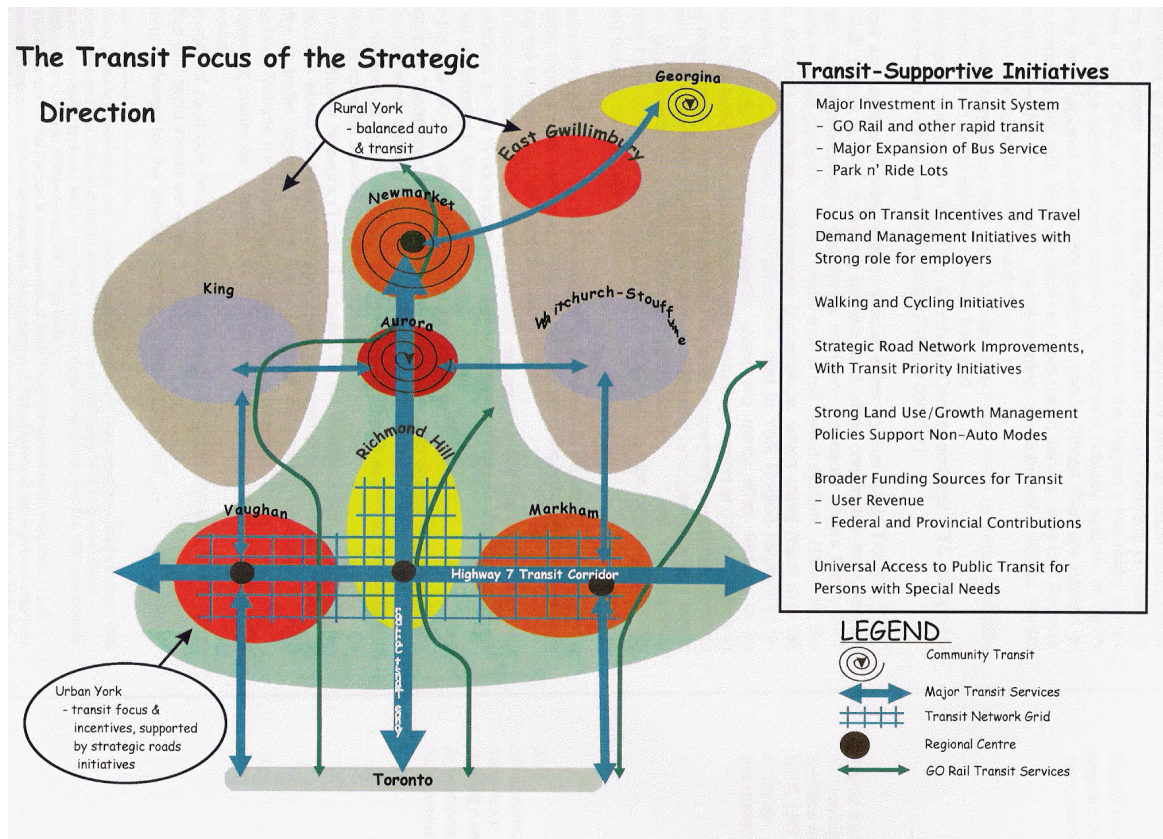
---

## REGION OF YORK

---

By contrast, the Region of York currently stands out as aggressively developing a transportation master plan with very clear priorities for transit and road improvements, supported by a 10 year capital budget. The general transit focus is illustrated in Figure 7.3. Some components of York Region’s transit initiative (notably the VIVA service) are already in operation, perhaps indicative of a pro-active and highly centralized decision-making process.

FIGURE 7.3 REGION OF YORK TRANSIT INITIATIVES



## GO TRANSIT

The highly successful commuter rail services provided by GO Transit now offer high quality but capacity restrained service from outlying suburbs to downtown Toronto. It is probably reasonable to assume that for the foreseeable future, increases in commuter rail capacity will be matched by increased ridership and that the extent of future capacity increases will be dictated by freight operations on some routes (that are owned by the railways), expansion of Union Station, and available funding.

GO Transit also has plans for expansion of express bus services to meet the need for inter-regional travel other than to Toronto's downtown. The express bus route shown in Figure 7.4, for example, is intended to serve as a major transit 'spine' that essentially increases the connectivity and coverage of GTA transit services.

The purpose is simply to allow people to travel to a wider variety of destinations throughout the GTA. Providing such connectivity and integration will undoubtedly be one of the main pre-occupations of the new GTTA.

