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Policy Areas Impinging on Elderly Transportation Mobility: An Explanation with Ontario, Canada as Example

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Abstract:

As countries face the challenges posed by rising numbers of older persons, the need to reassess their respective policies to address transport needs in aging societies is increasingly recognized in relation to health and sustainability goals. This paper proposes the examination of six interrelated policy areas affecting elderly mobility in a country or administrative region. A general survey of policy developments in each of these areas could improve current strategies and existing processes in the planning and implementation of mobility services that will be responsive to both elderly and the general population now and in the future. These include: 1) general transport policy framework; 2) travel mode preference; 3) alternative transport infrastructure stock and investments; 4) housing-land-use-transportation linkage; 5) research and technology applications that improve travel mode and environment; and 6) institutional and legal reforms. These policy areas are discussed and given concrete elucidation in the case of Ontario, Canada. Reflections and recommendations for further research and policy action deemed critical in the case region are highlighted.

Keywords: Transportation, aging, regional policy, Canada

JEL Classifications: R42, R58

Résumé :

Alors que de nombreux pays se voient confrontés aux défis posés par l'accroissement de leur population aînée, le besoin de réévaluer les politiques de transports dans le contexte d'une société vieillissante s'avère de plus en plus important par rapport aux objectifs de santé et de durabilité. Cette étude propose d'examiner six domaines interdépendants affectant la mobilité des aînés à l'intérieur d'un pays ou d'une région administrative. Un aperçu général du développement de chacun de ces domaines pourrait améliorer les stratégies déjà en place et les procédures existantes dans la planification et l'exécution des « services de mobilité » qui répondront aux besoins des personnes âgées et de la population générale, aujourd'hui et demain. Ceux-ci incluent : 1) le cadre général de la politique des transports ; 2) la préférence des moyens de transport; 3) l'inventaire des sources alternatives de transport et des investissements; 4) les liens entre logement, utilisation des espaces et transport; 5) les applications de la recherche et des technologies qui permettent d'améliorer les moyens de transport et l'environnement; et 6) les réformes institutionnelles et légales. Ces domaines liés à la politique de transport sont discutés et exposés concrètement en prenant pour exemple la province de l'Ontario au Canada. Des recommandations pour l'orientation de la recherche et le choix des politiques futures jugées indispensables dans la région étudiée sont mises en évidence.

1. INTRODUCTION

Given the transportation implications of an aging society in supporting healthy aging (WHO 2002; Rowe and Kahn 1997) and in promoting sustainable development (Katz and Puentes 2005; Rosenbloom 2001), many countries in Europe and North America are starting to show a growing interest in fine-tuning their respective policy frameworks to anticipate this emerging challenge. In fact, there have been landmark discussions in the international arena that display such attention (e.g. ECMT 2001; OECD 2001). This concern is increasingly being articulated in country-specific transport policies, albeit, at varying nature and degree of emphasis (Mercado et al, 2006). The discussions on the concern for accessibility and elderly mobility has now encompassed not only the traditional policy precept of social protection (inclusion) (e.g. Farrington 2007; Farrington and Farrington 2005; Rosenbloom 2004; Halden 2002; Murray and Davis 2001; Huby and Burkitt 2000) but also the discourses on "active aging", where the future elderly are seen to be of better income, healthy, and with greater expectations for more active lifestyles (e.g. Coughlin 2006; 2001; McDaniel 2003; Gee 2000; Lindsay 1999). In the last decade, empirical studies that aim to exchange ideas and experience on elderly travel behaviour in developed countries have gained attention to validate varying perceptions about this population group that will help inform benchmarking and evaluating policy and program strategies (e.g. Paez et al 2007; Golob and Hensher 2006; Mercado et al 2006; Blomqvist and Siren, 2003; Collia et al 2003; Hildebrand 2003; Burkhardt and McGavock 1999; Rosenbloom and Morris 1998). In Canada, the current vision and policy framework for transportation has acknowledged a diverse and aging population as one of the forces that will shape economy and society (Transport Canada 2003). Cognizant of the changing and diverse elderly needs and lifestyles, Canada has veered away from institutionalization and towards supporting independent life and work, and active community participation through accessible housing, home care, and transportation (Liebig 1993; Transport Canada 2007). National support for policy innovations and reforms in this direction is underway as can be manifested by, among others, a comprehensive research on the social and economic issues of aging (SEDAP 2005) as well as in its interest and leadership in international forums that deal with these issues (e.g TRANSED 2007).

There are a number of policy studies that deal with elderly transportation mobility. Few of these, however, have been done in a comprehensive fashion and/or in a specific geographic or political area. Among those done in specific regions, the policy areas on elderly mobility covered in these plans or studies vary in scope and level of details (Burkhardt and Eberhard 2003). The policy issues investigated cover mostly the general policy priorities recommended by OECD (2001). However, the extent to which population aging is reflected in the government's overall transport policy framework and implementation processes has not been considered as part of these policy priorities. This is important as its explicit articulation will by and large ensure that aging concerns will be an important factor in transportation policy, investments and programming. In order to bring these concerns into focus, this paper reformulates the policy and research priorities and issues on transportation mobility of the elderly into six policy areas that essentially mainstreams population aging in the major transport policy agenda of a particular region of interest. A general survey of policy developments in each of these areas can be used to guide policy actions and researches that will help reshape current strategies and existing processes in the planning and implementation of mobility services that will be responsive to both elderly and the general population. These include: 1) general transport policy framework; 2)

travel mode preference; 3) alternative transport infrastructure stock and investments; 4) housing-land-use-transportation linkage; 5) research and technology applications that improve travel mode and environment; and 6) institutional and legal reforms The discussion of these policy areas is set in the case of the province of Ontario in Canada. A provincial analysis is warranted given the country's decentralized policy and program set-up and the constitutional power of the province in major sectors of development including transportation. In addition, Ontario is the most populous province in Canada and home to the largest number (1.6 million) of population aged 65 and over (Statistics Canada 2007). Ontario's population is expected to increase by 4 million in the next 25 years and in that time almost a quarter will be in the 65 plus age bracket (Government of Ontario 2006a). Thus, it is important to examine the province's outlook in the face of the transport challenge of an aging population. Data used for the policy survey include most recent government program reports and statistics as well as related materials and policy studies. Personal interviews with provincial and city departments were also conducted to sharpen issue identification and filtration as well as to collect information not readily available from traditional sources.

The paper is structured as follows. Section 2 provides a general introduction of Ontario in terms of socioeconomic, demographic and institutional arrangements for transport policy and administration as well as general travel characteristics of its elderly population. This provides the critical context for Section 3 which discusses the six policy areas and their relation to Ontario's current experience. Section 4 concludes the paper with some reflections and recommendations for research and policy challenges deemed critical for the study area.

2. BRIEF OVERVIEW OF THE PROVINCE OF ONTARIO

2.1 Economy, Demography, Geography

Ontario is the second largest province in Canada in terms of land size and contributes about 39 percent of Canada's GDP in 2005 (Government of Ontario 2007a). Population wise, it is the largest province, comprising about 39 percent of the Canadian population (12.7M) and the home to the largest number of population (1.6M) in the 65 plus age bracket. About 85 percent of Ontario residents reside in urban areas. Thus, a significant number of the elderly population in Ontario live and will continue to reside mostly in an urban setting.

