



TDM Strategy and Implementation Plan



MISSISSAUGA

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1 Introduction

The City of Mississauga is growing at a rapid pace and this means a greater demand for mobility options with more people moving around.

There are physical limits to how much the City can increase the capacity of its road network. The impact of continued growth in motor vehicle trips, particularly single occupancy vehicles, is undesirable as it is both costly to maintain facilities and causes environmental harm. To move people and goods more efficiently, it is clear the City needs to enable and encourage more sustainable modes of transportation.

This Transportation Demand Management (TDM) Plan builds on related work already completed by the City, and by other levels of government including the Region of Peel and the Province of Ontario.

This plan emphasizes the importance of TDM for an urbanizing city, and recommends actions for decreasing automobile use by increasing the attractiveness of sustainable modes including walking, cycling, carpooling and transit.

Table 1: A Decade of Growth

	2006	2016
Area	292 km ²	292 km ²
Population	500,000	722,000
Jobs	400,000	428,000
MiWay Routes	50	54
Dedicated Transitway	0 km	18 km
GO Rail Stations	6	6
Bike Routes	400 km	474 km

What is TDM?

TDM is a set of strategies that results in more efficient use of the transportation system.

Effective TDM results in more efficient use of the transportation system by influencing travel behaviour by mode, time of day, frequency, trip length, regulation, route, or cost.

The 2006 Places to Grow Growth Act identifies some examples of individual TDM measures that can be found in Table 2. The Draft Regional Transportation Plan (Metrolinx 2017) identifies that TDM program delivery is not solely a municipal responsibility, but rather that it *'can be advanced by encouraging private sector leadership, participation and investment with mandated participation by large employers, institutions and other venues that generate a significant number of trips'*. In other words, partnerships are considered a key success factor for TDM.

Figure 1: TDM Plan Example



Table 2: TDM Strategies

Examples of TDM Strategies	
Carpooling	Telecommuting
Parking Management	High Occupancy Vehicle (HOV) Lanes
Site Design and On-Site Facilities that Support Transit and Walking	Park-and-Ride Facilities
Bicycle Facilities and Programs	Incentives for Ride-Sharing, Using Transit, Walking and Cycling
Pricing (Road Tolls or Transit Discounts)	Initiatives to Discourage "Drive-Along" Trips by Residents, Employees, Visitors, and Students
Flexible Working Hours	



TDM Definitions

TDM is designed to influence travel behaviour and this involves a range of factors and decisions. The following definitions are used in this report to help the reader understand the full range of TDM activities.

Table 3: TDM Definitions

TDM Definitions		
TERM	DEFINITION	EXAMPLE(S)
TDM Measures	The individual human-based activities and physical infrastructure that help to shift travel behaviour from predominately single occupant vehicle travel to more sustainable modes. These can be classified a number of ways. One useful distinction is to differentiate between hard measures and soft measures.	Carpooling Walking and Cycling
Hard Measures	Refer to physical infrastructure provision as TDM supportive infrastructure	The Mississauga Transitway, bike parking, pedestrian connections and carpool parking spaces.
Soft Measures	These refer to activities that engage and educate people on their travel options and incentivize travel behaviour change.	Walking School Bus
TDM Programs	According to the Institute of Transportation Engineers (2016) 'TDM plans or programs focus on enhancing traveler mobility'. Traditionally, TDM programs have focused on employer-based strategies. The goals for TDM programs at development sites are much more targeted on desired mobility outcomes. Such outcomes are often defined in the zoning by-laws that require developers to provide mitigation strategies and TDM supportive infrastructure for expected development-related trip generation.	Company-based ridesharing, vanpools, telework programs, SmartCommute
TDM Tools	Defined as supporting one off or fixed term actions that complement and enable TDM measures. They can be standalone activities that are not necessarily time-specific or dependent on the implementation of other TDM measures.	Information campaigns Competitions Data collection and analysis
'Push' and 'Pull' Techniques	It is common to distinguish between 'push' and 'pull' techniques in TDM to help distinguish between voluntary behaviour change and change driven by economic factors. Pull measures are designed to increase the attractiveness of alternatives to single occupant vehicle use and pull people towards sustainable modes, while push techniques typically involve an economic incentive that often involves adjustments to the input costs to transportation and the final price that users pay when they make travel decisions. For example, when non-sustainable forms of travel begin to reflect their true societal costs such as the cost of congestion, pollution and health costs, this often pushes people to more sustainable modes and consequently leads to modal shift.	Pull techniques: Increases in source levels for transit Discounts for transit alternatives to single occupancy vehicle travel Push techniques: Gas taxes Expanding road space for transit at the expense of private vehicles Parking fees and charges Increase in parking fees

