The Case for TDM in Canada: Transportation demand management initiatives and their benefits

A handbook for practitioners

Prepared for Association for Commuter Transportation of Canada

By Noxon Associates Limited in association with Commuting Solutions

October 2008
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Acknowledgements

This project would not have been possible without the financial assistance, strategic direction and professional contributions of the following organizations and staff members who made up the Steering Committee:

- Transport Canada — Eric Sévigny, Manager, Urban Transportation Programs
- City of Calgary — Ron Schafer, TDM Specialist; Tanya Laing, Environmental Specialist
- City of Edmonton — Darryl Mullen, Acting Director of Sustainable Transportation
- Region of Waterloo — JoAnn Woodhall, TDM Planner (now with TransLink)
- City of Ottawa — Wilf Koppert, Program Manager, TDM, Cycling and Pedestrian Facilities
- City of London — Allison Cook, Coordinator, TDM
- Town of Markham — Lorenzo Mele, TDM Coordinator
- Halifax Regional Municipality — Roxane MacInnis, TDM Planner; Roddy MacIntyre, TDM Coordinator
- Region of Peel — Wayne Chan, Manager of Transportation Planning

ACT Canada particularly appreciates the support provided by Transport Canada’s Transportation Planning and Modal Integration Initiatives fund.
1. Introduction

This chapter presents a concise introduction to the remainder of the report.

- **Section 1.1** reviews the purpose and origins of this report.
- **Section 1.2** explains how readers can make best use of it.

1.1 Purpose

In 2006 the Association for Commuter Transportation of Canada (ACT Canada) submitted to Transport Canada the landmark report *Building Capacity for TDM in Canada*. That report was the culmination of seven workshops held across the country, involving 450 stakeholders (both specialists and others) in the field of transportation demand management (TDM). The workshops allowed participants to share their experiences with TDM and to suggest ways that they could work together to make TDM a more effective tool in the development of more sustainable communities. One of the key conclusions arising from this collective input was that the TDM community needed additional information that validates TDM’s importance, feasibility and benefits.

Indeed, urban transportation professionals have been asking for a “TDM business case” for some time. Many have had difficulty convincing potential allies and partners (e.g. elected officials, senior municipal staff, major employers, schools and the general public) that broader and deeper support for TDM initiatives is warranted. No compilation of TDM benefits, based on real world experiences, existed.

One challenge in developing a “business case” for TDM is that—like many disciplines closely tied to sustainability—some of its benefits are quantifiable in financial terms, but many others are not. For this reason, this document presents a broad “case for TDM” that addresses a wide range of issues—an approach that will serve the greatest number of stakeholders, including those who do not have a financial focus. The report, however, does maintain a strong bias toward measurable benefits and the presentation of references to credible (although not necessarily peer reviewed) sources of information.

The case for TDM that is documented in this report is based on a review of pertinent literature, focusing on the benefits of TDM initiatives that are most relevant to the Canadian context, as well as input gathered directly from knowledgeable Canadian professionals.

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**What is ACT Canada?**

The Association for Commuter Transportation of Canada (ACT Canada) is a Canadian not-for-profit association and the premier gateway for TDM resources in Canada. ACT Canada fosters partnerships and offers its members tools, resources and services including networking and professional development opportunities.

[www.actcanada.com](http://www.actcanada.com)
1.2 How to use this document

This report is a handbook for TDM stakeholders. It is a practical guide to building an effective pro-TDM argument and presenting it to a variety of audiences including elected officials, government staff, employers, educational institutions, private sector interests, members of the general public, and the media.

This report is not intended to serve as an argument for TDM in its entirety. Based on years of experience, the authors believe it is easier and more practical to convince an audience of the benefits offered by specific TDM initiatives, rather than by TDM as a whole. There may be occasions, however, when audiences have a genuine need or wish to understand how TDM (as a concept or collection of initiatives) relates to other broad endeavours in the field of urban transportation. At those times, readers will find Chapter 2 to be of significant help.

Chapter 3 identifies the most likely audiences of TDM stakeholders, what their interests are, what actions could be expected of them, and how they might be engaged.

Chapters 4 through 9 contain information on various TDM initiatives and their measured effects in terms of changing travel behaviours and attitudes, reducing air emissions, yielding economic benefits, benefiting individuals and employers, and improving public health, safety and security:

- Chapter 4 addresses workplace initiatives
- Chapter 5 addresses school initiatives
- Chapter 6 addresses post-secondary initiatives
- Chapter 7 addresses residential initiatives
- Chapter 8 addresses promotion and information initiatives
- Chapter 9 addresses pricing initiatives
2. Overview of TDM

This chapter contains the following sections:

- **Section 2.1** discusses the importance of creating more sustainable transportation systems.
- **Section 2.2** explains the relationship among transportation demand, transportation supply and land use in shaping communities, and introduces the idea of TDM.
- **Section 2.3** provides a definition of TDM.
- **Section 2.4** outlines the range of initiatives that represent TDM measures.
- **Section 2.5** presents the major advantages and benefits of TDM, and illustrates them with the results of TDM projects.
- **Section 2.6** provides several brief case studies of successful TDM initiatives in Canada.

### 2.1 Urban transportation and the challenge of sustainability

The goal of sustainable transportation is to provide accessibility and mobility for people and goods in ways that minimize pollution and the depletion of the earth’s natural resources. This is an immense challenge—and one that remains largely abstract when compared to the realities of day-to-day decision-making.

It may help to reframe this long-term goal using a shorter-term perspective—namely, to achieve an optimal balance of transportation’s positive impacts (social and economic) with its negative impacts (social, economic and environmental). In fact, this is the challenge that is being tackled by today’s transportation planners, policy makers, service providers and consumers. Several key public policy issues define this problem and vividly demonstrate the urgent need to create more sustainable transportation systems:

- **Public health and safety.** There are rising concerns over public health and the increasing cost of health care provision. Factors related to transportation include physical inactivity, stress, traffic collisions and diseases caused or impacted by air pollution or noise.

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**What is a sustainable transportation system?**

- One that allows the basic access needs of individuals and societies to be met safely and in a manner consistent with human and ecosystem health, and with equity within and between generations
- One that is affordable, operates efficiently, offers choice of transport mode, and supports a vibrant economy
- One that limits emissions and waste within the planet's ability to absorb them, minimizes consumption of non-renewable resources, limits consumption of renewable resources to the sustainable yield level, reuses and recycles its components, and minimizes the use of land and the production of noise

*The Centre for Sustainable Transportation*
- **Climate change.** Although Canada has only 0.5% of the world’s population, it creates 2% of global greenhouse gas emissions (Statistics Canada, *Human Activity and the Environment: Annual Statistics, 2007 and 2008*, 2008). Our national contribution to climate change may be small, but our international leadership role is very important. Governments, private companies and individual citizens recognize the importance of reducing greenhouse gas emissions from transportation.

- **Energy security.** Increasing uncertainty about the long-term availability of inexpensive energy sources is heightening recognition that our energy-intensive lifestyles and transportation systems are vulnerable to possible changes in energy supply or price.

- **Infrastructure costs.** The ability of municipal governments to pay the rising costs of building and maintaining transportation infrastructure is decreasing.

- **Private costs.** Individuals and businesses face rising costs for vehicles, fuel, maintenance and insurance. Particularly for lower-income families, the need to own and operate an automobile can be a significant financial burden that displaces other spending priorities.

- **Congestion impacts.** The negative impacts of congestion on economic competitiveness and quality of life in urban areas are increasingly acknowledged. At the same time, the viability of expensive transportation infrastructure programs can be challenged by the lack of economic resources and potential public opposition.
Physical activity and public health

Of Canada’s total health care costs, about 2.5% ($2.1 billion in 1999) are attributable to physical inactivity.

— "The economic burden of physical inactivity in Canada”, P. Katzmarzyk et al., Canadian Medical Association Journal, 2000, 163(11)

Among Canadian children and youth, one-quarter are overweight and two-thirds are not active enough to lay a solid foundation for future health.

— Making the Case for Active Transportation (fact sheets), Go for Green, 2000

Most adult Canadians (51%) are inactive. Inactivity contributes to obesity, heart disease, diabetes, osteoporosis, stroke, and depression. People who are regularly physically active are less likely than inactive people to develop health problems.

- Canadian Fitness & Lifestyle Research Institute, 2004

Based on a travel study of Atlanta area residents between 2000 and 2002, each additional daily hour spent in a car was associated with a 6% increase in the likelihood of obesity. Conversely, each additional daily kilometre walked was associated with a 4.8% reduction in the likelihood of obesity.

— “Obesity relationships with community design, physical activity, and time spent in cars”, L.D. Frank et al., American Journal of Preventative Medicine, Volume 27, Issue 2, August 2004

82% of Canadian adults are willing to walk more, and 66% are willing to cycle more.

— National Survey on Active Transportation, Environics International for Go for Green, 1998

According to the World Health Organization, the most effective way to increase the physical activity of citizens in industrialized countries is to encourage walking and cycling for trips less than five kilometres.

— "The Impacts of Traffic on Health", Dr. D. McKeown, Medical Officer of Health, City of Toronto, staff report dated March 27, 2006

Air emissions and public health

Smog’s two main ingredients are fine airborne particles and ground-level ozone, which is composed primarily of nitrogen oxides (NOX) and volatile organic compounds (VOC). In 2001-2003, one in every two Canadians lived in communities with ozone levels that exceeded Canadian standards. In 2002, transportation emissions accounted for about 53% of NOX, 59% of carbon monoxide, 24% of VOCs, 3% of sulphur oxides, and 5% of particulate matter (PM2.5) – the major constituents of urban smog.


In 2005, smog-related air pollution in Ontario led to an estimated 5,800 premature deaths, 60,000 emergency room visits, $507 million in health care costs, and $374 million in lost productivity related to absenteeism.

— Illness Costs of Air Pollution, Ontario Medical Association, 2005

Road safety

In Ontario, traffic collisions in 1998 led to a $9.1 billion public cost, representing 800,000 hours of police time, 38,000 ambulance calls, 9,000 fire service calls, 150,000 days of hospital care, and 74,000 emergency room visits


A 1% reduction in motor vehicle travel typically reduces total crashes and casualties by 1.4% to 1.8%.


For each kilometre travelled, a transit user’s odds being hurt in a collision are just 5% of an automobile user’s.

— Transit’s Safety and Security Record, Sypher:Mueller for the Canadian Urban Transit Association, 2000
Affordability and opportunity

Over 10 million Canadians don’t have a driver’s license.


In 2003, Montrealeans saved $570 million in travel expenses simply by taking public transit.

— Public Transit: A Powerful Economic Development Engine for the Metropolitan Montreal Region, Board of Trade of Metropolitan Montreal, 2004

By driving less, residents of the United States can save $0.10 to $0.20 per mile in fuel costs and $0.05 to $0.20 per mile for vehicle depreciation costs.


Climate change

The transportation sector created about 25% of Canada’s greenhouse gas emissions in 2004. Two-thirds of these emissions were generated in urban areas.


Recurring congestion in Canada’s major urban areas is estimated to increase the emission of greenhouse gases from transportation by 1.2 to 1.4 million tonnes annually.

— The Cost of Urban Congestion in Canada, Delcan/iTRANS/ADEC for Transport Canada, 2006

Transportation’s economic costs and benefits

The estimated cost of recurring congestion in Canada’s major urban areas (2002 dollars) is $2.3 to $3.7 billion. More than 90% of this cost results from passenger delay, 7% from fuel consumption and 3% from greenhouse gas emissions.

— The Cost of Urban Congestion in Canada, Delcan/iTRANS/ADEC for Transport Canada, 2006

A transit expenditure of $1 million can create 21.4 new jobs, compared to 7.5 jobs for $1 million spent on automobile travel.

— "Input-Output Table", B.C. Treasury Board, 1996

In 2003, transit use in Montreal reduced the cost of collisions by $62 million and the cost of emissions by $97 million. One dollar spent on transit creates 1.7 times more employment and 2.5 times more added value than a dollar spent on car travel (due to 50% of auto expenditures staying in Quebec, compared to 90% of transit expenditures).

— Public Transit: A Powerful Economic Development Engine for the Metropolitan Montreal Region, Board of Trade of Metropolitan Montreal, 2004

Transit is a substantially less-expensive way to serve growing travel demands. The marginal social cost of transit travel is $0.30 per passenger-kilometre, versus $0.46 for car travel.

— The Value Proposition for Transit Investment, Subsidy and Federal Involvement, HLB Decision Economics, 2001

Data from 1990 showed that public and private transportation costs represented a much lower proportion of gross regional product in cities with strong transit systems (7.4% for Toronto; 8.1% in Europe) than in more auto-dependent cities (12.4% in the United States; 13.2% in Australia).

— "Costs of Automobile Dependence: Global Survey of Cities", Peter Newman & Jeff Kenworthy, Murdoch University, Australia, Transportation Research Record 1670, 1999

Active transportation in Canada has an annual economic benefit of $3.6 billion. Increasing national average rates of walking and cycling commuting to those observed in Victoria, B.C. would increase that benefit to $7 billion.

— The Business Case for Active Transportation, BEST for Go for Green, 2004

In the United States, the economic benefits of reducing one vehicle-mile driven in the peak hour are estimated to be $0.18 for a shift to walking, $0.25 for a shift to off-peak driving, $0.66 for a shift to bus transit, $0.77 for a shift to cycling, $0.99 for a shift to telework, and $1.03 for a shift to ridesharing (1996 dollars).

2.2 Managing mobility

Canadian governments are responding to the challenges discussed in Section 2.1 by reconsidering the effectiveness—and the desirability—of traditional transportation solutions. “Predict and provide” approaches to infrastructure planning (i.e. extrapolating current trends to identify future travel needs) are rapidly falling out of favour. Across the country, communities are adopting growth management strategies that emphasize the integrated nature of land use and transportation systems. They are managing mobility, not just providing it.

As Figure 2.2 shows, there are three major factors that shape travel activity:

- **transportation demand**—the characteristics, needs and desires of individuals
- **transportation supply**—the infrastructure, vehicles and services that people use to travel
- **land use**—the homes, workplaces, schools and other places that people travel to and from

These three components are tightly linked. Any change in one can lead to a change in the others (as shown by the black arrows). In combination, these components determine whether, why, when, where and how people make trips. Looked at another way (as also shown in Figure 2.2), transportation supply, demand and land use characterize the physical, economic and social factors that influence individuals’ travel decisions. For example, transportation demand represents the important social and economic (but not physical) factors that shape travel activity.
Some cities are working to become more sustainable by optimizing the transportation and land use system. This involves changing the determinants of individual travel behaviours using a framework of mutually supportive approaches, as shown by the blue boxes in Figure 2.3:

- changing transportation demand through the use of transportation demand management (TDM) tools, as discussed in greater detail in Section 2.3
- changing transportation supply through improvements to sustainable travel options such as public transit services and cycling facilities
- changing land use through supportive practices like transit-oriented development and urban growth boundaries
2.3 Defining TDM

As shown in Figure 2.3, actions that directly influence transportation demands to make them more sustainable are collectively referred to as transportation demand management, or TDM. A concise definition of TDM and an illustration of how TDM measures can influence the key dimensions of travel demand—namely whether, why, when, where and how people travel—are illustrated in Figure 2.4.

**Figure 2.4 TDM and its influence on the dimensions of travel demand**

Transportation demand management (TDM) is the use of policies, programs, services and products to influence whether, why, when, where and how people travel. TDM measures help shape the economic and social factors behind personal travel decisions, and are complemented by supportive land use and transportation supply.

2.4 TDM measures

Conceptually, TDM measures can be divided into two main types:

- **Education, promotion and outreach** raise individuals’ awareness, improve their understanding and build positive attitudes about sustainable transportation choices.

- **Incentives and disincentives** offer individuals a tangible benefit or disbenefit related to the use of one or more travel modes.

In practice, TDM measures can be categorized by the location or means of delivery, as in the following list (which also provides the structure for Chapters 4 through 9 of this document):

- **Workplace initiatives** target commuters at (and sometimes through) their place of work.

- **School initiatives** target students, parents and staff at or through elementary, middle and secondary schools.

- **Post-secondary initiatives** target students, staff and faculty at or through colleges and universities.
- **Residential initiatives** target individuals and families in their own neighbourhoods.

- **Promotion and information initiatives** typically use communication or marketing techniques to reach a particular segment of the population.

- **Pricing initiatives** affect the cost to users of specific modes like driving or transit, and can be delivered across a community, in particular sub-areas or corridors, or on specific transportation services or facilities.

### 2.5 Advantages and benefits of TDM

TDM is vital to successfully managing mobility in urban areas. However, it is not a substitute for infrastructure investment—cities will continue to need better walking and cycling networks, and improved transit services. What TDM can do, however, is complement walking, cycling and transit investments—leveraging them, making them more effective, and maximizing their economic, social and environmental benefits. Figure 2.5 presents vivid analytical evidence of this potential, which is made possible by TDM’s three key attributes:

- It can optimize (not just change) personal travel decisions.

- It can reduce or defer road infrastructure needs.

- It offers a versatile and dynamic tool for managing transportation systems.

These qualities are addressed individually in the following subsections.

#### 2.5.1 Optimizing personal travel decisions

Changes to land use and transportation supply will certainly influence individuals’ travel decisions. However, TDM can help *optimize* those decisions by directly influencing three key building blocks:

- *Awareness* of different travel options

- *Understanding* of how to use travel options

- *Willingness* to try travel options

By focusing on these factors, TDM increases the likelihood that travellers will make informed choices. Currently, many people make travel decisions based on low levels of awareness, incomplete information, personal bias and a lack of experience with one or more choices. These are important barriers to better travel choices, and TDM works to overcome them in a way that transportation supply or land use changes cannot. The benefits can be significant, as shown by the project summaries in Figure 2.6.
2.5.2 Reducing infrastructure needs

Supportive infrastructure is a key part of sustainable transportation systems, but can be very expensive. It is desirable to minimize infrastructure needs without compromising the effectiveness and efficiency of transportation systems. TDM can help do that by:

- reducing the number of trips
- reducing the length of trips
- shifting trips out of congested corridors and time periods

Fewer, shorter trips reduce the demand for infrastructure. Trips that make use of existing spare capacity, rather than fighting for space where none exists, lessen the need to add new facilities. These facts are equally true for automobile and transit trips—showing that TDM can play an important role without convincing anyone to change modes. When people simply travel less often, to closer destinations, outside of rush hours or using less busy routes, they are helping make their community more sustainable. Figure 2.7 summarizes the results of a landmark British study that quantified these benefits.

2.5.3 Targeting key markets

Another key attribute of TDM is the ability to target specific parts of the overall travel market. This benefit has three dimensions:

- flexibility—TDM measures can be customized for specific audiences (e.g. employees in a single business park), destinations (e.g. a single hospital), travel modes (e.g. cyclists), travel corridors (e.g. a particular stretch of freeway), trip purposes (e.g. school commuting) or specific timeframes (e.g. during international sporting events, as illustrated in Figure 2.8).

- speed—TDM measures can be planned and delivered in days, weeks or months rather than years or (in the case of major infrastructure) even decades.

- affordability—TDM measures can be as simple as a presentation or a brochure that explains how to use a new transit service. While the most effective, broad-based TDM strategies are not likely to be inexpensive, they can be tailored to make the best use of available budgets.
Strong analytical evidence of TDM’s advantages is provided by a recent study for Transport Canada that examined the effectiveness of transit investments (e.g. new facilities, vehicles and services) and TDM measures in reducing greenhouse gas emissions from transportation. Based on the approved plans and transportation models of ten major urban areas across Canada, the study assessed “low” and “high” levels of transit investment, both alone and in combination with “low”, “high” and “aggressive high” levels of TDM measures.

The study’s most important conclusion is that transit investments alone are expected to have relatively little impact on greenhouse gas emissions. The addition of TDM measures (particularly strong ones like road and parking pricing) is what makes the difference. Of course, many cities across Canada need investment in new transit capacity just to carry today’s demand, let alone future increases—but those investments in fleets and facilities will only maximize new ridership when they are accompanied by demand-side measures.

