



City of Hamilton

**Development of Policy Papers for Phase Two of the
Transportation Master Plan for the City of Hamilton
TRAVEL DEMAND MANAGEMENT (TDM) POLICY PAPER**

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1. INTRODUCTION

1.1 Study Background and Objectives

The City of Hamilton *City-wide Transportation Master Plan* will provide inputs to the *Growth Related Integrated Development Strategy* (GRIDS) and make recommendations to Council on the adoption of a City-wide Transportation Policy that is cognisant of Vision 2020 and other City of Hamilton long-term planning objectives. The project has been divided into three distinct phases. The first phase consisted of the technical calibration of the existing transportation model to reflect current transportation conditions in Hamilton. The second phase, which is the object of this and other policy papers, will focus on the development of 23 policy papers in the following areas: Travel Demand, Urban Development, System Performance, Infrastructure Planning and Infrastructure Financing. Following the completion of the Policy Papers, the City will proceed to develop transportation scenarios (Phase 3 of the project) based upon the results of the policy work performed in Phase 2 and the land use scenarios developed through the broader GRIDS study and will test the efficiency and viability of these scenarios by integrating them into the calibrated model.

This policy paper addresses the issue of **travel demand management (TDM)**. The remainder of this introduction provides a description of TDM including benefits and examples. Section 2 provides an overview of the existing situation in Hamilton and some supporting information on travel trends while Section 3 highlights experience and practices from other jurisdictions. Section 4 and Section 5 outline the development and refinement of policy options and potential supporting actions.

1.2 Overview of Travel Demand Management

For decades, Canadian cities have responded to growing transportation demands by increasing supply—building new roads and rapid transit systems, or making existing facilities larger. But meeting the transportation needs of an increasing population has become more challenging, and municipalities are recognizing a new reality—they can no longer rely solely on new infrastructure to meet increasing travel demands. They must actively make the best possible use of today's infrastructure.

Travel demand management (TDM) helps us get the most from our transportation systems. It encourages people to:

- Get around by using travel modes (e.g. walking, cycling, public transit or carpooling) that consume fewer resources and create fewer undesirable impacts
- Travel outside peak hours to avoid congestion
- Travel less by choosing closer destinations or combining several trips into one
- Use telework or other substitutes for travel where practical

TDM can help reduce traffic congestion, defer or eliminate the need for new infrastructure, and improve air quality. It is recognized around the world as a solid investment, particularly when the alternatives are expensive new infrastructure or increased congestion and delay. In fact, TDM has emerged as a major theme in virtually all strategic transportation studies conducted by Canada's municipal, provincial and federal governments in the last decade.



1.2.1 HOW TDM WORKS

TDM influences the purpose (*why?*), destination (*where?*), time (*when?*) and mode (*how?*) of personal travel decisions, by:

- Making travel options more attractive
- Building positive public attitudes towards travel options
- Helping people understand how their travel decisions affect the community
- Using incentives and disincentives to influence personal travel decisions

TDM strategies remove social, economic or physical barriers that keep individuals from walking, cycling, taking transit or ridesharing. While these barriers vary from person to person, they might include:

- Poor understanding of transit routes and fares
- Transit costs that exceed parking fees
- Difficulty in finding carpool partners
- Difficulty in getting home from work in a family emergency
- Lack of personal confidence in cycling on busy roads
- Lack of parking, showers and change facilities at workplaces
- Lack of awareness of the health benefits of walking and cycling
- Cultural perceptions of driving as a higher status activity than walking, cycling or riding transit

It is important to note that TDM can only be part of a complete transportation solution. The success of TDM will depend, in part, on having travel options (e.g. walking, cycling, transit, carpooling) that are convenient, safe and affordable. Only frustration will result from programs that encourage transit use where service is poor, or that promote cycling where facilities are unsafe. For this reason, TDM must be accompanied by programs to enhance transit service, road safety, land use planning, and infrastructure design and operation.