FIGURE 7.4 PROPOSED GO TRANSIT EXPRESS BUS INTER-REGIONAL SPINE



## IMPLEMENTATION

The above examples are provided only for purposes of illustration. From among the various municipal and regional transportation plans, over the next 25 years or so, what can reasonably be expected to be implemented? Probably, the following:

- ▶ extension of the Spadina subway to Jane and Highway 7,
- ▶ some form of rapid transit between the Sheppard subway terminal at Don Mills Road and the Scarborough City Centre (likely as a subway),
- ▶ extension of the Scarborough RT to Markham Road and Sheppard Avenue,
- ▶ limited (perhaps 20 to 30 km) application of BRT or LRT in segregated lanes on arterials identified in Building a Transit City,
- ▶ new LRT service within Toronto's waterfront development,
- ▶ expanded commuter rail capacity at Union Station,
- ▶ extension of Highway 407 as a toll facility,
- ▶ expansion/extension of provincial series 400 highways,
- ▶ more use of HOV and reserved bus lanes on provincial highways,

- ▶ arterial road improvements within York Region with integrated surface transit priority,
- ▶ arterial road improvements within other regional municipalities, excluding Toronto,
- ▶ expansion of York Region's BRT network,
- ▶ expanded commuter rail capacity on existing routes,
- ▶ an extensive GO Transit express bus network providing inter-connections with local transit services,
- ▶ a Mississauga Transitway, and
- ▶ an integrated GTA transit fare system.

In the case of arterial roads, all the regions have transportation master plans that detail planned improvements to their networks. In the 905 regions, such expansion is funded by development charges, which can also be used to maintain existing levels of transit service, but not transit system expansion. In other words, development charges can be used to expand roads, but not transit.

## 8. planning challenges

To place the main challenges for transportation in the GTA in context, a number of general points should be noted.

First, both the demographic and travel characteristics treated in the previous sections essentially deal only with travel within the GTA during the AM weekday peak period – travel that is dominated by trips to work. They are also based on provincial growth policy projections of change in population and employment. The analysis did recognize the impact of growth beyond the GTA inasmuch as the study area included neighbouring Regions of Niagara and Waterloo, Wellington, Simcoe and Peterborough Counties, and the cities of Guelph, Barrie, Kawartha Lakes and Peterborough, growing areas that will generate travel demands to and from GTA Regions and municipalities. Although travel generated during other periods of the day and weekend travel are not treated, projected increases in AM peak period traffic do provide an indication of the challenges that will have to be addressed in the mid-day and PM peak periods.

Second, an important omission in this analysis concerns growth in truck traffic on freeways and arterial roads. Truck movements to and from the U.S. are critical to Ontario's economy. Because goods movements are not reflected within the AM peak period analysis, they do require special attention in developing a comprehensive GTA transportation plan.

Third, although the provincial policy forecasts of growth in population and employment within the GTA form the basis of the travel demand analysis in this study, at least for the first decade of the planning period, data suggest that the City of Toronto is growing far less quickly, and the regions of York and Peel, far more quickly than projected.

Fourth, provincial growth policy for the GGH emphasizes intensification and redevelopment as a means of generating some 40 percent of future growth within already established areas. However, despite increasing commuting times and costs, people persist in buying homes in the suburbs. Finding affordable, family oriented homes, and being able to drive whenever and wherever, certainly appear to be fundamental values of an increasing proportion of the GTA population – values that run contrary to the goal of intensification of existing sites.

Finally, although relative growth in employment outside of the City of Toronto is forecast to exceed, by far, employment growth within the City, in absolute terms, the current and continuing dominance of Toronto's central area as the primary employment centre is telling. It clearly demonstrates why strengthening the high-capacity transit network is of paramount importance in areas of maximum residential and employment density.

Within this general context, and in view of the emphasis placed in the provincial growth policy on transit as the major instrument for achieving the desired pattern of development, some of the more important observations derived from the travel analysis are as follows:

- 1) Except for selected trips by commuter rail or subway to the Toronto downtown, for trips of equal distance, it is always faster to drive than to use transit.

- 2) Except for selected trips to the Toronto downtown, the majority of transit users are 'captive' inasmuch as, for reasons of age or income, they are too young to drive or do not have access to a car.
- 3) Since downtown Toronto will continue to be the largest single employment area in the GTA, the emergence of an integrated, zone-based fare system and better connections between the subway and commuter rail system will probably lead to growth in GO Rail ridership that exceeds present forecasts.
- 4) There is potential for increasing the proportion of 'choice' transit passengers, as demonstrated by successful initiatives in York Region, such as its new VIVA service, where high quality, convenient, bus-based services are provided as an alternative to the automobile.
- 5) In general, origins and destinations within suburban areas are so dispersed that widely spaced fixed transit services, such as subways and LRT, become less and less attractive as growth areas expand.
- 6) For development in rapidly growing areas such as Vaughan, Markham and Brampton, for example, it is unlikely that suburban residents with multiple cars will leave them at home unless a higher proportion of jobs are developed in downtowns served by excellent transit and where parking is limited and expensive.
- 7) As higher quality employment opportunities emerge outside Toronto, it will be difficult to divert automobile owners to transit. Historically, for example, employers were concerned about access to their "transit dependent" labour pools, but such events as Loblaws' decision to relocate to Mississauga Road and 407 in Brampton is indicative of changing attitudes.
- 8) By contrast, due to both subway and commuter rail access, as well as its size (about 1200 acres), the Downsview airport site may be one of the most significant opportunities for residential and mixed land use intensification and transit oriented development within the City of Toronto, consistent with the provincial growth policy.
- 9) Although there are small markets for long distance suburban-to suburban travel, it is unlikely that rail rapid transit can be justified to accommodate the varied patterns of such trips within the GTA.