Source: The Impact of Transit Improvements on GHG Emissions: A National Perspective, Cansult and TSI Consultants, 2005
Individualized marketing has been used around the world to help people make more sustainable travel choices. The approach is simple—give customized information, training and incentives to people who are open to changing the way they travel.

Portland, Oregon was the site of the first large-scale individualized marketing project (called TravelSmart) in North America. After a new MAX light rail line was opened in the city’s Interstate corridor in 2004, thousands of households in the target area asked for and received information on transit, walking and cycling. Some also received a personal home visit from trained staff. Surveys found that the growth in transit trips was almost twice as great in the area where TravelSmart was delivered as in a nearby “control” neighbourhood (an increase of 44% versus 24%). The TravelSmart area also saw growth in cycling and walking, and a reduction in driving (a decrease of 14% versus 8%).

In Metro Vancouver, the South Coast British Columbia Transportation Authority (TransLink) also tested the TravelSmart approach across the region in 2005-2006. Individualized marketing efforts targeted thousands of households in six neighbourhoods, with preliminary before-and-after survey results for all target areas showing that walking increased by 9%, cycling by 33% and transit by 12%, and that driving decreased by 8%.

For more information, see www.portlandonline.com/transportation and www.translink.bc.ca
A comprehensive analysis for the United Kingdom Department for Transport concluded that TDM (described as “soft” transport policy measures that exclude road pricing) can have substantial success in reducing future traffic levels, congestion, and related costs. Given that these measures help people to choose to reduce their car use while making options more attractive, the study recommended that TDM should play an expanded role on both local and national transportation stages.

The assessment focused on two different ten-year scenarios. A “high intensity” scenario studied a broad expansion of current best practices, taking into account realistic resource limitations and local market variations throughout the United Kingdom, while a “low intensity” scenario assumed a continuation of current activities and priorities.

The study found that the high intensity scenario could substantially reduce future congestion by:
- reducing urban traffic by 21% in peak periods and by 13% in off-peak periods
- reducing non-urban traffic by 14% in peak periods and by 7% in off-peak periods
- reducing all traffic nationwide by 11%

By comparison, the low intensity scenario was found to have considerably smaller impacts, namely reductions of 5% in peak period urban traffic and up to 3% in all traffic nationwide.

In an accompanying economic analysis, the study estimated the public cost of reducing car use through TDM measures would be about 1.5 pence per vehicle-kilometre, or £15 ($30 CDN) to remove 1,000 vehicle-kilometres. The social benefits of reducing car use were cited as about £150 ($300 CDN) per 1,000 vehicle-kilometres generally, and more than three times this rate in congested cities. Thus, every £1 spent on well-designed soft measures could generate £10 of economic benefits through reduced congestion alone, and even more in congested cities. Additional benefits from environmental improvements were not included.

**Figure 2.7 The potential of TDM to reduce traffic levels**

Source: Smarter Choices: Changing the Way We Travel, S. Cairns et al., for the Department for Transport, UK, 2004
Figure 2.8  TDM contributes to Olympic successes

As part of Atlanta’s 1996 Summer Olympic Games, area governments put in place advanced traveller information systems, a rail rapid transit expansion, and carpool lanes in two major freeway corridors. They also created the Commute Connections Network to educate local businesses and commuters about the need to change travel behaviours during the games and the options that individuals had to do so.

A major study on the Olympic experience and lessons learned found that this concerted and multi-pronged effort had notable results. Peak weekday morning traffic counts dropped by 23% and freeway volumes spread out across the day. Many commuters turned to public transit, with daily ridership averaging 0.9 million trips and peaking at 1.2 million trips—much higher than the 0.75 million riders each day that transit planners had expected to serve. These behavioural changes led to a 28% drop in peak daily ozone concentrations, and a 40% reduction in the number of asthma related acute care events.

While these successes were not attributed to any one factor, a media campaign advising the public of the potential for gridlock was seen as very effective in bringing about the necessary changes to discretionary travel. The provision of free transit access to Olympic ticket-holders was also an important contributor. The analysis recommended that the Commute Connections Network be expanded to help mitigate year-round congestion in the Atlanta area, and that other major events could apply a variety of coordinated TDM measures included comprehensive media campaigns to persuade the travelling public to use transit and adopt austere driving practices.

Sources:
"Impact of Changes in Transportation and Commuting Behaviors During the 1996 Summer Olympic Games in Atlanta on Air Quality and Childhood Asthma", M. Friedman et al., Journal of the American Medical Association, 2001 (285)

2.6  Canadian TDM successes

Many Canadian initiatives demonstrate the potential of TDM each year, and learning more about them will help TDM stakeholders make their case more effectively. The following points identify some of the most notable efforts from the past decade, and where to get more information.

**Nortel Networks, Ottawa, Ontario — Green Commute program**
- One of the earliest and best-known commuter options programs in Canada
- Visit www.nortel.com and search on “green commute” or visit www.toolsofchange.com and search on “Nortel” for a detailed case study

**eBay Canada, Burnaby, British Columbia — Commuter options program**
- A more recent initiative that has increased employee transit use by 7% while decreasing single-occupant vehicle commuting by 4%
- Read a detailed case study at www.tc.gc.ca/utsp
TransLink, Metro Vancouver, British Columbia — OnBoard program
- A comprehensive employer outreach program that offers services and incentives for transit, ridesharing, carsharing, cycling, telework and more
- Visit www.translink.bc.ca/commuting_options

TransLink, Metro Vancouver, British Columbia — TravelSmart initiative
- An individualized marketing project that led to significant driving reductions among residents of several Metro Vancouver neighbourhoods
- Visit www.translink.bc.ca/projects and follow the “Urban Showcase” link

Smart Commute – North Toronto, Vaughan – York Region, Ontario
- A leading Canadian example of an active transportation management association (TMA) that works with employers to promote commuter options
- Visit www.smartcommutentv.ca or read the case study at www.tc.gc.ca/utsp

Agence métropolitaine de transport, Montreal, Que. – Allégo program
- A community-wide umbrella TDM program that supports a wide range of endeavours
- Visit www.allego.amt.qc.ca or read the case study at www.tc.gc.ca/utsp

Voyagez Futé, Montreal, Que.
- A leading Canadian example of an active transportation management association (TMA) that works with employers to promote commuter options
- Visit www.voyagezfute.ca

Winnipeg Transit, Winnipeg, Man. – EcoPass program
- A public-private partnership to boost transit ridership and make transit more affordable to commuters
- Visit www.winnipegtransit.com/ecopass.jsp or read a case study at www.tc.gc.ca/utsp

City of Whitehorse and Recreation Parks Association of the Yukon – Wheel 2 Work Whitehorse
- An active transportation social marketing campaign that uses incentive prizes to encourage more people to commute by bicycle during the summer season
- Read a case study at www.tc.gc.ca/utsp

York University, York Region, Ontario – TDM program
- An ambitious and very successful program that applied aggressive parking management with transit improvements and other incentives
- Find a summary of results within the case study of Smart Commute – North Toronto, Vaughan at www.tc.gc.ca/utsp

University of British Columbia, Vancouver, British Columbia – TREK program
- An innovative and well documented program in operation since 1997
- Visit www.trek.ubc.ca
Various communities — Universal transit passes
- Mandatory sale of discounted transit passes to post-secondary students at dozens of institutions across Canada
- Read a case study of three U-Pass programs at www.tc.gc.ca/utsp

i-go TDM program — Central Okanagan, British Columbia
- A good example of how a variety of promotional initiatives can raise the profile of sustainable transportation in a mid-sized community
- Visit www.i-go.ca or read the case study at www.tc.gc.ca/utsp

Peterborough Green-Up, Peterborough, Ontario — Peterborough Moves
- A community-wide initiative that provides information and tools to help citizens of all ages expand their use of active transportation and ridesharing
- Visit www.peterboroughmoves.com

Region of Waterloo, Ontario — “You Can Clear the Air” education program
- An educational resource for Grade 3 students to build their awareness of sustainable transportation and the impacts of transportation choices on the environment
- Read a case study at www.tc.gc.ca/utsp

Vancouver Area Cycling Coalition, Vancouver, British Columbia — Cycling training for the school community
- An initiative that promotes cycling by offering bicycle commuting training to school teachers, administrators and support staff
- Read a case study at www.tc.gc.ca/utsp

Agence métropolitaine de transport, Montreal, Que. — In Town without My Car! event
- An annual one-day event in downtown Montreal involving street closures and public events, held since 2003
- Visit www.amt.qc.ca/english/welcome.asp and follow the link, or read the case study at www.tc.gc.ca/utsp

Various communities — Carsharing programs
- An alternative system of car ownership and use whereby vehicles are shared among a group of individuals and administered by either for-profit or non-profit organizations
- Read a case study of Montreal, Quebec City and Vancouver initiatives at www.tc.gc.ca/utsp
3. Making the case to key audiences

This chapter contains suggestions about how TDM stakeholders can best make their case to a variety of key audiences:

- **Section 3.1** addresses elected officials in municipal, provincial, territorial and federal governments.
- **Section 3.2** addresses government staff in various areas including public transit, roads and traffic, parking, land use planning, environmental management, public health and social services.
- **Section 3.3** addresses employers and specific audiences within those organizations including senior management, facility management, human resources, employee wellness and environmental management.
- **Section 3.4** addresses educational institutions, including elementary and secondary schools as well as universities and colleges.
- **Section 3.5** addresses key private-sector audiences including land developers and business groups.
- **Section 3.6** addresses the general public.
- **Section 3.7** addresses the media.

Each of these sections discusses several key issues:

- techniques for engagement—what are the most effective ways to reach audiences?
- expected actions—what do you want them to do?
- interest-based arguments—what messages are most likely to attract an audience’s support based on its key interests?

### 3.1 Elected officials

TDM’s potential greatly exceeds its results to date in Canada—a fact that is due to the difficulty of selling elected officials on the need for and value of TDM. The rationale for TDM is partly conceptual, and its results can be longer-term and less visible than other strategies that elected officials can champion. The sheer breadth of possible TDM measures can be hard to grasp. Some TDM measures (e.g. road or parking pricing) are politically sensitive. Finally, there is little demand for TDM from individual consumers—whereas elected officials are bombarded with calls for more spending on infrastructure or health care. As a result, TDM programs rarely hit the political “radar screen” and typically have few resources available to them. Overcoming these challenges will require persistence, clear communication, and reliable evidence of success. It also requires a broader TDM constituency
that includes business interests, grassroots community representatives and champions that emerge from among elected officials themselves.

There is a consistent range of recommended techniques for engaging elected officials, as discussed in Section 3.1.1. In contrast, the actions that TDM stakeholders could hope to elicit from elected officials, and the arguments that might help to do so, will vary among audiences, as discussed in Sections 3.1.2 to 3.1.4.

### 3.1.1 Techniques for engagement

The following paragraphs describe some effective strategies for raising awareness of TDM among elected officials, and for creating opportunities for constructive dialogue.

**Document local TDM initiatives and results in staff reports.** It is difficult for elected officials to remain fully aware of every one of their organization’s programs or services. Staff reports play an important role in raising the awareness of decision-makers and directly providing them with accurate information on local actions and achievements.

**Encourage media coverage of local TDM initiatives.** Elected officials and their assistants pay very close attention to local media coverage. Newspaper articles and radio or television reports are guaranteed to raise their awareness, although it may be necessary to follow up with additional information that corrects inaccuracies or more fully explains the content of the media report.

**Raise awareness of national and international successes and best practices.** Elected officials, and especially those who have an interest in acting as champions for particular issues, are interested in knowing about activities in other places and how they might be applied locally. In laying the groundwork for local action, TDM stakeholders can send letters, circulate reports or make presentations that highlight applicable practices.

**Offer expert presentations.** Elected officials like to engage experts who offer first-hand knowledge. Informal meetings over coffee, formal workshops and presentations at council or committee meetings all offer the chance for decision-makers to build their understanding and explore options for action.

**Meet directly with elected officials.** TDM stakeholders may simply need to ask for “face time” to get their message across. Meeting elected officials in person is a good strategy when a specific initiative is being proposed and individual decision-makers need to be comfortable with key details before deciding whether or not to support it.

**Encourage and support efforts by non-governmental organizations.** Non-governmental organizations play an important role in educating elected officials and encouraging them to support important initiatives. Simply ensuring that those organizations have a role in decision-making processes is one way for TDM stakeholders within government to ensure that advocacy messages are heard.
**Raise the visibility of internal commuter options programs.** Elected officials like to avoid accusations of hypocrisy, and tend to view leadership by example as a serious issue. Governments that encourage other employers to support commuter options should do so themselves, and information on those internal efforts is likely to be well received by decision-makers.

### 3.1.2 Municipal governments

TDM stakeholders typically look to elected officials in local or regional governments to play two key roles. The first is to vote in favour of TDM when budget or project-related decisions come before Council. The second is to act as champions in building support for TDM among municipal staff, media, business and public audiences. The development of one or more champions among elected officials should be a key goal, because a lack of champions at the political level will doom TDM efforts to marginal status at best. By carrying the TDM message to other elected officials, TDM champions are a catalyst for success.

Elected officials have a defined term of office and must balance support for long-term objectives with the need to demonstrate short-term successes as the basis for re-election. When unfamiliar with TDM, they may view it with skepticism because it appears to target changes in the behaviour of individual voters (not a very saleable message at election time). Therefore, it is important to frame TDM in a positive light—as a way to improve travel choices, enhance individual opportunity, maximize the efficiency of infrastructure, and contribute to other municipal objectives (e.g. congestion, public health, air quality, climate change, economic development). Especially in smaller communities where reducing traffic congestion is not an urgent priority, the other ways that TDM improves quality of life can be given more prominence.

Local politicians deal more directly with the concerns of individual voters than elected officials in provincial or federal governments. Rather than pursuing all of the interests listed in the previous paragraph, it may be more effective to help individual decision-makers view TDM through the lens of priority issues in their constituencies—e.g. how to help an employer that is having difficulty retaining low-wage staff, or how to engage community activists seeking alternatives to a proposed road widening. In general, councillors who represent urban cores tend to be more concerned with reducing traffic impacts, while suburban councillors tend to be more concerned with meeting the mobility needs of individuals. Elected officials also appreciate quantitative information on everyday concerns (e.g. how much traffic is reduced outside a school, how many low-wage employees are commuting in carpools).

Because they are frequently risk-averse, councillors can be reassured by the adoption of proven best practices from other municipalities—although they can also be quick to dismiss them as irrelevant to local conditions. They can be motivated to act by benchmarking exercises that compare local TDM progress to peer municipalities. Communities with limited TDM programs may want to “catch up” while those with leading-edge programs may want to solidify their reputation as leaders.

Another approach that can gain support from financially-minded councillors is to undertake a local benefit-cost study of TDM. While TDM’s economic benefits are indirect and therefore may be difficult to measure, the ability to summarize a proposed TDM program or project in a single number (e.g. a benefit-cost ratio of 10:1) offers powerful justification for elected officials to support it.
### Making the case to elected officials — Municipal governments

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<tr>
<th>Expected actions</th>
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<tbody>
<tr>
<td>Vote in favour of TDM budgets, programs and projects</td>
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<tr>
<td>Direct staff to plan and implement TDM</td>
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<tr>
<td>Act as TDM champions in media, business and public forums</td>
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<tr>
<th>Interest-based arguments</th>
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<tbody>
<tr>
<td>Improve travel choices and individual opportunity</td>
</tr>
<tr>
<td>Contribute to a wide range of municipal objectives (transit ridership targets, economic growth, greenhouse gas emissions, air quality, health)</td>
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<tr>
<td>Resolve ward-specific concerns (e.g. local traffic impacts or challenges faced by employers)</td>
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<tr>
<td>Emulate successes in other municipalities</td>
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<tr>
<td>Experience a positive benefit-cost ratio (subject to analysis)</td>
</tr>
<tr>
<td>Overcome lagging TDM implementation compared to peers, or solidify leadership position (whichever is applicable)</td>
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### 3.1.3 Provincial and territorial governments

Provincial and territorial governments in Canada have been relatively inactive on TDM, although their interest may have been stirred by the recent increase in federal interest in (and funding for) sustainable urban transportation projects. The involvement of provincial elected officials has generally revolved around the question of municipal authority to undertake transportation pricing (e.g. in Greater Vancouver and the City of Toronto). However, given that provincial and territorial governments are likely to become more involved in TDM (particularly as regional hubs for policy development, high-occupancy vehicle infrastructure, smart growth strategies, investment and capacity building) it would be worthwhile to begin the process of educating elected officials about the nature, methods and benefits of TDM—their interest and support can enable and encourage action by departmental staff. Educational efforts should be targeted at those elected officials who have a direct interest in TDM through either a ministerial portfolio (e.g. transportation, health, urban affairs, environment, education) or a geographic constituency (e.g. projects in a local riding).

Provincial and territorial stakeholders will be concerned with maximizing the value obtained from their significant investments in urban transportation infrastructure (information from Chapter 2 of this report can be useful in this regard). They may also respond to clear linkages between participation in TDM and other jurisdictional concerns:

- transportation infrastructure—major highways in all provinces and territories, transit fleets in British Columbia, metropolitan transportation planning in Quebec
- public health—related to air pollution and physical activity
- social welfare—related to individual equity and opportunity
- educational institutions—elementary through post-secondary
- environmental protection—air quality, climate change
- municipal powers—particularly with respect to transportation pricing
Because provincial officials are more removed than municipal officials from the daily concerns of individual voters, they may be more open to conceptual arguments in favour of TDM. However, they may need to be persuaded of the functional need to adopt a stronger role in TDM—they may believe that municipalities should undertake TDM independently, and fail to see the importance of provincial or territorial presence as an enabler and facilitator of municipal buy-in and action.

<table>
<thead>
<tr>
<th>Expected actions</th>
<th>Interest-based arguments</th>
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<tbody>
<tr>
<td>Encourage departmental staff to support and implement TDM</td>
<td>Maximize the value of investments in urban transportation infrastructure</td>
</tr>
<tr>
<td>Support TDM proposals by staff</td>
<td>Reduce pressure on provincial highway systems (as applicable)</td>
</tr>
<tr>
<td>Support provincial leadership and coordination of municipal TDM activities</td>
<td>Build ridership on provincial transit operations (as applicable)</td>
</tr>
<tr>
<td>Support provincial delegation of authority for transportation pricing to municipalities</td>
<td>Contribute to environmental protection, public health, individual equity and opportunity</td>
</tr>
<tr>
<td>Champion local TDM efforts among other elected officials and the media</td>
<td>Help schools, colleges and universities operate more efficiently</td>
</tr>
<tr>
<td>Amend legislation to remove TDM-related barriers (e.g. prohibition of third-party vanpooling)</td>
<td>Enable adequate, predictable funding for urban transportation systems through pricing</td>
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### 3.1.4 Federal government

The consideration of TDM issues at the federal political level is infrequent—but when it does occur it can be of considerable importance. For example, the issue of amending Canada’s *Income Tax Act* to make employer-provided transit benefits tax-exempt, which is a long-standing goal of the Canadian Urban Transit Association and many municipalities, has been discussed federally for more than a decade (albeit without action—while a tax credit for individual transit pass purchases was instituted recently). The federal government has increasingly recognized the importance of sustainable urban transportation in recent years, motivated by issues around climate change, air quality and national economic competitiveness (given that urban affairs generally lie outside federal jurisdiction). While funding for transit and other transportation infrastructure has been the focus of resulting activity, the Urban Transportation Showcase Program and ecoMOBILITY Program have been able to demonstrate the potential of TDM and build the capacity of practitioners and municipalities to undertake it. The government has also indicated that transit and road projects supported by the Building Canada Fund will be strongly encouraged to incorporate appropriate TDM initiatives.

As with provincial elected officials, efforts to engage federal politicians should target those having a direct interest in TDM through either a ministerial portfolio (e.g. transportation, health, environment) or a geographic constituency (e.g. projects in a local riding). Local Members of Parliament can also play the important role of champion through their communications with provincial and local officials as well as the media.