1.2.2 BENEFITS OF TDM

By helping individuals travel more efficiently and minimizing the need for infrastructure, TDM can help conserve public and private funds, land and other natural resources while reducing undesirable social and environmental impacts. The benefits that TDM can bring to municipalities, businesses and individuals include the following:

- **Public cost savings.** These include reductions in direct capital costs (e.g. road planning, design, construction, land), operating costs (e.g. street lighting, traffic signals, enforcement) and maintenance costs (e.g. snow removal, road sweeping, patching and sealing). They also include reductions in the indirect social costs of air, water and noise pollution, health care due to collisions and poor fitness levels, and the “barrier effect” of major transportation facilities on communities.

- **Private cost savings.** These include reductions in individual and family spending on automobile acquisition, operation, maintenance, parking, licensing and registration. By encouraging walking, cycling and transit use – all of which are much less expensive than automobile travel – private financial resources can be redirected to housing, food, education, recreation, or other important needs.
- **Congestion and delay reduction.** As roads get more congested, the delay caused by a single additional vehicle rises dramatically. For this reason, the reduction in delay caused by preventing (or diverting) even a small amount of automobile travel can be significant for individuals, and for businesses that value time more highly. In this way, TDM can help those who continue to drive personal or commercial vehicles.
- **Better environmental health.** One trip by car consumes three times more fuel and creates three times more greenhouse gas emissions than the same trip by public transit. By limiting future automobile demands, TDM can minimize air and water pollution from road construction, maintenance and use. Roads and parking also consume an immense amount of greenspace in growing cities.
- **Better public health.** Road safety, air quality and physical fitness are all public health issues linked to car use. Walking, cycling and public transit reduce air pollution that aggravates respiratory illness, and increase physical activity levels that help prevent chronic illness. Public transit is also significantly safer than automobile travel.
- **More liveable communities.** Walking, cycling and transit travel create vibrant and dynamic public spaces, and add “eyes on the street” that enhance personal security and deter crime. They offer important support to commercial activities along our cherished main streets, and in pedestrian-oriented market spaces.
- **Better access to opportunity.** The one-third of Canadians who are non-drivers largely depend on walking, cycling and public transit to reach jobs, education, and vital services like health care. By making those travel options more convenient and rewarding, TDM measures can improve personal access to opportunity. They can also eliminate the need for some families to buy a first or second car, freeing up income better used for food or medicine, shelter, child care or education.

1.2.3 EXAMPLES OF TDM MEASURES

Many TDM measures have been applied by North American municipalities, including:

- Workplace programs that improve commuter options for employees
- School programs that encourage parents and students to walk, bike, take transit or carpool to school
- Discounted transit passes sold at workplaces through payroll deduction or post-secondary student fees
- Ridematching services that help carpoolers find compatible partners
- Guaranteed ride home programs that help commuters get home if they work late, if they are stranded by their carpool, or if their child falls ill at school
- Skills courses that train cyclists to ride with safety and confidence in traffic

- Special events that encourage people to try new travel options
- Campaigns that use positive messages and images to counter negative attitudes about walking, cycling and transit use
- In-house programs to improve commuter options for municipal employees, demonstrating leadership by example
- Economic measures including incentives like preferential tax treatment for employee transit benefits, or disincentives such as bridge tolls, parking levies or congestion pricing

1.3 TDM and the City of Hamilton

Like all major cities in Canada, Hamilton is seeking effective and affordable ways to meet its residents' need for access and mobility. There is little doubt that its transportation strategy will include an expanded transit fleet, new park-and-ride lots, and active transportation facilities like bike lanes, sidewalks and pathways. This infrastructure will be needed to serve growing travel demands and to make non-driving options more attractive. But it will take more than concrete, steel and rubber tires to bring about the future described by the new Vision 2020.

Hamilton's transportation challenges are made more unique by several key circumstances:

- Relatively low levels of both road congestion and transit use (about 50 rides per capita annually, versus 65 in Winnipeg or Edmonton and 75 in Quebec City), for a Canadian city of its size;
- High supply and low cost of long-term parking in the downtown core;
- Relocation of employment from the central area and waterfront area to outlying lower-density business parks;
- Ongoing development in outlying suburban areas, where transit service is minimal and densities are low
- Growing pressure on crossings of the escarpment, due to ongoing development above it and limitations on possible corridors

In the absence of severe road congestion or other system-level transportation problems, recent planning efforts (e.g. the 1996 Region Transportation Review) have noted as a principal challenge the need to deal with future growth in a manner that preserves residents' transportation choices and quality of life. In this respect, Hamilton's stance on TDM may differ from other North American cities that have taken an aggressive approach to demand management. For example, rapidly growing cities such as Markham and the City of Toronto insist on the consideration of TDM in all major development proposals.