TDM Benefits

Successful TDM strategies lead to a reduction in the number of single occupant vehicle (SOV) trips on City roads. There are a number of benefits to the City and residents when TDM strategies are effective.



Transportation

The most obvious benefit from a successful TDM strategy implementation is increased levels of mobility through the City. Fewer cars on the roadways leads to less congestion and a more inviting environment for walking and cycling.

The reduction in automobile trips also benefits the life cycle of the City's transportation infrastructure. Motorized vehicles, including cars, put significant strain on our roadway network and reducing their impacts can help to increase the length of time between road resurfacings or reconstructions.



Environmental

Reducing SOV trips and encouraging the use of other modes of transportation will reduce the amount of greenhouse gas emissions (GHG) produced in Mississauga. The reduction of GHGs also leads to cleaner air and better community health. Less car travel means lower fuel consumption by Mississauga residents, businesses and employees. Encouraging the use of active transportation or public transit can significantly reduce environmental impacts in the city such as urban heat island effect, excess storm-water runoff, idling in congested traffic, and levels of particulate matter. Air pollutants for example have been shown to be a leading cause of respiratory disease in the community.





Economic

Mississauga is always looking to attract more businesses to the City and retain existing investors. Those investors are finding that the current and future generation of workers do not necessarily want to drive their cars to work every day. By ensuring that there is a connected network of bus routes, active transportation facilities and teleworking program support, Mississauga businesses can attract the best and brightest of the workforce while maintaining their location in the City.

Economic benefits are also likely on an individual level. Across Canada, transportation typically accounts for 20% of household spending on goods and services. TDM can help families reduce or eliminate their car usage and related costs. For example, an individual who is permitted to work from home occasionally could save money on gas, parking and vehicle maintenance costs.



Social

Driving alone in a car is the least social way to move around. There is little opportunity for social interaction when driving. Walking, cycling and taking public transit increases social connections and allows residents to feel a sense ownership for their community. TDM can also promote efficient and healthy site design that reduces surface parking and helps to facilitate better opportunities for land use intensification as well as greater use of transit, walking, and cycling.

TDM also helps to improve overall community health and physical activity levels by decreasing the volume of cars on roadways. Connected walking, cycling and transit networks also increase the range of travel options for a variety of demographics within our community and increases equitable access to transportation particularly for those who do not work or cannot afford to own a private vehicle but still have mobility needs.



Amsterdam, The Netherlands

TDM in Other Cities

There are many communities across Canada, North America and worldwide that have looked to TDM strategies to alleviate congestion issues.

Through this study, the practices of a number of comparable municipalities were reviewed to formulate a number of best practices for TDM.

As mentioned above, TDM strategies can be separated into two key categories: hard and soft measures. A brief overview from the best practices research for each category is provided below. Through this detailed review a number of common approaches were discovered (additional best practices can be found in Appendix A).



Hard Measures

When it comes to new development, getting TDM strategies integrated into development agreements and plans can be a challenge. To combat this, a number of cities have started to rely on TDM checklists to help guide developers in the integration of TDM into their new developments. Checklists provide guidance and suggest a suite of options for developers to select from when submitting a new application. Some Ontario municipalities that have developed checklists include the City of Hamilton, the Region of Waterloo, the Region of Peel and the Town of Ajax.

Figure 2: Example of a Bus Shelter or “Hard” TDM Measure



Soft Measures

A key element of TDM is helping individuals fully understand their travel options. People often do not realize what opportunities there are for them to complete their daily travel needs. Other communities have worked with employers to offer programming directly through the workplace. Examples reviewed come from York Region, Region of Peel, the City of Hamilton, and City of Ottawa.