A principal concern of federal elected officials is to maximize the value obtained from federal investments in urban transportation infrastructure. Information like that presented in Chapter 2 of
this report (some of which was sourced from federal government studies) can be useful in this regard. Federal stakeholders may be swayed by descriptions of how successful TDM measures have impacted on areas of federal interest (e.g. climate change, public health, equity and opportunity for youth, the elderly and recent immigrants). While recognizing broader social benefits, a growing demand for spending accountability and measurable results means that “bankable” numbers related to tangible benefits will be most persuasive.

A compelling case for increased federal support for TDM can also be built around the degree to which Canada lags its peer nations in national TDM policy, programs and funding. The federal government takes its leadership role seriously, and recent TDM advances in the United Kingdom and Australia have left Canada a considerable distance behind.

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<th>Making the case to elected officials — Federal government</th>
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<tr>
<td><strong>Expected actions</strong></td>
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<tr>
<td>• Encourage departmental staff to support and implement TDM</td>
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<tr>
<td>• Support TDM proposals by departmental staff</td>
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<tr>
<td>• Increase funding for TDM projects or initiatives</td>
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<tr>
<td>• Direct departmental staff to coordinate provincial and territorial activities</td>
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<tr>
<td>• Support changes in national fiscal and taxation policy</td>
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<tr>
<td>• Champion local TDM efforts among other elected officials and the media</td>
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<tr>
<td>• Amend legislation to remove TDM-related barriers (e.g. taxation of employer-provided transit benefits)</td>
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<tr>
<td><strong>Interest-based arguments</strong></td>
</tr>
<tr>
<td>• Maximize the value of federal investments in urban transportation infrastructure</td>
</tr>
<tr>
<td>• Contribute to public health, environmental protection and individual equity and opportunity</td>
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<tr>
<td>• Overcome Canada’s lagging position in senior government support for TDM among its peers</td>
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### 3.2 Government staff

This section addresses how to build an effective case for TDM when addressing the staff of federal, provincial/territorial or municipal government departments. While many of the points raised in Section 3.1 apply here in a generic fashion, this section focuses on substantive issues that staff members deal with on a day-to-day basis.

There is a consistent range of recommended techniques for engaging government staff, as discussed in Section 3.2.1. In contrast, the actions that TDM stakeholders could hope to elicit from various staff groups, and the arguments that might help to do so, will vary among audiences, as discussed in Sections 3.2.2 to 3.2.8.

#### 3.2.1 Techniques for engagement

The following paragraphs describe some effective strategies for raising awareness of TDM among government staff, and for creating opportunities for constructive dialogue.

**Communicate local opportunities and expected outcomes.** Because TDM is a broad concept, staff audiences may simply be unaware of activities that might be of interest to them, and of the kinds of impacts that might result. Simply contacting audiences with a focused inquiry as to their level of
interest in exploring specific opportunities can open doors to future collaboration. Arranging a meeting is even more effective, and likely allows for a wider and lengthier discussion.

**Report on local TDM initiatives.** Using various lines of communication (e.g. media, council reports, newsletters, broadcast emails, blogs, websites) to report on the effectiveness of local programs or projects is an effective way to validate current efforts and attract interest in future cooperation.

**Communicate best practices and successes from other locales.** When local experience is insufficient to validate a particular approach, draw from other national or international sources. Audiences are usually interested in hearing about transferable lessons from elsewhere that could support their objectives. Bringing in outside experts to make presentations is one of the best ways of sharing information, and other means include the distribution of reports, the addition of links to websites, and the inclusion of project summaries in newsletters or blogs.

**Set up a TDM working group of interested government staff.** Working groups are an excellent way for staff to share information, identify opportunities and coordinate action. Development of a focused and tangible mandate for the group can help avoid “drift” due to a collective lack of purpose. Working groups can create both interdepartmental linkages with a single government, as well as intergovernmental linkages (e.g. bringing together local and regional agencies, or municipal and provincial agencies).

**Arrange meetings with potential partners and clients.** Opportunities that appear distant on paper or over the telephone can gain a realism and vitality when discussed in person with potential clients. For example, inviting transit planning staff to a meeting between TDM stakeholders and an interested employer will inevitably lead to a faster and more complete understanding of opportunities and challenges than a lengthy exchange of emails and telephone messages.

**Invite audiences to present their TDM-related services.** Acquiring information on an audience’s interests and activities is one way to progress toward mutual understanding. Many potential partners will respond positively to an invitation to present their objectives and programs—which also provides an opportunity for sharing information in the reverse direction. Examples of TDM-related services that various audiences could be asked to present include:

- public transit—customer information, travel planning, promotional events, intermodal connections
- roads and traffic—walking and cycling facilities, traffic management plans
- land use planning—long-term plans, localized plans, zoning bylaws, development approvals
- environmental management—air quality and climate change strategies, smog alert response strategies, in-house environmental initiatives
- public health—workplace campaigns, school campaigns, road safety initiatives
- social services—employment and education assistance programs, mobility assistance programs
Attend professional events. TDM stakeholders should consider attending local meetings of professional associations. Informal discussion, networking and presentations are effective ways to raise the profile of TDM and attract interest. Relevant associations that have local, regional or provincial functions include the Canadian Urban Transit Association and various provincial transit associations, the Canadian Institute of Transportation Engineers and its various sections, the Canadian Institute of Planners and its constituent provincial organizations and local districts, and the Canadian Public Health Association and its provincial and territorial branches.

3.2.2 Public transit

Transit systems have an important role in TDM—in fact, many of their regular marketing and promotional activities could be considered to be TDM. However, because transit staff are usually overextended it can be a challenge to persuade them to align and integrate with broader TDM programs, and to coordinate key messages and delivery mechanisms. Collaboration between transit staff and their transportation, health and environmental colleagues is often weak, even in governments that have strong TDM programs. Better integration is needed for collective TDM efforts to pay off fully. Transit system actions that are desirable for TDM stakeholders include communication linkages to TDM programs (e.g. distributing cycling or ridesharing brochures at transit stations), joint outreach to clients (e.g. discounted transit pass programs at employers or post-secondary institutions, information displays at special events), and improvements to intermodal facilities (e.g. bike parking at transit stations, bike racks on buses).

Transit systems have two principal goals—to carry as many riders as possible, and to minimize the net costs of doing so—although the relative importance of these goals will vary with financial circumstances. Because transit systems are typically an arm of municipal governments, they also have an interest in supporting other local or regional objectives (e.g. equity for disadvantaged groups, economic development, emergency response capacity). In general, the message of “shared resources, shared objectives” will resonate with transit system staff. Any TDM initiative that effectively boosts ridership (where spare capacity exists) and/or reduces net costs is likely to be a clear winner. Initiatives that do neither particularly well will be harder to sell, unless they support other key municipal objectives—in which case a “two birds with one stone” case can be made.

It is important to note that many transit systems in Canada’s mid-size and large cities are operating near capacity in peak directions during rush hours, and may have limited interest in TDM initiatives that boost ridership among (say) full-time employees of downtown businesses. However, those same systems typically have excess capacity at mid-day periods and in off-peak directions (e.g. from downtown to suburbs in the morning peak period). They may see more benefit from TDM initiatives that boost ridership among suburban workers, shift or part-time employees, retirees, shoppers, tourists and other non-traditional markets.

In making the case to transit systems, one challenge to overcome may be the perceived risk that some TDM initiatives could increase walking, cycling, ridesharing or telework at the expense of transit ridership (i.e. modal shift from transit, rather than to it). This is not an entirely unrealistic outcome of TDM initiatives, although it really should be viewed from the positive perspective of urban transportation sustainability, rather than through a narrow lens of transit interests. In fact, this
transformation of perspective is happening across North America where there has been a general evolution of the role of transit systems from “transit provider” to “mobility provider”.

Because transit systems place value on the reliability and manageability of revenue streams, the conversion of transit users from cash or ticket users to transit pass (or smart card) holders is almost always desirable (noting that tickets are expensive to vend, and cash fares are expensive to count). Programs that sell discounted transit passes (either by individual subscription at a workplace, or by universal subscription at a college or university) can attract cash and ticket users, and are a key feature of many TDM programs. They may do little to boost short-term revenues, but can make revenues much easier to predict and account for.

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<th>Making the case to government staff — Public transit</th>
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<tr>
<td>Expected actions</td>
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<tr>
<td>• Provide TDM links in regular transit communications</td>
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<td>• Support joint outreach to clients</td>
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<td>• Improve intermodal travel facilities</td>
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<tr>
<td>Interest-based arguments</td>
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<tr>
<td>• Increase ridership where spare capacity exists</td>
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<tr>
<td>• Reduce net transit operating costs</td>
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<tr>
<td>• Improve the reliability and ease of managing fare media and revenues</td>
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<tr>
<td>• Support other government objectives including a shift in demand from single-occupant vehicles</td>
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</table>

### 3.2.3 Roads and traffic

Road and traffic professionals are one of the most important audiences to be engaged by TDM stakeholders. They play a key role in developing transportation infrastructure and shaping the transportation dimension of new developments, and are primarily responsible for ensuring that the “public space” function of roads is multimodal in nature and supports broader community objectives. However, conventional road standards and traffic management practices tend to grant priority to the needs of automobiles—and TDM stakeholders should therefore consider how best to ensure that municipal road provision and operation is, in fact, supportive of sustainable transportation principles. As far as possible, there should be consistency and coordination between the road and traffic staff, who work to make automobile travel faster, safer and more convenient, and the TDM agenda—something that can take significant time and effort to achieve.

 Perhaps the most important way that road and traffic staff can support TDM is by incorporating facilities and features that support sustainable transportation choices into every road project. This could include re-striping roads to create wide curb lanes, widening roads to create bike lanes, relocating bus stops, or adding traffic calming measures and street furniture.

Traffic operations staff are usually responsible for regular data collection processes including traffic counts that, in some communities, are focused only on motor vehicles and do not count pedestrians, cyclists or motor vehicle occupants. The inclusion of sustainable travel modes in traffic count programs enables analysis that leads to better understanding of the magnitude of walking, cycling and carpooling activity, and that can help to monitor and evaluate the impacts of TDM measures.
Road and traffic staff also play an important role in development approval processes. They typically review all development applications, and for larger proposals will direct and review the preparation of studies that document the transportation impacts of development and recommendations to mitigate those impacts. Commitments by developers to undertake TDM programs and include supportive infrastructure as part of their developments are a desirable outcome of this process.

Finally, road and traffic staff typically play a lead role in working with communications staff, utility companies and contractors to conduct a regular stream of public communications around construction projects, road openings, planning and design studies, and special events. Those responsible for communications can integrate TDM-supportive messages—ranging from subtle to overt—to ensure a multimodal balance. An area of particular interest is planning for special events like charity races, parades or festivals, when traffic management plans are created to ensure access, prevent excessive congestion and ensure public safety. During events, detours are signed and public service announcements are relayed through media outlets. These are opportunities to not just mitigate problems by helping drivers navigate wisely, but to prevent problems by encouraging walking, cycling, transit and carpooling rather than driving alone. It is also possible to work with event organizers to actually integrate TDM incentives that minimize the impact of their event (e.g. by letting festival attendees use their tickets as one-day transit passes), but such initiatives require that TDM be “top of mind” during advance planning.

To bring road and traffic staff “on board” with TDM objectives and initiatives, it is important to show them that TDM supports, rather than conflicts with, their objectives—for example, that small reductions in traffic volumes (or in the pace of growth) can significantly reduce delay and improve safety. It is equally important to satisfy their many practical concerns by providing evidence that TDM initiatives and supportive infrastructure are effective, and are not merely “window dressing”. Over time, it is also desirable to educate road and traffic professionals about the important role that successful multimodal streets play in supporting social networks, public health and economic development.

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<th>Making the case to government staff — Roads and traffic</th>
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<tr>
<td><strong>Expected actions</strong></td>
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<tr>
<td>• Improve sustainable travel options as part of regular road projects</td>
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<tr>
<td>• Integrate sustainable transportation objectives, TDM initiatives and supportive facilities into development approval processes</td>
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<tr>
<td>• Include TDM messages in communications around road studies, construction projects, facility openings</td>
</tr>
<tr>
<td>• Integrate TDM initiatives and messaging into traffic management planning for special events</td>
</tr>
<tr>
<td>• Include pedestrians and cyclists in intersection turning movement count programs, and include transit and automobile occupancy data in screenline count programs</td>
</tr>
<tr>
<td><strong>Interest-based arguments</strong></td>
</tr>
<tr>
<td>• Support congestion and safety objectives by mitigating traffic volumes</td>
</tr>
<tr>
<td>• Minimize congestion and safety impacts of special events</td>
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<tr>
<td>• “Build in” solutions through development approvals to minimize future retrofit issues</td>
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<tr>
<td>• Support the success of long-range transportation targets such as road level of service objectives</td>
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<tr>
<td>• Build the profile of municipal road projects by addressing the needs of all users rather than just drivers</td>
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</table>
3.2.4 Parking

Municipal parking staff are typically responsible for the supply, regulation, pricing and enforcement of on-street parking, as well as for the supply, pricing and operation of off-street public parking lots. They may also have some influence on the provision and management of private parking lots.

Parking staff can play several important roles, of which the most critical may be in developing a parking supply that supports, rather than conflicts with, sustainable transportation objectives for the use of walking, cycling, transit and carpooling. The major dimensions of this issue include the capacity of public and private parking facilities in key areas such as downtowns, and the appropriate pricing of public parking to balance service to short-term parkers (e.g. shoppers) and long-term parkers (e.g. commuters). From a TDM perspective, it may be desirable to discourage long-term parking in public parking lots by eliminating daily limits and “early bird” specials. However, such strategies can lead to empty spaces and lower revenues—a problem when public parking is seen more as a revenue generator than a strategic lever for transportation management.

Other supportive roles for parking staff include the provision of adequate, secure bicycle parking in street rights-of-way (e.g. in the boulevard, or in on-street spaces previously used for motor vehicle parking) and in off-street public parking lots. Convenient, secure and adequate bicycle parking is important to cyclists, but parking staff may be reluctant to take responsibility for its provision because it usually generates no revenue to offset the costs of installation and maintenance. Where necessary, TDM stakeholders can promote alternative approaches—such as outsourcing the function to the private sector. In some cities (e.g. Ottawa) private companies provide on-street bike racks and collect revenue from small advertising posters on the racks. This approach reduces workload for municipal staff, but does not guarantee provision of bike parking in locations where advertising revenues are limited.

Parking staff may also be responsible for park-and-ride lots, which typically offer bicycle parking and can offer preferential parking for carpools (e.g. Montreal). The provision of preferential parking for carpools in off-street public parking lots (e.g. Calgary Parking Authority) is not common, but may encompass priority spaces located near ground-floor exits, or simply advanced priority for carpools in the allocation of monthly permits.

More strategically, parking management staff offer potential TDM alliances based on economic factors. Specifically, TDM programs that moderate parking demand can either defer or eliminate the need to develop expensive off-street parking facilities, or even free up municipally-owned land for sale and development (a socially beneficial strategy with a financial “windfall”). Even in cities where public parking facilities in core areas are funded through “cash in lieu” policies (i.e. whereby developers contribute funds rather than provide parking spaces required in zoning by-laws), TDM programs that reduce parking demand could enable a reduction in by-law requirements and a financial break for landowners. Such cash-in-lieu policies have the advantage of bringing a greater share of public parking under municipal control, where it can be priced and operated in the public interest—or even disposed of if parking demand can be managed effectively.

Parking staff may be very supportive of TDM strategies when developing areas (notably revitalized downtowns) face rising parking demands, and there is pressure to build new public parking facilities. In such cases, TDM strategies that reduce parking demand can cost much less than
construction of parking to serve the same demand—a parking structure with 100 spaces would typically cost at least $2 million plus land costs, while TDM initiatives that reduce parking demand could be considerably cheaper and offer ancillary benefits.

### Making the case to government staff — Parking

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<th>Expected actions</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Establish a public parking supply and rates for on-street and off-street parking that reinforce sustainable transportation objectives</td>
<td></td>
</tr>
<tr>
<td>Consider TDM before investing in expanded public parking facilities</td>
<td></td>
</tr>
<tr>
<td>Consider cash-in-lieu strategies for new development</td>
<td></td>
</tr>
<tr>
<td>Provide adequate, secure bicycle parking in street rights-of-way and off-street facilities</td>
<td></td>
</tr>
<tr>
<td>Provide bicycle and preferential carpool parking in park-and-ride lots</td>
<td></td>
</tr>
<tr>
<td>Provide preferential carpool parking in off-street parking lots</td>
<td></td>
</tr>
<tr>
<td>Designate reserved “home” parking spaces for carshare vehicles in on-street or off-street parking areas</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interest-based arguments</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce the expense of parking provision</td>
<td></td>
</tr>
<tr>
<td>Increase parking revenues through a shift from long-term to short-term usage</td>
<td></td>
</tr>
<tr>
<td>Increase municipal control of parking</td>
<td></td>
</tr>
<tr>
<td>Support objectives for municipal transit ridership, carpooling and cycling</td>
<td></td>
</tr>
<tr>
<td>Reduce safety hazards from improper bicycle parking (e.g. locked to parking meters)</td>
<td>by providing secure alternatives</td>
</tr>
<tr>
<td>Generate revenues from private bicycle parking rack providers</td>
<td></td>
</tr>
</tbody>
</table>

### 3.2.5 Land use planning

Municipal land use planners are a key audience for TDM stakeholders. Their support for TDM objectives and initiatives is critical—in fact, effective land use planning can do much to reduce the ultimate need for TDM programs. A city that is planned and built to operate efficiently from a transportation perspective will require less in the way of public education, outreach and incentives to motivate changes in travel behaviour.

There are four main areas in which planners can play important roles from a TDM perspective. The first is to create long-term plans that enable an arrangement, density and mix of land uses that make short trips by cycling and walking as practical and attractive as possible, and that maximize the quality of transit service that can be provided cost-effectively. These outcomes will reduce the barriers that future TDM practitioners face in encouraging sustainable travel choices.

A second important role for planners is shaping new developments through localized policy plans (e.g. secondary plans) and zoning by-laws. These planning tools provide a finer level of detail in terms of specifying the look and feel of actual developments. Zoning by-laws, in particular, can specify supportive parking requirements (for both motor vehicles and bicycles) and features like workplace showers and change rooms.

Land use staff also work closely with developers to shape the details of individual developments that require municipal approval. This is a process that provides numerous opportunities to motivate developers to include TDM-supportive site infrastructure, and even to commit to undertake ongoing TDM measures after development completion. The active involvement of TDM stakeholders (or TDM-supportive planners) in development approvals, beginning early in the process, can be very
helpful. It can help to reinforce the importance of TDM principles so that they are not lost in the inevitable give-and-take between planners and developers. The reason that so many developments do not reflect clearly stated municipal policies is the ease with which municipal staff and elected officials will compromise on principles in the interest of attracting development and maintaining good relationships with developers.

A fourth area of land use planning of interest to TDM stakeholders is urban design, through which planning principles are brought to life in terms of the quality of public space—sidewalks, plazas, street furniture and other aspects of the streetscape that can encourage or discourage walking.

### Making the case to government staff — Land use planning

<table>
<thead>
<tr>
<th>Expected actions</th>
<th>Interest-based arguments</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Establish TDM-supportive development approval standards or guidelines</td>
</tr>
<tr>
<td></td>
<td>Establish TDM-supportive parking policies</td>
</tr>
<tr>
<td></td>
<td>Modify by-laws to require TDM-supportive development features</td>
</tr>
<tr>
<td></td>
<td>Work with developers to support their inclusion of TDM elements</td>
</tr>
<tr>
<td></td>
<td>Invite municipal TDM staff to relevant meetings with developers</td>
</tr>
<tr>
<td></td>
<td>Use urban design to ensure quality public spaces that encourage walking</td>
</tr>
<tr>
<td></td>
<td>Support smart growth</td>
</tr>
<tr>
<td></td>
<td>Support transit-oriented developments</td>
</tr>
<tr>
<td></td>
<td>Minimize future need for retrofits by improving the initial quality of developments</td>
</tr>
</tbody>
</table>

### 3.2.6 Environmental management

Among other responsibilities, environmental practitioners typically concern themselves with efforts to improve air quality, reduce greenhouse gas emissions and promote energy efficiency—objectives that clearly reflect those of TDM stakeholders.