These observations support the view that for new suburban growth, even assuming the provincial growth projections, the dispersed pattern of development, particularly in the outer fringe, presents serious challenges for efficient public transit. Moreover, where transit is a viable alternative to the automobile, there is an important challenge related to a meaningful commitment to service integration among different transit agencies. Nevertheless, there is potential, particularly in the case of commuter rail, for ridership to continue to grow at a faster rate than the population as a whole, provided current capacity limitations are removed.

The travel analysis also indicates substantial increases in road traffic in all suburban municipalities, as well as in the City of Toronto (on a road system that is not planned to change). In other words, there will be significant increase in the demand for more and better roads and highways, even for the intensified growth patterns implied by the provincial growth policy.

These road demands highlight the need for:

- ▶ Expansion of the major arterial road network to serve as the basic circulation system in and between developed areas, as well as a 'platform' for higher order, surface based transit,
- ▶ Elimination of the obvious gaps in the region's network of arterial roads, and
- ▶ better integration of the City of Toronto and adjacent GTA road systems.

The challenge is to do so in ways that respect environmental concerns, goals for reduced greenhouse gas emissions, and the City of Toronto's vision of a 'transit city'. Limits to funding for transit present the challenge of using whatever funds are available as effectively as possible. For example, in expanding transit infrastructure to serve more people, it is important to both recognize the trade-off between one km of subway and perhaps 8 to 10 km of higher order transit, as well as to recognize where each is most appropriate.

Finally, there is an important challenge that concerns eliminating the disconnect between such stated policies as intensification, transit-oriented development, and priorities for the use of road space, and decisions actually taken by municipal councils.

## 9. institutional challenges

Institutional challenges basically concern governance and the decision-making process. Both strongly influence the performance of the GTA's transportation system and the likelihood that the system will improve in a manner that is consistent with provincial growth policy. Governance and decision making, like transportation and land use, are, more or less, two sides of the same coin. They are highly inter-related and affect not only what decisions are made, but how and when they are actually implemented.

With rapid expansion in population and the size of the urbanized area within the GTA, institutional models that were appropriate at one time may well be outdated in relation to today's problems, let alone those of tomorrow. The main institutional challenges relevant to the development and successful implementation of a GTA transportation plan are treated in the following sections.

---

### SYSTEM INTEGRATION

---

Integration and coordination of separately managed services, particularly in the case of public transportation, continues to be an issue of major concern that has generated widespread interest in the establishment of the new Greater Toronto Transportation Agency (GTTA). In the case of roads, planning, construction, maintenance, and traffic engineering, as well as road pricing and transportation demand measures (such as high occupancy vehicle lanes) involve agencies at four distinct levels, namely,

- ▶ The provincial Ministry of Transportation (MTO),
- ▶ Regional municipality road or transportation departments,
- ▶ Area municipality road or transportation departments, and
- ▶ The Highway 407 electronic toll road (ETR).

Provincial highway decisions can and are made unilaterally whereas, at the level of regional and area municipalities, all road improvements are subject to MTO approval.

The ETR stands alone in terms of decision-making capability that is embedded in a contractual agreement with the provincial government. Despite considerable debate regarding the excessive term (a 99 year lease) and the rights of the ETR corporation, the courts have ruled the contract to be ironclad.

Frequently, decision-making with respect to road improvements of any consequence is very contentious. Typically, road users are in favour of road expansion. Typically, some property owners are not. Opposition to road improvements usually derives from concerns about environmental impact, local congestion, and possible impacts on property values. Similar concerns are raised with some transit improvements.

There is also an important contrast in the approach to road planning between the suburban regional municipalities and the City of Toronto. Planners in the City of Toronto firmly believe that road expansion is inconsistent with the vision of a 'liveable' city that is more transit oriented and less road dependent. That vision is embodied in Toronto's Official Plan.

Planners in the other regional municipalities generally believe that a network of well-connected roads is essential to their development aspirations. As the suburban municipalities expand their road systems and the City does not, congestion at the interfaces is bound to present an increasing challenge. The Steeles Avenue/Taunton Road corridor is one example. Durham's decision to widen Taunton Road was predicated on the assumption that the former Metropolitan Toronto would widen Steeles Avenue to provide a consistent thoroughfare, an assumption that turned out to be wrong.

The Ontario Ministry of Transportation already has the necessary powers to improve integration and coordination of road planning since, as noted above, all road improvements, as well as traffic engineering methods, in both area municipalities and regional municipalities must receive MTO approval prior to implementation.

Transit integration is a different matter.

Durham, York, and the City of Toronto, have regional transit operating agencies that report, in one way or another, to their respective regional or City councils. Within Peel and Halton, area municipalities provide local transit. In addition, GO Transit, an agency of the provincial government, provides inter-regional commuter rail and bus services. Integration and coordination of these services, including fare integration, has been a long standing matter of concern. Some agencies have achieved a reasonable degree of cooperation. Others have not.

One attempt to achieve better integration of both planning and operations involved the establishment of the Greater Toronto Services Board (GTSB) in 1998. The GTSB undertook a number of planning studies and was made responsible for GO Transit. It was abolished four years later.