TDM offers Hamilton a way not to fix problems, but rather to prevent them. For this reason, the City has the opportunity (and probably the need) to introduce TDM policies and programs that represent "carrots" (incentives) rather than "sticks" (disincentives). Disincentives carry a much greater risk of public backlash, and experience has shown that their sustainability is much greater where their immediate benefits (e.g. mitigating severe problems) are clear.

Some other current conditions that represent opportunities for TDM to succeed in Hamilton include:

- **Municipal amalgamation.** The amalgamation offers a chance to develop and integrate new policy directions and ways of doing business within the structure of local government. Effective TDM programs rely on linkages to a wide range of municipal services, and the early years of amalgamation are an opportunity to proactively develop supportive relationships (see figure below).

Possible linkages between TDM and other municipal responsibilities



- **Urban Transportation Showcase Program funding.** Recent approval by Transport Canada of federal funding for an Urban Transportation Showcase Program project proposed by the City of Hamilton in association with several GTA municipalities. This project would see the establishment of a regional network of transportation management associations (TMAs, including one in Hamilton) to plan and implement commuting-related TDM measures. This development is discussed further in Section 2.1.1.
- **Growing public interest in sustainability.** Through initiatives such as Vision 2020 and GRIDS, Hamilton's public is becoming well versed in issues related to sustainable communities. Land use, air quality and climate change are all growing in stature as major social issues. TDM can take advantage of public interest and support in these areas by virtue of the strong synergies that link them.
- **McMaster University's TDM program.** McMaster University has included supportive TDM policies in its campus planning documents, and followed up by creating the Alternative Commuting and Transportation (ACT) office which is building a TDM program for students, staff and faculty. This local TDM showcase provides an invaluable forum for building public awareness, and for pilot testing specific TDM measures in the Hamilton context.
- **The potential of partnerships.** Partnerships with outside organizations such as employers, schools and community groups can help Hamilton access otherwise hard-to-reach markets. They can also leverage the resources of partners, providing a high level of return on investment.

2. CURRENT SITUATION

2.1 TDM Roles and Responsibilities

2.1.1 SMART COMMUTE ASSOCIATION PROJECT

In terms of TDM activity in Hamilton, the development most pertinent to the creation of new policies is the recent success of a proposal by Hamilton and several GTA municipalities to Transport Canada's Urban Transportation Showcase Program. That project will implement a number of regional and local TDM measures, based on recent experience with a transportation management association¹ (TMA) pilot project in the Black Creek/York University area. It is scheduled to be active from 2004 through at least 2006.

A new GTA-wide Smart Commute Association would oversee regional activities and the development of common programs. A series of TMAs (including one in Hamilton) would customize and deliver those programs, would promote regional branding and customer service strategies. Each TMA would have a board of directors with representatives of area employers, property managers and other stakeholders. TMAs would work with employers to deliver site audits, surveys of employee travel patterns, commuter incentives, special events and parking management assistance.

TDM services offered through the project could include Internet-based ride matching, employer-based transit fare sales, and the promotion of alternative work hours, telecommuting, cycling, parking management, car sharing, shuttles and vanpools. The TMAs and parent Smart Commute Association would encourage employers to offer and promote TDM measures, educate the public about travel options and the environmental impacts of driving alone, provide incentives for behaviour change, and deliver promotion and learning events with partners.