There are several ways in which environmental management staff can support TDM initiatives. First is the specific consideration of TDM in the analysis of environmental management approaches, and its inclusion in policy and communications. Environmental practitioners should not have difficulty applying the objectives and principles behind recycling and energy conservation, which are prominent examples of demand management’s effectiveness, to the transportation sector in developing supportive arguments for TDM.

Environmental staff may also be tasked with leading or supporting corporate (in-house) sustainability programs, including commuter options initiatives—to which TDM stakeholders can lend their expertise and resources. They are also instrumental in responding to air quality events (e.g. smog alerts) and working with external parties to shape a community-wide response to minimize local air emissions on smog days. They can help work with large generators of transportation emissions (e.g. major employers, fleet managers) to develop supportive strategies. Importantly, TDM efforts can be conducted alongside other environmental management efforts in a way that helps target audiences understand the links and synergies among different supportive behaviours.
Making the case to government staff — Environmental management

<table>
<thead>
<tr>
<th>Expected actions</th>
<th>Interest-based arguments</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Consider and communicate TDM’s role in air quality, climate change and energy</td>
<td>▪ Improve community air quality, reduce greenhouse gas emissions and energy consumption</td>
</tr>
<tr>
<td>conservation initiatives</td>
<td>▪ Reduce number and magnitude of air quality events</td>
</tr>
<tr>
<td>▪ Promote TDM as a community response to air quality events</td>
<td>▪ Improve in-house environmental performance</td>
</tr>
<tr>
<td>▪ Support in-house commuter options initiatives</td>
<td></td>
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</table>

3.2.7 Public health

Public health agencies are a strong and natural ally of TDM stakeholders. Their key shared objectives include better respiratory health, greater levels of physical activity, and heightened safety of all road users. They prepare and deliver education and outreach programs to key markets including workplaces and schools. In many communities, the voice of the medical officer of health carries substantial weight with elected officials and the media.

While health practitioners are usually well informed about the links between transportation systems and public health, they may be less aware of the potential of TDM as a tool to improve health. TDM practitioners should inform them of the potential to promote active transportation as physical activity. Efforts to engage them and inform them about TDM objectives and initiatives can help transform them into effective TDM champions.

Making the case to government staff — Public health

<table>
<thead>
<tr>
<th>Expected actions</th>
<th>Interest-based arguments</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Promote walking and cycling for utilitarian travel, including as a “next step” for those who use them as recreation</td>
<td>▪ Improve air quality</td>
</tr>
<tr>
<td>▪ Promote cycling safety and skills education</td>
<td>▪ Increase physical activity</td>
</tr>
<tr>
<td>▪ Promote commuter options initiatives to employers through workplace health campaigns</td>
<td>▪ Improve road safety</td>
</tr>
<tr>
<td>▪ Promote and support special events (e.g. Commuter Challenge, Bike to Work Week, Walk to School Day)</td>
<td>▪ Improve individual work-life balance and reduce stress</td>
</tr>
<tr>
<td>▪ Share workplace contacts and outreach strategies</td>
<td></td>
</tr>
</tbody>
</table>
3.2.8 Social services

Social services practitioners work with a variety of disadvantaged audiences to support their integration into the community and access to basic services, as well as to improve their employment, education and recreation opportunities. Many of their clients are unlikely to have access to a car, and may depend instead on options like walking, cycling, taxis and public transit. TDM initiatives can help clients use sustainable travel modes to fulfill their day-to-day travel needs. TDM stakeholders can work with social services staff to provide a bridge between clients and providers of important services (e.g. public transit) to ensure that best efforts are made to identify, understand and meet special needs.

Social services practitioners may not be well informed about opportunities to improve the role of transportation in their clients’ lives. It is important for TDM stakeholders to initiate a dialogue by exploring this very issue.

Making the case to government staff — Social services

<table>
<thead>
<tr>
<th>Expected actions</th>
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</thead>
<tbody>
<tr>
<td>Develop greater awareness and understanding of sustainable travel choices</td>
</tr>
<tr>
<td>Help clients feel more comfortable and secure when using more challenging modes including cycling and public transit</td>
</tr>
<tr>
<td>Encourage and support increased walking and cycling by clients</td>
</tr>
<tr>
<td>Provide financial assistance for transit use</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interest-based arguments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve clients’ access to employment, education, recreation, shopping and personal services</td>
</tr>
<tr>
<td>Improve clients’ personal safety and security</td>
</tr>
</tbody>
</table>

3.3 Employers

Transportation demands are typically at their greatest during peak periods, when work-related commuting trips dominate. Shifting individual commuters to more sustainable modes (e.g. transit, carpooling, walking or cycling), shifting the times at which they travel (e.g. through compressed work weeks or flexible working hours) or even eliminating their trips (e.g. through telework) can all reduce the demand on transportation infrastructure, make transportation systems more efficient and defer or eliminate the need for new or wider roads. Because employers determine many of the circumstances around individual commuting decisions, they play a key role in TDM initiatives. Nevertheless, the historical engagement of Canadian employers is low. Great role models and champions do exist, of course, but TDM stakeholders have generally had only limited success in engaging employers as customers, allies and partners.

There is a consistent range of recommended techniques for engaging employers, as discussed in Section 3.3.1. In contrast, the actions that TDM stakeholders could hope to elicit from various audiences within employers, and the arguments that might help to do so, will vary among those audiences, as discussed in Sections 3.3.2 to 3.3.6.
3.3.1 Techniques for engagement

The following paragraphs describe some effective strategies for raising awareness of TDM among employers, and for creating opportunities for constructive dialogue.

**Understand the employer.** A case for TDM needs to be tailored to the interests of each particular employer. A manufacturer in an outlying suburb may have issues of employee access, and may wish to use TDM to help attract and retain employees by making it easier or less costly for them to get to work. On the other hand, a downtown professional office that already has strong transit use may want to support its employees’ work-life balance through teleworking and active commuting.

**Consider various points of contact.** Expect employers to have a high level of interdepartmental collaboration and support, with shared responsibilities among various departments. This means that there is more than one point of possible access and/or necessary engagement for TDM stakeholders. TDM champions are typically found in facility management or human resources, and are supported by employee health and wellness, information technology and environmental management groups. Key TDM stakeholders usually reach out to staff in these other departments to involve them in up-front planning, meaning that TDM stakeholders need to provide a solid multi-disciplinary case for TDM as the foundation for a collective approach to senior management.

**Leverage governmental interest and backing.** Because some employers may be more receptive to approaches by government agencies, non-governmental or private sector TDM organizations may wish to highlight the role of their governmental partners or allies.

**Request a meeting.** A direct invitation to an employer, inviting key staff to a discussion of ways they could benefit from TDM, can be effective if the overture accurately targets the general interests of the employer as well as the targeted staff group (e.g. facilities or human resources). Such invitations may be more effective if they are made under cover of a letter from the Mayor or other elected official.

**Offer specific services.** To engage employers, an offer of specific services or benefits may be more effective than a general invitation to meet. Services like lunch-and-learn speakers, advice on bike parking, cycling skills courses, ridesharing services or transit pass programs are tangible offerings that may respond to a recognized need, and thus have greater value. Dialogue that results from an initial offer then becomes an opportunity to talk about other issues.

**Invite participation in a community event.** Companies may be willing to get involved in a defined, time-limited and community-based event (e.g. Commuter Challenge, Bike to Work Week, Rideshare Week). Corporate involvement is often seen as supporting social or environmental responsibility, and an opportunity to improve public relations and employee morale. Invitations sent by the Mayor or other elected official can be particularly effective.

**Host an event.** Employers may be interested in attending an event to learn about important transportation or environmental issues, particularly from a high-profile speaker. Hosting a lunch or breakfast meeting, for example, positions TDM stakeholders as information brokers and offers an opportunity to address attendees directly. Invitations sent by the Mayor or other elected official can be particularly effective.
Attend professional events. Staff of possible employer partners will participate in professional development or networking functions (e.g. of local property management associations or human resources organizations). Attending these events offers TDM stakeholders a chance to network and build their list of contacts, as well as to learn about what issues are driving change in various aspects of employer organizations.

Participate in development approvals. TDM stakeholders within local government should be actively involved in (or at least monitoring) the development approvals process. They should also educate development approvals staff to represent TDM interests effectively. Developments facing difficult transportation issues can be an “open door” for TDM stakeholder involvement. Development applications by employers typically involve senior property management staff, who may respond to a TDM opportunity if it speeds acceptance of their proposal or can mitigate undesirable impacts. In any case, it is critical that new developments include TDM-supportive infrastructure like bike parking, showers and change areas – whether or not a TDM program results.

Contact relocating employers. Relocation of an office can cause major disruption to employees, and can even become a morale issue. TDM stakeholders can offer tools to help employers make the necessary transition more smoothly, such as trip planning or ridematching services.

Join forces with government or NGO service providers. Employers are frequently engaged by stakeholders in related sectors, such as employee wellness or environmental management. Arranging for joint or cross-promotion with these allied interests can create new contacts with little effort.

Join forces with business groups. TDM stakeholders should discuss possible synergies with groups like the local Chamber of Commerce, Board of Trade or neighbourhood merchant organizations. Beyond the guaranteed reward of greater understanding of the issues faced by local employers, there may be additional opportunities for collaborative messaging, event promotion or the development of shared services.

Work with the media. Constructively engaging local media can help to promote success stories and raise understanding of the rationale for employer involvement in TDM initiatives.

Recognize and reward successes. Many employers feel pressure to “keep up” with competitors in areas related to employee or public relations. Giving recognition to employers that participate in TDM initiatives is one way to be noticed by other employers who may have an interest in becoming involved. Media and business groups will often be enthusiastic about communicating the granting of awards that recognize the achievements of local businesses.

3.3.2 Senior management

Senior management “buy-in” is vital to the success of employer-based TDM programs. While corporate executives are unlikely to be involved in the day-to-day development of TDM initiatives, their support can facilitate employee efforts to plan and implement new programs. They provide the required authorization for staff to spend time and money on TDM, and may need to sign off on new policies with broad corporate implications (e.g. telework, flexible work hours, parking management). Senior managers can also play an important role as champions within the business community, where their “peer” status can help influence other employers to investigate the benefits of TDM.
Because executives are concerned with their core business, TDM-related messages should relate directly to the “corporate bottom line”. This concept is primarily economic so cost reductions, productivity gains, employee retention and improved competitiveness are all potential winning issues with senior management. However, environmental and social responsibility is another increasingly important issue driven by the concerns of staff, customers and shareholders. Clearly, TDM measures can reduce local air pollution and greenhouse gas emissions, and are a good complement to other corporate environmental strategies. More broadly, employers want (and need) to be seen doing the right thing—and can be motivated by improved visibility as “good corporate citizens” at the local, regional, national or international level. This is particularly true of larger organizations, for which environmental and social leadership can translate into increased customer exposure and profitability. Even smaller employers are loath to be left behind, and managers may be interested in knowing that their competitors are embracing TDM.

Because senior managers tend to be decision-makers who are swayed by coherent, focused arguments, these are more effective than generic discussions. Before making a “pitch” for TDM, it is desirable to have investigated an employer’s particular opportunities and challenges in as much detail as possible.

Three moments offer good opportunities to engage senior management. The first occurs when an employer is planning to build new or expand facilities—a situation where management has real incentive to reduce costs by rationalizing a reduction in new parking infrastructure, and also to smooth the path for municipal approvals by including design features that support sustainable transportation. The second occurs when an employer is relocating, and employees may benefit from information or incentives that help them transition to new commuting patterns. The third occurs during preparation for community events like the Commuter Challenge, which presents an opening for dialogue while requiring little in the way of corporate commitment.

<table>
<thead>
<tr>
<th>Making the case to employers — Senior management</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Expected actions</strong></td>
</tr>
<tr>
<td>• Provide high-level support and validation</td>
</tr>
<tr>
<td>• Approve changes in corporate policy</td>
</tr>
<tr>
<td>• Authorize staff time and approve expenditures</td>
</tr>
<tr>
<td>• Act as champions within the corporate community</td>
</tr>
<tr>
<td><strong>Interest-based arguments</strong></td>
</tr>
<tr>
<td>• Reduce operating costs and improve profitability</td>
</tr>
<tr>
<td>• Reduce the cost of new facilities (if applicable)</td>
</tr>
<tr>
<td>• Help employees adjust to new commuting patterns due to relocation</td>
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<tr>
<td>• Improve employee satisfaction, work-life balance, health and productivity</td>
</tr>
<tr>
<td>• Improve employee recruitment and retention</td>
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<tr>
<td>• Improve corporate environmental performance</td>
</tr>
<tr>
<td>• Strengthen visibility as a good corporate citizen</td>
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<tr>
<td>• Become a leader among peers, or catch up to peers (whichever is applicable)</td>
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</tbody>
</table>

The Case for TDM in Canada
3.3.3 Facility management

Within employer organizations, the staff group most commonly responsible for TDM initiatives is facility management (sometimes known as real estate or property management), which is usually responsible for buildings and landholdings. Facility management staff recommend worksite locations and amenities, and direct day-to-day facility operations. They also tend to be responsible for, or collaborate on, key TDM-related functions including parking supply and operation, on-site traffic circulation, environmental management (including greenhouse gas emissions) and security.

### Making the case to employers — Facility management

<table>
<thead>
<tr>
<th>Expected actions</th>
<th>Interest-based arguments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide adequate, secure and sheltered bicycle parking</td>
<td>Expand environmental management portfolio to address commuting</td>
</tr>
<tr>
<td>Provide showers, lockers and change room</td>
<td>Reduce greenhouse gas emissions from employee commuting</td>
</tr>
<tr>
<td>Enhance on-site amenities including sidewalks, pathways, signs and lighting</td>
<td>Reduce congestion at access points and on internal roads</td>
</tr>
<tr>
<td>Provide, manage and enforce carpool parking spaces</td>
<td>Reduce parking demand and the cost of parking supply or maintenance</td>
</tr>
<tr>
<td>Negotiate improved transit or provide shuttle services</td>
<td>Demonstrate leadership in the community or among competitors</td>
</tr>
<tr>
<td>Provide on-site commuting information and services like transit pass sales</td>
<td></td>
</tr>
<tr>
<td>Develop and launch an internal TDM program</td>
<td></td>
</tr>
<tr>
<td>Advocate for transit-friendly worksite locations</td>
<td></td>
</tr>
<tr>
<td>Provide infrastructure that supports mobile working (e.g. “hotel” spaces)</td>
<td></td>
</tr>
<tr>
<td>Consider opportunities to institute paid parking</td>
<td></td>
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<tr>
<td>Include TDM results in environmental reports</td>
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</tbody>
</table>

3.3.4 Human resources

Human resources staff are responsible for employee recruitment, retention and management, and typically control a number of key corporate policies concerning employment conditions, benefits and related programs. Human resources staff may or may not “own” an overall TDM initiative, but in either case they must understand the rationale for it. Human resources often have approval over employee communications, which are critical to TDM success.

Human resources professionals are an educated audience who already understand key issues like work-life balance, employee satisfaction, productivity, health and stress. The goal of TDM stakeholders should therefore be to not portray TDM as the “solution” to these concerns. Rather, they should position TDM as proven effective, efficient to undertake, and complementary to existing programs. The use of case studies and local success stories can be very helpful.

Human resources staff can also play a key role in the delivery of specific initiatives like telework, flexible work hours, payroll-deduction transit pass sales and employee information campaigns.
### Making the case to employers — Human resources

<table>
<thead>
<tr>
<th>Expected actions</th>
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</thead>
<tbody>
<tr>
<td>- Provide high-level support for the value of TDM</td>
</tr>
<tr>
<td>- Explain TDM initiatives in new employee orientation</td>
</tr>
<tr>
<td>- Facilitate transit pass sales or subsidies</td>
</tr>
<tr>
<td>- Develop commuting-related policies (flexible work hours, access to shower and change facilities, telework, parking)</td>
</tr>
<tr>
<td>- Develop policies that support business travel options like transit, active transportation, audio and videoconferencing</td>
</tr>
<tr>
<td>- Support for TDM communications, events and promotions</td>
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<table>
<thead>
<tr>
<th>Interest-based arguments</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Improve employee health and reduce stress</td>
</tr>
<tr>
<td>- Improve work-life balance, employee satisfaction and productivity</td>
</tr>
<tr>
<td>- Improve employee recruitment and retention</td>
</tr>
<tr>
<td>- Demonstrate leadership in the community or among competitors</td>
</tr>
</tbody>
</table>

### Employee wellness

In larger employers, wellness staff promote individual health in both the workplace and home environments, with the goal of keeping employees healthy and productive. Typical initiatives address physical activity, healthy eating and stress reduction. Wellness staff are often responsible for on-site fitness facilities (e.g. showers, lockers and change areas), as well as for delivery of educational events on health-related topics. They are typically engaged with the workplace health outreach campaigns of local governments, and are an attractive and supportive point of entry by TDM stakeholders into an employer organization. Wellness staff are particularly receptive to the delivery of information, resources, tools or training related to active transportation.

### Environmental management

Environmental management staff are valuable allies of TDM stakeholders because they can easily understand and support TDM outcomes related to energy consumption and air emissions, as well as the achievement of corporate goals for social and environmental responsibility. However, in some cases their existing mandate may not extend to employee commuting, which many employers have conventionally failed to identify as an internal concern. Once that obstacle is overcome (if necessary), environmental professionals can offer many useful connection skills and connections.
**Making the case to employers — Environmental management**

**Expected actions**
- Support and leverage participation in TDM programs
- Monitor, measure, evaluate and report on corporate TDM initiatives

**Interest-based arguments**
- Expand environmental management portfolio to address commuting
- Reduce greenhouse gas emissions from employee commuting
- Include TDM results in environmental reports
- Demonstrate leadership in the community or among competitors

---

### 3.4 Educational institutions

#### 3.4.1 Elementary & secondary schools

Many elementary and secondary schools face emerging issues around student health (particularly physical activity and obesity levels) and student safety (particularly on roads around schools). TDM initiatives like active and safe routes to school programs and International Walk to School Day events can play an important role in resolving these issues by encouraging students to walk or cycle to school rather than being driven, and by reducing traffic volumes around schools. They also lay the foundation for long-term cultural and behavioural change by engaging the youngest members of our society, and by introducing sustainable transportation concepts into the home where they can be consumed by adults.

TDM stakeholders are likely to be in the position of either encouraging schools and their stakeholders to undertake TDM initiatives, or of being able to deliver such initiatives themselves. In either circumstance, an initial challenge is to engage key school stakeholders, who could be school board staff, school administrators, teachers, parent groups or individual families (and in fact success will likely require several of these groups to be involved). TDM stakeholders can improve their odds of success by speaking at parent council meetings, holding educational events to inform parents and teachers about success stories, collaborating with public health nurses who operate in schools, and approaching school administrators directly with specific proposals. Partnerships are fundamental to TDM initiatives like active and safe routes to school programs, which tend to be funded by municipal governments and delivered through either non-governmental organizations or consultants with the close cooperation of parents and other members of the school community.

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**Making the case to educational institutions — Elementary and secondary schools**

**Expected actions**
- Administrators: Lead other stakeholders in creating a “school travel plan” that encourages more sustainable travel
- Administrators: Improve bicycle parking
- Administrators: Offer cycling skills training within the athletic curriculum
- Teachers: Offer sustainable transportation curriculum, and coordinate events like class challenges
- Parents: Coordinate walking school buses, cycle trains and similar projects

**Interest-based arguments**
- Increase physical activity, reduce obesity and improve health
- Reduce congestion, emissions and traffic risk around schools
- Enhance environmental and social studies curricula
3.4.2 Universities & colleges

Post-secondary educational institutions can be eager partners in TDM initiatives aimed at student travel, and to a lesser extent at commuting by staff and faculty. Quite commonly, they face rising parking demands and a simultaneous desire to maximize the land available for buildings rather than parking lots. At the same time, parking can be a significant revenue stream and preserving access for drivers can be important for institutions that draw students from a wide area. Nevertheless, these institutions pride themselves on innovation and leadership. Their student bodies are also increasingly sensitive to environmental issues as well as the costs of travel to and from campus.