2.2 Institutional Arrangement for Transport Planning, Provision and Funding

2.2.1 Administrative Structure. In Canada, the government plays a central role in the provision of transport facilities and services. As enshrined in the present Constitution, the federal government is responsible for inter-provincial and international transport "undertakings" and all the rest fall within the mandate of the ten provinces and three territories. Thus, the federal government takes charge of aviation, railways, international and domestic marine transport and inter-provincial bus and truck transport. The provinces and territories, on the other hand, are responsible for road matters, intra-provincial railways, bus services and trucking and municipal transport. However, in practice the federal government delegates to the provinces the responsibility for economic

regulation of inter-provincial bus and truck transport. In the same fashion, the provincial government delegates to the local governments the responsibility for municipal roads and transit services, which sometimes is not coupled with funding support, as in the case of Ontario in the last decade or so, as will be further explained in the next sections. Tindal and Tindal (1995) explain that defining a local government in the case of Canada is not a simple task as it encompasses both incorporated municipalities and local special purpose bodies. Incorporated municipalities may be any of these specific classifications: cities, towns, villages, rural municipalities (i.e. townships, parishes and rural districts), counties (both single and upper-tier), and regional and metropolitan municipalities.

2.2.2 Transport Administration. Government involvement in the transport sector is substantial in terms of infrastructure provision and management (Transport Canada 2005). Governments at various levels act as both funders and operators of transport services even taking over failing commercial enterprises. This policy tendency is based on the consideration that transport service is a public need and therefore forms part of the government's key social services. However, in recent years, there has been a move towards deregulation and privatization. The federal government for instance sees itself more as a regulator and policy maker than as an operator of the transportation system (Transport Canada 2003). The sub-national governments have followed suit but only in so far as reducing subsidies and requiring greater cost-efficiency in road and transit operations. For the most part, they continue to be the major operator of local transportation systems.

The Government of Ontario Ministry of Transportation Ontario (MTO) takes the lead in providing the general transportation policy framework and services within the confines of its mandate. The MTO sets the administrative, legislative and financial framework upon which the lower-levels of government must operate. At the sub-provincial level, transportation is a vital part of the government structure as a special unit of its own. In single-tier municipalities it can be part of the larger public works department, as in the case of the City of Hamilton, one of the province's biggest municipalities.

2.2.3 Local Service Provision. Because of its large geographical expanse, the province of Ontario has been classified into two major regions: Southern and Northern Ontario. The administrative groupings under each of these divisions differ in terms of structure and services they perform. In Southern Ontario, three types of municipal structures exist: upper-tier municipalities (regions, counties and district municipality), lower-tier municipalities (cities, towns, villages, townships) and single-tier municipalities. There are 815 of these municipalities but with the passing of Bill 26 (Better Local Government Act) in 1996, this number had been reduced to 571 by year 2000 (Hollick and Siegel 2001) and then to 447 by 2002 (Treff and Perry 2003).

Public services provided by regions include arterial roads, transit, policing, sewer and water systems, waste disposal, region-wide land-use planning and development, health and social services. Incorporated municipalities within a region are responsible for local roads, fire protection, garbage collection, recreation and land-use planning. Counties (unique to southern Ontario) are responsible for arterial roads, health and social services, and land-use planning. The lower-tier municipalities (cities, town, villages, and townships) within each county provide the rest of the services.

Single-tier municipalities in Southern Ontario refer to any of these: those formed through amalgamation (e.g. Hamilton), separation from surrounding municipality (e.g. Kingston.) or those found in Northern Ontario. These municipalities are responsible for all local services within their jurisdiction. In the case of Northern Ontario, the more populated areas are administratively grouped under single-tier municipalities, towns, villages and townships. Each of these levels is responsible for local services in their respective jurisdictions. Single-tier municipalities include those that have no upper-tier governance at the district level. For unincorporated areas, some services are provided by local service boards, local road boards and District Social Service Area Boards (DSSABs) which are funded by the province. There are also Planning Boards within a group of municipalities and unincorporated areas, which provide advice and assistance on land use planning. The Minister of Municipal Affairs and Housing appoints members to represent the unincorporated areas in the respective Planning Boards.

2.2.4 Funding Arrangements. In 1998, the government of Ontario implemented the Local Services Realignment (LSR) which details the reform initiatives in the management and funding of key public services, including transportation (AMO/MAHO 1999). Under the LSR, Ontario transferred $2.5 billion to the municipalities to deliver these services in exchange for the province taking on greater education costs. With respect to transportation, full service delivery and funding responsibility for airports (except those in remote areas in Northern Ontario), roads and bridges, highways and municipal transit are now fully transferred to the municipalities. In effect, provincial subsidies for these services have ended, while the province will only be providing the policy and legislative support for their operations such that, for roads and bridges, the province will be concerned with the determination and monitoring of infrastructure standards. As to highways, the province has transferred 5,175 kilometres of highways to the municipalities and will now devote funding resources to the remaining provincial highways and those in sparsely populated areas. With regards to municipal transit, the provincial subsidy program was terminated effective January 1 1998. The realignment of key services is considered by the province as a way to streamline services, reduce duplication and waste, lead to greater accountability to taxpayers and provide greater autonomy for municipalities.

The *Municipal Act, 2001* which took effect in January 2003 sealed most of the provisions of the LSR under this new legislation. However, while the municipalities have been given wider legislative and organizational authority under the Act, there are limitations on their financial activities as requirements in the area of taxation and finance continue to be more closely specified in the statute and governed through regulation (Treff and Perry 2003). Indeed, while a progressive legislative framework is provided under the new Act, significant mismatches remain between municipal responsibilities and financial resources. Thus, efforts continue to address this funding lack through innovative funding arrangements. For instance, starting in 2002, the Government of Ontario committed gas tax allocation to municipalities and recently has allowed flexibility in the use of the funds beyond capital transit expansion purposes. In the longer term, however, efforts are underway to look more in-depth into this provincial-municipal fiscal and service delivery relationship through a review beginning fall of 2006 to be completed in spring 2008 (Government of Ontario 2006).

2.3 Travel Characteristics

There has not been a definitive province-wide study of travel behaviour in Ontario. However, recent studies in Canada, in general, and in the metropolitan regions within the province well provide the indication of travel characteristics of its elderly population.

Recent analysis of the travel behaviour of Canadian elderly population showed their strong reliance to the private automobile for transport (Newbold et al 2005; Scott et al 2005). This is echoed in earlier studies showing that car use accounts for at least 65 percent of car trips in metropolitan areas of Quebec and Ontario (e.g. GGI, 1997). The same studies also revealed that the elderly tends to take fewer trips than other age groups and that their use of public transit is higher compared to the younger age-groups. Transit share is highest for elderly 75 and over compared to 65-74 age group and the population as a whole.