Individualized marketing projects can take many forms but at their core they intend to help people understand the different ways they can move around through trip planning and offering incentives. The example from York Region is explained below and others are detailed in Appendix B.

York Region is currently working on a TDM program called MyTrip. This program helps residents make informed decisions to improve their commute, reduce stress and save participants time and money. Six communities within York Region are working with travel ambassadors to determine how the program could help them and their travel. Incentives, such as pre-loaded Presto transit fare cards have been offered.

Why TDM Now?

The City of Mississauga continues to transform from a sprawling suburb to a more urbanized community.

Future growth opportunities for a road network to support suburban built form are very limited. There are few prospective roads to construct or widen to support the future growth in population that will lead to more trips being accommodated, particularly during peak hours.

The City is at a crossroads where population and employment growth will continue to intensify communities but new trips will need to be accommodated through alternative modes.

To this point, significant work has been and continues to be done to create connected networks of infrastructure. The City has numerous plans that address cycling, sidewalks, and transit networks but more work can be done to incentivize these modes and lead to behaviour change related to mode choices.

Intensifying development provides the greatest opportunity for TDM and now is the time to capitalize on the current development climate to call on residents, employees, businesses, developers, staff and councilors to assist with this shift.

Figure 3: Wider Sidewalks in Port Credit Promote Greater Levels of Physical Activity



Development of The Plan

This TDM Plan was a project by the City of Mississauga and prepared by WSP Canada Group Limited.

TDM relates to the work of a number of City departments and therefore a project team was brought together to help provide direction for the development of the plan. The project was led by the City's Transportation Projects Group as a part of the Transportation and Infrastructure Planning Division.

City Divisions represented on the project team are identified below in Table 4.

Table 4: TDM Project Team

TDM Project Team	
Transportation Projects	Development and Design
Active Transportation	Development Engineering
Policy Planning	Legal Services
MiWay (Municipal Transit)	Municipal Parking
Economic Development	Transportation Planning

Figure 4: A New Condo Development in Mississauga



Organization of the Plan

The table below provides an overview of the plan and how it is organized. Following the main document are several appendices with supporting information.

Table 5: Overview of Report Chapters

Report Chapters	
Chapter 1	Provides an overview of Transportation Demand Management (TDM) and why it is important for Mississauga to include in its transportation planning. TDM terms and benefits have been defined within the chapter. The chapter also provides an overview of TDM in other municipalities.
Chapter 2	A profile of Mississauga has been developed in Chapter 2. Included are general information about the community such as demographics, languages spoke, employment and income, household size and dwelling type. Key transportation statistics within Mississauga have also been incorporated into this chapter. When combined with a policy framework review that was undertaken for this project, the community overview reveals insights into demographic trends which will be important to delivering TDM programs in the future. This Chapter also includes a summary of the Policy review conducted.
Chapter 3	Discusses the TDM framework for the project. The framework includes the objectives of the plan, the legal framework within which it was developed, and the measures and tools to be used as part of the plan.
Chapter 4	A discussion about the required strategies for moving forward is presented in this chapter. Included within this chapter are: the integration of TDM into the development approval process, programs and infrastructure that should be considered within new developments, impact of TDM on mitigating traffic concerns during the construction of large infrastructure projects and partnership opportunities that the City should pursue to increase the use of sustainable travel options.
Chapter 5	The Action Plan for TDM in Mississauga. TDM strategies are discussed and defined, building upon Chapter 4. The Action Plan establishes a plan for implementing TDM measures; including the key steps in the implementation process. Recommendations for outreach, marketing, and education are also provided with a link to an appendix outlining more detailed plan for promoting TDM programs.
Chapter 6	Discusses conclusions and recommendations of the program, including short, medium and long term actions and goals for the City to undertake.