In a new attempt to improve transit coordination and integration within the GTA, the provincial government is now completing its commitment to establish the Greater Toronto Transportation Authority (GTTA) by the end of 2006.

A universal 'smart card' is the cornerstone of this new agency, but it is yet to be accepted universally by all transit operators. Many questions remain as to the method of operation and financing the activities of this new agency.

---

## GOVERNANCE

---

Each of various transit operators differ in terms of their basic governance models. In the Region of York, for example, the chief executive officer of York Region Transit (YRT) reports directly to a Regional Chair, noted for being very transit proactive in a region that is finding it increasingly difficult to manage road congestion. By contrast, in the City of Toronto, the Toronto Transit Commission (TTC) reports to City Council. Although the TTC is responsible for construction, equipment procurement, maintenance, and operations, it requires Council approval of almost all major decisions, the most important of which concerns the capital budget. Commission members are appointed by City Council. All are serving members of Council. TTC employees, managerial and procurement practices, and collective agreements are independent of the City. GO Transit is governed by a Board comprised of serving elected officials representing the regional municipalities, as well as a number of individuals appointed by the Minister of Transportation.

Using the TTC as an example, present governance models present serious challenges to the development of a comprehensive GTA transportation plan for reasons that are fairly obvious. As members of City Council, individual Commissioners vote on their own recommendations when they are presented to Council. Aside from the political nature of decision-making, the short-term perspective of most municipal elected officials certainly minimizes the potential for long-term, comprehensive planning at a regional scale. Individual Commission members view their role as looking after the interests of the constituencies they represent. Because transit issues have such a high public profile, Commissioners who themselves stand for election, do not lose opportunities for publicity by engaging in matters that are the proper domain of management.

Simply stated, in the case of the TTC, the de facto model of governance falls short of making a clear demarcation between the responsibilities for executive oversight (such as policy and budget approval) and the responsibilities of management. There is a very clear challenge to improve the governance models for all such agencies, including the GTTA. Good governance requires a board or commission comprised of individuals who:

- 1) First and foremost, recognize a fiduciary responsibility to act individually in the best interests of the entity which they govern,
- 2) Are capable of taking a long term and comprehensive view of major policy and financial alternatives,
- 3) Can distance themselves sufficiently from any personal conflicts of interest, and
- 4) Represent a broad range of experience and expertise in a variety of relevant disciplines to ensure that executive oversight is provided objectively.

---

## THE REVIEW PROCESS

---

Various review processes are in place that are intended to protect the natural environment and ensure that citizens have the right of appeal for decisions which, in their view, are not in the public interest. From the standpoint of transportation planning, Environmental Assessments (EAs) probably constitute the single most important and onerous of the various review mechanisms. They are costly and time consuming. And while there is little doubt that some form of environmental assessment is essential from the standpoint of protecting the environment, three characteristics are particularly troublesome.

First, the process often involves repetition and duplication of needless studies previously carried out at considerable taxpayer expense. The current EA regarding the Union Station-Pearson Airport rail project is a perfect example. This EA basically derives from concerns about the negative impacts on local neighbourhoods (notably, the closure of some through streets) that will not derive any direct benefits from the proposed service.

However, despite the fact that Transport Canada funded the development of 'investment grade' travel forecasts that resulted in guaranteed financial backing from the investment community, the current EA involves complete duplication of unnecessary data collection and forecasts. Aside from

delaying final decisions considerably, the costs of this unnecessary and totally irrelevant component of the EA exercise are borne entirely by taxpayers.

Second, in the interest of comprehensiveness, EAs generally examine all alternatives to the undertaking, even those that are obviously unreasonable. Many of the standard EA requirements are too all-inclusive and simply inappropriate, depending upon the nature of the project under review.

Third, EAs are often undertaken prematurely for projects that may not even be on the 'radar screen' in terms of priorities. If and when those projects eventually achieve a higher priority ranking, more often than not, another EA is required because the original EA is no longer considered valid. The EA for the extension of the Scarborough RT from the present McCowan terminal to Malvern is a case in point.

Clearly, many features of the present process for environmental assessment require streamlining if, funding issues aside, the pace at which transportation improvements are made is to be accelerated. Other processes, such as appeals to the Ontario Municipal Board that subsequently may be appealed to the Provincial Cabinet, as well as requests for Judicial Reviews, further complicate the decision-making process and greatly increase implementation times.

The issue is not whether some appeal process should be retained. The issue again, is to streamline processes so as to better be able to distinguish between bonafide and frivolous reasons for appeal. (There is also a related issue as to the qualifications and objectivity of those appointed to appeal boards and judicial reviews, a matter that is beyond the subject of this study.)

---

## LAND USE PLANNING

---

Every official plan in the modern era recognizes the inter-dependence between land use and transportation. In the case of rapid transit, for example, appropriate land use policies should be pre-conditions for major capital investment. Otherwise, municipal councils may attach high priorities on purely political grounds, with relatively little substantive benefit. The challenge here is to eliminate the disconnect that presently exists between:

- 1) transit policies embodied in official plans (related both to capital investment in facilities and operating policies for the use of streets, such as transit priority and parking),
- 2) recommendations made by staff, and
- 3) decisions made by elected officials.