Analysis of data for the Hamilton CMA, the third largest metropolitan area in Ontario, showed consistent findings. Paez et al (2006) found a negative association between trip-making and age. While a large proportion of the elderly make their trips by car, considering that about 78% and 65% of the elderly are car owners and license holders respectively, empirical results showed that transit pass ownership is as important in affecting the propensity to undertake trips. This suggests the importance of transit accessibility in elderly mobility in the study area. Mercado and Paez (2007) also reported on the general decline not only in trip frequency but also in distance traveled as age advances. Moreover, they also found a gender divide in travel behaviour not only in terms of trip-making but also in mode choice. Men tend to travel farther and are more likely to be car driver than women and continue to hold on to their car as much as possible. In contrast, women travel shorter distances and more frequent than men. Elderly women elderly also shift from driving to become car and bus passengers when they get older. They also tend to use taxi services than men and would likely walk as an alternative to car driving, bus or taxi. These results point to the need to expand greater choices for mobility beyond car driving (i.e. public transit, taxi, walking and other special transport services) to allow smoother transition for the elderly to adapt to varied mobility modes or to access mobility services for a more healthy and productive lifestyle especially upon driving cessation.

3. POLICY AREAS IMPINGING ON ELDERLY MOBILITY: CASE OF THE PROVINCE OF ONTARIO

3.1 General Transport Policy Framework

A general examination of the transport policy framework messages (i.e. concerns and objectives) of the regional government body or agency is important in understanding the policy motivations or basis for the policy choices. Of particular interest in surveying this policy area is determining whether the consideration of an aging population is mentioned in any way in the general transport policy arguments of the government transport body policy statements. Policy context and motivations are important as they encourage and sustain the selection of specific strategies and approaches. For instance in a recent study comparing transport polices across six countries, Mercado et al (2006) demonstrated the importance of policy motivations and institutional set-up of countries in the choice and articulation of transport policy objectives and the respective approaches and solutions to achieve them. The nature and degree to which countries recognize the impact of demographic ageing are reflected in their choice of transport policy actions. Of the countries studied, Japan has placed the ageing issue as a central backdrop

in its national transport policy framework and this focus has shown greater sensitivity of its transport programs to elderly mobility. A country's transport policy framework has also been found to affect sub-national transport policymaking. For instance, Gaffron (2003) demonstrated that the national policy framework could be of greatest opportunity for or barrier to the promotion and implementation of programs for particular transport modes at the local level, particularly with respect to walking and cycling as transport modes.

Ontario's transportation policy is based on supporting Ontario's priorities of "building Strong Communities and Strong Economy" through facilitating the free movement of goods and people throughout the province "by promoting, managing and maintaining a safe, efficient and integrated multi-modal transportation system" (MTO 2006a). Towards this end, the province pursues four priorities: 1) improve public transit by making it more attractive to commuters; 2) planning and investing in critical transportation infrastructure to maintain economic competitiveness; 3) promoting road safety in order to remain among the safest jurisdictions in North America; and, 4) enhancing public service and customer satisfaction by delivering efficient and innovative services to the public. To accomplish these key priority areas, the province is determined to 1) increase ridership by investing in the replacement, operation and expansion of transit fleets to make public transit a viable, convenient and reliable commuting option; 2) strengthen services of vital public interest through investments proposed in the infrastructure plan that will improve the flow of people and goods along major highway corridors and border crossings; and 3) transforming and modernizing strategies of business delivery to improve services.

While the federal transport ministry has articulated the consideration of an aging population as part of its major transport challenges, this has not been reflected in the case of Ontario's transport policy goals. This lack of articulation may be attributed to the short-term nature of the transport goals crafted by the province (i.e. 2006-2007). However, even with Ontario's long-term vision for regional growth and development towards year 2031 (MPIRO 2006), of which transportation is a main component, demographic shifts in population has not been identified among the driving forces that will guide decisions in the aspects of investments in transportation, infrastructure planning, land-use planning, urban form, housing, natural heritage and resource protection. Future policy studies could look into the extent of this disconnect between the federal transport and provincial transport frameworks and how this could be bridged or made consistent.

3.2 Preference for Transport Modes

Another important policy area that has to be considered is the policy on the preferred mode of travel. The basis for the favored mode of travel is invariably linked to certain transport goals and objectives. For example, health, safety and sustainability could be a primary goal in which preference for public transit, walking and cycling would find basis on. Expectedly, policy preference for one or a combination of travel modes should translate to the adoption of incentives or disincentives to promote such choice both in terms of articulated policy concerns and implementation. In examining these issues in the context of an aging population, consideration must be made on the extent policy preference for specific transport modes and their program translations are being linked to ensuring quality mobility options for the growing elderly population in the study area.

It has been argued that Canadian government policy on urban transport has been unwilling to directly challenge the country's dependence on cars and that "since the 1980s transit expansion has been talked about more than acted upon" (Fowler and Siegel 2001). A look at the current official transport plan of Ontario (MTO 2006a) reflects the same neutral stance by embracing multi-modalism, but more boldly articulates transit improvement as part of its major strategies. Increasing transit ridership is one of the key goals of the province to reduce congestion, improve air quality, and improve efficiency in the movement of people and goods. As part of the improvement in accessibility of municipal transit systems, MTO is working with the municipalities in improving and renewing their transit systems to make them consistent with the Accessibility for Ontarians with Disabilities Act (AODA) which was passed into law in June 2005 (MTO 2006b). While the support for public transit is highlighted, support for private car has not wavered. Road infrastructure investments continue to dominate funding priorities as will be discussed in the next section. However, adjustments are being promoted to make road systems dedicated for car driving complementary to transit as well as safer to those who use it. For instance, the province is starting to introduce new programs to encourage high-occupancy vehicles (HOV). A network of 75 carpool lots in Eastern, South-western and Central Ontario at selected highway interchanges near large urban centres had been established by the MTO for this purpose. An increasing number of these lots are being served by transit.

Currently, efforts to promote walking in the province are premised in terms of health promotion and not as an alternative mode of transport. In Ontario, the Ministry of Health Promotion under its ACTIVE2010 strategy which aims to get 55% of adult Ontarians to be regularly physically active by 2010 provides funding to cities and municipalities for information campaign on the physical and mental health benefits of walking (Government of Ontario 2006c). Interestingly, the Public Health Agency of Canada, a federal agency promotes walking not only for health benefits but from a broader perspective of sustainable development (i.e. reduce greenhouse gas emissions to alleviate climate change, reduce air pollution and promote energy efficiency) but policy prescriptions are left to citizens to embrace the concept walking (Public Health Agency of Canada 2007). Such concerns are absent in Ontario's transport policy. Lumsdon and Mitchell (1999) pointed out the challenge of bringing together varied small-scale, short-term "walking for health" programs into mainstream sustainable transport development policy. They argued for the growing convergence between health (physical activity) promotion policy and sustainable transport development strategies. A growing interest in Europe in developing this type of comprehensive and sustainable transport policy needs to be revisited (e.g. Davies, 1997, Ramsey 1997; Gaffron 2003) as they relate to aging, health and environment policy discourses. In the case of Ontario, this is also important in giving teeth to its multimodal transport strategy.