One audience for TDM stakeholders is the university administration, which is the entry point to discussions about staff and faculty commuting, parking management, on-site facilities for transit and active transportation, and campus-wide ridesharing programs. Many of the employer engagement techniques presented in Section 3.3.1 are valid ways to approach administrative staff. Typically, campus facility management staff are responsible for parking and other transportation issues and are likely to be the main supporters of TDM (to the extent that it supports their interests). It is important to note that in cities with multiple university and college campuses, institutions tend to be very aware of each other—and successes at one can quickly generate attention (or outright emulation) by others.

Another key audience is the student body, and specifically their leaders who are essential allies in the development of universal transit pass (commonly known as U-Pass) programs for students, which are almost always adopted through a student vote. TDM stakeholders can initiate and advance this relationship by providing success stories, facilitating meetings between students and transit providers, and raising student awareness and understanding of U-Pass issues.

<table>
<thead>
<tr>
<th>Making the case to educational institutions — Universities and colleges</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Expected actions</strong></td>
</tr>
<tr>
<td>Administration: Develop a campus TDM strategy that integrates parking and transportation issues</td>
</tr>
<tr>
<td>Administration: Support delivery of education, information and incentives to faculty, staff and students</td>
</tr>
<tr>
<td>Administration: Support U-pass program proposals and implementation, including financial contributions</td>
</tr>
<tr>
<td>Student leaders: Develop a U-Pass program proposal for student body approval</td>
</tr>
<tr>
<td><strong>Interest-based arguments</strong></td>
</tr>
<tr>
<td>Reduce public transit fares for students</td>
</tr>
<tr>
<td>Maximize transit ridership</td>
</tr>
<tr>
<td>Reduce parking and traffic demands, and maximize land for non-parking uses</td>
</tr>
<tr>
<td>Demonstrate leadership in the community and among peer institutions</td>
</tr>
<tr>
<td>Stimulate innovation and environmental responsibility</td>
</tr>
</tbody>
</table>
3.5 Private sector

3.5.1 Land developers

Developers build facilities for either themselves or third parties, aiming to satisfy physical and economic needs while adhering to the requirements of approval agencies. Their activities impact on a region’s economic health, and they can have significant political influence. They can also be challenging for TDM stakeholders to reach, as they often operate in a confidential manner and the first real opportunity to engage them in meaningful discussion comes after they submit a draft plan for municipal government review and approval. For this reason, the ability of TDM stakeholders to engage the support of developers rests primarily on the development approval process.

Before submitting a draft plan, land developers may be unaware of a municipality’s desire for inclusion of TDM-supportive elements (e.g. bike parking, carpool parking, walking and cycling routes, showers and change areas). Fortunately, discussions about the merits of a draft plan typically offer the opportunity to explore whether and how TDM could improve a development’s customer or employee access, reduce parking costs and enhance overall financial performance. Municipal TDM experts should participate in key meetings early in the development approval process, have accurate and appropriate information at hand, and be able to offer suggestions that are both specific and constructive. The ability to influence development plans often diminishes as the process advances, and as trade-offs among the objectives of various parties are made. The terms of the final development approval agreement evolve over time, and the opportunity to include a commitment for the development tenant to undertake TDM initiatives should be raised as early as possible.

### Making the case to the private sector — Land developers

<table>
<thead>
<tr>
<th>Expected actions</th>
<th>Interest-based arguments</th>
</tr>
</thead>
<tbody>
<tr>
<td>TDM-supportive infrastructure incorporated through the development approval process</td>
<td>Enhance development sale or leasing opportunities</td>
</tr>
<tr>
<td>TDM program implementation</td>
<td>Improve score in building rating systems (e.g. LEED)</td>
</tr>
<tr>
<td>Buildings developed to LEED standards (usually a client direction)</td>
<td>Reduce parking supply costs and land requirements</td>
</tr>
<tr>
<td></td>
<td>Improve site accessibility</td>
</tr>
</tbody>
</table>

3.5.2 Property managers

Many commercial buildings (e.g. traditional office towers and low-rise industrial condominiums) have multiple tenants who hold leases on part of the property. It can be challenging for TDM stakeholders to work directly with those tenants, because there may be many of them within a single property and they usually have no independent control over shared aspects of the property. For these reasons, it may be more effective and efficient for TDM stakeholders to work with the property manager who is responsible for day-to-day operations on site. Property managers typically control car and bicycle parking, shower and change facilities (e.g. on-site fitness centres), central communications with tenants through bulletin boards and newsletters, permissions and coordination for special events (e.g. pancake breakfasts, barbecues), and security. They also have an interest in maximizing their building’s attractiveness and accessibility to potential tenants.
To engage property managers, TDM stakeholders could use many of the techniques outlined for engaging employers in Section 3.3.1. These include direct contact with an offer of services, an invitation to participate in community events, attending professional events (e.g. local chapter meetings of the Building Owners and Managers Association of Canada), and recognizing supportive partners through communications or awards.

### Making the case to the private sector — Property managers

<table>
<thead>
<tr>
<th>Expected actions</th>
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<tbody>
<tr>
<td>• Provide adequate, secure and sheltered bicycle parking</td>
</tr>
<tr>
<td>• Provide showers, lockers and change room</td>
</tr>
<tr>
<td>• Enhance on-site amenities including sidewalks, pathways, signs and lighting</td>
</tr>
<tr>
<td>• Provide, manage and enforce carpool parking spaces</td>
</tr>
<tr>
<td>• Negotiate improved transit or provide shuttle services</td>
</tr>
<tr>
<td>• Provide on-site commuting information and services like transit pass sales</td>
</tr>
<tr>
<td>• Develop and launch a facility-wide TDM program</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Interest-based arguments</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Add value to tenants who may have little independent control over key areas</td>
</tr>
<tr>
<td>• Reduce congestion at access points and on internal roads</td>
</tr>
<tr>
<td>• Reduce parking demand and the cost of parking supply or maintenance</td>
</tr>
<tr>
<td>• Free up parking space for development or income</td>
</tr>
<tr>
<td>• Improve score in building rating systems (e.g. LEED)</td>
</tr>
<tr>
<td>• Demonstrate leadership in the community or among competitors</td>
</tr>
</tbody>
</table>

### 3.5.3 Business groups

Business groups include Chambers of Commerce, Boards of Trade, economic development authorities, and neighbourhood or district business associations. These stakeholders are typically highly sensitive to transportation issues, and they will strongly support a TDM initiative when its outcomes are consistent with their own objectives. For TDM stakeholders, the usual benefit of engaging with business groups is increased involvement with individual employers and their employees. The benefit to business groups lies in improving their service offering to members, whose own concerns revolve around access for employees and customers.

To engage business groups, TDM stakeholders could first extend an invitation to discuss issues of mutual concern and identify possible opportunities. Subsequently, stakeholders could contact the group with a defined offering of TDM-related service, information or support. Municipal TDM stakeholders may be in a position to request direct action by a business group where the municipality is providing a related service (e.g. new streetscaping or public parking).

### Making the case to the private sector — Business groups

<table>
<thead>
<tr>
<th>Expected actions</th>
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</thead>
<tbody>
<tr>
<td>• Discuss shared objectives and opportunities</td>
</tr>
<tr>
<td>• Include TDM messaging in communications with members</td>
</tr>
<tr>
<td>• Host a joint event to inform and educate members</td>
</tr>
<tr>
<td>• Deliver or support TDM initiatives</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Interest-based arguments</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Improve service offering to member businesses</td>
</tr>
<tr>
<td>• Increase profile and membership base</td>
</tr>
<tr>
<td>• Improve financial viability by contracting to provide TDM services</td>
</tr>
</tbody>
</table>
3.6 General public

Members of the general public have an interest in the community’s welfare as well as their own. They play several important roles: consumers of transportation, influencers of family members and friends, intermediaries in the engagement of employers and institutions, and individual elements in the civic culture that does so much to determine a community’s quality of life.

Making the case for TDM initiatives to the public is therefore important—and, in fact, can be simultaneous with the delivery of the TDM initiatives themselves. It can also be resource intensive, and must therefore be carefully targeted for maximum strategic impact. The many available tools include communications (mail, electronic), advertising (newspaper, radio, television), personal contact (public meetings, open houses, door-to-door individualized marketing). The objectives will usually be related to a specific initiative, because TDM is a difficult concept to sell whole and resources are probably better deployed on particular projects.

### Making the case to the general public

| Expected actions | • Become more aware of sustainable travel options, their benefits and how to use them  
|• Become more supportive of TDM initiatives at work, school and elsewhere in the community  
|• Use active and sustainable travel modes more often |
| Interest-based arguments | • Improve health  
|• Save money  
|• Reduce congestion  
|• Reduce negative environmental impacts  
|• Improve the community’s economic health and competitiveness  
|• Improve the quality of life for everyone |

3.7 Media

Media coverage can be an important and cost-effective channel for building TDM visibility and acceptance within a community, and for giving public recognition to TDM leaders. However, TDM stakeholders need to remember that the media also tend to report on what is new and interesting—they generate revenue by attracting readers and viewers, not by acting as a public service mechanism.

Historically, engaging media on TDM issues or initiatives has been difficult. TDM stories are often considered economically, socially or environmentally insignificant—in part because they can lack a “human element.” This situation, however, shows signs of changing as individuals grow increasingly sensitive to issues of climate change, air pollution and fuel costs. Media successes have also been reported with stories that focus on employer competitiveness and employee satisfaction, particularly related to younger employees that are a ready market for active commuting or telework initiatives.

In addition to issuing releases that keep media informed about possible stories or events, TDM stakeholders can make those stories or events more interesting to media by including high-profile stakeholders. Examples could include inviting a city’s mayor or business leader to speak at the
launch of a Commuter Challenge, or arranging for a local Olympian to join a celebration of International Walk to School Day.

<table>
<thead>
<tr>
<th>Making the case to the media</th>
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</thead>
<tbody>
<tr>
<td><strong>Expected actions</strong></td>
</tr>
<tr>
<td>- Report on TDM issues, initiatives and events</td>
</tr>
<tr>
<td><strong>Interest-based arguments</strong></td>
</tr>
<tr>
<td>- Serve viewers/readers by informing them of new services</td>
</tr>
<tr>
<td>- Attract viewers/readers through human interest</td>
</tr>
<tr>
<td>- Contribute to local debate over issues like congestion or air quality</td>
</tr>
<tr>
<td>- Draw attention to local innovations and successes</td>
</tr>
</tbody>
</table>
4. The case for workplace initiatives

This chapter documents information that can help stakeholders make the case for workplace TDM initiatives to key audiences:

- **Section 4.1** identifies the various workplace initiatives for which benefits are identified in subsequent sections of this chapter.
- **Section 4.2** addresses the benefits of workplace initiatives in changing travel behaviours and attitudes.
- **Section 4.3** addresses the benefits of workplace initiatives in reducing air emissions.
- **Section 4.4** addresses the economic benefits of workplace initiatives.
- **Section 4.5** addresses the benefits of workplace initiatives for individuals.
- **Section 4.6** addresses the benefits of workplace initiatives for employers.

### 4.1 What are they?

TDM initiatives delivered in the workplace usually aim to influence the commuting behaviour of individual employees (although they can also target business travel). These initiatives may be delivered by the employer itself, or by outside agencies like governments or non-profit groups.

The kinds of workplace initiatives\(^1\) addressed in Sections 4.2 through 4.6 include:

- **transit initiatives** that encourage greater transit use
- **active transportation initiatives** that encourage cycling, walking and other forms of active commuting
- **multimodal initiatives** that encourage a variety of sustainable travel options including transit, active transportation, ridesharing and telework
- **individualized marketing initiatives** that offer customized information, training and incentives to people who are open to changing the way they travel
- **telework initiatives** that encourage mobile working or telecommuting from home

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\(^1\) More information about these initiatives can be found in *Commuter Options: The Complete Guide for Canadian Employers* (Transport Canada, 2002), available at www.tc.gc.ca/commuter.
- **compressed work week initiatives** that eliminate the need to commute by (say) one day every two weeks

- **flexible work hour initiatives** that enable individuals to take advantage of their commuting options (e.g. express transit schedules, carpool partners) by eliminating fixed arrival and departure times

- **guaranteed ride home initiatives** that act as a form of commuting insurance by offering travel assistance to non-driving commuters in case of sickness, family emergency or unexpected overtime

- **parking management initiatives** that encourage drivers to use other modes by providing incentives (e.g. parking “cash out”) or disincentives (e.g. limited parking supply, increased cost)

- **transportation management association (TMA) initiatives** in which a third-party organization (typically non-profit) offers commuting-related services to both employers and workers

### 4.2 Travel behaviours and attitudes

#### Context

- 🌟 About 11% of Canadian workers took transit to work in 2006, with as many as 22% doing so in our largest cities. In downtown Toronto, Montreal and Vancouver the figure is closer to 50%. (Statistics Canada, Commuting Patterns and Places of Work of Canadians, 2006 Census, 2008)

- 🌟 A commuter attitude survey in Toronto found that 75% of solo driver commuters receive free parking. Of these, 24% would definitely change modes if parking charges were imposed and another 19% would do so if the price of parking were high enough. A similar survey in Halifax found that 65% of commuters have free parking available and 73% of solo driver commuters receive free parking. Of these, 17% would definitely change modes if parking charges were imposed, and another 12% would do so if the price of parking were high enough. (B. Hollingworth and J. Engel-Yan, IBI Group, "Parking Management as a Tool for Promoting Sustainable Transportation", Canadian Institute of Transportation Engineers 2007 Annual Meeting)
Impacts — Transit initiatives

ʁ Payroll-deduction transit pass sales program, Quebec City region, 2002 onward — Subscribers receive an annual pass at a 10% discount

➤ The 2001 pilot project generated a 17% subscription rate among 1,000 provincial employees, of whom 6% were new transit users. By January 2005, 36 partner employees and the Communauto carsharing organization were participating, for a total of 2,831 subscribers. There is an 11% participation rate for all workers who are offered this program, rising to 34% in downtown Québec. A 2004 survey of subscribers found that 17% always or often used their car to get to work before subscribing to the program, and 14% have one or more family members who have subscribed. (Transport Canada, "L’abonne-BUS" case study, 2005)

ʁ Transit discount program for employees of York Region, Ontario — Bus tickets for commuting sold at 50% discount

➤ About 50 employees use the discount program regularly. Of these, half started taking transit due to the discount and 45% said they take transit more often because of the program. (Transport Canada, "Employee Transit Discount Program" case study, 2004)

ʁ Payroll deduction transit pass sales program for federal government employees in the National Capital Region — Started with a pilot project involving four federal departments in 2002, and led to the 2004 launch of an expanded program that now involves more than 11,000 employees in dozens of departments and agencies. Participants receive a 10% to 15% discount from the cost of regular monthly passes.

➤ The federal government estimates that the program has attracted more than 650 new transit riders (about 7% of all registrants). Other likely benefits include greater rider retention, more frequent transit use by former ticket or cash users, and greater year-round transit use by former monthly pass holders. ("Towards a Payroll Deduction Transit Pass Program for Federal Employees", Canadian Urban Transit Association, 2006)

ʁ Winnipeg Transit’s EcoPass program — Employers sell transit passes to employees at a discount and receive a partial rebate from Winnipeg Transit

➤ After 30 months, the program included 23 employers and 19,500 eligible employees. At participating employers, transit ridership was up 45%, monthly transit pass sales were up about 500%, and net monthly transit revenues were up 30% to 35%. (Transport Canada, "EcoPass: Employer-Sponsored Transit Passes" case study, 2004)

ʁ Bay Area Commuter Check Program, San Francisco Bay Area Metropolitan Transportation Commission, USA

➤ 31% of employees who received $20 or $30 transit vouchers from their employers increased their transit use by an average of 3.2 trips per week, both for commuting and other purposes. Greater increases were observed outside the downtown core. Transit trip increases were not correlated to the amount of subsidy, implying that simple subsidy provision was the key to influencing behaviour. ("Transit Fare Discounts Result in Significant Ridership Gains", Urban Transportation Monitor, Dec. 22, 1995)
Go! Pass Program, Ann Arbor, Michigan, USA — Free or subsidized transit pass provided to every employee of participating downtown businesses since November 1999. Transit passes cost $25/month and parking passes cost $100/month.

- The share of employees of participating firms who drive alone as their primary mode dropped an estimated 4.4% between 2000 and 2001. The study’s estimate of the effect is a 9.2% increase in daily bus trips and a 3.5% daily decrease in the number of private vehicles coming into downtown. (C. White et al., *Impacts of an Employer-Based Transit Pass Program: The Go! Pass in Ann Arbor, Michigan*)

- Study on potential tax exemption for employer-provided transit benefits — By 2016, it is estimated that 32% to 57% of workers would be offered tax-free transit benefits averaging $55 per month.

- Estimated impacts on commuter transit ridership were +27% to +54% for commuters who accept the benefit, and +8.3% to +31% for all commuters. Estimated impacts on commuter car travel were -5.6% to -11% for commuters who accept the benefit, -1.7% to -6.3% for all commuters. (IBI Group, *Tax Exemptions for Employer-Provided Transit Benefits*, Canadian Urban Transit Association, 2005)

**Impacts — Active transportation initiatives**

- Wheel 2 Work social marketing campaign, City of Whitehorse and the Recreation Parks Association of the Yukon (RPAY) – An annual event starting in 2006, in which participants track their cycling distance over five months and are offered workshops and incentive prizes for distance ridden

- In the summer of 2006, Wheel 2 Work attracted 210 registrants, 108 of whom tracked their distance and logged almost 40,000 kilometres total. (Transport Canada, "Wheel 2 Work' in Whitehorse" case study, 2007)

**Impacts — Multimodal initiatives**

- Employee trip reduction program, Greater Vancouver Regional District (internal), started 1996
- Includes ridematching, cycling promotion and facility improvements, flextime, guaranteed ride home, 15% transit pass subsidy

- In the program’s first year, average vehicle ridership (employees per arriving auto) rose from 1.56 to 1.78. Modal share changes were: SOV commuter travel down from 57% to 46%; carpooling up from 15% to 21%; transit up from 19% to 22%; cycling up from 3% to 5%; walking/jogging stable at 6%. (Tools of Change, "GVRD's Employee Trip Reduction Program" case study, 2002)

- Commuter options program, Mountain Equipment Co-op, Vancouver

- 76% of Vancouver-area employees commute by modes other than single-occupant vehicle.
Green Commute commuter options program, Nortel Networks, Ottawa

- Over the first year of the program, the proportion of employees who were non-drivers grew from 20% to 25%. This included an increase in non-auto commuters from 12% to 15%. (Nortel Networks, *Transportation Demand Management Program, Status Report 2*, 2000)

Vancouver General Hospital commuter options program. Full-time coordinator, GRH, information, employee shuttle bus service between Vancouver General Hospital sites that also carries equipment, supplies and documents

- Transit modal share among hospital employees increased by 25% in two years (to 17%). Shuttle carried 100,000 staff and student trips each year as well as 17,000 courier items - saved at least 120,000 car trips over two years. (Better Environmentally Sound Transportation, *It's Your Business: Commuting Alternatives for Your Workplace*, Vancouver, 1999)

National trip reduction program, AT&T, USA — Offered telework, ridematching, incentives for trip reductions

- 55% of staff telework occasionally and 87% of management telework an average of six days/month. (Pollution Probe, *S-M-A-R-T Movement Manual*)

TDM program, Metro Region, USA — An evaluation of efforts using before-after surveys at 894 large and 156 small employers employing almost 200,000 commuters. Surveys were conducted an average of four years apart, and results reflect efforts of all program partners.