## 10. financial challenges

All GTA municipalities lack sufficient resources and fiscal instruments to maintain and rehabilitate the existing network of roads and transit, let alone to expand the transportation system to meet future challenges.

Fiscal capacity to meet transportation needs is generally limited by:

- ▶ The extent to which property tax increases are either politically acceptable or fair,
- ▶ Legislative or regulatory constraints on the sources of revenue available to municipal governments,
- ▶ The discontinuance or completion of provincial and federal government assistance programs, and,
- ▶ Downloading of the responsibility for certain social services previously funded by the provincial government (such as a variety of social services and some of the costs of GO Transit).

As the Federation of Canadian Municipalities puts it, “municipal governments are faced with the choice of either denying needed services or postponing infrastructure repair and renewal”.

The low point in transportation finance, from the perspective of regional and area municipalities, occurred in 1998. The fairly generous, provincial programs of formula-based financial assistance for transit and roads that had been in place for a quarter of a century, were abruptly eliminated. In Toronto, even though construction had already begun, the Eglinton subway was cancelled at a cost to Ontario taxpayers of the order of \$80 million.

In 1998, there were no federal government programs of any consequence to assist municipalities of the GTA in funding their transportation needs. It is not surprising therefore, that all Canadian municipalities welcomed the first, highly successful Canada Infrastructure Works Program (CIWP). Nationally, the CIWP leveraged about \$2 billion of federal government investment to generate about \$6 billion total investment in needed municipal infrastructure, including transportation.

More recent initiatives such as the Canada Strategic Infrastructure Fund (CSIF), the Infrastructure Canada Program (ICP), and the Federal Gas Tax Transfer were also welcomed as signals of continuing federal government interest in helping municipalities to meet their funding needs. The Federal Gas Tax Transfer program was particularly well received due to simplified eligibility requirements.

However, except for the Federal Gas Tax Transfer program, these programs, have been, and continue to be:

- ▶ Single project oriented, and
- ▶ Tied to matching fund conditions.

All programs are also limited to a specific time frame (usually about 4 to 5 years).

The provincial government also initiated infrastructure programs for municipalities and promised further funding for urban transportation. Many announcements and press conferences, however, continue to be project oriented and, in many cases, dependent upon matching federal government funding. Periodically, it seems that provincial or federal governments of the day are prone to adopt the attitude that although *“we are ready to contribute our share, they are not”*.

Thus, as welcome as these short-term funding programs have been, agreement is widespread on the need for long-term and more predictable transit funding from both the provincial government and the Government of Canada. Development of long-term programs, should recognize the following factors.

First, programs that are designed in Ottawa or Queen’s Park without direct municipal participation are bound to be problematic. Federal and provincial bureaucrats cannot be expected to fully understand the wide range of variation in capital budgeting procedures at the municipal level, including even relatively obvious factors such as differences in fiscal years, or the nature of political pressures on municipal elected officials. They also lack the expertise and local knowledge.

Second, expectations for long-term funding on a sustained basis requires a ‘house-in-order’ approach, at both local and regional levels, to ensure that long-term, substantive plans and priorities are properly in place. In other words, obtaining federal and provincial funding and spending it go hand-in-hand.

Third, it is important to recognize that federal government participation in transportation assistance programs is predicated on consistency with national strategic objectives related to both the environment and the economy, an example of which includes commitments for reductions in greenhouse gas (GHG) emissions.

Fourth, effective financing of a comprehensive GTA transportation plan requires a major shift from project-oriented support (except for the Gas Tax Transfer) to plan-oriented support. Project support provides the highest political visibility, but carries with it the stigma of potential favouritism and lack of sensitivity to local priorities. There is just too much opportunity to support projects on the basis of other than greatest ‘need’ or highest cost-effectiveness in meeting the objectives of the program. By contrast, ‘plan’ support allows funding to be used where need is greatest in accordance with local priorities. As noted above, however, in order to provide support that is consistent with a GTA transportation plan, there must be a plan. Plan-based support can only work where meaningful plans exist.

Fifth, some provincial and federal government announcements actually involve little or no new funding. They may involve nothing more than a re-statement of previous announcements and, in some cases, never fully materialize.

Municipalities that proceed on the basis of announcements (e.g. the former Metropolitan Toronto’s decision to begin construction of the Eglinton subway), rather than contractual agreements, are at risk of losing money directly, or recovering losses at general taxpayer cost for premature or ill-advised investments. The uncertainty associated with announcements certainly generates confusion and doubts about the government’s credibility when, for example, months after a provincial project

announcement predicated on cost-sharing, the Minister of Finance announces that the federal share is not guaranteed.

Obviously, any infrastructure program, whether project or long-term plan-oriented, should be based on legal and enforceable contracts that incorporate explicit terms and conditions in accordance with Canadian contract law. The tri-partite agreement for redevelopment of Toronto's waterfront might serve as an example.

Finally, development of a reasonable financial model is a basic pre-condition for achieving agreement on a GTA Transportation Plan. Operating and capital subsidies based on five or even ten year fiscal plans, but appropriated only annually by municipal councils, is simply an unworkable process.