3.3 Current Stock and Investments on Alternative Transportation Infrastructure and Systems

The third general policy area relates to resource provision for alternative transport infrastructure systems and services. As mentioned earlier, most trips including those of the elderly are made via the private car. However, alternative transportation which includes public transit (fixed route), paratransit or demand responsive transport system, and other innovative transport arrangements are important travel modes for older persons either as alternatives to the car or as permanent mobility modes upon driving cessation. Investments on these modes that

secure their mobility must be evaluated on the state of funding sufficiency, efficiency, convenience, accessibility and challenges for their improvements.

Over the last decade, Ontario has been proactive in improving road infrastructure systems as well as public transit. Spending wise, comparing the two land transport expenditure items, historical spending for roads and bridges far exceeds that for transit systems. **Table 1** shows that transit system funding has remarkably declined starting in 1999, the period the provincial government had implemented the devolution of transport services under the LSR. This is, however, not true in the case of roads and bridges where expenditures have even gone beyond pre-devolution years. Provincial expenditures and transfers for roads and bridges have been significant while federal transfers to provinces and local governments have also been evident. In contrast, federal transfer has been nil in the case of transit systems. While provincial support to transit systems has shown some rebound, data showed that it has not gone back to pre-devolution levels. The following analyzes the general state of and investments being made by the province on transit systems in the various localities. The data for our analysis come from the Canadian Urban Transit Association (CUTA), which collected the operating statistics for the MTO in 2005. The completion of the survey by the transit systems has been required from the municipalities as part of the conditions for the 2005 Dedicated Gas Tax Allocation.

Urban Transit System. **Table 2** shows that 53 of the 55 transit systems in Ontario service almost the entire population where these systems are operating with a coverage rate of 94 percent. Service coverage refers to the population living 400 meters from a service route. However, there are variations in service coverage for each system, with only 50 percent having full coverage and even four systems falling below 50 percent.

Accessible vehicles are defined as those "equipped with safe boarding transition by mobility aid devices as well proper designated mobility aid emplacement or securement inside" (CUTA 2005). Of the 6,311 transit vehicles, less than 50 percent are accessible and there are even a number of these systems having zero accessibility. A number of these systems have full accessibility but these are systems having few operational vehicles. Transit systems in big urban areas also showed low scores in accessibility. These include Toronto (39%), Mississauga (45.5%), Ottawa (50.3%), Hamilton (59.7%), York Region (61.3%) and Waterloo Region (69.6%). These figures present the enormous challenge being faced by the provincial government as it commits itself in making Ontario fully accessible by 2025 in support of the AODA. It has identified the strategy to make this possible by purchasing fully accessible replacement and expansion buses funded by MTO.

Specialized Transport Services. There are 80 specialized transit services in Ontario in 2004, which provide transit services for patrons who are unable to use conventional transit systems due to mobility disability. A third (27 services) of these are directly provided by the municipalities while the rest are sub-contracted by the municipality to private not-for profit organizations with the exception of those in Toronto and London, which are within the jurisdiction of the Toronto Transit Commission (TTC) and the London Transit Commission, respectively. As can be observed from **Table 3,** less than 2 percent of the service population are registered users of the service. While the number of users correlates well with the respective market sizes of these services, patronage rates (i.e. percent of registered users to total population) varies from place to place. Usage may reflect the varying demand of specialized services which may be related to the

population structure or the number of elderly in the community where these services are made available. Judging from the number of vehicles available to service the number of registered users, it seems that the range of variability of the registrants-vehicle ratio (from a low of 19 to a high of 813) indicate that some services are adequate enough to accommodate more trips while others are more prone to turn down requests for service due to insufficient capacity.

Provincial Transit Allocation. As mentioned earlier, provincial assistance to municipalities for public transit wavered starting in 1992 and was completely cut off in 1999, making transit a municipal responsibility. Starting in 2002, there has been resurgence in the effort to provide an operating subsidy for public transit infrastructure and systems as well as expansion (MTO 2006c). **Table 4** shows the allocation given to public transit for the first two periods of provincial funding resumption for public transit. The province invested $150.2M in 44 transit systems in 2002. Allocation increased to $211.5M the next year but was limited to 37 systems. A large portion (75-80%), though, of those funds went to the improvement of the GO Transit and the Toronto Transit Commission (TTC) subway-bus system. The provincial government is trying to catch up with the decade-long subsidy cuts and is concerned about the enormous challenge the TTC is experiencing in maintaining and expanding metropolitan transit. The TTC is the only major transit system in North America that receives no secure and stable annual funding arrangements from a state or provincial government and has to rely on the city subsidy, increased ridership or through pricing mechanisms. There were and still are debates on where to put provincial subsidies in the future whether on subway expansion or surface transport (i.e. bus and light rail transit).

There has been very limited funding given to specialized transport services. **Table 5** showed that the province invested only about $432,000 in 2003 more than double the amount of about $206,000 the year before. This represents only 0.2 percent of the total public transit investment assisting only 8-12 specialized transit services in small local areas outside the GTA.

Indeed there are concerns about the adequacy of funds the provincial government is earmarking to consider the growing requirements of public transit. In the meantime, the Ontario government has committed gas tax allocation to municipalities and will allow flexibility in the use of the funds beyond capital transit expansion purposes. Some have expressed the need for the provincial government to show more political will in their recognition of public transit as a pressing priority through guaranteed annual funding. Others, which are more pragmatic, think that the challenges lie with the local mayors to propose bold measures to raise local funds for public transit investments in light of inadequate provincial support. Benchmark studies on innovations in the provision and funding of alternative transportation can assist the province in addressing these serious challenges of meeting varying mobility demands. At the same time, evaluative research on public transit efficiency and promotion must be carried out in a more detailed fashion.

3.4 Research and Technology Applications that Improve Travel Mode and Transport Environment

The fourth policy area relates to the research and technology endeavours that improve the transport system and especially embrace the needs of elderly commuters or passengers. Charness and Czaja (2005) suggested two dimensions with regards to technology adaptation: “modifying

people to enable them to cope with changes in their environments (e.g through training) and modifying features of the environment to suit the capabilities of people (redesign)". The extent of research and technology undertakings in the transport sector would be largely reflective of the government's modal preference. They could focus on modernizing buses and railways or technological solutions to vehicles prompted by a desire to improve efficiency and safety, as well as to achieve environmental outcomes. On the other hand, technological solutions could also be directed towards better vehicle design that answers safety and comfort needs, improvements in fuel and vehicle technology, and developments in information technology. Research and development can also gear towards traffic engineering and road infrastructure and design that promote safer driving performance are with the end in view of amending standards for traffic signs and devices.

Canada has posed itself to develop a strong research and development in the transport sector (Transport Canada 2003). Thus, provincial funding for this policy area is considerable. The province of Ontario currently supports municipality-initiated research and technology applications to improve its infrastructure systems. For instance in 2004, the province earmarked an additional $143M to subsidize the total costs of these endeavours (MTO 2006a). Most of the research efforts are largely multi-modal/public transit centred being the transport mode priority. The following provides a flavour of these study undertakings based on provincial funding allocation for 2004 (MTO 2006a):

Province-Wide. A transit protection/integration study is being undertaken to integrate multi-modal corridors through the incorporation of transit facilities on major highways in Central Ontario. Potential applications of this strategy include lanes designed for buses, fully separated right-of-way for bus ways using a guidance system, rail-based system including streetcar and advanced rail technologies, GO rail system and high-occupancy vehicles.

