



Transportation Background and Challenges

January, 2008

Executive Summary

The Region of Peel is in the process of reviewing and updating its Regional Official Plan (ROP). The Region is required to review its ROP every five years to reflect changing needs and priorities as well as to conform to Provincial plans, policies and legislation (including the *Provincial Policy Statement*, the *Places to Grow Act* and the *Growth Plan for the Greater Golden Horseshoe*).

Transportation is one of fifteen focus areas that will be incorporated into the ROP review. The objective of this Transportation Background and Challenges Paper is to raise awareness, and begin a discussion of, the transportation challenges facing Peel Region. This paper raises a number of “questions to consider” for each of these themes (see Appendix A for a compilation of these questions). Comments received from the public and other stakeholders on these questions, or on other transportation challenges facing the Region, will help guide the Region's Transportation Planning staff as they consider updates to transportation planning focus area of the ROP.

Peel Region is a dynamic, growing municipality which has been well served by a multi-modal transportation system. This transportation system, however, is coming under increasing pressure as population and employment grow. The sections of this paper, as summarized below, look at some of the transportation challenges facing the transportation system in Peel.

Access, Congestion and Sustainability

Providing access – the ability to reach desired destinations, activities, goods or services – is the ultimate goal of transportation. This accessibility impacts the quality of life of Peel's residents and workers and the economic competitiveness of the Region. Increasing traffic congestion (forecast to triple by 2031 unless concerted action is taken) impacts access by making it more difficult to reach desired destinations.

The increasing congestion points out how our current reliance on personal automobiles and roads is not sustainable. For transportation to be sustainable it must meet the access needs of the present without compromising the ability of future generations to meet their needs, promote a balance between transportation's economic and social benefits and help protect the environment. Steps toward achieving a more sustainable transportation system (and challenges for all providers and users of transportation) include: reducing travel demand, shifting passenger travel away from automobiles, improving the efficiency of goods movement, and optimizing and making the most of the existing transportation infrastructure.

Transportation and Community

Transportation planning and community planning are closely connected – transportation shapes development and development shapes transportation. Transportation and community planning should be considered at the same time (with each keeping the other in mind).

Much of the development in Peel is low-density and has been designed around the use of a private automobile. This, and the spatial separation of residential neighbourhoods and shopping and work locations, makes alternatives to the automobile less attractive. The

Growth Plan for the Greater Golden Horseshoe introduced a policy requiring municipalities in the Greater Golden Horseshoe to commit to a land use intensification target (whereby, by the year 2015, and for each year thereafter, a minimum of 40% of new residential development in each municipality must be built within their already built-up area). The increased population density that this will result in is seen as a step toward encouraging the use of public transit and diverting people from single-occupant vehicle use. If Peel is to grow as forecast, meet the intensification target and encourage the use of alternate modes of travel, communities in the region will need to change.

Two global issues that may have an impact on local and regional transportation planning and community planning are the supply of oil and climate change. While measures being undertaken today will help lessen the impact of future fuel shortages and the impact of transportation on climate change, new approaches for how we plan our urban areas and transportation systems will also be needed.

Transportation Demand Management

Transportation Demand Management (TDM) is actions or programs designed to improve the efficiency of the transportation system or to reduce or modify the demand for travel to make optimum use of existing and future transportation facilities and services. Core TDM strategies include carpooling, vanpooling, transit, bicycling, walking and the promotion of telecommuting.

TDM offers a number of potential benefits, including: decreased traffic congestion, improved air quality, increased travel options and quality of life and health improvements for commuters. The implementation of TDM strategies, however, faces a number of challenges, including: both the reality and perception of the inconvenience of using non-single-occupant vehicle modes of travel, not knowing how to use (or best use) transit, a lack of TDM programs (and a lack of public awareness of those that have been implemented), and, as noted above, development patterns that favour the use of automobiles.

Transportation for Persons with Disabilities

A number of transportation services are available for persons with disabilities in Peel (offered by community agencies, volunteer groups, Peel Region and local transit agencies). The existing services offering transportation for disabled persons present a number of challenges for users, however, including: conventional transit services that are not sufficiently accessible for some disabled persons, eligibility restrictions for some services, cost, and a lack of awareness of travel options. These challenges will be compounded as Peel's population both increases and ages (as the incidence of disability increases significantly with age).

To address these challenges and to create a broader range of transportation options for all people living with disabilities in Peel, the Region created an Accessible Transportation Coordination Office. The functions of this Office include: screening applicants and directing them to appropriate services, providing support to providers of specialized transit services and providing transportation for health and social purposes that cannot be provided by local transit or TransHelp.

Education

People are often not aware of alternatives to how they currently travel. Awareness and education are important parts of any possible solutions to the problems of traffic congestion and single-occupant vehicle use. Promotion of the benefits of alternative modes of travel may help convince some people to change how they travel.

Convincing people to change how they travel will not be easy. Alternatives to the single-occupant vehicle must be seen as equally convenient, or at least not a lot less convenient. Alternatives will need to offer travel times that are comparable to driving and frequent service. The infrastructure supporting alternative modes of travel will need to be improved if they are to become more competitive.

Goods Movement

The movement of goods is fundamental to the economy of the Region. Peel plays a key role in the distribution of goods in the Greater Toronto and Hamilton Area. The region is home to a major air cargo facility and industrial area (at Lester B. Pearson International Airport), an intermodal rail/truck facility, and numerous industrial facilities. As well, Peel's central geographic location leads to a large number of goods movement trips passing through the region. Much of the movement of goods in the region is done by trucks. The increasing traffic congestion seen throughout the region is leading to inefficiencies in goods movement and to increased pollutant emissions from trucks.

Planning for goods movement must take place at many levels, from individual companies to municipalities to the provincial and federal governments. Possible roles for the Region of Peel to play in planning for effective and efficient goods movement systems include: facilitating collaboration and coordination amongst various stakeholders to plan and implement goods movement systems, working to improve goods movement data collection, taking action on specific goods movement "hot spot" projects and making goods movement coordination an integral part of Regional transportation planning.