A new model is required that is founded on the principle of guaranteed streams of funding over a predictable period. Regardless of the method of funding allocation, the relevant transportation agencies must be able to capitalize these guarantees, in the near term, through the issuance of conventional debt instruments (loans or revenue bonds).

For example, capitalization of federal government subsidies for ferry services made construction of the Confederation Bridge to PEI a reality, and dedicated landing fees have allowed airports to fund expansion through a variety of debt instruments. To place this potential in perspective, provincial and federal government guarantees of \$50 million each, annually over 20 years could finance some \$1.3 to 1.4 billion in expansion of the GTA's transportation system.

Other potential financial policies could also help in reducing the high cost of new transportation infrastructure, notably in the case of public transportation. These include:

- ▶ Tax and duty exemptions that reduce municipal costs of both construction and equipment acquisition,
- ▶ The application of design, build, maintain (DBM) concepts that leverage private sector capabilities to reduce total public costs, and
- ▶ Accelerated write-offs (depreciation) for private sector participation in DBM projects.

To summarize the financial challenges, two points are clear.

First, the evolution from time-limited, project-oriented infrastructure funding to long-term, plan-oriented, and predictable financing will undoubtedly require legislative or administrative changes by the provincial government. Municipal governments need the right to develop innovative financing models, such as the issuance of municipal revenue bonds, and the right to levy new taxes.

Second, long-term predictable funding requires approved long-term plans and priorities. Official Plans are insufficient unless accompanied by investment priorities and corresponding by-laws or council decisions. In other words, there is a requirement for due diligence to maximize the likelihood that all funding is used to benefit the largest number of people.

# 11. conclusions and recommendations

The main conclusions and recommendations of this study should be treated within the following context.

- 1) The analysis of future demand is based on a distribution of population and employment growth that is consistent with *Places to Grow*. It should be emphasized, however, that *Places to Grow* assumes a major shift in the way people choose to live and commute that is different from past and present behaviour. Such changes in behaviour would require radical changes to land use and urban form, substantial new investments in transit infrastructure, and probably, as well, constraints on automobile use, such as auto free streets and/or congestion pricing. If household preferences remain unaltered, these intensification goals are unlikely to be achieved and even wider dispersion of growth can be expected.
- 2) Travel demand is driven by transportation service and vice versa. Projected travel demand is an extrapolation of existing travel behaviour predicated on existing levels of service (both road and transit) being maintained throughout the network. If the infrastructure changes or the level of service changes, then, most assuredly, the demand will also change. Simply stated, transportation decisions will influence how the GTA grows.
- 3) The demand analysis deals only with AM peak period travel when the journey-to-work is, by far, the predominant trip purpose. It does not treat travel during other periods of the day, or on weekends, nor does it address the important problem of goods movement. This weakness, however, is not a product of the choice of forecasting model, since more detailed forecasting models, such as the GTA Model, also only treat AM peak period travel.
- 4) Within the GTA, official plans and transportation plans of the fastest growing regional municipalities emphasize transit system expansion as the primary means of combating growing congestion. However, their transportation master plans also place emphasis on networks of arterial roads.
- 5) The City of Toronto, by contrast, through its Official Plan, is essentially committed to little or no new road construction as a means of meeting its transportation needs.
- 6) Given pressures on municipal, provincial and federal finance for funding in other public sectors of the regional economy, there is only so much money that can be earmarked for transportation improvements in the GTA.
- 7) Reduced automobile dependence and increased reliance on public transportation is the cornerstone of sustainable transportation promoted by most environmental policy statements, notably the federal government's Transportation Climate Change Table.

- 8) The rationale for developing long-term, predictable federal government transit funding programs is driven largely by commitments to meet national targets for reductions in greenhouse gas emissions from urban transportation.

Thus the challenge of achieving greatly reduced automobile dependence in an affordable manner is paramount for the pattern of population and employment implied by the provincial growth policy. To meet this, challenge, it seems clear that:

- 1) There is a need for a comprehensive assessment of the GTA's transportation needs and priorities that explicitly identifies:
  - ▶ GTA priorities for integration, optimization, and enhancement of both transit and auto-based services,
  - ▶ The most pressing needs for improving the efficiency of goods movements, and
  - ▶ The most effective means of meeting the environmental imperative, particularly with regard to greenhouse gas emissions.
- 2) This comprehensive assessment should be the first order of business for the new Greater Toronto Transportation Authority.
- 3) Due to practical limits on funding, first and foremost, the goal of transit planning should be to make investments that provide positive benefits for the largest number of people. Planners and elected officials are going to have to stop dreaming only about capital-intensive projects that cannot be justified on the basis of ridership gains or other significant benefits. Greater emphasis should be placed on selecting appropriate technology. For many areas within the GTA, except for high-density corridors within the City of Toronto, 'appropriate' probably means more bus-based and less rail-based transit.
- 4) Unpopular decisions with regard to the use of street space are required. Where sufficient frequency of service is offered, for example, every attempt should be made to ensure streets are used in ways that give transit vehicles higher priority so as to increase the productivity of both vehicles and labour. It is by no means clear, however, that 'society' is willing to make these unpopular decisions. Moreover, it is particularly difficult to achieve transit priority on the type of road network where few, if any, roads have sufficient width over any reasonable distance.
- 5) For most of GTA growth in regions beyond the City of Toronto, transit alone cannot provide the solution to growing congestion and gridlock. Significant road improvements will be required.