Greater Toronto Area. In Toronto, an evaluative study is being carried out to study roadway improvements and service for Bus Rapid Transit (BRT) from the Spadina subway to York University/Steeles Avenue as well as on Yonge Street from Finch Avenue to Steeles Avenue. In Hamilton, the province is supporting the Regional Transit Hub Study, as part of the development of the city's transportation master plan. The idea of the study is to evaluate the feasibility of establishing a VIA-Rail station in Hamilton to serve as an inter-regional hub to connect Hamilton and Niagara Region to Toronto and the rest of the GTA. In the case of specialized/paratransit services, the province is also supporting the city in its development of a better customer service/paratransit reservation/ dispatching computer system. In York Region, support systems for transit are being studied to upgrade conventional and specialized scheduling software. In Mississauga, a study is being done on automated vehicle location systems and related transit technology.

Outside the GTA. In Ottawa, as a technology application, the vehicle tracking system is being implemented which is hoped to improve transit performance. Rapid-transit expansion is also being studied. In Waterloo, efforts are being directed towards the development of advanced transit technologies. In Cornwall, the province is assisting the city in implementing an electronic fare collection system. In Guelph, the municipality is carrying out a feasibility study for its inter-regional/intermodal transit terminal. In Peterborough, assistance is being given by the province in the installation of transit priority technology at signalized intersections

Most recently, the federal government and the Ontario government agreed to jointly fund a $930,000 research and development projects on intelligent transportation system (ITS) (MTO 2006d). The ITS essentially combines the information processing, communication and sensing systems, which makes transportation services more effective and efficient. Two big projects are devoted to public transit improvement while another is related to trucking and future highway improvements. This research is targeted to be completed in September 2008. As to how these and other innovative technology improvements will cater to older people's needs and adaptation should be an area for research and policy evaluation.

3.5 Transportation, Housing and Land Use Planning Linkages

Healthy aging requires that an individual entering older adulthood must be able to maintain "everyday competence" or the ability to solve problems associated with daily life (Schaie et al 2005). Everyday competence of an older person is usually assessed in terms of carrying out Instrumental Activities of Daily Living (IADLs; Lawton and Brody 1969) which include the ability to manage finances, prepare meals, manage medications, shop, use the telephone, clean the home and use transportation. The ability to carry out these activities should match the person's physical and mental ability and the demands and resources of the immediate environment (Schaie et al 2005).

Land-use planning, as it relates to transport and housing dynamics, plays an important role in ensuring the living environment of older people facilitates their everyday competence. Land use planning is important in so far as it affects housing arrangements and the range of transportation choices of people. In this regard, governments have an important role to play in influencing the direction of urban growth and the design of neighborhoods that will bring about healthy communities. There are merits in designing housing development to allow residents in the area to use other modes than car-driving such as walking and public transit to undertake daily life's activities. On the other hand, there are also enormous challenges in putting up transport infrastructure and systems in view of the phenomenon of aging-in-place (i.e. living in the communities and homes they located when they were younger and having no plans of moving). Burkhardt and Eberhard (2003) argue that there is an urgent need for governments to take a new look at land-use planning if aging in place continues and promoted by the government by developing local transport services that improve the environmental sustainability of communities to enable older people to maintain independent mobility. At the same time, Guller (2005) argues on car pricing and fiscal measures that will bring car driving as a mode of travel back to a level at which all other traffic management and spatial policy measures become more effective. Indeed, since people live and age in different residential locations (i.e. downtown, suburban, rural) there is and would be a wide-ranging demand for mobility options to accommodate the elderly people's varying forms of travel and lifestyle needs. While meeting the present and future needs, land use planning becomes important in managing current land uses and new housing developments to address these varying lifestyles including innovative ways of providing alternative transport choices especially in suburban and rural areas.

The province of Ontario passed the Places to Grow Act, 2005 (MPIRO 2006) that provides municipalities with a guidepost for urban growth. This law enables the municipalities to develop their respective growth plans that will curb urban sprawl, strengthen communities and protect the natural environment. In June 2006 the government released the Growth Plan for the

Greater Golden Horseshoe (Southern Ontario), where most of the expected growth over the next 25 years will occur. Called the "Places to Grow" Plan, this document based itself on the Greenbelt Plan that was released in February 2005, which identifies areas around the Greater Golden Horseshoe where urbanization should not occur. The Plan, now the reference document for municipal master planning, also sets the population, household and employment forecasts that will be used for managing and planning growth in the area.

For example, in the city of Hamilton, growth planning under the GRIDS (Growth Related Integrated Development Strategy 2006) is being guided by the provincial plan to achieve its overall goals envisioned under the city's long-term vision for development (Vision2020). A master plan for transportation is being developed which will serve as an input to the GRIDS and which will then define the transportation policy of the city. This master plan, guided also by the provincial Plan's objectives and framework, has one of its major goals to encourage modal shift to more sustainable forms of transportation including walking, cycling and transit. Land use is considered a key determinant of these transportation choices. Land use strategies that will promote such shifts include: 1) increasing development densities especially in primary transit corridors to improve efficiency of transit; 2) providing a mix of land uses to encourage walking or cycling since distances to daily life activities and work are reduced; and 3) improving neighbourhood design (e.g. connectivity of streets, attractive pedestrian spaces, variety of buildings, etc.). The implementation of the various facets of these strategies as they contribute to older people's undertaking of IADLs particularly transport use, provides a challenge for transport policy research and assessment.

3.6 Institutional and Legal Reforms

Lastly, institutional reforms and policy management are critical in seeing through the effective implementation of adopted policies and programs. Meanwhile, legal reforms provide an assurance of a strong and sustained policy performance. The reforms would vary in different study areas depending on the level and degree of coordination happening at present. Institutional reforms in the transport sector pertain largely to changes in the national-provincial-municipal dynamics in terms of funding and implementation of transport services. Decentralization of responsibilities and fiscal powers of the national government to sub-national entities are intertwined policy concerns that must be evaluated on the basis of an efficient matching of the devolved responsibilities with funding resources. Another set of institutional reforms relate to institutional integration in terms of collaboration of the public sector with industry groups. Model programs and processes for improving institutional coordination in terms of deregulation of the transport industry and enhancing accessibility of the regional transport systems are worth examining to improve efficiency and equity of mobility services that will benefit not only the elderly but the entire population. These also include in-city transport funding and operations and innovations in coordination and collaboration among transport providers servicing suburban and rural areas.

With respect to legal reforms, two major issues that relate to elderly mobility include driver licensing laws and accessibility. Driver licensing is an important policy concern as the car continues to be a primary mode of transport for the elderly in most developed countries especially in North America. At the same time, the elderly are seen as a road safety risk in the light of the illness-related functional impairment affecting elderly driving ability (Hakamies-Blomqvist and

Wahlstrom 1998). Thus, the implementation of a reliable and functional screening has been an important policy issue but not without contentions (Coughlin 2001). Conflicting evidences have been shown on age as a marker for driving performance (Tasca et al 2000; Tasca 2005) and yet there has been a demonstration of the promising safety results by shorter renewal cycle and stringent testing among older adults (Sharp and Johnson 2005). In view of the varying people and road conditions, best practices on driver licensing practices should be reviewed alongside a region-specific study on road safety trends to allow for an evidence-geographic-based driver licensing policy. As to transport accessibility, laws that facilitate the implementation of barrier-free transport facilities and universal design among public and private transport providers must be evaluated in terms of coverage and compliance.