Air Quality

Poor air quality has significant health, social, economic and environmental impacts. Transportation is one of the many factors that contribute to air pollution in Peel Region. Emissions from the transportation sector have been rising steadily and are expected to increase considerably in the future.

Technological advancements have reduced the emissions intensity of passenger and freight vehicles but the impact of these advancements has been offset to a large degree by large increases in the number of vehicle kilometres travelled. If the transportation sector is to contribute to a reduction in air pollution, measures to address both vehicle technologies (such as new vehicle propulsion systems and fuels) and transportation activity and behaviour (such as strategies to reduce the number and length of trips) must be considered.

Transportation Financing

The construction, maintenance and operation of transportation infrastructure and services are very expensive. Past underfunding of transportation infrastructure has led to large infrastructure deficits – billions of dollars that will be needed to maintain and upgrade existing infrastructure. Billions more will be needed for investment in new transportation infrastructure and services.

Many past funding sources and mechanisms for transportation infrastructure and operations have not been conducive to supporting long-term planning and strategic investment. To support these, funding should be long-term, predictable and stable. To address the widening gap between transportation funding needs and available funding, new ways of financing, constructing and operating transportation facilities will be required. Possible new ways of financing include partnerships with the private sector and “user pay” systems (with charges based on consumption of a transportation service).

Purpose

In order to conform to the Province of Ontario's *Planning Act* and to reflect the *Provincial Policy Statement*, the *Places to Grow Act* and the *Growth Plan for the Greater Golden Horseshoe*, the Region of Peel is currently reviewing and updating its Regional Official Plan (ROP). The ROP provides Regional Council with a long-term regional strategic policy framework for guiding growth and development in Peel through the year 2031 while having regard for protecting the environment, managing its renewable and non-renewable resources and outlining a regional structure that manages this growth in the most effective and efficient manner. The Region is required to review its Official Plan every five years to reflect changing needs and priorities as well as to conform to provincial plans, policies and legislation.

Transportation is one of fifteen focus areas that will be incorporated into the ROP review. The Region of Peel's Transportation Planning Division (as part of the Environment, Transportation and Planning Services Department) works with stakeholders to develop a long range plan for an integrated, safe and efficient transportation system to move people and goods in the Region.

The objective of this paper is to raise awareness about some of the transportation challenges facing Peel Region and to "kick start" a discussion on:

- How the Region should deal with the challenges mentioned,
- What other transportation challenges the Region might face,
- What the Region's transportation priorities should be, and
- What the Region's transportation system will look like in the future.

As part of the discussion on transportation challenges, a stakeholder workshop will be held on January 28, 2008. Comments received from the public and from other stakeholders on the transportation challenges facing the Region are welcomed – these will help guide the Transportation Planning Division as they review, and consider updates to, the transportation focus area of the Regional Official Plan. Comments should be addressed to:

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The remainder of this paper will provide some background information on the Region of Peel and the existing transportation system, followed by information on some of the transportation challenges that the Region currently faces or will face in the future. Each "challenge" section concludes with some "questions to consider". These questions are, in many instances, based on transportation-related policies put forth in the *Provincial Policy Statement* and *Growth Plan for the Greater Golden Horseshoe*. Comments received based on these questions will help ensure that the transportation planning focus area of the ROP addresses the policies laid out in the provincial legislation. Appendix A contains a compilation of all of the "questions to consider".

Background

Peel Region is situated in the west-central portion of the Greater Toronto and Hamilton Area (GTHA), the largest urban agglomeration in Canada. Three municipalities make up the Region: the City of Brampton, the City of Mississauga and the Town of Caledon. Covering 1,225 square kilometres, Peel includes a diverse mixture of urban, suburban, rural, agricultural and nature landscapes.



Peel is a dynamic, growing region. Between 1971 and 2006 Peel's population grew by over 340% (from 260,000 to 1,154,000). This is forecast to grow by a further 42% by the year 2031 (to 1,640,000). Employment has grown right along with population. Between 2001 and 2031 employment in Peel is forecast to grow by 64% (from 530,000 to 870,000).

Peel Region has been well served by a multi-modal transportation system. Peel is home to the densest network of freeways of any region in the GTHA (the 400-series freeways and the QEW). The region also has a dense network of arterial roads and local streets. Peel is served by three GO Rail corridors and ten GO Bus lines. Local transit service is provided by Brampton Transit and Mississauga Transit. TransHelp, operated by the Region, provides transit services for persons with disabilities. The region has a network of bicycle routes. The Lester B. Pearson International Airport, Canada's largest and busiest passenger and cargo airport is located in Peel. Also located in Peel is a Canadian National Railway intermodal freight terminal (where goods are transferred from rail cars to trucks). The rapid growth in population and employment in the region, however, has placed considerable strains on the transportation system.

The Region of Peel is involved with Metrolinx (the Greater Toronto Transportation Authority), with a representative sitting on the board of directors and staff participating in technical advisory groups. Metrolinx's primary responsibility is to provide leadership in the coordination, planning, financing and development of an integrated, multi-modal transportation network in the GTHA. Metrolinx is currently developing a Regional Transportation Plan, a strategic, long-term vision for a coordinated transportation system across the GTHA.