2.1.2 OTHER

At present, the City of Hamilton has little program activity within the TDM umbrella. One notable new development, however, is Hamilton Street Railway's Employer Commuter Pass (EC Pass) which offers a discount to employers who purchase monthly bus passes for their staff. Employers, in turn, offer the passes to their employees at full, partial or no cost. The City has itself implemented the EC Pass program, allowing departments (albeit with a relatively low uptake) to offer each employee a discounted transit pass in exchange for giving up his/her free parking privileges. Council also recently considered a recommendation to limit City-paid parking only to employees who are required to use a personal vehicle three or more times a week, in conjunction with an investigation of ways to encourage the use of other commuter options. Council's decision on the issue was deferred, pending an investigation of potential spill-over parking impacts in downtown neighbourhoods. Elsewhere in the community, McMaster University has an active TDM program, as discussed in Section 2.2.7, below. The Moving on Sustainable Transportation (MOST) program of Transport Canada has also awarded Environment Hamilton and McMaster's Ontario Public Interest Research Group over \$30,000 to investigate the feasibility of community transit passes (bulk discounted transit passes purchased by a block of households in a given neighbourhood), and to form a Transit Users Group (TUG) to represent riders' interests.

¹ Transportation management associations (TMAs) allow cost-effective service delivery by centralizing many functions that each employer might otherwise do independently. These can include program planning, commuter surveys, employee communications and special events. TMAs provide a platform for arranging government partnerships and customized transit services. They can also shoulder many of the operational tasks associated with employer-based TDM programs, something that can outgrow the ability of a municipality to do on its own.

2.2 TDM Policies

This section presents TDM-related information from policy documents, or policy background documents, developed by the new City of Hamilton, its constituent former municipalities, or other key partners.

2.2.1 CITY OF HAMILTON – VISION 2020

The city's new Vision 2020 document provides strong direction for the establishment of TDM policies by the City of Hamilton. Following are key excerpts from the vision statement that either support, or are supported by, the notion of managing transportation demand:

“Healthy lifestyles, improve safety measures and quality healthcare have progressively reduced disease and disability.”

“Citizens pursue sustainable lifestyles.”

“Waste-reduction, energy efficiency and respect for ecological systems characterize all aspects of community life and private decision making.”

“Different kinds of compatible activities and land uses are mixed together, so that we can walk to meet our daily needs for work, recreation and other services.”

“Employment opportunities are distributed among home-based businesses, central urban cores and neighbourhood gathering places, as well as industrial business parks that are accessible by public transit and a city-wide system of trails.”

“We have many transportation choices. We are not dependent on automobiles and trucks.”

“Our transportation system improves community health by reducing the need for automobile use and making it easy and attractive to walk, cycle, skateboard or roller-blade.”

“Public transit provides all citizens with easy access to activity areas.”

“Most people can walk or cycle to work because jobs and housing are near one another.”

“All people can find employment opportunities in the city.”

“Firms find a competitive advantage in being located in an attractive, safe and healthy community and operating at the forefront of energy efficiency, pollution prevention and control and material re-use and recycling.”

2.2.2 FORMER REGION OF HAMILTON-WENTWORTH – OFFICIAL PLAN

The Official Plan of the former Region (which will remain in effect until the City adopts a new one) stresses the importance of a multimodal transportation system and promotes the use of “alternative modes” through better facilities and services for walking, cycling and transit travel. While the plan does not speak to the management of demand (per se) it does reflect a progressive approach to regulatory or infrastructure-oriented measures that can remove barriers to changing demands. Specifically, in Section 4.3, “Integrated Transportation System”, the plan identifies the following policies:

- 4.3.2.5 Cooperate with the Area Municipalities in their development of parking policies and facilities that support the transit system in their Municipal Centres
- 4.3.3.4 Investigate methods for transporting bicycles on public transit vehicles, and secure bicycle parking at appropriate terminal and transfer points
- 4.3.3.5 Provide adequate bicycle parking facilities at its public administrative buildings and transit transfer points
- 4.3.3.6 Require Area Municipalities to make revisions to appropriate zoning by-laws to include a required minimum provision for bicycle parking in high activity areas and at public buildings
- 4.3.3.7 Request the Province of Ontario, and other agencies to assist initiatives to encourage bicycling

2.2.3 FORMER REGION OF HAMILTON-WENTWORTH – REGIONAL TRANSPORTATION REVIEW (1996)

The Regional Transportation Review, completed by the former Region in 1996, explicitly acknowledges that it was underpinned by the Region's 1993 VISION 2020, which:

- Supported sustainable transportation and an approach of managing growth in travel activity, rather than simply accommodating it
- Encouraged, for a variety of reasons, a shift in individual lifestyles and behaviours towards sustainable travel choices
- Encouraged actions to slow the increasing demands for auto travel, to provide incentives for the use of alternative modes, and to educate the public about sustainability issues
- Called for the Region to lead by example in addressing employee commuting habits

The TDM-related recommendations of the Regional Transportation Review included:

- Provision of bicycle racks at major activity areas
- Enhancement of cycling awareness by distributing route maps and safety information, and by making cycling skills courses available
- Creation of parking management programs at suburban workplaces to promote transit, carpooling and other means of reducing single-occupant vehicle use
- Better control of long-term parking supply and pricing
- Provision of bicycle parking at strategic municipal parking lots

A key recommendation highlighted by the Regional Transportation Review Technical in its Executive Summary was "That the Region ensure leadership by example by establishing a Travel Demand Reduction Program for Municipal Employees". It suggested reducing free parking, charging for parking, discounting bus passes, improving bicycle storage, providing bus tickets for business travel. One goal of this recommendation was to demonstrate the Region's commitment to its own vision, and to set an example for area businesses to follow.

2.2.4 CITY OF HAMILTON – OFFICIAL PLAN

The Official Plan of the former City of Hamilton appears not to contain any policies that address the need for, or application of, travel demand management strategies.

2.2.5 CITY OF HAMILTON – DOWNTOWN TRANSPORTATION MASTER PLAN (2001)

The City of Hamilton has undertaken several planning initiatives focused on its goal of a revitalized downtown. In 2001, it completed a Downtown Transportation Master Plan that comprehensively examined surface transportation issues in the downtown core.

Guiding principles of the study included the need for better parking management (specifically, favouring short-term parking at the expense of long-term parking) and a higher priority for non-auto travel modes in the core.

The study report included several observations, conclusions and recommendations relevant to the consideration of TDM policy development:

- Parking costs for most downtown auto commuters (\$43 average monthly parking fee) are lower than for transit commuters (\$58 monthly transit pass).
- Travel times for auto commuters are lower than for transit commuters, due to the relative absence of congestion.
- In the morning peak hour in 1996, 63% of people travelling to the downtown area did so by driving.
- Transit's share of travel to downtown fell by almost half from 1986 to 1996 (when the downtown transit modal share stood at 14%), and compare poorly to cities of a similar size in Canada (e.g. Winnipeg at 36%).
- The combined modal share of walking and cycling to downtown in 1996 was 12%.
- High levels of downtown off-street parking capacity (0.72 spaces per employee in 1996) were considered to be a significant disincentive to shifting commuter travel behaviour, partly by keeping the price of off-street parking quite low.
- The physical environment of downtown roadways was found to present many challenges to commuters who wish to walk or cycle.
- Recommendations focused on influencing travel demand included:
 - Increasing daily parking rates in City-owned lots
 - Establishing an auto trip reduction program for City staff, as an initial step towards a similar area-wide program
 - Investigating the provision of secure bicycle parking in City-owned off-street parking facilities

2.2.6 FORMER REGION OF HAMILTON-WENTWORTH – SHIFTING GEARS (1999)

This plan to improve cycling in the former Region of Hamilton-Wentworth represented an update of relevant portions of the 1992 Bicycle Network Study, based in part on the results of the 1997 Hamilton-Wentworth Community Cycling Survey.

The plan was consistent with typical travel demand management objectives, and aimed to:

- Encourage a shift in personal lifestyles and behaviours toward sustainable transportation modes like cycling
- Foster improved cycling skills among residents
- Promote the economic, health, recreational and tourism benefits of cycling

The actions recommended by the plan included several that were TDM-related, including:

- Provision of bicycle parking at strategic destinations
- Provision of cycling skills education for children and youth
- Provision of safe routes to school programs for elementary school students
- Continued production of a cycling route map
- Provision of cycling displays at theme events and shopping centres
- Provision of cycling-related information on the Region's Web site

2.2.7 MCMASTER UNIVERSITY – CAMPUS MASTER PLAN (2002)

McMaster University is one of Hamilton's major travel generators, and an important community leader. The institution's Campus Master Plan, completed in 2002, emphasized the role of TDM in overcoming parking capacity deficiencies and increased congestion at key access points. It called for the development of a campus TDM program to reduce future single-occupant vehicle travel to and from campus by 10 percent (or 15 percent when combined with the effects of expected growth in traffic congestion). This would maintain peak hour and single-occupant vehicle trips to and from campus at current levels.