As discussed in the previous section, the devolution of responsibilities from the Government of Ontario to its municipalities is not commensurate with the financial resources and powers to adequately deliver public services. In the meantime, various institutional reforms are being considered to address level of service in the context of serious financial challenges. There are also efforts by the City of Toronto and the Ontario government to convince the federal government to support transit funding in the province but with no success to date. The introduction of the gas tax allocation by the Government of Ontario to its municipalities for public transit improvements is one of the latest policy developments in fiscal provincial-municipal relations. The review underway to comprehensively evaluate this provincial-municipal fiscal and service delivery is an important development but may need to be re-reviewed or expanded as it specifically relates to transport provision. There are also municipality-led efforts to address the fiscal-delivery mismatch. For instance, the proposed creation of the Greater Toronto Transportation Authority (GTTA) which will merge the TTC and the Mississauga Transit System hopes to rationalize investments and subsidies to local transit systems in the GTA and thereby address the ballooning financing shortfall. In the aspect of suburban and rural transportation, there are promising programs that could be benchmarked for applicability in Ontario's context from various experiences in similar geographic context (e.g. SEMCOG 1999).

In Canada, driver licensing and renewal is a provincial responsibility and rooted in road safety goals. Ontario prides itself as having the safest roads in North America based on the number of fatalities per 10,000 licensed drivers (MTO, 2005). However, with population aging, there are already concerns about the rising number of collisions involving elderly drivers. The province reported that the number of drivers aged 65 and over killed and injured has increased between 1990 and 2003 by 20% (MTO 2005). To address this growing problem, the province now requires license renewal every two years for seniors 80 and over as they are considered to be high risk as well as the fastest growing segment of drivers in Ontario Tasca (2005). They are required to take a mandatory vision test, knowledge test, driving record review and driver education program. A road test may be required upon recommendation by the examiner. Courses are also available to assist senior drivers recognize and develop strategies to address age-related driving problems as well as undertaking further improvements in the driver license renewal program. There are a number of issues that evaluative studies can consider that will benefit the province in improving driver licensing policy. For one, there is a need to address the nagging and conflicting questions of whether age should be a marker for road safety among drivers or should efforts gear towards the search for more effective tools to weed out bad drivers that do not discriminate by age. Data on car accidents and deaths involving older drivers should be collected on a more detailed basis (e.g. possibly recording who is at fault and context variables of accidents) in order to make an empirical assessment of driving risks among older adults. The

MTO could partner with medical and insurance providers to extend data base collection and encourage academic researchers to shed light on differing policy claims and support to improve licensing practice in the province that is not solely based on age. Time-series analysis can also be done in the future as more collision data are gathered to establish more conclusive evidence of current program effectiveness.

One of the important milestones that will affect transportation for the elderly and disabled in Ontario is the landmark legislation AODA 2005, which requires the province to develop, implement, and enforce new mandatory accessibility standards that will apply to both the private and public sector across the entire province in order to address and remove barriers for people with disabilities. The proposed standards are being drafted by standards development committees, represented by the disability community as well as by industry representatives and government ministries. Their proposal will eventually be submitted to the MTO Minister for consideration and approval. The first two committees established have been working on drafting proposed accessibility standards in the areas of customer service and transportation. The scope of the proposal includes the existing and new public passenger transportation systems under the provincial and municipal jurisdiction, facilities, premises and infrastructure specific to transportation (i.e. subway platforms, bus stops and shelters) and customer service specific to transportation. It is hoped that the implementation of the approved accessibility standards will make Ontario fully accessible by 2025. While this target seems to be quite distant, evaluation studies must be undertaken to monitor and perhaps speed up the implementation process.

4. Concluding Remarks

It has been well-argued that the role of government in transport policy has become increasingly crucial in view of proven risks and failures of market-oriented, deregulated or privatised transport infrastructure and services provision and the widening range of immediate and long-term public policy objectives that it has to address particularly environmental and social concerns (Docherty et al, 2004). The aging of the population represents one of these concerns. Demographic shifts will inevitably create new demands on the transport system and may potentially contribute to environmental and social problems if its impacts are not addressed or anticipated. Rosenbloom (2005) has flagged that in the US (and as in most developed world), most policies on elderly mobility have been focused simply on an equity or social issue by looking at the unmet transport needs of older people without a car or driver license, a portion of the elderly that is now declining in proportion. Given the growing number and proportion of the elderly who have driven most of their lives, it has been argued that the objectives of elderly mobility provision, while keeping the equity goal in mind, should be refocused to meet the varying needs of the elderly in the face of declining driving skills (Rosenbloom 2006) and in consideration of their varying residential context and lifestyles (Giuliano et al 2004). Indeed, there is a need to rethink the broader transportation implications of an aging society and to place this concern as a major feature in both national and regional transport policy framework formulation. The paper proposed and explained the examination of six interrelated policy areas that effectively mainstreams elderly mobility concerns in the major transport policy agenda. These include the examination of how population aging is recognized and articulated in the overall transport policy framework message as this will have far-reaching consequences on

transport planning and investment decisions. This paper also hopes to contribute to ensuring that the transport system is ready to confront elderly mobility challenges by advancing research and policy evaluative studies to be undertaken in various regional level governments. This policy direction has gained interest in some states and regions in the US including California, Michigan, Arizona and San Francisco Bay Area (as compared in Burkhardt and Eberhard 2005) but this has not been done in other countries including Canada. The illustration provided in the case of the province of Ontario not only provided the fuller explanation of the six policy themes but also revealed some key information for more benchmarking and evaluation studies in the province.

The aging of Ontario's population should heighten the need for the province's transport policy to lay emphasis on road safety, accessibility and the provision of greater mobility choices for the elderly to achieve a healthy and inclusive society. Currently, the concerns for an aging population are not articulated directly in the current transport policy of the province. This lack of explicit recognition in its transport planning framework may hinder support for plans and programs that are supportive of providing mobility solutions to its growing older population as well as impact on the sustainability of current efforts. For instance, while there has been a renewed support for public transit by the federal and provincial governments in most recent years in view of environmental concerns, such support could be further strengthened when framed within the context of the long-term concern for population aging. This will not only bring sustained support to conventional transit but to other alternative transportation beneficial to the growing number of seniors in urban and suburban areas and also rethink how it could address the special transport needs of elderly in rural areas.