- Drive-alone trips were reduced by 7%. (Metro Region, *Regional Transportation Demand Management Program Evaluation Report, 2002*)

Trip reduction programs, various employers, Chicago, USA — A study of employers in a trip reduction program organized by the Chicago Area Transportation Study

- The rate of solo driving at the average employer was reduced by 5.5%. (A. Pagano and J. Verdin, "Employee Trip Reduction Without Government Mandates: Cost and Effectiveness Estimates from Chicago", *Transportation Research Record 1598*, Washington, 1997)

Regional workplace TDM program, Atlanta, USA — Focused on: media campaigning; employer and individual outreach services; and regional supporting programs and services to encourage carpooling, vanpooling, transit use, biking, walking, teleworking and compressed work week schedules

Ridematching and guaranteed ride home program, Commute Connections, Atlanta, USA

28,123 commuters were registered in the rideshare database at the end of the 2002 fiscal year, a 26% increase from the previous year. Programs resulted in 10,580 carpoolers and 2,306 vanpoolers, respectively accounting for a reduction of 5,515 and 2,663 daily vehicle trips. Daily reductions in vehicle-miles travelled were 127,034 miles for carpooling and 91,341 for vanpooling, for a total of 218,375 miles. (Wauson, Lois et al., Center for Transportation and the Environment for the Georgia Department of Transportation, FY2002 Atlanta TDM Framework Final Report: Phase Three of the Evaluation of the Effectiveness of Programs Contained in the “Framework for Cooperation to Reduce Traffic Congestion and Improve Air Quality”, 2003)

Commute trip reduction program, Washington State DOT, Seattle, USA

There was an observed reduction in vehicle trips of 14% at 189 employers in a major corridor, yielding estimated daily reductions of almost 32,000 vehicle-miles travelled and almost 8,000 gallons of fuel consumed. (National Center for Transit Research for Florida Department of Transportation, Impact of Employer-based Programs on Transit System Ridership and Transportation System Performance, 2007)

Workplace travel plans, United Kingdom

The average observed reduction in car use from workplace travel plans is 18%. (S. Cairns et al. for the UK Department for Transport, Smarter Choices: Changing the Way We Travel, 2004)

Impacts — Individualized marketing initiatives

Workplace-based personalized travel planning, United Kingdom — Part of 14 local pilot projects for personalized travel planning, 2002 onward

A review of seven workplace projects found a range of changes in single-occupant vehicle modal share from a 5% increase to a 21% decrease, and also found a reduction in car use of up to 0.6 trips per day per person. (UK Department for Transport, Personalised Travel Planning: Evaluation of 14 Pilots Part Funded by Department for Transport, 2006)

Impacts — Telework initiatives

Telework program, Nortel Networks, international

8% of Nortel employees work from home full-time. (Nortel Networks, Teleworking to Mobility, 2004)

Various telework initiatives, USA

Most studies of telecommuting show that telecommuters significantly reduce both daily trips and vehicle-miles travelled. Not only do commuting vehicle-miles travelled fall, but non-commuting vehicle-miles travelled also appear to fall in some cases. No study that was reviewed showed a significant increase in non-commuting travel by telecommuters. Findings across the studies show that the average number of daily trips taken on telecommuting days is anywhere from 27% to 51% lower than on non-telecommuting days, and that vehicles-miles travelled are 53% to 77% lower. (M. Walls & E. Safirova, Resources for the Future, A Review of the Literature on Telecommuting and Its Implications for Vehicle Travel and Emissions, Washington, 2004)
Telework program, AT&T, USA

In 2000, a survey of 68,000 AT&T teleworkers yielded an estimated annual reduction of 110 million vehicle-miles travelled. (National Center for Transit Research, University of South Florida, *Economics of Travel Demand Management: Comparative Cost Effectiveness and Public Investment*, 2007)

Telework Resource Center (TRC) of the Commuter Connections Program, Metropolitan Washington (D.C.) Council of Governments, USA — Provides information, training and assistance to individuals and businesses to further in-home and telecentre-based telework. A results analysis for 1999-2002 was based on new and current telecommuters who had contact with the TRC, current telecommuters who use a Metropolitan Washington Telework Center and current telecommuters who participated in a TRC Pilot Program.

The program was credited with creating 30% of new regional teleworkers. The estimated reduction in daily vehicle-miles travelled due to all telecommuting was 1.55 million of which 0.28 million was attributed to the TRC. (N. Ramfós and L. Diggins, LDA Consulting for the Metropolitan Washington Council of Governments, *Metropolitan Washington Council Of Governments Commuter Connections Program Transportation Emission Reduction Measure (Term) Analysis Report FY2000-2002 (Revised)*, Washington, 2003)

**Impacts — Compressed work week initiatives**

Compressed work week program, Los Angeles County Department of Public Works, USA — Participating employees work four 10-hour days each week

Participating employees made fewer total trips and travelled fewer miles over the course of the week. Trips made during the non-work day tended to be shorter, non-peak trips. An average weekly reduction of 46 vehicle-miles travelled per participant was observed. (P. Winters, Center for Urban Transportation Research, "Compressed Work Week Programs", 2000)

Various employer trip reduction plans, USA

Among 7,000 employer trip reduction programs studied, those that included compressed work weeks yielded average trip reductions of 1.07 trips per 100 employees, versus an average of 0.86 trips per 100 employees for other employers (P. Winters, Center for Urban Transportation Research, "Compressed Work Week Programs", 2000)
Impacts — Guaranteed ride home initiatives

Guaranteed ride home program, Commute Connections, Washington DC, USA — Provides up to four free rides home per year in a taxi or rental car in the event of an unexpected personal emergency or unscheduled overtime. Offered to registered commuters who use travel options at least two days per week.

A survey of 22,754 commuters registered in the guaranteed ride home program found that 29.9% had made a shift to another mode and had not returned to their previous mode. The guaranteed ride home program was credited with daily reductions of 6,803 trips and 202,058 vehicle-miles travelled. (N. Ramfos and L. Diggins, LDA Consulting for the Metropolitan Washington Council of Governments, *Metropolitan Washington Council Of Governments Commuter Connections Program Transportation Emission Reduction Measure (Term) Analysis Report FY2000-2002 (Revised)*, Washington, 2003)

Impacts — Parking management initiatives

Parking cash-out legislation, California, USA — Requires certain employers who provide subsidized employee parking to offer a cash allowance in lieu of the parking space

A study of eight companies employing a total of 1,694 workers found that the average number of vehicle round-trips to work fell 11% from 0.82 to 0.73 per employee per day. Vehicle-kilometres travelled per employee dropped by an average of 1,050 per year or 4.2 per workday. Following the cash-out program, reductions in vehicle-kilometres travelled and vehicle emissions averaged 12% per employee per year, with a range from 5% to 24%. Before “cashing out”, the eight companies had mode shares almost identical to national figures, but after cashing out the weighted average mode share for single-occupant vehicles fell from 76% to 63%, while the carpooling mode share increased from 14% to 23% and the combined walk and bicycle mode share increased from 3% to 4%. Following cash-out, 13 of every 100 commuters changed modes, with 9 joining carpools and one starting to walk or bike. (D. Shoup, "Evaluating the Effects of Cashing Out Employer-Paid Parking: Eight Case Studies", *Transport Policy*, no. 4, 1997)

Parking supply and price management at 14 medium-sized employers (100 to 450 employees) in jurisdictions with mandated TDM programs, USA

Limited parking supply was cited as a primary factor in low mode share for single-occupant vehicles at four of the 14 companies, while high parking charges were cited as an important factor at five of the 14 companies. (G. Scott Rutherford et al., "Transportation Demand Management: Case Studies of Medium-Sized Employers", *Transportation Research Record* 1459, 1994)

Impacts — Transportation management association (TMA) initiatives

Smart Commute - North Toronto, Vaughan, York Region, Ontario

In 2006, partnerships with 13 employers (representing 72,000 employees and students) reduced employee driving by 61 million vehicle-kilometres. The Smart Commute NTV website attracted almost 900,000 hits in 2006-07. (Transport Canada, "Smart Commute - North Toronto, Vaughan" case study, 2007)
Smart Commute 404-7, York Region, Ontario

The Smart Commute 404-7 website averaged 22,000 hits per month. The association had 80 engaged employers representing 25,000 employees. Its “lunch express” shuttle bus (a four-month pilot project operating two days each week) carried 400 trips to 30 area restaurants in its first two months. (Smart Commute 404-7, “Smart Commute 404-7” presentation, 2007)

4.3 Air emissions

Context

In 2001, an increase in the Canadian average modal shares for active commuting (6.6% walk and 1.2% bike) to those of Victoria (10.4% walk and 4.8% bike) would have reduced greenhouse gas emissions by 3.3 million tonnes annually. (Better Environmentally Sound Transportation for Go for Green, The Business Case for Active Transportation, 2004)

Passenger vehicles in urban areas create about 30% of Canada's transportation-related greenhouse gas emissions, while public transit contributes less than 1%. By taking the bus instead of a car, commuters can reduce their greenhouse gas emissions by almost two-thirds. (Noxon Associates Limited for Transport Canada, Commuter Options: The Complete Guide for Canadian Employers, 2003)

On average, a carpool saves emissions from 2,000 litres of gas each year. (Pollution Probe, S-M-A-R-T Movement Manual)

Impacts — Transit initiatives

Payroll deduction transit pass sales program for federal government employees in the National Capital Region — Started with a pilot project involving four federal departments in 2002, and led to the 2004 launch of an expanded program that now involves more than 11,000 employees in dozens of departments and agencies. Participants receive a 10% to 15% discount from the cost of regular monthly passes.

It is estimated that the program has reduced annual greenhouse gas emissions by 550 to 730 tonnes, or by about one tonne per new transit rider. ("Towards a Payroll Deduction Transit Pass Program for Federal Employees", Canadian Urban Transit Association, 2006)

Study on potential tax exemption for employer-provided transit benefits — By 2016, it is estimated that 32% to 57% of workers would be offered tax-free transit benefits averaging $55 per month.

Estimated impacts on emissions from commuting: greenhouse gases -1.1% to -4.0% (-90,000 to -330,000 tonnes), nitrogen oxides -0.4% to -1.6%, volatile organic compounds -1.6% to -5.9% (IBI Group, Tax Exemptions for Employer-Provided Transit Benefits, Canadian Urban Transit Association, 2005)
Winnipeg Transit’s EcoPass program — Employers sell transit passes to employees at a discount and receive a partial rebate from Winnipeg Transit.

After 30 months, annual greenhouse gas emissions were reduced by about 165 tonnes. (Transport Canada, "EcoPass: Employer-Sponsored Transit Passes" case study, 2004)

Impacts — Active transportation initiatives

Employee commuting challenge, Canada Post, Ottawa, Ontario — Employee-driven seasonal challenge

In 1996-97, more than 100 active commuters prevented the emission of more than 33 tonnes of vehicle pollutants. (Globe and Mail, March 1998)

Wheel 2 Work social marketing campaign, City of Whitehorse and the Recreation Parks Association of the Yukon (RPAY) — An annual event starting in 2006, in which participants track their cycling distance over five months and are offered workshops and incentive prizes for distance ridden

In 2006, the program is estimated to have reduced about 4.5 tonnes of greenhouse gases. (Transport Canada, "Wheel 2 Work' in Whitehorse" case study, 2007)

Impacts — Multimodal initiatives

Employee trip reduction program, Greater Vancouver Regional District (internal), started 1996 — Includes ridematching, cycling promotion and facility improvements, flextime, guaranteed ride home, 15% transit pass subsidy

The program was estimated to reduce the annual emission of greenhouse gases by 63 tonnes and other contaminants by 4.7 tonnes. (Tools of Change, "GVRD’s Employee Trip Reduction Program" case study, 2002)

TDM program, Metro Region, USA — An evaluation of efforts using before-after surveys at 894 large and 156 small businesses employing almost 200,000 commuters. Surveys were conducted an average of four years apart, and results reflect efforts of all program partners.

Each week, the program was estimated to yield reductions in greenhouse gas emissions of almost 400 tonnes (or about 20,000 tonnes annually), plus reductions of 2.9 tonnes of hydrocarbons and 1.5 tonnes of NOx. (Metro Region, Regional Transportation Demand Management Program Evaluation Report, 2002)
Regional workplace TDM program, Atlanta, USA — Focused on: media campaigning; employer and individual outreach services; and regional supporting programs and services to encourage carpooling, vanpooling, transit use, biking, walking, teleworking and compressed work week schedules

- In 2002, daily emission reductions were 0.77 tons of NOx and 0.89 tons of VOC. (L. Wauson et al., Center for Transportation and the Environment for the Georgia Department of Transportation, FY2002 Atlanta TDM Framework Final Report: Phase Three of the Evaluation of the Effectiveness of Programs Contained in the “Framework for Cooperation to Reduce Traffic Congestion and Improve Air Quality”, 2003)

**Impacts — Telework initiatives**

Telework program, AT&T, USA

- In 2000, a survey of 68,000 AT&T teleworkers yielded an estimated annual reduction in greenhouse gas emissions of 50,000 tons. (National Center for Transit Research, University of South Florida, Economics of Travel Demand Management: Comparative Cost Effectiveness and Public Investment, 2007)

**Impacts — Compressed work week initiatives**

Compressed work week program, Los Angeles County Department of Public Works, USA — Participating employees work four 10-hour days each week

- Estimated annual emission reductions per participant were 2,300 pounds of greenhouse gases and other pollutants. (P. Winters, Center for Urban Transportation Research, "Compressed Work Week Programs", 2000)

**Impacts — Transportation management association (TMA) initiatives**

Smart Commute - North Toronto, Vaughan, York Region, Ontario

- In 2006, partnerships with 13 employers (representing 72,000 employees and students) reduced greenhouse gas emissions by 14,000 tonnes. (Transport Canada, "Smart Commute - North Toronto, Vaughan" case study, 2007)

### 4.4 Economic benefits

**Context**

- The economic benefits of active transportation in Canada are $3.6 billion per year. In 2001, an increase in the Canadian average modal shares for active commuting (6.6% walk and 1.2% bike) to those of Victoria (10.4% walk and 4.8% bike) would have increased those benefits to $7 billion annually. (Better Environmentally Sound Transportation for Go for Green, The Business Case for Active Transportation, 2004)
Employees who are physically active incur 20% to 55% lower healthcare costs than employees who are not physically active. (World Health Organization, *Economic Benefits of Physical Activity*, 2003)

**Impacts — Transit initiatives**

- Study on potential tax exemption for employer-provided transit benefits — By 2016, it is estimated that 32% to 57% of workers would be offered tax-free transit benefits averaging $55 per month
- Tax exemption would yield an estimated social cost savings of $385 million to $1.4 billion per year, including external congestion cost savings of $30 million to $112 million per year. The estimated cost to government (i.e., in the form of federal tax revenues foregone) would be $106 million to $257 million (but only $13 million to $52 million in first year). (IBI Group, *Tax Exemptions for Employer-Provided Transit Benefits*, Canadian Urban Transit Association, 2005)

**Impacts — Multimodal initiatives**

- Strategic Parking Plan, City of Saint John, New Brunswick — In conjunction with planned downtown redevelopment, a coordinated TDM strategy is planned to include ridematching and promotion of express bus services
- The TDM strategy is expected to reduce downtown parking demand by 220 to 424 stalls, thereby reducing the required capital investment in public parking garages by $5 to $10 million. (R. Bond, BA Consulting Group, "The Link Between Parking and Transportation Demand Management", CITE 2007 Annual Meeting)

**4.5 Individual benefits**

**Impacts — Transit initiatives**

- Study on potential tax exemption for employer-provided transit benefits — By 2016, it is estimated that 32% to 57% of workers would be offered tax-free transit benefits averaging $55 per month

**Impacts — Compressed work week initiatives**

- Compressed work week program, Los Angeles County Department of Public Works, USA — Participating employees work four 10-hour days each week
- Estimated personal cost savings per participant were $850 annually. (P. Winters, Center for Urban Transportation Research, "Compressed Work Week Programs", 2000)
4.6 Employer benefits

Context

- Some sample corporate parking costs across the Greater Toronto Area (circa 2001) include: $328/space monthly downtown at BCE Place, $120/space monthly at Yonge/York Mills in north Toronto, and $48/space monthly in Mississauga. (Pollution Probe, S-M-A-R-T Movement Manual)

- An undated Ekos Research Associates survey revealed that offering telework can make employers more attractive to potential employees: 55% of Canadians want to telework now, 43% would quit their jobs if another employer offered them an equivalent job allowing telework, and 33% would choose telework over a 10% raise. (Pollution Probe, S-M-A-R-T Movement Manual)

- A driver who travels 30 minutes to and from work each day will lose six weeks of productive time to commuting over the course of one year. The cost of creating new parking spaces can range from $1,500 each for surface parking lots to $20,000 each for parking structures, excluding land costs. (Noxon Associates Limited for Transport Canada, Commuter Options: The Complete Guide for Canadian Employers, 2003)

- In the United States, the annualized cost of providing employee parking typically ranges from $400 to $2500 per space. (T. Litman, "Guide to Calculating Mobility Management Benefits", Victoria Transport Policy Institute, 2007)

- Observations of peak parking demand at various land uses in Toronto lead to the conclusion that parking bylaws generally require excessive minimums. Almost half of surveyed general office parking facilities offered excess parking and had more than 30% of spaces unoccupied at peak occupancy. Parking facilities at almost 75% of surveyed restaurants city-wide were less than 70% full at peak occupancy. About 60% of non-bank retail sites needed less than half of their parking supply at the expected time of peak parking demand. During the peak December shopping season, it is expected that more than half of retail sites would still have at least 30% of their parking supply unused. (IBI Group for City of Toronto, Review of the City of Toronto Zoning By-law Parking Standards for Office, Retail and Restaurant Use, 2007)

- Employees who are physically active report 6% to 32% fewer days off due to illness, 2% to 52% greater productivity, and lower turnover rates than employees who are not physically active. (World Health Organization, Economic Benefits of Physical Activity, 2003)

Impacts — Transit initiatives

Bay Area Commuter Check Program, San Francisco Bay Area Metropolitan Transportation Commission, USA

- 35% of employees who received $20 or $30 transit vouchers by their employers noted reduced stress from driving less often or not at all, while 33% of employees noted their job satisfaction had improved. Smaller proportions noted improvements in punctuality and productivity. ("Transit Fare Discounts Result in Significant Ridership Gains", Urban Transportation Monitor, Dec. 22, 1995)
Study on potential tax exemption for employer-provided transit benefits — By 2016, it is estimated that 32% to 57% of workers would be offered tax-free transit benefits averaging $55 per month.


**Impacts — Multimodal initiatives**

**BC Hydro commuter options program, Burnaby, British Columbia — Employees offered transit incentives, ridematching, telework**

Teleworking reduced absenteeism by 52% and increased productivity by 19%. (Better Environmentally Sound Transportation for Go Green Choices, "It's Your Business: Commuting Alternatives for Your Workplace", Vancouver, 1999)

**Trip reduction program, Gateway commercial complex, Surrey, British Columbia — Workers offered preferential parking rates for carports, ridematching, incentives for trip reductions**

The program cut demand for 50 parking spots and reduced the cost of building a new parking garage by $550,000. (Better Environmentally Sound Transportation for Go Green Choices, "It's Your Business: Commuting Alternatives for Your Workplace", Vancouver, 1999)

**Green Commute commuter options program, Nortel Networks, Ottawa**

An employee awareness survey found that:
- 90% of respondents thought the program provided a meaningful benefit
- 79% said it made it easier to get to work without a car
- 70% said the program helped increase their awareness of the impacts of their transportation choices
- 65% said it made Nortel a more attractive workplace
- 95% supported the Green Commute program

(*Transportation Demand Management Program, Status Report 2, Nortel Networks, 2000*)

**National trip reduction program, AT&T, USA — Offered telework, ridematching, incentives for trip reductions**

The program led to lower employee absenteeism, financial savings of $500,000, a 24% increase in productivity, a 10% increase in job satisfaction, and a 24% decrease in employee turnover. Overall savings were estimated to be $63 per telework day, or $2,086 per full-time teleworker per year.