The following conclusions deal with specific components of the GTA's transportation system.

---

## THE ROAD SYSTEM

---

The GTA network of highways and roads requires expansion in order to:

- ▶ deal with dispersed travel patterns that cannot be effectively accommodated by transit,
- ▶ provide a platform for an integrated network of higher order bus and light rail rapid transit, and
- ▶ improve the efficiency and reduce the congestion costs associated with goods movement.

Applications include:

- ▶ widening and closing obvious gaps in the arterial road network that serves as the basic circulation system,
- ▶ integrating the GTA and City of Toronto road systems,
- ▶ adding North-South expressway capacity between Highways 401 and 407 east of Highway 400,
- ▶ reserving right-of-way for a major East-West transportation corridor, north of Highway 407, to support the large increase in new development expected in York and Peel regions, and
- ▶ upgrading some elements of the arterial network within Toronto, in view of the large projected increase in automobile person trips and the growth in employment.

However, without a radical shift in household preferences, there would be far less intensification than anticipated by the provincial policy goals. With wider dispersion of growth, the need for even more road capacity increases, both outside the City and, to a lesser extent, within the City (as well as the need for far more GO rail capacity).

---

## THE TRANSIT SYSTEM

---

The existing subway and commuter rail systems are, by far, the dominant focus of transit use in the GTA. Continued expansion of GO Transit commuter rail capacity (including increased capacity at Union station) and better integration with TTC services, as well as increasing the capacity of the Yonge subway, should be the main means of accommodating commuting to downtown and midtown Toronto.

There is also potential scope to expand the downtown catchment area for GO rail. If fare integration ultimately leads to an integrated zone-based fare system, as already exists in many cities, growth in GO Rail ridership could exceed current projections.

Within Toronto, in order to improve transit connectivity and coverage, a strong case can be made for one or more continuous major East-West transit corridors that intersect radial commuter rail and subway routes. For the GTA as a whole, a staged plan for the integration of GTA transit services is an important step to be taken by the GTTA, the first element of which should provide 'seamless' transit based on a uniform fare system for the TTC, GO Transit, YRT, and Mississauga Transit. Seamless transit means:

- ▶ single payment,
- ▶ fare policies that are revenue-neutral from the standpoint of individual operators,
- ▶ local running rights (or 'cabotage') intended to better serve passengers rather than operators, and
- ▶ better physical transfers at major transit terminals such as subway stations.

Adoption of a universal fare collection system, such as a 'smart' card, electronic purse, or other advances in information technology, is a fundamental requirement for achieving seamless transit within the GTA. Regardless of the precise technology, what is required is a medium that can be used on any transit service and associated parking within the GTA, as well as for a variety of other purposes.

---

## INSTITUTIONAL CHANGE

---

Conclusions and recommendations that fall under the category of institutional change primarily concern:

- ▶ governance,
- ▶ labour relations and productivity, and
- ▶ review processes.

## GOVERNANCE

The 'culture' of political appointments should be modified to ensure that both the composition and by-laws (or rules of conduct) of transit governing bodies conform to well recognized practices for good governance. Changes in provincial legislation for various transit agencies will undoubtedly be required.

In the case of the GTTA, Members should be appointed who:

- ▶ Are not elected officials,
- ▶ Accept the notion of a fiduciary responsibility to act in the best interests of the GTTA,
- ▶ Are capable of taking a long term and comprehensive view of major policy and financial alternatives,
- ▶ Can distance themselves sufficiently from any personal conflicts of interest, and

- Represent a broad range of experience and expertise in a variety of relevant disciplines to ensure that executive oversight is provided as objectively as possible.

Unlike the former Greater Toronto Services Board, if the GTTA is to play a meaningful role, a significant proportion of both provincial and federal funding for urban transit (excluding the Gas Tax Transfer) and roads should be channelled through the GTTA.

There are, however, several pre-conditions that should be met if the GTTA is to assume serious funding responsibility. These include:

- 1) Development, by the GTTA, of rational criteria for the allocation of funding that provides incentives for improved performance and which ensures the allocation of funding on the basis of merit, goals, and objectives of specific agencies.
- 2) Formal approval, by relevant councils, of transportation and land use plans including clearly specified priorities for all transportation delivery agencies and departments.
- 3) Serious investigation of alternative delivery models that leverage the financial capacity and capabilities of the private sector to reduce the public costs of transit.

## LABOUR RELATIONS AND PRODUCTIVITY

Labour is the largest component of transit operating costs. Service disruptions due to labour-management strife, though infrequent, are the cause of considerable public concern and economic loss. The use of part time labour and consideration of alternative delivery mechanisms are both examples of contentious matters leading to labour-management strife. When all is said and done, however, transit is subsidized in order to provide a needed public service that is not commercially viable. Transit is not subsidized as a means of employment creation.