Ontario's basic motivation for improving public transit is to lessen congestion, achieve a cleaner environment and promote greater efficiency in the economy. The provincial government also hopes that a better transit system will encourage commuters to drive less, and thus contribute to lessening emissions while helping reduce congestion and thus increase economic productivity. Investing in an improved public transit also makes sense in an aging society. Most of the elderly (65% in Ontario in 2001) are car drivers (MTO 2005), and it is expected that there would be more elderly drivers on the road as the baby boomers join this group. An improved transit system now will allow the next waves of elderly population to make an easy transition from car driving and perhaps encourage them to cease driving earlier than they do at present. Moreover, more and better mobility options will reduce the risk of car accidents not only for elderly at risk but also to others they would involve. This paper has highlighted the return of provincial funding support for municipal public transit after a decade long subsidy cut. With the long years of underinvestment, a great deal of catching up is needed. The allocation of a portion of the gas tax for public transit provides a more secure funding for municipal transit systems but with the ever changing political environment, the level of funding and priorities could be curtailed. Provincial funding support for public transit is currently towards big projects in Toronto and has yet to expand to smaller municipalities and rural areas. An assurance is that the Places to Grow Act (MPIRO 2006) would propel efforts for a more sustained transit investment including the federal support for public transit infrastructure as expressed in the Throne speech (State of the Nation) in January 2007 (Cura 2007). Stronger partnerships between the various levels of government and the private sector would also be expected in view of this renewed interest in public transit improvement and development.

While the issues currently focus more on conventional transit systems, given the increasing number of elderly persons, the demand for specialized transport services could potentially become a major concern. There is a need to revisit the demand, adequacy and quality of infrastructure and level of these services that would be required by the various municipalities so that this will also be a major consideration in the provincial priorities for investment along with conventional transit modernization. Perhaps another dedicated funding (like the gas tax) for specialized transit service might be needed in the future to address this growing service demand. There is also a growing need for more studies on Canadian boomers and elderly in the smaller municipalities, suburbs and rural areas and their travel behaviour and mobility needs especially with respect to alternative transportation.

Provinces in Canada, especially in Ontario, are finding ways to deal with aging drivers in view of road safety. However, equal consideration of keeping elderly mobile to maintain their quality of life and productivity should also be a policy goal when choosing better and effective ways of improving licensing laws. The question is whether retesting should be based entirely on age or on other conditions such as past driving records regardless of age. More empirical studies in the future on road collisions and deaths among drivers in Canada should help inform policy for more effective and responsible driving licensing policies and procedures. Technology research to improve the car and the driving environment must also be further pursued to the extent that it can help drivers of all ages and ensure road safety for all.

The aging of the population also provides a strong basis for intensifying initiatives to make infrastructures and vehicles accessible. The AODA 2005 provides the legal framework for achieving more results than previous legislations. Mandating not only the public sector to prepare accessibility plans but also the private sector will go a long way in improving services. The participation of the disabled community in setting up the standards for accessibility would also ensure a more responsive design for accessibility of infrastructure and systems that will be established in the future. Again, the cost of accessibility initiatives would be significant and thus, pose a challenge for greater resources to be poured in to meet the standards set. From the human rights perspective, this is a legal obligation that must be met whether or not these are shared by a majority of the population (OHRC 2001). But for many transit providers, this is a funding dilemma. Municipal and provincial governments should be a strong supporter for accessibility initiatives through advocacy and provision of financial incentives for providers of these special mobility services as well as in promoting more accessible urban form.

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Figure 1
Map of Ontario Province, Canada

** Numbers indicated major interregional road transportation links*

Source: http://www.2ontario.com/software/maps.asp

Table 1
Provincial and Local Land Transport Expenditures in Ontario, By Spending Item and Funding Source, 1995-2005
(in million Canadian dollars)

Expenditure Item / Calendar Year	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05
Roads and Bridges	4,014	3,722	3,849	3,664	3,791	4,185	3,975	4,243	4,711	5,055
of which:										
Federal Transfers to Provinces	17	18	33	25	4	6	3	66	9	13
Federal Transfers to Local Gover	96	76	46	41	25	12	12	74	24	5
Provincial Expenditures	1,593	1,597	1,510	1,407	1,331	1,466	1,339	1,262	1,503	1,632
Provincial Transfers to Local Go	647	303	395	180	45	24	26	28	82	162
Local Expenditures	1,661	1,728	1,865	2,011	2,386	2,677	2,595	2,813	3,093	3,243
Transit Systems	1,402	1,421	1,522	1,855	1,416	939	905	971	1,126	1,221
of which:										
Federal Transfers to Provinces	-	-	-	-	-	-	-	-	-	-
Federal Transfer to Local Goverr	-	-	-	-	-	-	-	-	-	-
Provincial Expenditures	2	1	1	1	1	-	-	-	-	-
Provincial Transfer to Local Gov	658	729	736	1,079	84	40	89	270	503	381
Local Expenditures	742	691	786	776	1,331	899	816	701	623	840
TOTAL	5,416	5,143	5,371	5,519	5,207	5,124	4,880	5,214	5,837	6,276
of which										
Roads and Bridges (%)	74.1	72.4	71.7	66.4	72.8	81.7	81.5	81.4	80.7	80.5
Transit Systems (%)	25.9	27.6	28.3	33.6	27.2	18.3	18.5	18.6	19.3	19.5

Source: Authors' computation based on Tables A3-5 and A3-6 of Transport Canada's Transportation in Canada 2005 Report. Transport Canada's information sources come from the Provincial/Territorial Departments of Transport and Statistics Canada, Public Institutions Division.