(*Pollution Probe, S-M-A-R-T Movement Manual*)
Impacts — Telework initiatives

Telework program, Nortel Networks, international

Nortel estimated a productivity increase of 15% among teleworkers. Teleworkers reported they are 11% more satisfied than employees in general. Telework avoided $22M in annual real estate costs, or an average of $9,000 annually per full-time teleworker. (Nortel Networks, Teleworking to Mobility, 2004)

Telework program, American Express, USA

American Express found that its teleworking employees produced 43% more business than office workers. (R.D. Atkinson, S. Ham and B. Newkirk, Unleashing the Potential of the High-Speed Internet, Progressive Policy Institute, 2002)

Telework program, AT&T, USA

In 2000, a survey of 68,000 AT&T teleworkers found that 72% of teleworkers reported they are more productive on days they work at home. (National Center for Transit Research, University of South Florida, Economics of Travel Demand Management: Comparative Cost Effectiveness and Public Investment, 2007)

Telework program, J.D. Edwards, USA

The employer found that its teleworking employees were 23% more productive than office workers (R.D. Atkinson, S. Ham and B. Newkirk, Unleashing the Potential of the High-Speed Internet, Progressive Policy Institute, 2002)

Telework program, Unisys, USA

Telework allowed the company to cut office space by 90%. (Gary J. Grimes et al., Transportation Improvements Through Telework, Center for Telecommunications Education and Research, University of Alabama, Birmingham, 2004)

Telework research, International Telework Association, USA

Telework is estimated to save about $10,000 per teleworker in reduced absenteeism and job retention costs. Absenteeism savings were estimated to average $2,086 (1999 USD) per employee per year. (J. Meagher, “Employers Realize Significant Savings Through Telework”, Urban Transportation Monitor, November 12, 1999)

Impacts — Compressed work week initiatives

Compressed work week program, Seattle Housing Authority, USA — 25% of 650 employees work four 10-hour days each week

Management noted improved client accessibility and emergency capacity. (P. Winters, Center for Urban Transportation Research, "Compressed Work Week Programs", 2000)
**Compressed work week program, Ventura County, California, USA**

➤ 85% of participating employees reported an improved level of job satisfaction. (S. Anderson et al., "The Effects of Variable Work Hour Programs on Ridesharing and Organizational Effectiveness, A Case Study: The County of Ventura", 1991)

**Compressed work week program, Washington State Department of Transportation, USA — Participating employees work four 10-hour days each week**

➤ Travelling inspectors claim one fewer day’s worth of meal and accommodation costs each week, leading to reported annual savings of $200,000. The main office had space for 500 staff but was able to house 650. (P. Winters, Center for Urban Transportation Research, "Compressed Work Week Programs", 2000)

**Impacts — Flexible work hour initiatives**

**Flexible work hours program, Ventura County, California, USA**

➤ 45% of participating employees reported an improved level of job satisfaction. (S. Anderson et al., "The Effects of Variable Work Hour Programs on Ridesharing and Organizational Effectiveness, A Case Study: The County of Ventura", 1991)
5. The case for school initiatives

This chapter documents information that can help stakeholders make the case for school TDM initiatives to key audiences:

- **Section 5.1** identifies the various school initiatives for which benefits are identified in subsequent sections of this chapter.
- **Section 5.2** addresses the benefits of school initiatives in changing travel behaviours and attitudes.
- **Section 5.3** addresses the benefits of school initiatives in reducing air emissions.
- **Section 5.4** addresses the public health and safety benefits of school initiatives.

### 5.1 What are they?

TDM initiatives delivered in the school usually aim to influence the travel behaviour of individual students and, by frequent extension, their parents. These initiatives may be delivered by a school board, an individual school’s administration, a group of teachers or parents, or by outside agencies like governments or non-profit groups. They may occur at elementary, intermediate or secondary schools.

The kinds of school initiatives addressed in Sections 5.2 through 5.4 include:

- **active transportation initiatives** that encourage cycling, walking and other forms of active commuting
- **ridesharing initiatives** that encourage carpooling
- **multimodal initiatives** that encourage a variety of sustainable travel options including active transportation and ridesharing
- **individualized marketing initiatives** that offer customized information, training and incentives to people who are open to changing the way they travel
5.2 Travel behaviours and attitudes

Context

- Just 26% of Canadian parents say their school-aged children walk or cycle to school, compared to 34% who take them by car (Canadian Fitness and Lifestyle Research Institute, 2005 Physical Activity and Sport Monitor, 2005)

- In the Greater Toronto Area, the average number of trips made as car passengers on school days by 11- to 15-year-olds rose 83% between 1986 and 2001; 55% of the new car trips were between home and school, and replaced trips made by walking, cycling or transit. For 16- to 19-year-olds the increase in trips as car passengers rose by 61% over the same period. (Urban Transportation Research and Advance Centre at the University of Toronto, Transportation Tomorrow Survey data)

Impacts — Active transportation initiatives

- Active & Safe Routes to School Program, Greenest City, Toronto, Ontario
  Between 1996 and 2002, Greenest City’s Active & Safe Routes to School (ASRTS) program led to about 320,000 person-km walked at over 160 schools. (Greenest City, Toronto Status Report 1996-2002, 2002)

- BikeSmarts cycling skills training and encouragement program, British Columbia Ministry of Transportation and Highways, Victoria, British Columbia
  Most parents at Lochside Elementary School allowed their children to ride to school more often after they participated in the program, apparently due to a greater sense of safety. Four of 16 parents reported cycling at least 20% more than they had previously. All parents thought their children's motivation for cycling had increased. (Tools of Change, "BikeSmarts" case study, 2004)

- Way to Go! active transportation program, British Columbia — Offering training, tools and support to school communities
  Willows Elementary School in Oak Bay, British Columbia saw a 10% to 15% reduction in vehicle travel on regular school days. R.J. Tait Elementary School in Richmond, British Columbia saw a huge increase of children walking and a marked decrease in cars parked at school as a result of its walking school bus program. At Hawthorne Elementary, the everyday use of bikes for getting to school doubled. (Tools of Change, "British Columbia's Way to Go! Program" case study, 2004)

Impacts — Ridesharing initiatives

- SchoolPool program, Contra Cost County, Cal., USA — Offered free trial transit tickets and ridematching to 2,446 participants in 2004-2005
  The program reduced annual vehicle trips by 966,000 and vehicle-miles travelled by 2.9 million. (Contra Costa County, 511 Contra Costa Program Manager's Annual Report, 2004-2005, California)
Impacts — Multimodal initiatives

School travel plans, Marin County, Cal., USA

By the second year of the program, at 14 schools walking trips were up 64%, biking trips were up 11%, carpooling trips were up 91% and single-student car trips were down 39%. (Green Communities Canada, Review of International School Travel Planning Best Practices, 2007)

School travel plans, United Kingdom

Between 60% and 90% of schools engaged by local authorities can be expected to achieve positive modal shift, and between 15% and 40% can be expected to reduce car use by over 20%. The 28 case study schools experienced a 23% average reduction in car use, with some schools cutting car use by 50%. Other benefits of school travel planning derived through interviews included safety improvements; reduced congestion around schools; improved health and fitness; better attendance, punctuality and readiness to learn; benefits for pupils' personal development; increased participation by parents in school activities; increased interaction among parents and neighbours. In a survey, 60% of teachers felt walking helped children settle down once in the classroom. (Green Communities Canada, Review of International School Travel Planning Best Practices, 2007)

School travel plans, Auckland, New Zealand

School travel plans reduced school car travel by 1.8 million kilometres per year in 2006, with car use declining by 3.8% and walking increasing by 3.6%. (Green Communities Canada, Review of International School Travel Planning Best Practices, 2007)

School travel plans, Australia

At 33 pilot project schools, car trips to and from school were reduced by 9%. Schools that fully implemented their programs averaged a 16% reduction, with some as high as 33%. Schools observed less traffic chaos at the day's beginning and end, safer and quieter streets, better connections between families and their communities, greater independence and social interaction of students, improved air quality in the vicinity, and an increased awareness of environmental issues. (Green Communities Canada, Review of International School Travel Planning Best Practices, 2007)

Impacts — Individualized marketing initiatives

School-based personalized travel planning, United Kingdom — Part of 14 local pilot projects for personalized travel planning, 2002 onward

Two pilot project schools reduced the modal share of single-occupant vehicle travel by 2% to 7%. (UK Department for Transport, Personalised Travel Planning: Evaluation of 14 Pilots Part Funded by Department for Transport, 2006)
5.3 Air emissions

Impacts — Active transportation initiatives

Active & Safe Routes to School Program, Greenest City, Toronto, Ontario

- Between 1996 and 2002, the increase in active transportation resulting from the program led to the avoidance of 46 tonnes of greenhouse gases. (Greenest City, Toronto Status Report 1996-2002, 2002)

Impacts — Ridesharing initiatives

SchoolPool program, Contra Cost County, Cal., USA — Offered free trial transit tickets and ridematching to 2,446 participants in 2004-2005

- The program reduced annual greenhouse gas emissions by 1,350 tons, NOx emissions by 2.7 tons and particulate matter emissions by 0.64 tons. (Contra Costa County, 511 Contra Costa Program Manager's Annual Report, 2004-2005, California)

Impacts — Multimodal initiatives

School travel plans, Auckland, New Zealand

- School travel plans reduced greenhouse gas emissions by 258 tonnes per year in 2006. (Green Communities Canada, Review of International School Travel Planning Best Practices, 2007)

5.4 Public health and safety

Context

- Today’s youth are 40% less active than 30 years ago, resulting in a tripling of excess body weight in Canadian children between 1981 and 1996, which has had a broad range of negative health impacts. (Transport Canada, "On the Move to School: An active transportation educational and mobilization program for children in Quebec" case study, 2006)

- Less than half of Canadian children and youth are active enough to ensure proper growth and development. Among teenagers, perhaps less than 20% do sufficient exercise, although the amount of physical activity by teenagers may have been increasing recently. (Centre for Sustainable Transportation, Children, Youth and Transport: Information for Municipal Officials, 2005)

- Traffic fatalities are the leading cause of injury-related death in Canada for children over one year of age. (Canadian Institute of Child Health, The Health of Canada’s Children, Third edition, 2000)
“In-car benzene concentrations sometimes exceed concentrations in the roadside air by up to four fold. Carbon monoxide concentrations may be more than 10 times higher inside cars than at the side of the road. Elevated in-car pollution concentrations particularly endanger children, the elderly, and people with asthma and other respiratory conditions. They receive little attention. Nevertheless, in-car air pollution may pose one of the greatest modern threats to human health.”

(International Centre for Technology Assessment, In-Car Air Pollution: The Hidden Threat to Automobile Drivers, Washington, 2000)
6. **The case for post-secondary initiatives**

This chapter documents information that can help stakeholders make the case for post-secondary TDM initiatives to key audiences:

- **Section 6.1** identifies the various post-secondary initiatives for which benefits are identified in subsequent sections of this chapter.
- **Section 6.2** addresses the benefits of post-secondary initiatives in changing travel behaviours and attitudes.
- **Section 6.3** addresses the benefits of post-secondary initiatives in reducing air emissions.
- **Section 6.4** addresses the benefits of post-secondary initiatives for individuals.
- **Section 6.5** addresses the benefits of post-secondary initiatives for employers.

### 6.1 What are they?

TDM initiatives delivered at post-secondary institutions usually aim to influence the travel behaviour of students as they commute to and from school, and they sometimes target commuting by faculty and staff. These initiatives may be delivered by the university or college administration, the student association, or outside agencies like governments or non-profit groups.

The kinds of post-secondary initiatives addressed in Sections 6.2 through 6.5 include:

- **transit initiatives** that encourage public transit use
- **multimodal initiatives** that encourage a variety of sustainable travel options including transit, active transportation and ridesharing

### 6.2 Travel behaviours and attitudes

**Impacts — Transit initiatives**

❄ "GO to School" campaign, GO Transit, Greater Toronto Area — Delivered staffed booths, advertising and posters at eight universities and colleges (mostly in the Highway 407 corridor), 2003-2004

حذر In 2004, 1.3 million trips were made on GO Transit by university and college students, a 60% increase over the previous year. (Canadian Urban Transit Association, "Marketing Transit in Canada: Meeting the Ridership Challenge", Issue Paper 14, 2005)
The Case for TDM in Canada

U-Pass program, Saint Mary’s University, Halifax, Nova Scotia — 6,000 students bought mandatory discounted annual passes through student fees, 2003 onward

- After launch of the program, the number of monthly transit trips taken by each Saint Mary’s student increased from an average of 7 or 8 to 14. This represents an increase of 50,000 monthly transit trips by the student population. (Noxon Associates Limited for the Canadian Urban Transit Association, U-Pass Toolkit: The Complete Guide to Universal Transit Pass Programs at Canadian Colleges and Universities, 2004)

U-Pass program, University of Victoria, Victoria, British Columbia — 18,000 students bought mandatory discounted annual passes through student fees, 1999 onward

- After launch of the program, the portion of Victoria’s transit ridership accounted for by post-secondary students rose from 13% in 1997-1998 to 24% in 1999-2000. The transit mode share for student travel to the University of Victoria increased from 31% in 1998 to 44% in 2000, 47% in 2001 and 51% in 2003. The number of university parking permits issued dropped by 12% one year after launch. (Noxon Associates Limited for the Canadian Urban Transit Association, U-Pass Toolkit: The Complete Guide to Universal Transit Pass Programs at Canadian Colleges and Universities, 2004)

U-Pass program, University of Western Ontario and Fanshawe College, London, Ontario — 35,000 students bought mandatory discounted annual passes through student fees, 1998 onward

- After launch of the program, campus transit ridership increased by 50% in the first year and provided impetus for London Transit to increase its service hours by 5,600 hours in the first year. The program contributed to an overall 40% increase in London Transit’s system-wide ridership from 1997 to 2003. (Noxon Associates Limited for the Canadian Urban Transit Association, U-Pass Toolkit: The Complete Guide to Universal Transit Pass Programs at Canadian Colleges and Universities, 2004)

Impacts — Multimodal initiatives

TREK Program, University of British Columbia, Vancouver, British Columbia – A broad program with a variety of services and incentives

- 41,500 weekly transit trips were made to and from UBC in 2006, an increase of 118% since 1997. Transit accounted for 40% of all trips to and from the campus, up from 18% in 1997. At the same time, single-occupant vehicle trips decreased by 18%, even as the daytime campus population rose by 26%. (TREK Program, “About Us” web page at www.trek.ubc.ca)
- From 1997 to 2003, the university campus experienced a 99% increase in daily transit trips per person, a 20% decrease in single-occupant vehicle use, a 7% decrease in daily traffic volumes, and a 4% increase in cycling. The introduction of a universal transit pass in 2003 led to a 48% increase in the number of daily transit trips. (Association for Commuter Transportation of Canada for Environment Canada, Report on Canadian Alternative Transportation Programs, 2005)
6.3 Air emissions

Impacts — Multimodal initiatives

TDM program, York University, Region of York, Ontario – A broad program with a variety of services and incentives

The university’s annual greenhouse gas emissions from commuting were 44,000 tonnes less in 2006-07 than in 2001-02. (Transport Canada, “Smart Commute - North Toronto, Vaughan” case study, 2007)

6.4 Individual benefits

Impacts — Transit initiatives

U-Pass program, University of Victoria, Victoria, BRITISH COLUMBIA — 18,000 students bought mandatory discounted annual passes through student fees, 1999 onward

Student groups noted that the U-Pass helped to combat drinking and driving, and added convenience for occasional transit users such as students in residence who traveled downtown on weekends. (Transport Canada, “Universal Transit Passes in Canada” case study, 2004)
6.5 **Employer benefits**

**Impacts — Transit initiatives**

Transit pass program, University of Colorado-Boulder, Boulder, Colorado, USA — Transit pass program for staff, paid for by the institution

- The transit pass program reduced the parking demands of staff and faculty by 350 spaces. The program’s effective cost of $1,125 per parking space foregone is much less than $2,723 cost of building a new parking space. (S. Havlick, "Making the Case for TDM", University of Colorado, 2007)

**Impacts — Multimodal initiatives**

- **TDM program, York University, Region of York, Ontario — A broad program with a variety of services and incentives**
  - As a result of TDM’s success, the university was able to defer its plans to build two new parking garages at a cost of $80 million. (Transport Canada, "Smart Commute - North Toronto, Vaughan" case study, 2007)

- **U-Pass Program, University of Washington, Seattle, Washington, USA — A broad program with a variety of services and incentives including emergency ride home**
  - The university saved more than $100 million by avoiding the construction of 3,600 parking spaces. (National Center for Transit Research, University of South Florida, *Economics of Travel Demand Management: Comparative Cost Effectiveness and Public Investment*, 2007)
7. **The case for residential initiatives**

This chapter documents information that can help stakeholders make the case for residential TDM initiatives to key audiences:

- **Section 7.1** identifies the various residential initiatives for which benefits are identified in subsequent sections of this chapter.
- **Section 7.2** addresses the benefits of residential initiatives in changing travel behaviours and attitudes.
- **Section 7.3** addresses the benefits of residential initiatives in reducing air emissions.
- **Section 7.4** addresses the economic benefits of residential initiatives.
- **Section 7.5** addresses the benefits of residential initiatives for individuals.
- **Section 7.6** addresses the public health and safety benefits of residential initiatives.

### 7.1 What are they?

TDM initiatives delivered to residential audiences (i.e. individuals and families) can target a wide range of travel behaviours, including trips to work and school. These initiatives may be delivered either by governments or non-profit groups.

The kinds of residential initiatives addressed in Sections 7.2 through 7.6 include:

- **ridesharing initiatives** that encourage carpooling or vanpooling
- **carsharing initiatives** that offer ownership and usage of shared, rather than privately owned, cars
- **individualized marketing initiatives** that offer customized information, training and incentives to people who are open to changing the way they travel
- **location-efficient mortgage initiatives** that offer greater credit eligibility for homebuyers in transit-friendly locations
- **reduced car ownership initiatives** that motivate families to experience life with fewer automobiles
7.2 Travel behaviours and attitudes

Impacts — Ridesharing initiatives

- **Ridematching program, City of Calgary, Alberta**
  - From 2002 to 2003, almost 1,000 Calgary residents registered with the ridematching service, with 143 carpools formed and about 250 cars taken off the road each day. By early 2005, over 2800 residents had participated. (Association for Commuter Transportation of Canada for Environment Canada, *Report on Canadian Alternative Transportation Programs*, 2005)

Impacts — Carsharing initiatives

- **AutoShare carsharing service, Toronto, Ontario**
  - In a 2001 survey, 40% of AutoShare members reported disposing of a car or deferring a purchase due to their membership; 27% of members reported more transit use in their first year, while only 7% reported less transit use; and 25% reported that they cycled or inline skated more often after joining, while 8% said that they did so less often. (Tools of Change, "AutoShare" case study, 2004)

- **Communauto carsharing service, Montreal, Quebec**
  - A 2004 survey found that 48% of members disposed of a vehicle after joining, while another 21% deferred a vehicle purchase. The survey also found that only 11% of members or their partners owned a vehicle. (Transport Canada, "Car Sharing in Canada: Making More Sustainable Personal Travel Choices" case study, 2005)

- **Co-operative Auto Network carsharing service, British Columbia**
  - Each member is estimated to drive an average of 1,400 km per year and emit an annual average of 0.32 tonnes of greenhouse gases from automobile use—both figures are 90% less than an average driver. A survey of members in 2000 indicated that just 14% of members or their partners owned a vehicle. (Transport Canada, "Car Sharing in Canada: Making More Sustainable Personal Travel Choices" case study, 2005)

- **City CarShare service, San Francisco, California, USA — An evaluation conducted by Robert Cervero of the University of California at Berkeley, based on an 18-month survey of hundreds of members**
  - City CarShare reduces car travel by 13,000 vehicle-miles and greenhouse gas emissions by 20,000 pounds each day. About 30% member households have sold one or more of their cars, while 67% have chosen not to purchase an additional car. Overall automobile travel among members dropped 47% while their use of public transit, walking and bicycling increased. (City CarShare press release, "First-Ever Study of Car-Sharing Shows Dramatic Environmental & Traffic Benefits", January 12, 2004)
Impacts — Individualized marketing initiatives

- **TravelSmart pilot project, TransLink, Vancouver, 2005-2006** — Individualized marketing efforts in six communities across Metro Vancouver targeted thousands of households with customized information and incentives, and conducted before-and-after surveys.