In almost every case, service disruptions end up being settled by court orders or back-to-work legislation and binding arbitration. The community costs and frustration resulting from transit service disruption are reasons enough for the provincial government to take steps to minimize the impacts of the failure of management and labour to reach satisfactory agreement on their own. The solution is obvious.

## REVIEW PROCESSES

Of various review processes (Ontario Municipal Board, judicial reviews, environmental reviews) the requirements associated with the Environmental Assessment process (particularly Individual as opposed to Class EAs) probably draws the most attention.

Although the requirement for environmental assessment was initiated through good intentions, for many, it is now viewed as wasted public expense on needless studies, as well as the surest way of ensuring that nothing gets done. Streamlining the entire review and appeal process to reduce costs, accelerate decision-making, and, where applicable, implementation, is a task that should be given high priority by the Ontario Ministry of the Environment.

## FUNDING AND FINANCE

The lack of funding is the most commonly cited reason for congestion and gridlock, both by politicians, as well as senior bureaucrats. The plea for greater financial assistance, common to all municipalities in Canada, as well as in the GTA, derives from the well-known fact that municipalities simply do not have sufficient resources to meet their transportation requirements without unacceptable and inequitable increases in property taxes.

At the provincial and federal level, effective funding programs should have five distinct features, namely:

- 1) A cultural change from time-limited, earmarked funding for individual, highly politicized projects, to funding for formally approved transportation plans and priorities.
- 2) Harmonization of funding eligibility and reporting requirements, as well as procurement guidelines, in ways that respond to the municipal budgeting process and minimize the administrative burden associated with such programs.
- 3) Long-term, predictable funding commitments
- 4) Legislation that permits leveraging long-term, predictable funding commitments to attract private investment (notably, pension funds) using loans, revenue bonds, or other debt instruments.
- 5) Some requirement for municipalities to investigate alternative methods, such as 'design, build, and maintain', for engaging the private sector to expand transportation infrastructure at lower cost.

Though more conceptual than real (except in London and Singapore), there is also a need for an objective assessment of alternative methods of 'road pricing' or tolls to finance GTA transportation initiatives. Any method of road pricing must be equitable, must not place individual municipalities at a competitive disadvantage, and must not discourage goals for intensification and redevelopment.

---

## SUMMARY

---

To be clear, these conclusions derive, in part, from work based on a growth plan that optimistically assumes development patterns will evolve in ways that lead to more compact urban form, continued employment gains in the Toronto downtown area, and emerging new employment areas outside the City of Toronto. Under such conditions, the overall demands on transportation infrastructure, though still both large and problematic, should be minimized.

If, however, the provincial growth plan is not realized and growth continues to evolve, more or less, as it has over the last 10 to 30 years or so, the transportation-related challenges will become even more acute and will occur sooner.

Nevertheless, the following main messages from the study would still be generally applicable:

- 1) Effective governance is key because it determines how, when, and for what purpose funding is allocated. Governance bodies should be structured to provide executive oversight in ways that:
  - ▶ Are sensitive to long term needs,
  - ▶ Guarantee objectivity and the absence of conflict of interest, and
  - ▶ Offer a diversity of relevant experience and expertise.
- 2) The availability of predictable, long-term funding is almost as important. No organization can function properly in the absence of predictable income, revenues, or funding.
- 3) The GTTA can only play a meaningful role if it controls the allocation of a substantial proportion of both provincial and federal funding (excluding the Gas Tax Transfer) for GTA transportation. Experience with the Greater Toronto Services Board proves that without funding leverage, regional authorities are likely to accomplish little.
- 4) Transit service and fare integration is essential. Employment aspirations of the City of Toronto in the face of suburban, more dispersed residential growth, are more likely to be realized with a GTA system of 'seamless' transit that connects the TTC, at least with York Region and Mississauga Transit.
- 5) There is no doubt that road expansion will be required in many areas of the GTA and some areas within the City. Transportation needs implied by the provincial growth policy for the GGH cannot be satisfied by transit alone. In fact, without a radical a shift in lifestyle implied by the provincial policy, requirements for road expansion will be even more significant.
- 6) Efficiency in the use of funds must drive transit priorities, with the goal of achieving broader coverage and better service for the greatest number of people. Maintaining and increasing transit ridership, as well as improving service quality should drive the choice of technology most appropriate to provide required capacity
- 7) The EA process must be revised so that it does not merely continue as a vehicle for interminable delay.

Acceptance of these main messages may be a lot to expect. But taxpayers in the GTA spend a lot of money on transportation. They should expect a lot in return.

## references

1. John Barber, *Traffic woes trump taxes as election issue for executives*, The Globe and Mail, 7 October 2006.
2. *Places to Grow: Proposed Growth Plan for the Greater Golden Horseshoe*, Ministry of Public Infrastructure Renewal, November 2005.
3. Federation of Canadian Municipalities, *Immediate and Long-term Federal Funding Support for Infrastructure*, 8 September 2006.
4. Paul Bedford, *What If Indeed*, Toronto Star, 23 July 2006.
5. Margaret Wente, *The war against the car will never succeed*, The Globe and Mail, 22 July 2006.
6. Federation of Canadian Municipalities, *Building Prosperity from the Ground Up: Restoring Municipal Fiscal Balance*, June 2006