The plan called for the closure of some campus roads to regular traffic, the addition of traffic calming measures, the creation of new walking and cycling routes, and improvements to transit services and facilities. Other recommended TDM elements included:

- Promotion and facilitation of carpooling, and the establishment of preferential carpool parking (i.e. better location and/or reduced cost)
- Adding secure bike storage and facilities for showering and changing
- Scheduling classes to reduce peak weekday parking and travel demands
- Making parking eligibility rules more restrictive
- Considering increased parking rates that would:

- At least equal transit costs
- Cover the operating cost of an expanded shuttle bus service
- Build capital reserves for future structured parking facilities
- Relate the cost of a parking space to its proximity to the heart of campus

As a result of the Campus Master Plan work, McMaster's Alternative Commuting and Transportation (ACT) Office was created in 2002 with the goal of increasing the numbers of faculty, staff and students who bike, walk, take transit and carpool to campus. The ACT Office has full-time staff and takes a proactive approach to events, research, policy and program development, information provision and partnership development with both on-campus and off-campus groups.

3. SUPPORTING INFORMATION AND ANALYSES

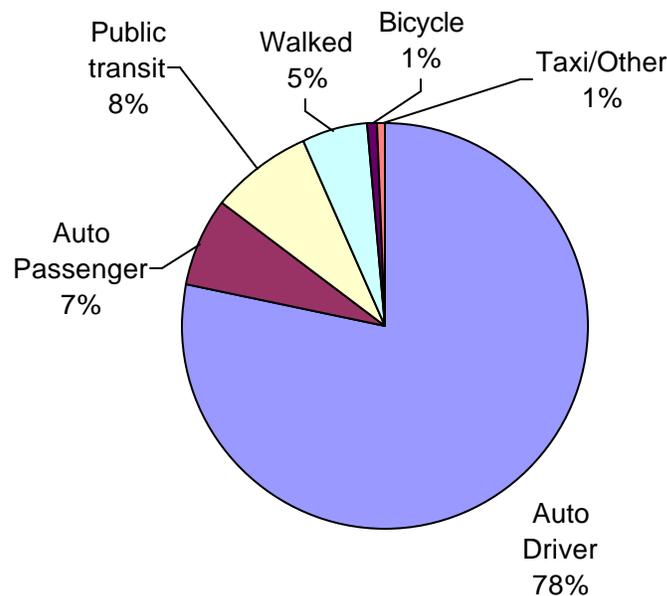
The purpose of this section is to provide a brief background on travel patterns as context to the development of policy options.

3.1.1 JOURNEY TO WORK MODE SHARES

A large part of TDM is focused on changing work trip behaviour, although changing behaviour for non-work trends is also important.

Exhibit 3.1 shows the breakdown of mode shares for work trips made by Hamilton residents. A total of 85% of work trips are made by private vehicles, either as a driver or passenger. Only 8% of work trips in the Hamilton CMA (including Burlington and Grimsby) are made by transit while walking and biking account for 6%. These figures suggest that there is an opportunity for TDM to have a significant impact on mode shares if the right incentives are provided.

Exhibit 3.1: 2001 Journey to Work Mode Shares



Source: Statistics Canada

3.1.2 WORK TRIP LENGTHS

Another consideration in the effectiveness of TDM is the distribution of work trip lengths. It is generally easier to encourage walking and cycling for short trips while ridesharing is more suitable for longer trips.

Exhibit 3.2 shows the distribution of work trips based on the 2001 Census. As shown, there are a large number of trips less than 5 km (33%), which is a prime market for walking and cycling.

Exhibit 3.2: Distribution of Work Trip Lengths