The Region of Peel's Cordon Count Program¹ provides information on travel trends in the region. Highlights from the 2006 program help illustrate the current state of the region's transportation network:

- Daily travel continues to increase. Inter-regional trips (trips to and from Peel and other regions) are increasing rapidly. Trips to and from the east (Toronto/York Region) grew by 35% between 1995 and 2006. Trips to and from the west (Halton Region/ Wellington County) also grew by 35% in that time period. Trips to and from the north (Dufferin/Simcoe County) grew by 23 %.
- Inter-municipal trips (trips between municipalities in Peel) are increasing steadily. Trips across the Mississauga/Brampton boundary grew by 48% between 1995 and 2006. Trips across the Brampton/Caledon boundary grew by 38% over the same time period.
- Automobile occupancy is declining. 87% of vehicles crossing Peel Region boundaries were single-occupant vehicles, compared to 82% in 1995. Average automobile occupancy has declined from 1.22 in 1995 to 1.15 in 2006 (for all trips over the course of a day).
- Truck trips are increasing rapidly. The total number of trucks crossing Peel Region boundaries increased by 33% from 1995 to 2006 (from 93,000 to 123,600).
- Highways in Peel are carrying very heavy traffic. Between 1995 and 2006 the largest growth on a freeway was seen on Highway 401 at Etobicoke Creek. The largest growth on arterial roads was seen on Bovaird Drive west of Highway 410, Erin Mills Parkway north of Highway 403, and Mavis Road north and south of Highway 403.
- GO Rail trips are increasing. GO Rail trips on the Lakeshore, Milton and Georgetown lines, as counted at the Peel/Toronto boundary during the morning peak, increased by 58% from 1995 to 2006.

Data collected for the Transportation Tomorrow Survey indicates that median trip length and the number of trips per household per day for residents of Peel Region have remained roughly steady since 1996. The total number of households in the region, however, grew by nearly 35% between 1996 and 2006. The increase in the number of households, each continuing to make similar numbers of trips of similar length, has resulted in a large increase in the number of vehicle kilometres travelled by Peel residents.

¹ The Cordon Count Program tallies the number of vehicles and people that cross selected strategic points in the region (such as major roads or rail lines).

Transportation Challenges

The *Growth Plan for the Greater Golden Horseshoe* lays out a vision for how Peel Region and the remainder of the Greater Golden Horseshoe will look in 2031. The transportation component of the vision states that

“Getting around will be easy. An integrated transportation network will allow people choices for easy travel both within and between urban centres throughout the region. Public transit will be fast, convenient and affordable. Automobiles, while still a significant means of transport, will be only one of a variety of effective and well-used choices for transportation. Walking and cycling will be practical elements of our urban transportation systems.”

Achieving this vision will be a challenge for everyone involved in providing and making use of our transportation system – governments, the private sector and the public. The following sections will look at some of the challenges facing the transportation system, and achieving the *Growth Plan's* vision, in Peel. As in the real world, none of these transportation challenges can be considered in isolation, so there is some overlap between the sections.

Access, Congestion and Sustainability

Providing access – the ability to reach desired destinations, activities, goods or services – is the ultimate goal of transportation. For most people this accessibility is evaluated based on travel time, cost, comfort, risk and perceived convenience required to reach desired destinations. Accessibility impacts the quality of life of Peel Region's residents and workers and the economic competitiveness of the region. Transportation planning seeks to expand the range of potential solutions to improve accessibility.

Population and employment growth are putting strains on the region's road network. Traffic congestion is increasing, which impacts access by making it more difficult to reach desired destinations. A 2002 Transport Canada study put the cost of recurrent congestion in Canada's urban areas at between \$2.3 and \$3.7 billion per year (costs associated with time lost in traffic for drivers and passengers, fuel consumption and increased greenhouse gas emissions).

Estimates of future traffic congestion can be derived from the Region of Peel's travel demand forecasting model. The model estimates travel demand out to the year 2031. The model forecasts that the total number of trips during the morning peak hour (7:30-8:30 a.m.) will increase by 43% (from 286,000 to 438,000) between 2001 and 2031. The total number of vehicle-kilometres travelled during the morning peak hour will increase by 55% (from 620,000 to 960,000). The model estimates that, unless concerted action is taken, road congestion in Peel will triple by 2031. It is not possible for the Region to build its way out of this congestion – there simply is not enough space to build all of the roads that would be needed, nor would such an approach be seen by many people as environmentally sound. The increasing congestion, and its impact on access, is a strong indicator of how our current reliance on personal automobiles and roads is not sustainable.

Sustainable transportation is about meeting the access needs of the present without compromising the ability of future generations to meet their needs, promoting a balance between transportation's economic and social benefits, and protecting the environment. Past planning policies and practices, and personal choice, have favoured automobile travel over

other modes. The availability and favouring of automobiles resulted in a lifestyle, forms of low-density development and the spatial separation of residential neighbourhoods from work, shopping and recreation destinations that further increased reliance on the automobile. The health, social and environmental problems associated with this dependency (such as higher obesity rates, decreased social cohesion and more smog days) are becoming more and more apparent.

Sustainable transportation is an element of, and in turn has an influence on, the development of complete communities. The *Growth Plan for the Greater Golden Horseshoe* (Ontario Ministry of Public Infrastructure Renewal) defines complete communities as those that

“meet people’s needs for daily living throughout an entire lifetime by providing convenient access to an appropriate mix of jobs, local services, a full range of housing, and community infrastructure including affordable housing, schools, recreation and open space for their residents. Convenient access to public transportation and options for safe, non-motorized travel is also provided.”

Complete streets are a compliment to complete communities. Complete streets are those designed, built, maintained and operated taking pedestrians, cyclists, transit and automobiles into account. The forecast population and employment increases in Peel will require higher-density development in some areas. This will present opportunities for incorporating the concepts of sustainable transportation, complete communities and complete streets.

Steps toward achieving a more sustainable transportation system include:

- Reducing travel demand,
- Shifting passenger travel away from automobiles
- Improving the efficiency of goods movement, and
- Optimizing and making the most of the existing transportation infrastructure

These topics will be looked at throughout the rest of this paper.

Questions to consider:

- The *Growth Plan for the Greater Golden Horseshoe* states that the transportation system will be planned and managed to be sustainable, by encouraging the most financially and environmentally appropriate mode for trip-making. How can the Region encourage this and how should the policies in the Region’s Official Plan address this?
- Community patterns are the result of many years of development and will not change overnight. How can communities designed around the automobile be adapted to become more sustainable and support non-automobile trips while continuing to provide people with acceptable levels of accessibility and how should the policies in the Region’s Official Plan address this?