Table 2
Ontario Urban Transit Systems , 2004

Transit System	Ref. No.	Municipal Population	Service Area Population	*Number of Transit Vehicles* Accessible	Total	Coverage	Accessibility
	(1)	(2)	(3)	(4)	(5)	(3) / (2)	(4) / (5)
Ontario		**9,721,724**	**9,140,219**	**2846**	**6311**	**94.0**	**45.1**
GO Transit *	1	5,000,000	5,000,000	217	288	100.0	75.3
Toronto (TTC)	2	2,481,494	2,481,494	958	2434	100.0	39.4
York Region (YRT)	3	889,591	889,591	147	240	100.0	61.3
Ottawa	4	854,300	751,000	454	903	87.9	50.3
Mississauga	5	695,000	695,000	157	345	100.0	45.5
Hamilton	6	513,330	436,000	114	191	84.9	59.7
Waterloo Region (GRT)	7	434,000	405,623	126	181	93.5	69.6
Brampton	8	400,965	380,917	65	150	95.0	43.3
London	9	348,200	338,200	110	183	97.1	60.1
Windsor	10	207,959	207,959	37	96	100.0	38.5
Ajax-Pickering	11	182,398	176,398	17	51	96.7	33.3
Burlington	12	159,400	153,980	16	48	96.6	33.3
Sudbury	13	157,456	127,193	30	51	80.8	58.8
Oakville	14	152,400	152,400	38	70	100.0	54.3
Oshawa	15	150,000	150,000	17	52	100.0	32.7
St. Catherines	16	148,000	148,000	18	57	100.0	31.6
Barrie	17	125,000	112,500	29	35	90.0	82.9
Kingston	18	117,144	107,528	15	36	91.8	41.7
Guelph	19	115,106	115,106	23	50	100.0	46.0
Thunder bay	20	113,000	112,000	41	49	99.1	83.7
Chatham	21	110,000	44,000	6	6	40.0	100.0
Whitby	22	110,000	100,000	13	29	90.9	44.8
Brantford	23	86,417	86,417	4	25	100.0	16.0
Niagara Falls	24	80,000	80,000	4	23	100.0	17.4
Peterborough	25	76,100	76,100	22	37	100.0	59.5
Sarnia	26	75,300	75,300	16	23	100.0	69.6
Clarington	27	75,000	30,000	0	3	40.0	0.0
Sault Ste Marie	28	74,000	69,900	13	26	94.5	50.0
Kawartha Lakes	29	72,000	18,000	5	5	25.0	100.0
North Bay	30	56,000	49,000	2	28	87.5	7.1
Milton	31	53,000	30,000	0	3	56.6	0.0
Cornwall	32	48,500	48,500	10	32	100.0	31.3
Welland	33	47,161	46,000	8	16	97.5	50.0
Belleville	34	46,000	37,000	5	13	80.4	38.5
Timmins	35	41,000	38,000	11	21	92.7	52.4
Woodstock	36	34,000	34,000	0	11	100.0	0.0
St. Thomas	37	33,200	33,200	7	9	100.0	77.8
Orillia	38	30,000	30,000	6	6	100.0	100.0
Stratford	39	30,000	30,000	5	15	100.0	33.3
Fort Erie	40	28,000	20,000	1	2	71.4	50.0
Leamington	41	27,100	17,000	1	2	62.7	50.0
Orangeville	42	26,886	26,886	4	4	100.0	100.0
Owen Sound	43	21,000	21,000	0	5	100.0	0.0
Clarence-Rockland	44	20,000	14,000	0	6	70.0	0.0
Brockville	45	19,970	19,970	0	3	100.0	0.0
Cobourg	46	18,000	18,000	3	3	100.0	100.0
Huntsville	47	18,000	10,000	2	2	55.6	100.0
Port Colborne	48	18,000	18,000	0	1	100.0	0.0
Midland	49	16,700	13,500	1	2	80.8	50.0
Collingwood	50	15,993	14,600	0	2	91.3	0.0
Kenora	51	14,846	6,739	2	2	45.4	100.0
Elliot Lake	52	12,000	12,000	2	2	100.0	100.0
Temiskaming Shore	53	11,718	11,718	0	3	100.0	0.0
Mean		277,182	266,410	52.5	110.9	88.6	47.9
Standard Deviation		761,619	761,356	147.2	354.0	18.6	32.1
Minimum		11,718	6,739	0	1.00	25	0.00
Maximum		5,000,000	5,000,000	958	2434.00	100	100.00

Source of Basic Data: Canadian Urban Transit Association/Ontario MOT (2005)

* GO Transit is Ontario's only interregional public transit system linking Toronto with surrounding region in the GTA

Table 3
Ontario Specialized Transport Services, 2004

	Service Area Population	Registrants	Vehicles	Patronage (%)	Reg-Vehicle Ratio
Total	9,861,515	124,091	909	1.26	136.51
Average	98,074	1,213	9	2.13	188.08
Minimum	3,650	56	1	0.16	18.67
Maximum	1,054,000	11,025	128	21.43	813.00

Source of Basic Data: Canada Urban Transport Association / Ontario MOT (2005)

Table 4
Ontario Transit Renewal Allocations, Provincial Funding Allocation

Transit System	Ref. No	**2003-2004**	**2002-2003**	**% Share** 2003-2004	**% Share** 2002-2003
GO Transit	1	108,000,000	50,500,000	51.07	33.62
Toronto (TTC)	2	62,300,000	62,267,244	29.46	41.46
York Region (YRT)	3	616,333	2,235,762	0.29	1.49
Ottawa	4	12,900,000	12,869,717	6.10	8.57
Mississauga	5	5,061,000	3,611,501	2.39	2.40
Hamilton	6	3,448,899	3,167,513	1.63	2.11
Waterloo Region (GRT)	7	1,500,000	1,518,296	0.71	1.01
Brampton	8	1,976,442	1,099,433	0.93	0.73
London	9	2,219,000	2,324,621	1.05	1.55
Windsor	10	1,488,667	859,154	0.70	0.57
Ajax-Pickering	11	650,000	873,126	0.31	0.58
Burlington	12	938,667	596,137	0.44	0.40
Sudbury	13	166,667	728,604	0.08	0.49
Oakville	14	760,000	529,470	0.36	0.35
Oshawa	15	1,016,033	539,127	0.48	0.36
St. Catherines	16	896,817	478,548	0.42	0.32
Barrie	17	493,267	498,168	0.23	0.33
Kingston	18	437,158	369,793	0.21	0.25
Guelph	19	1,200,449	650,385	0.57	0.43
Thunder bay	20	771,667	583,749	0.36	0.39
Chatham	21			0.00	0.00
Whitby	22		194,472	0.00	0.13
Brantford	23	469,133	122,877	0.22	0.08
Niagara Falls	24	374,427	426,086	0.18	0.28
Peterborough	25	749,267	417,249	0.35	0.28
Sarnia	26	573,218	328,966	0.27	0.22
Clarington	27	20,512	5,128	0.01	0.00
Sault Ste Marie	28	173,333	279,720	0.08	0.19
Kawartha Lakes	29	136,667	7,992	0.06	0.01
North Bay	30	443,333	345,724	0.21	0.23
Milton	31			0.00	0.00
Cornwall	32	375,000	175,896	0.18	0.12
Welland	33	128,667	99,367	0.06	0.07
Belleville	34		192,474	0.00	0.13
Timmins	35	343,333	342,657	0.16	0.23
Woodstock	36	29,000	86,580	0.01	0.06
St. Thomas	37	73,333	119,880	0.03	0.08
Orillia	38	331,433	295,704	0.16	0.20
Stratford	39	325,000	255,744	0.15	0.17
Fort Erie	40			0.00	0.00
Leamington	41			0.00	0.00
Orangeville	42	45,716	9,990	0.02	0.01
Owen Sound	43			0.00	0.00
Clarence-Rockland	44			0.00	0.00
Brockville	45		32,022	0.00	0.02
Cobourg	46		23,976	0.00	0.02
Huntsville	47			0.00	0.00
Port Colborne	48			0.00	0.00
Midland	49		15,318	0.00	0.01
Collingwood	50		13,320	0.00	0.01
Kenora	51	43,365	39,960	0.02	0.03
Elliot Lake	52		69,930	0.00	0.05
Temiskaming Shore	53			0.00	0.00
				0.00	0.00
Total Transit Systems Funded		37	44		
TOTAL		211,475,803	150,201,380	100.00	100.00

Source of Basic Data: MTO 2006

Table 5
Specialized Transport Services with Provincial Funding Allocation, 2002-2004

Specialized Service	Ref. No.	**2003-2004**	**2002-2003**
Peel	2	233,233	120,812
Quinte West *	30	26,667	5,328
Scucog-Uxbridge *	37	18,648	4,662
West Elgin	47	25,000	6,660
Kenora	54	43,365	
Port Hope *	57	33,333	26,640
Trent Hills *	58	26,667	5,204
West Perth	64	24,982	5,994
Kapuskasing	65		6,660
Dryden *	66		4,995
Dysart *	68		6,660
Espanola	70		5,661
Blind River	73		6,660
* Contracted out to Private/Non_profit Organization			
Total Specialized Services		8	12
TOTAL		431,895	205,936
Percent of Total Transit Investment		0.20	0.14

Source of Basic Data: MTO 2006

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