  - Preliminary results show the TravelSmart project increased walking by 9%, cycling by 33% and transit use by about 12%. The rate of driving among residents of affected communities fell by 8%. (2007 update for Sustainable Region Showcase for Greater Vancouver, www.tc.gc.ca/utsp, 2008)

- **Individualized marketing pilot project, Region of Waterloo, Ontario, 2006-2007** — Information on sustainable travel options was provided to more than 500 households that requested it, and before-and-after surveys were conducted to measure impacts.

  - Results show the pilot project led to a 12.5% increase in the use of sustainable travel modes and a 2.5% decrease in automobile travel by residents of the target area. (“Urban Ecomobility Program Submission”, Report P-08-062, May 2008, at www.region.waterloo.on.ca)

- **Walking the Talk community-based social marketing pilot program, EnviroCentre, Ottawa, Ontario** — Households interested in energy conservation were engaged in individualized marketing around transportation choices using information, prompts and a free one-day bus pass, 1999-2001

  - Among program participants, 25% reported walking more, 16% used the bus for a new purpose, 22% rode their bikes more often, 47% of those with children reported increased biking and walking by their children, and 10% carpooled more often. 30% of respondents said their behaviour change was motivated by the information they received. (Tools of Change, "Walking the Talk" case study, 2004)

- **In Motion neighbourhood-based social marketing program, King County Metro, Seattle region, Washington, USA**

  - Participants reported a 28% decrease in drive-alone travel and substantial increases in all other modes. Bus stop boardings increased 11% in the target neighborhood up to nine months after the program, compared to 1% in the control neighborhood. Participants were more open to using transit for non-work trips (51% versus 28%), did not consider hills a barrier (66% versus 26%) and were willing to walk longer distances (13 versus 5 blocks). (Tools of Change, "Seattle Neighbourhoods in Motion" case study, 2006)

- **Interstate TravelSmart project, City of Portland, Oregon, USA** — Individualized marketing project in conjunction with opening of new light rail transit corridor through existing communities, using random before/after surveys to measure change in target and control areas.

  - After introduction of the new light rail service, transit trips increased 44% in the TravelSmart area versus 24% in the control area. The rate of car trips in the TravelSmart area decreased by 9% compared to the control area, and vehicle miles traveled decreased by 14% in the TravelSmart area compared to 6% in the control area. (City of Portland, "TravelSmart / Interstate Ave 2004 target area project" web page, 2007)
TravelSmart projects, Salem-Keizer, Eugene and Bend, Oregon, USA — Individualized marketing demonstrations, 2006

- The projects led to an overall 31% increase in walking, cycling and public transit trips (35% in Bend, 18% in Eugene, 52% in Salem-Keizer), and an overall 9% decrease in car driver trips (10% in Bend, 3% in Eugene and 11% in Salem-Keizer). The duration and length of car trips were also reduced, leading to a 9% reduction in vehicle-miles travelled (over 1.3 million vehicle-miles reduced). (Socialdata America Ltd., IndiMark and Behavior Change Results, 2007)

Residence-based personalized travel planning, various cities, United Kingdom — 14 local pilot projects for personalized travel planning funded by Department for Transport, 2002 onward

- The 14 pilot projects cost about £900,000 and reduced annual car travel by about 11.4 million vehicle-kilometres at an average program cost of £0.08 per vehicle-kilometre. The six included TravelSmart projects reduced single-occupant vehicle modal share by 3% to 6%, and reduced the number of car trips per day by 0.3 trips per person. Two other residential projects reduced single-occupant vehicle modal share by 13% to 20%, and reduced car trips by 0.4 trips per day per person. (UK Department for Transport, Personalised Travel Planning: Evaluation of 14 Pilots Part Funded by Department for Transport, UK, 2006)

Various individualized marketing projects, Australia

- Community-based and household-based travel behaviour change interventions have consistently delivered 15 to 40 additional public transit trips per person per year, across the whole target population, irrespective of prior levels of public transit usage. The highest proportional gains in transit modal share have been where pre-existing modal share was low. (Department of Infrastructure, Victoria, Travel Demand Management: Public Transport Business Case, Australia, 2003)

Various residence-based individualized marketing pilot projects, Australia

- Projects led to a shift of 4% to 15% of car use to other modes, and an overall reduction of 7% to 14% in vehicle-kilometres travelled per household. (Australian Greenhouse Office, Evaluation of Australian TravelSmart Projects in the ACT, South Australia, Queensland, Victoria and Western Australia: 2001–2005, 2005)

Impacts — Location-efficient mortgage initiatives

Location-efficient mortgage pilot program, Institute for Location Efficiency (ILE) and Fannie Mae, Chicago, Illinois, USA — Increases the amount homeowners can borrow by taking into account savings from living in an area with quality walking and transit opportunities, 2000 onward

- In 2001, 21 of 27 Chicago participants said they drove less and took transit more often after the first year of the program. (National Center for Transit Research, University of South Florida, “Smarter Commuting: Fundamentals about Applications of a Location-Based Mortgage Strategy,” TDM Review No. 1, 2003)
Impacts — Reduced car ownership initiatives

One Less Car demonstration projects, Way to Go program, City of Seattle, Washington, USA —
The program paid 86 families about $85 per week to not use their second car for either six or nine weeks, 2000-2002

- The 86 participating families reduced their collective car use by about 8,000 drive-alone trips and 41,500 miles. 20% of families sold their second car after the study. (City of Seattle, One Less Car Demonstration Study, 2003)

7.3 Air emissions

Impacts — Individualized marketing initiatives

Various residence-based individualized marketing pilot projects, Australia

- The projects led to an average reduction in annual greenhouse gas emissions from driving of 0.12 to 0.39 tonnes per person. (Australian Greenhouse Office, Evaluation of Australian TravelSmart Projects in the ACT, South Australia, Queensland, Victoria and Western Australia: 2001–2005, 2005)

Impacts — Reduced car ownership initiatives

One Less Car demonstration projects, Way to Go program, City of Seattle, Washington, USA —
The program paid 86 families about $85 per week to not use their second car for either six or nine weeks, 2000-2002

- The 86 participating families reduced their collective greenhouse gas emissions by about 30,200 pounds during the project. (City of Seattle, One Less Car Demonstration Study, 2003)

7.4 Economic benefits

Impacts — Individualized marketing initiatives

Various residence-based individualized marketing pilot projects, Australia

- Observed changes due to individualized marketing projects typically generate enough additional transit fare revenue to recover the projects’ full cost in two to five years. In larger, more congested cities like Melbourne a shorter payback period of 1.2 to 1.5 years is estimated. (Victoria Department of Infrastructure, Travel Demand Management: Public Transport Business Case, Australia, 2003)
Residence-based individualized marketing project, South Perth, Australia — Hypothetical analysis for a suburban community of 35,000 people

The analysis estimated a benefit-cost ratio of 11:1 to 13:1 over ten years for the proposed investment of $1.3 million. An even higher benefit-cost ratio of 12:1 to 15:1 was found using a 30-year horizon. The analysis methodology was consistent with those used for road projects, yielding results that were considerably better than typical road projects. (Ian Ker and Bruce James, Western Australian Department of Transport, Evaluating Behaviour Change in Transport: Benefit Cost Analysis of Individualised Marketing for the City of South Perth, Australia, 1999)

Impacts — Reduced car ownership initiatives

One Less Car demonstration projects, Way to Go program, City of Seattle, Washington, USA —

The program paid 86 families about $85 per week to not use their second car for either six or nine weeks, 2000-2002

Project analysis determined a benefit-cost ratio of 6.4:1, representing total benefits of $413,000 versus total costs of $65,000. (CH2M HILL and Victoria Transport Policy Institute, Way to Go, Seattle! Program Evaluation, 2003)

7.5 Individual benefits

Context

In 2005, Canadian households spent an average of $9,070 on transportation (more than food and health care combined) including $8,240 for private motor vehicles. These figures represent 13.6% and 12.3% of total household expenditures, respectively. Couples with children spent an average of $12,800 on transportation. (Statistics Canada, “2005 Survey of Household Spending”, The Daily, December 12, 2006)

The average automobile operating cost in Canada is $0.138 to $0.177 per kilometre for fuel, tires and maintenance. The average annual automobile ownership cost was $6,462 to $8,599 for insurance, license, registration, depreciation, and financing. Low-end costs are based on a 2008 Chevrolet Cobalt LT 4-door sedan (2.2-litre, four-cylinder engine) driven 18,000 kilometres annually. High-end costs are based on a 2008 Dodge Caravan SE (3.3-litre, six-cylinder engine) driven 18,000 kilometres annually. (Canadian Automobile Association, Driving Costs, 2008)

Impacts — Individualized marketing initiatives

Residence-based individualized marketing project, South Perth, Australia — Hypothetical analysis for a suburban community of 35,000 people

About 70% of the estimated benefits (based on an investment of $1.3 million and a benefit-cost ratio of 11:1 to 13:1 over ten years) arose from reductions in private vehicle operating costs. (Ian Ker and Bruce James, Western Australian Department of Transport, Evaluating Behaviour Change in Transport: Benefit Cost Analysis of Individualised Marketing for the City of South Perth, Australia, 1999)
**Impacts — Reduced car ownership initiatives**

One Less Car demonstration projects, Way to Go program, City of Seattle, Washington, USA — The program paid 86 families about $85 per week to not use their second car for either six or nine weeks, 2000-2002

- The 86 participating families saved an average of $70 per week by not using their second car — in other words, their expenses for replacement travel averaged about $16 per week. (City of Seattle, *One Less Car Demonstration Study*, 2003)

7.6 Public health and safety

**Context**

- The World Health Organization has concluded that the most effective way to increase the physical activity of citizens in industrialized countries is to encourage walking and cycling for trips less than five kilometres. (Dr. D. McKeown, Medical Officer of Health, City of Toronto, "The Impacts of Traffic on Health" staff report, March 27, 2006)

**Impacts — Individualized marketing initiatives**

Interstate TravelSmart project, City of Portland, Oregon, USA — Individualized marketing project in conjunction with opening of new light rail transit corridor through existing communities, using random before/after surveys to measure change in target and control areas

- The combination of new light rail service and the TravelSmart initiative increased physical activity by 25 hours per year or about 2 hours per month, per person. (City of Portland, "TravelSmart / Interstate Ave 2004 target area project" web page, 2007)

TravelSmart projects, Salem-Keizer, Eugene and Bend, Oregon, USA — Individualized marketing demonstrations, 2006

- The projects led to a substantial increase in physical activity. The time spent travelling actively (e.g. walking or cycling, including access and egress to public transportation or parked cars) grew by 8%, from 104 to 112 hours per person per year. (Socialdata America Ltd., *IndiMark and Behavior Change Results*, 2007)
8. The case for promotion and information initiatives

This chapter documents information that can help stakeholders make the case for promotion and information TDM initiatives to key audiences:

- **Section 8.1** identifies the various promotion and information initiatives for which benefits are identified in subsequent sections of this chapter.

- **Section 8.2** addresses the benefits of promotion and information initiatives in changing travel behaviours and attitudes.

- **Section 8.3** addresses the benefits of promotion and information initiatives in reducing air emissions.

- **Section 8.4** addresses the benefits of promotion and information initiatives for individuals.

- **Section 8.5** addresses the public health and safety benefits of promotion and information initiatives.

- **Section 8.6** addresses the public security benefits of promotion and information initiatives.

8.1 What are they?

This chapter addresses promotion and information initiatives aimed at the general public, rather than specific target markets (e.g. workplaces or schools). This is primarily to distinguish them from similar initiatives that focus on a specific audience (as detailed in Chapters 4 through 7). Promotion and information initiatives are typically undertaken by either governments or non-profit groups.

The kinds of promotion and information initiatives addressed in Sections 8.2 through 8.6 include:

- **transit initiatives** that encourage greater transit use

- **active transportation initiatives** that encourage cycling, walking and other forms of active commuting

- **ridesharing initiatives** that encourage carpooling or vanpooling

- **multimodal initiatives** that encourage a variety of sustainable travel options including transit, active transportation, ridesharing and telework

- **traveller information initiatives** that improve the availability, quality and timeliness of information that people rely on to make travel decisions
8.2 Travel behaviours and attitudes

Impacts — Transit initiatives

Rebranding of St. Albert Transit, St. Albert, Alberta — Campaign included a new logo, ride guide, website and community education

After the rebranding campaign, 14% of residents said it had encouraged them to use transit more. 81% of residents agreed that transit makes the community a better place and 28% said they were better educated about transit’s benefits. 61% of non-riders agreed that they still benefit from transit. (Canadian Urban Transit Association, “Marketing Transit in Canada: Meeting the Ridership Challenge,” Issue Paper 14, 2005)

Impacts — Active transportation initiatives

Bike to Work Week, Greater Victoria, British Columbia

The 2008 Bike to Work Week event in Greater Victoria attracted more than 680 registered teams and 6,000 cyclists, of whom more than 1,100 were new to bicycle commuting. (www.biketowork.ca/victoria and communication with staff, 2008)

Bike to Work Week, Vancouver, British Columbia

The 2007 Bike to Work Week event in the Vancouver region attracted almost 600 registered teams and over 3,500 cyclists, of whom more than 900 were new to bicycle commuting. (www.vacc.bc.ca, 2008)

Ride to Work Day, Queensland, Australia, 2001-2002

In a survey, 8% of respondents said the event had motivated them to cycle to work for the first time. About 75% of respondents said the event had motivated them to continue riding to work. (Institute of Transport Studies, Event Based Behaviour Change: A Literature Review Focussing on Transport Applications, 2003)

Ride to Work Day, Victoria, Australia, 2002

In a survey, 35% of participants said they had cycled to work for the first time. (Institute of Transport Studies, Event Based Behaviour Change: A Literature Review Focussing on Transport Applications, 2003)

Impacts — Ridesharing initiatives

Rideshare Week, City of Calgary, 2003

During the event the City’s ridematching website received 30,000 hits and 634 carpools were formed, reducing auto travel by about 2,000 peak-period trips daily and the annual equivalent of 31 million vehicle-kilometres travelled. (Association for Commuter Transportation of Canada for Environment Canada, Report on Canadian Alternative Transportation Programs, 2005)
In a survey, 37% of participants who tried a travel option during the event said they continued to use that mode more frequently afterwards. 30% of participants who had been SOV commuters said they continued to use their new mode regularly. (Institute of Transport Studies, Event Based Behaviour Change: A Literature Review Focussing on Transport Applications, 2003)

**Impacts — Multimodal initiatives**

- **Car Free Day, Greater Montreal, Quebec** — Closure of several downtown streets on one weekday between 10 a.m. and 3 p.m. accompanied by festival-type events
  - The event has led to one-day increases in bus and subway ridership of 10% to 15%, with an estimated 40% of regular car commuters in the downtown area affected by the event using options like transit, cycling or carpooling. Surveys conducted after the 2003 and 2004 events showed that 81% of regional residents approved of the event, and that 69% of regular solo drivers approved of future events. (Canadian Urban Transit Association, "Marketing Transit in Canada: Meeting the Ridership Challenge", Issue Paper 14, 2005)

- **Commuter Challenge campaign, Central Okanagan, 2006**
  - About 8,500 residents or almost 6% of the region’s population participated in the Commuter Challenge. (Canadian Urban Transit Association, "Transportation Demand Management: Building Ridership Through Innovation,” Issue Paper 20, 2007)

**Impacts — Traveller information initiatives**

- **Traveller information, Seattle, Washington, USA** — Information provided through radio, television, traffic websites or transit websites
  - 34% of travellers reported changing their modes, routes or departure times based on the traveller information provided. (United States Department of Transportation, Managing Demand Through Travel Information Services, 2004)

**8.3 Air emissions**

- **Rideshare Week, City of Calgary, 2003**
  - During the event 634 carpools were formed, yielding an equivalent annual reduction in greenhouse gas emissions from auto travel of 7,000 tonnes. (Association for Commuter Transportation of Canada for Environment Canada, Report on Canadian Alternative Transportation Programs, 2005)
8.4 Individual benefits

Impacts — Traveller information initiatives

Traveller information, Seattle, Washington, USA — Information provided through radio, television, traffic websites or transit websites

⇒ 43% of travellers reported that the traveller information provided saved them time, and 13% said that the information led to more predictable travel conditions. (United States Department of Transportation, Managing Demand Through Travel Information Services, 2004)

8.5 Public health and safety

Impacts — Traveller information initiatives

Traveller information, Seattle, Washington, USA — Information provided through radio, television, traffic websites or transit websites

⇒ 6% of travellers said that the traveller information provided led to safer travel conditions, and 12% said it led to less stressful conditions. (United States Department of Transportation, Managing Demand Through Travel Information Services, 2004)
9. The case for pricing initiatives

This chapter documents information that can help stakeholders make the case for pricing initiatives to key audiences:

- **Section 9.1** identifies the various pricing initiatives for which benefits are identified in subsequent sections of this chapter.
- **Section 9.2** addresses the benefits of pricing initiatives in changing travel behaviours and attitudes.
- **Section 9.3** addresses the benefits of pricing initiatives in reducing air emissions.
- **Section 9.4** addresses the economic benefits of pricing initiatives.

9.1 What are they?

Pricing initiatives either improve the relative financial attractiveness of options to single-occupant vehicle use, or convert the fixed costs of driving into variable costs in order to increase the financial benefit that results from a reduction in driving activity. They may be undertaken by government, private-sector or non-profit groups.

The kinds of pricing initiatives addressed in Sections 9.2 through 9.4 include:

- **transit initiatives** that make transit use more affordable
- **distance-based insurance initiatives** that convert fixed auto insurance premiums into distance-based premiums
- **road pricing initiatives** that charge a fee for use of a particular road or roads in a given area, including cordon or distance-based tolls

9.2 Travel behaviours and attitudes

**Impacts — Transit initiatives**

- Free transit on smog days, Transit Windsor, Windsor, Ontario — Single-year program offering free rides on four smog alert days, 2003
- On the first smog day, transit ridership was 28% above the average weekday ridership level and represented a 36% increase over the same day of the previous week or a 45% increase over the equivalent day of the previous year. Over the four smog days during which free transit was offered, the typical ridership increase over the previous year was about 50%. (Transport Canada, "Free Transit on Smog Days: Clearing the Air" case study, 2004)
Impacts — Distance-based insurance initiatives

Analysis of distance-based insurance pricing strategies in a North American context

It is estimated that GPS-based systems to enable distance-based insurance pricing could have a market penetration of 10% and reduce travel by participating vehicles by 15%, yielding an overall reduction in vehicle travel of 0.8%. (Victoria Transport Policy Institute, “Distance-Based Vehicle Insurance as a TDM Strategy,” 2008)

Pay-as-you drive insurance pricing test, Progressive Insurance, USA — Involved 3,014 volunteer participants who received a $50 reduction in annual insurance premiums for every 5% reduction in mileage below expected levels, representing a saving of 8.3¢ per mile for vehicles driven 12,000 miles annually

During the test’s first year, 93 participants with odometer reading data available from previous years drove an average of 1,237 miles less compared to previous years, representing a 10% reduction in vehicle usage. (Victoria Transport Policy Institute, “Pay-As-You-Drive Vehicle Insurance” web page at vtpi.org, 2007)

Impacts — Road pricing initiatives


Congestion in the charging zone dropped 40% during charging hours, and the number of vehicles driving in the zone fell 16%. (Greater Vancouver Regional District, "Road Pricing: An Overview of Current Practice", 2007)

9.3 Air emissions

Impacts — Distance-based insurance initiatives

Analysis of distance-based insurance pricing strategies

It is estimated that distance-based insurance pricing could reduce emissions from vehicles of participating drivers by 5% to 15%. (Victoria Transport Policy Institute, “Distance-Based Vehicle Insurance as a TDM Strategy,” 2003)

Impacts — Road pricing initiatives


Greenhouse gas emissions from travel in the charging zone are estimated to have dropped by 19%, and nitrogen oxide emissions are estimated to have dropped by 12%. (Greater Vancouver Regional District, "Road Pricing: An Overview of Current Practice", 2007)
9.4 Economic benefits

Impacts — Road pricing initiatives


- Buses run more reliably and experience shorter journey times since the charge was introduced.
  (Greater Vancouver Regional District, "Road Pricing: An Overview of Current Practice", 2007)