Transportation and Community

A recent report prepared for the Ontario Professional Planners Institute notes that where we work, live and play is vitally important to the quality of our lives. Transportation provides the means to meet the travel demands resulting from where we work, live and play, and can have a large impact on our quality of life. The report also notes that community planning and transportation planning decisions shape us in ways that we are only just beginning to fully appreciate (impacting, for example, obesity levels, heart disease, mental health, social isolation, nutrition and air quality).

Transportation planning and community planning are closely connected. Where people choose to live, for example, is influenced by the transportation options they have access to. Similarly, the transportation options available to people depend on where they live (transit service, for example, is often limited in low-density residential areas). Transportation shapes development and development shapes transportation. (The connection between transportation planning and community planning is something of a “chicken and egg” problem – which should come first? To be effective, both should be considered at the same time, with each keeping the other in mind and being aware of potential impacts on the other).

Much of the development in Peel Region has been designed around the use of a private automobile. In many areas, low-density residential neighbourhoods are separated from commercial and business or industrial areas. Commerce and services are concentrated in a limited number of areas, allowing them to serve a number of neighbourhoods but being within walking or bicycling distance of few of the neighbourhoods. Employment centres are often developed away from traditional town or city centres. These land use patterns almost always require the use of an automobile – the options for walking, bicycling or taking transit are few and are often not very convenient. Higher-density residential neighbourhoods and mixed land uses can encourage walking and cycling to work, commerce and social activities.

The Province of Ontario, through its *Places to Grow Act* and *Growth Plan for the Greater Golden Horseshoe*, has introduced a policy requiring municipalities in Peel Region and throughout the Greater Golden Horseshoe to commit to a land use intensification target. Under the *Plan* by the year 2015, and for each year thereafter, a minimum of 40% of new residential development in each municipality must be built within their already built-up area. The increased population density that this will result in is seen as a step toward encouraging the use of public transit and diverting people from single-occupant vehicle use.

If Peel Region is to grow as forecast, meet the Province’s land use intensification target and encourage the use of alternate (i.e. non-single-occupant vehicle) modes of travel, communities in the region will need to change. Intensification is only one land use alternative that encourages the use of alternate modes of travel. Additional initiatives include:

- Transit-Supportive Community Planning - Communities and developments can be more supportive of transit if they ensure that the maximum number of potential transit riders is located within close walking distance of transit stops. This can be encouraged through, for example, the creation of “complete communities”, concentrating density and mixing land uses along defined transit corridors and around transit stops, and requiring new developments to have transit-supportive densities.

- Pedestrian-Friendly Design - Communities can be designed to be supportive of, and encourage, pedestrian activity. Pedestrian movement is essential for active communities, has a positive impact on street-level retail activity and helps promote neighbourhood safety. Incentives for encouraging people to walk include traffic calming measures, promoting street-side retail development, improving pedestrian circulation opportunities (such as separate, direct pedestrian pathways) and providing easy access to transit.

Two global issues that may have an impact on local and regional transportation planning and community planning are the supply of oil and climate change. The world's supply of oil is finite and demand may soon exceed production capacities. This will lead to a significant jump in the cost of fuel. This in turn will impact how and where we travel and how goods are delivered. Measures being undertaken today, such as transit improvements, land use intensification and transportation demand management will help lessen the impact of future fuel shortages, but new approaches for how we plan our urban areas and transportation systems will also be needed.

The burning of fossil fuels for transportation purposes is contributing to climate change. Left unchecked, climate change may result in wide range of impacts (such as an increase in extreme weather events, worsened smog, freshwater shortages and imperilled ecosystems). As is the case for the supply of oil, measures being undertaken today will lessen the impact of transportation on climate change, but new planning approaches will be needed in order to significantly limit transportation's impact.

Questions to consider:

- The *Growth Plan* states that population and employment growth will be accommodated by directing a significant portion of new growth to the built-up areas of the community through intensification. How will the transportation system need to change to facilitate this intensification and how should the policies in the Region's Official Plan address this?
- A policy in the *Provincial Policy Statement* states that healthy, active communities should be promoted by planning public streets to be safe, meet the needs of pedestrians and facilitate pedestrian and non-motorized movement. How can roads in Peel, including the regional roads for which the Region has jurisdiction, be designed (or redesigned) and used to promote this and how should the policies in the Region's Official Plan address this?

Transportation Demand Management

Transportation Demand Management (TDM) is actions or programs designed to improve the efficiency of the transportation system or to reduce or modify the demand for travel to make optimum use of existing and future transportation facilities and services. TDM seeks to:

- Increase the number of people per vehicle (through increased use of transit, carpools and vanpools),
- Maximize the use of underutilized travel times (having a greater share of trips take place outside the peak hours) and travel routes (having more trips use transit routes or

- pedestrian/cycling paths),
- Reduce how often trips are made, shorten trip distances, and eliminate some trips altogether, and
- Make transportation more sustainable and reduce the need for new lane-kilometres of road.

Core TDM strategies include carpooling, vanpooling, transit, bicycling, walking and the promotion of telecommuting. TDM support strategies, which support and extend the effectiveness of core strategies, include parking management, high-occupancy vehicle lanes, rideshare matching, marketing and promotion, and incentives and subsidies. Together these strategies offer a number of potential benefits, including:

- Decreased traffic congestion,
- Improved air quality through reduced automobile-related emissions,
- Increased travel options,
- Reduced personal transportation costs,
- Quality of life and health improvements for commuters,
- Reduced energy consumption and greenhouse gas emissions, and
- Reduced, or at least delayed, need for road infrastructure expansion.

The promotion of walking and bicycling are core TDM strategies. These modes of transportation are forms of Active Transportation (any form of self-propelled transportation that uses human energy). Increased reliance on active transportation would help reduce the strain on the transportation system, reduce transportation-related pollutant emissions, provide health benefits, and increase peoples' connection to their community. Increasing the amount of travel done using active transportation, however, faces numerous challenges. These include the often large distances separating where people live from where they work (and shop, go to school, etc.), unfriendly environments for pedestrians and cyclists (fast moving traffic, large mall parking lots, etc.) and a lack of infrastructure (sidewalks, trails, etc.).

The Region of Peel is a partner in the GTHA Smart Commute Initiative. The Initiative aims to reduce traffic congestion and take action on climate change through transportation efficiency. Smart Commute helps local employers and commuters explore commuter choices such as carpooling, transit, walking, cycling, telecommuting and flexible work hours in order to make commuting easier, healthier and more enjoyable.

Apart from the Smart Commute Initiative, the Region is also working on a Safe and Active Routes to School program. This program encourages children to walk or bicycle to school.

The broader implementation of TDM strategies faces a number of challenges. These include:

- Being confused about how to use transit (not knowing what to do) is the second-most common reason people don't use public transit (behind convenience). Many people find it difficult to understand transit schedules, especially when they must make interregional trips,
- The lack of trails and bicycle lanes in Peel Region, and the preponderance of trucks on major roads, makes cycling to work less attractive,
- While many people know about carpooling and vanpooling, more needs to be done to further develop and implement these programs and encourage people to give them a

try,

- Development patterns in the Region do not favour TDM measures (low-densities that are not conducive to transit service and the large distances between homes and work locations, for example, make automobile trips the most convenient option for travel),
- Parking is still free in many locations, leading people to omit the true cost of providing the parking spaces from their consideration of the costs of driving, and
- Some measures may not be, initially at least, acceptable to the general public or to area governments. Examples of this include congestion pricing (road tolls) and arterial high-occupancy vehicle lanes. While these could offer equitable ways to use scarce road capacity and discourage single-occupant vehicle use, it might take a lot of work to convince people of the benefits of implementing them.

Questions to consider:

- The *Growth Plan for the Greater Golden Horseshoe* states that municipalities will develop and implement transportation demand management policies to reduce trip distance and time and increase the modal share of alternatives to the automobile. The Region is already active in this area through its role in the GTHA Smart Commute Initiative. What else should the Region do to promote transportation demand management and a balance of transportation choices and how should the policies in the Region's Official Plan address this?
- Automobile trips peak during the morning and afternoon rush "hours". What can be done to spread out trips so that a lower percentage takes place during the peaks (thereby helping reduce congestion) and how should the policies in the Region's Official Plan address this?

Transportation for Persons with Disabilities

Like the general population, persons with disabilities travel by a variety of modes, though their travel options are often more limited. The most common means of travel is with family and friends. Some people with disabilities are able to drive themselves and, in Peel Region, a significant amount of travel is provided by community-based agencies such as the Canadian Red Cross, Alzheimer's Society and Canadian Cancer Society. Peel Region's TransHelp Service offers a parallel public transit service for persons with disabilities and the Mississauga Transit and Brampton Transit fleets include a growing number of accessible low floor buses.

At present, Peel Region's population is relatively young, with only about 8% of the population aged 65 or older (compared with about 12% for Canada as a whole). By 2021, however, forecasts indicate that about 15% of the Region's population will be 65 or older. As noted earlier, Peel's total population is forecast to grow steadily until 2021 and beyond. Since the incidence of disability increases significantly with age, the number of persons with disabilities and the related need for specialized transportation can be expected to increase at a high rate. A study done for the Region of Peel in 2004 estimated the demand for specialized transit trips in 2001 was in the range of 500,000 to 550,000 trips. This is forecast to increase to approximately 1,020,000 trips by 2021.

The Ontarians with Disabilities Act and the Ontario Human Rights Code place a significant responsibility on municipalities to identify, remove and prevent barriers for persons with

disabilities (including planning and implementing improvements to transportation services). Improvements in specialized transportation services will require additional funding and strategies for funding these services will need to be developed.

The existing services offering transportation for disabled persons present a number of challenges. These challenges, which will increase as the number of potential users grows, include:

- Conventional transit services are not sufficiently accessible to accommodate many of the travel needs of persons with disabilities due to difficulty reaching transit services, weather conditions, not enough low floor buses and difficulties faced by cognitively disabled persons,
- The need for attendant support services (someone to travel with them) to enable persons with disabilities to travel on TransHelp, Mississauga Transit and Brampton Transit, [Note: personal care assistants travelling with a person with disabilities can travel free of charge on these services.]
- Eligibility restrictions may disqualify some persons with disabilities from using some specialized transit services,
- Agencies that depend on volunteer help to provide transportation are experiencing difficulty finding volunteer drivers,
- The cost of public transit is a concern for many persons with disabilities who have limited means of financial support,
- Accessible taxis are expensive to run and, for the many persons with disabilities with modest incomes, may be prohibitively expensive, and
- Persons with disabilities may be unaware of the travel options available to them or may require training before being able to use these services.

To address these challenges and to create a broader range of transportation options for all people living with disabilities in Peel, the Region created an Accessible Transportation Coordination Office in 2006. The functions of this Office include:

- Acting as a gateway to screen applicants and direct them to appropriate services,
- Providing support to transit providers, including TransHelp, to optimize access to and use of their services,
- Serving as a broker to administer additional travel supports for people with disabilities,
- Providing transportation for health and social purposes that cannot be provided by local transit or TransHelp.

One of the first new programs to come out of the Accessible Transportation Coordination Office will be a Passenger Assistant Program. This pilot project will develop a pool of attendants to accompany passengers in need of supervision as they use transit (initially focusing on some dedicated bus runs). The program will provide training for agencies so that they can develop their own pools of attendants to serve their specific client groups.

A number of other projects are under consideration. Two specific projects being considered for development are a Community Bus program and a Taxi Scrip program. The Community Bus program would use small low-floor buses to go to shopping, recreational and health care destinations on semi-fixed routes. The buses would make scheduled stops at multi-unit buildings with high concentrations of seniors and persons with disabilities but could deviate

from the route to pick up higher-need individuals in single family homes. Anyone can use the service but it would be marketed to persons with disabilities.

The Taxi Scrip program would provide a subsidy for qualified applicants to cover part of the cost of a taxi fare. Qualified users would be able to buy scrip at less than face value and use this to pay taxi fares. The aim of this program is to enable affordable, spontaneous travel for people with disabilities.

Questions to consider:

- The Region is currently providing (or will soon provide) a number of accessible transportation programs and specialized transit services. Are there other programs or services that the Region should consider providing and, if so, how should the policies in the Region's Official Plan address this?
- The demand for specialized transportation services is expected to grow rapidly. Accommodating this demand will require a considerable amount of new funding. How should the services be funded and how should the policies in the Region's Official Plan address this?

Education

Workers in Peel Region and the Greater Toronto Area face some of the longest commutes in Canada. A recent study by the IBI Group ranked traffic congestion in the GTA as fourth worst in North America, behind only Los Angeles, San Francisco and Chicago. Traffic congestion also has negative impacts on freight trucking operations, the environment and the road infrastructure.

Many highways and arterial roads in Peel are heavily congested during the morning and afternoon peak periods. As the population in the region increases, this congestion will worsen unless changes are made. In most cases there is no more room to expand existing highways and arterial roads. How we use the roads will need to change.

Our relationship with our automobiles and roads is complicated. The automobile has been a symbol of freedom in North America for decades. The automobile is perceived as (and often is) the most convenient mode of transportation. As the sheer number of automobiles increases, and as the percentage of trips made in single-occupant vehicles continues to stay very high, traffic congestion is eating into this convenience. Reducing the number of single-occupant vehicle trips could free up space on the existing road network. The question is: how can people be convinced to use modes of transportation other than the single-occupant vehicle?

Awareness and education are important parts of any possible solution. People are often not aware of alternatives to the single-occupant vehicle. An important challenge, therefore, is to educate people about the options they have (and how these options may have changed since they last, if ever, considered them). Promotion of the benefits of alternative modes of transportation may help convince some people to make the switch. The alternatives must also be convenient, easy to use (people are often resistant to change and difficulties, perceived or real, will influence decisions to change to an alternative mode) and financially attractive.

Even if people are aware of the alternative modes and of the environmental problems raised by traffic congestion, most will not change their behaviour just because it is the “right” thing to do. People will continue to travel in the way they have grown accustomed to (and changing this will not be easy). Convenience is key to this. Alternatives to the single-occupant vehicle must be seen as equally convenient, or at least not a lot less convenient, if people are to be convinced to make the switch. Convincing people to switch to a transit service will require travel times that are comparable to driving and frequent service. The infrastructure supporting alternative modes will need to be improved if they are to become more competitive. Given viable options, people are more likely to entertain the idea of not driving (or at least not driving alone).

Questions to consider:

- A policy in the *Growth Plan for the Greater Golden Horseshoe* states that the transportation system will be planned and managed to offer a balance of choices that reduces reliance upon any single mode and promotes transit, cycling and walking. People may not be aware, however, of possible alternatives to how they currently travel. How can people be made more aware of the alternatives and provided with information on which to base travel decisions and how should the policies in the Region’s Official Plan address this?
- A policy in the *Provincial Policy Statement* states that a land use pattern, density and mix of uses should be promoted that minimizes the length and number of vehicle trips and supports the development of viable choices and plans for public transit and other alternative transportation modes. People may not be aware, however, of the extent that where they live and work (or where they go for recreation or shopping) impacts how far and by which mode they travel. How can people be made more aware of this and provided with information that may influence future decisions and how should the policies in the Region’s Official Plan address this?

Goods Movement

The movement of goods is fundamental to the economy of the Region of Peel, the Greater Toronto Area and Hamilton (GTHA), the Province of Ontario, Canada and the world. Goods movement can be seen as a process beginning with the delivery of raw materials and ending with the shipment of waste for disposal. The transportation of goods requires the use of various combinations of modes, including truck, rail, air, marine and pipeline.

The movement of goods is a mainstay of our standard of living. Everything that we buy at local stores, from food to furnishings to fuel, had to be transported there first. The continued availability of the products we buy, and of the quality of life of Peel residents, depends on the maintenance of an effective and efficient goods movement system.

Peel Region plays a key role in the distribution of goods in the GTHA. The region houses Lester B. Pearson International Airport (a major air cargo facility and industrial area), an intermodal rail/truck facility (with others to the east and west of the region), and numerous industrial facilities. Peel's central geographic location also leads to a large number of goods movement trips through the region (trips to and from, for example, the eastern parts of the

province and Quebec to the United States).

As noted above, goods movement is key to Peel's economy. Peel is home to numerous industrial and manufacturing facilities (Peel's ratio of industrial floor space per capita is the highest in the GTHA). Of all of the goods produced in Peel, approximately 75% (by dollar value) move by truck. A continuing shift to replenishment-based logistics (just-in-time delivery) is leading to an increased reliance on trucks to move goods.

The 2006 Cordon Count Program shows that the number of truck trips crossing Peel's municipal boundaries is growing at a rate of 2.9% per year, roughly in line with the growth in the number of automobile trips (3.3%), population (3.1%) and employment (3.6%). The growth in the number of truck trips grew strongly from 1995 to 2001 (by 33%) but decreased by 2% between 2001 and 2006. The growth in both automobile and truck trips has led, and will continue to result in, conflicts between trucks and cars on some roads in the region. Increasing traffic congestion, seen throughout the region, leads to inefficiencies in goods movement systems – if shipments need to arrive just-in-time then they must depart earlier in order to leave time for potential congestion delays. The time trucks spend stuck in traffic also leads to increased pollutant emissions.

Planning for goods movement must take place on many levels, from individual companies to municipalities to the provincial and federal governments. The Region of Peel has a role to play in planning for effective and efficient good movement systems. Possible roles for the Region include:

- Facilitating collaboration and coordination amongst various stakeholders (such as various levels of government and private sector groups) to plan and implement goods movement systems to address current and future concerns,
- Working with private sector groups to, for example, advise Regional Council on goods management issues,
- Working to improve goods movement data collection,
- Taking near-term focused action on specific goods movement “hot spots” (relatively low-cost/high-impact improvement projects), and
- Working with other public agencies and private sector stakeholders to preserve and enhance key strategic goods movement corridors.

Questions to consider:

- The *Growth Plan for the Greater Golden Horseshoe* states that the first priority of highway investment is to facilitate efficient goods movement by linking inter-modal facilities, international gateways and communities within the Greater Golden Horseshoe. How should the policies in the Region's Official Plan address this?
- The *Growth Plan for the Greater Golden Horseshoe* states that municipalities will provide for the establishment of priority routes for goods movement, where feasible, to facilitate the movement of goods into and out of areas of significant employment, industrial and commercial activity. The designation of roads with truck restrictions is handled by both the Region (for regional roads) and area municipalities (for roads under their jurisdiction). How should the policies in the Region's Official Plan address this?
- Trucks, automobiles and buses all need to use the Region's roads. How can the

conflicts that arise between these transportation uses be minimized or mitigated and how should the policies in the Region's Official Plan address this?

Air Quality

Air quality is a major urban issue. Poor air quality has significant health, social, economic and environmental impacts. Transportation and the burning of fossil fuels in motor vehicles is one of the many factors that contribute to air pollution in urban areas such as Peel Region (other factors include electricity generation, industrial activity, and building heating and cooling systems).

Urban air quality is a measure of the presence of pollutants such as greenhouse gases, nitrogen oxides (NO_x), volatile organic compounds (VOCs) and particulate matter (PM). Greenhouse gases, such as carbon monoxide (CO), contribute to global warming. NO_x and VOCs react with sunlight to form ground-level ozone (the main component of smog). Particulate matter is a cause of respiratory problems and a component of smog.

According to Environment Canada, the transportation sector accounts for about 25% of Canada's total greenhouse gas emissions. The total transport-related greenhouse gas emissions increased 27% between 1990 and 2004. The transportation sector accounts for 59% of Canada's total CO emissions and 53% of Canada's total NO_x emissions. Within the transportation sector, automobiles and light trucks account for about 50% of the greenhouse gas emissions, with truck-freight transport accounting for about 25% and 25% coming from other sources (aviation, railways, and off-road vehicles). As the number of truck trips increase, this sector's share of transportation emissions is increasing. Emissions from the transportation sector have been steadily rising and are expected to increase considerably in the future.

The Province of Ontario's Ministry of the Environment has established standards and objectives for the discharge of contaminants into the natural environment (the Ambient Air Quality Criteria). Two air quality index stations in the region (in Brampton and Mississauga) measure the levels of common air pollutants as part of the National Air Pollution Surveillance Program. These results are compared with National Air Quality Objectives prescribed under the Canadian Environmental Policy Act and are published in annual data reports.

The number of trips made on roads and highways in Peel is increasing rapidly. The increased number of vehicle trips and slower average speeds are significant sources of air pollution in Peel. Traffic congestion, with its associated stops, starts and lower speeds contributes greatly to increased emission levels. A report prepared for the Region notes that the highest polluting road link in Peel is on Highway 401 just south of the airport in both directions. Congestion is also seen on other segments of Highway 401, on Highways 403 and 410 and on the QEW. The arterial roads with the highest non-freeway emission levels include Derry Road, Erin Mills Parkway, Dundas Street and Lakeshore Road.

Technological advancements, such as the use of catalytic converters and the elimination of lead from gasoline, have reduced the emissions intensity of both passenger and freight vehicles. The impact of these changes on overall emissions has, however, been offset to a large degree by the large increases in travel.

If the transportation sector is to contribute to a reduction in air pollution, measures to address both vehicle technologies and transportation activity and behaviour must be considered. Potential technological improvements will revolve around the increased use of new vehicle-propulsion systems and fuels that reduce pollutant emissions (such as electric vehicles, fuel-cell vehicles and vehicles running on alternative fuels including ethanol, natural gas, biodiesel and hydrogen). There are a number of strategies for modifying personal transportation activity and behaviour. The broad goal of these strategies is to reduce the number and length of trips made by automobile (especially single-occupant vehicle trips) and increase the percentage of trips being made by other modes. These strategies include:

- Transportation demand management (TDM) programs including high-occupancy vehicle lanes and rideshare initiatives (such as the Smart Commute Initiative),
- Economic incentives and disincentives such as lower parking costs for carpool vehicles and road pricing (tolls),
- Improvements to, and incentives to use, public transit,
- Making it easier to use walking and cycling as non-recreational modes of travel (such as through the construction of dedicated pathways),
- Trip-avoidance solutions such as teleconferencing and telecommuting,
- Education and awareness programs,
- Changes in land use, urban structure and urban design that make walking, cycling and transit more feasible, and
- Incentives or disincentives to promote more efficient goods movement

Question to consider:

- Transportation-related strategies and policies introduced in this and other sections of this paper (such as complete communities and transportation demand management) would have a positive impact on air quality in the region. Are there strategies other than those already presented that the Region should be looking at and, if so, how should the policies in the Region's Official Plan address this?

Air quality is another focus area of the ROP review and will be examined in greater detail in another background/discussion paper being prepared for the review.

Transportation Financing

The construction, maintenance and operation of transportation infrastructure and services are very expensive. Past spending has, in many cases, not kept pace with needs. A recent study undertaken for the Federation of Canadian Municipalities indicates that municipalities in Canada need an additional \$21.7 billion to maintain and upgrade existing transportation infrastructure assets, \$28.5 billion for investment in new transportation infrastructure, \$22.8 billion to maintain and upgrade existing transit infrastructure and \$7.7 billion for new transit infrastructure (note: these estimates do not include infrastructure owned by other levels of government). Some of this money will come from current and planned expenditures, but at the present time the need exceeds the available funds. (The Government of Ontario's *ReNew Ontario* program will provide over \$11.4 billion between 2005 and 2010 to help address the province's transportation infrastructure deficit. In addition, the Government of Ontario's

MoveOntario 2020 program will provide \$17.5 billion – with \$6 billion to come from the Federal government – for improved rapid transit infrastructure and service in the GTHA by the year 2020.)

Not investing in transportation infrastructure and service comes with a cost. Deferred maintenance and repair may reduce the lifespan of infrastructure assets (such as roads). Reversing the impacts of deferred maintenance and repair of infrastructure is much more expensive than regular maintenance. Not investing in transit service, as an example, reinforces existing mode of travel choices.

Many funding sources for transportation infrastructure and operations have been, and continue to be, oriented to specific projects, limited to specific time frames, and tied to matching fund conditions. These conditions make it difficult to think long-term and to think beyond individual projects. To support long-term planning and strategic investment, funding should be long-term, predictable and stable.

To address the widening gap between transportation funding needs and available funding, new ways of financing, constructing and operating transportation facilities will be required. Public Private Partnerships have emerged as one way of obtaining funding for projects that otherwise may not get built (through the sharing of costs, risks and benefits between the public and private sectors). The Government of Ontario's *ReNew Ontario* program, for example, notes that they will broaden their infrastructure strategy to include partnerships with the broader public sector (such as public pension funds) and the private sector when and where it makes sense. A recent Metrolinx discussion paper notes that, due to a shortage of public funds for major public transit expansion, many publicly operated transportation systems have started to involve some aspect of private sector participation.

How transportation infrastructure and services are funded is undergoing a shift in many parts of the world. Funds are being increasingly derived from users, with charges based on consumption. This has long been the model for transit services, with user fares helping to cover the cost of the services. The funding for road projects has, however, been more indirect. Users pay for these projects through taxes and fees but the connection between the payment and the service is more diffuse (it is easy to think that travelling on roads is essentially free, outside of gas and automobile maintenance costs). The congestion charge used in London, England (a toll to enter the central area) and the Highway 407 tolls are examples of "user pay" funding. The use of "user pay" costs is seen as a more equitable means of funding transportation – users pay for what they use. Revenues derived from user pay methods should be dedicated to transportation system improvements.

Questions to consider:

- One of the Guiding Principles in the *Growth Plan for the Greater Golden Horseshoe* is the promotion of collaboration among all sectors – government, private and non-profit – and residents to achieve the vision laid out in the *Plan*. How can the Region foster collaboration regarding ways to finance transportation improvements with the other players and how should the policies in the Region's Official Plan address this?
- Charges based on consumption of transportation resources (user pay) are becoming more common. Should the Region be looking at these and, if so, how should the policies in the Region's Official Plan address this?

Conclusion

This paper has presented information on some of the transportation challenges that Peel Region either currently faces or might face in the future. These challenges will influence how transportation planning and operations will be carried out in the region. Other transportation challenges, or other facets of the challenges noted in this paper, no doubt exist.

The Region's Transportation Planning division is seeking comments from the community and other stakeholders on the transportation challenges facing the region. Staff will use these comments in their review and update of the transportation planning component of the Regional Official Plan.

The next step is yours. What do you think the transportation challenges facing the region of Peel are? Are there other challenges that have not been mentioned in this paper that should be considered? What can the Region of Peel do in response to these challenges? How would you answer the "questions to consider"? How will the transportation system need to change in order to continue to support the region's vibrant economy and high quality of life?

Please send your comments to:

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Appendix A – Consolidated “Questions to Consider”

Access, Congestion and Sustainability

- The *Growth Plan for the Greater Golden Horseshoe* states that the transportation system will be planned and managed to be sustainable, by encouraging the most financially and environmentally appropriate mode for trip-making. How can the Region encourage this and how should the policies in the Region’s Official Plan address this?
- Community patterns are the result of many years of development and will not change overnight. How can communities designed around the automobile be adapted to become more sustainable and support non-automobile trips while continuing to provide people with acceptable levels of accessibility and how should the policies in the Region’s Official Plan address this?

Transportation and Community

- The *Growth Plan* states that population and employment growth will be accommodated by directing a significant portion of new growth to the built-up areas of the community through intensification. How will the transportation system need to change to facilitate this intensification and how should the policies in the Region’s Official Plan address this?
- A policy in the *Provincial Policy Statement* states that healthy, active communities should be promoted by planning public streets to be safe, meet the needs of pedestrians and facilitate pedestrian and non-motorized movement. How can roads in Peel, including the regional roads for which the Region has jurisdiction, be designed (or redesigned) and used to promote this and how should the policies in the Region’s Official Plan address this?

Transportation Demand Management

- The *Growth Plan for the Greater Golden Horseshoe* states that municipalities will develop and implement transportation demand management policies to reduce trip distance and time and increase the modal share of alternatives to the automobile. The Region is already active in this area through its role in the GTHA Smart Commute Initiative. What else should the Region do to promote transportation demand management and a balance of transportation choices and how should the policies in the Region’s Official Plan address this?
- Automobile trips peak during the morning and afternoon rush “hours”. What can be done to spread out trips so that a lower percentage takes place during the peaks (thereby helping reduce congestion) and how should the policies in the Region’s Official Plan address this?

Transportation for Persons with Disabilities

- The Region is currently providing (or will soon provide) a number of accessible transportation programs and specialized transit services. Are there other programs or services that the Region should consider providing and, if so, how should the policies in the Region’s Official Plan address this?
- The demand for specialized transportation services is expected to grow rapidly. Accommodating this demand will require a considerable amount of new funding. How

should the services be funded and how should the policies in the Region's Official Plan address this?

Education

- A policy in the *Growth Plan for the Greater Golden Horseshoe* states that the transportation system will be planned and managed to offer a balance of choices that reduces reliance upon any single mode and promotes transit, cycling and walking. People may not be aware, however, of possible alternatives to how they currently travel. How can people be made more aware of the alternatives and provided with information on which to base travel decisions and how should the policies in the Region's Official Plan address this?
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