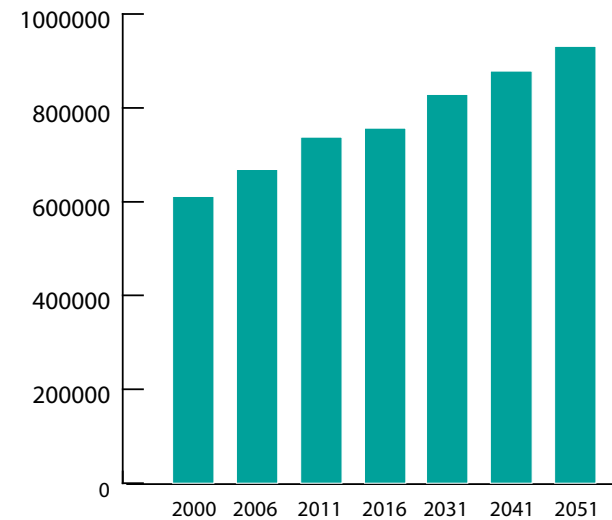




2 Transportation Trends Today

The City of Mississauga is one of the fastest growing municipalities in the Greater Golden Horseshoe Area, with a population that has increased by 1.5% annually since 2000. Its population is expected to grow from about 766,000 in 2017 to 930,000 in 2041, which will drive the demand for mobility and put great pressure on the city's road network unless TDM measures are put in place.

Figure 5: Historical Population and Future Projections for Mississauga

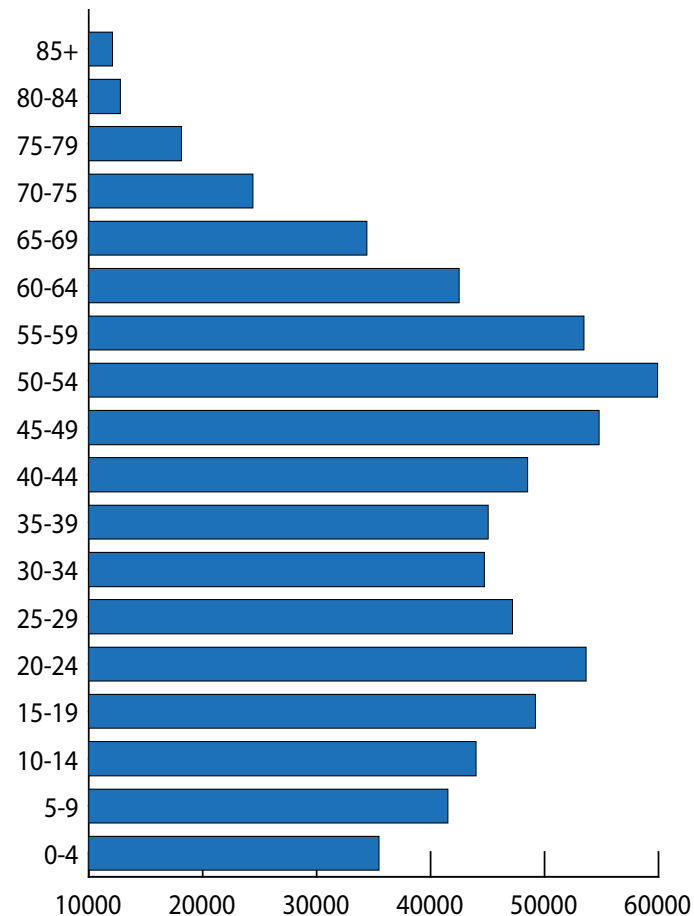


Mississauga's population is predominately working-age and family-oriented.

Breaking down Mississauga's population by age presents an interesting picture of the future. Today's largest single age cohort is between the ages of 50 and 54, indicating that there will be many people retiring in the next decade or two. This will lead to changes in both housing choices and travel habits.

Despite the aging population, Mississauga is still a family-oriented community, and about 69% of the City's population is of working age (between 15 and 64, according to Statistics Canada). This means that TDM measures that target commuting and other home-based trips can have a large impact. The significant millennial population, which is internet-savvy and highly connected, is also likely to respond to TDM marketing campaigns that use social media platforms.

Figure 6: Age Characteristics of Mississauga (2016)



Source: City of Mississauga - Population, Demographics & Housing Survey (2016)



Mississauga is diverse.

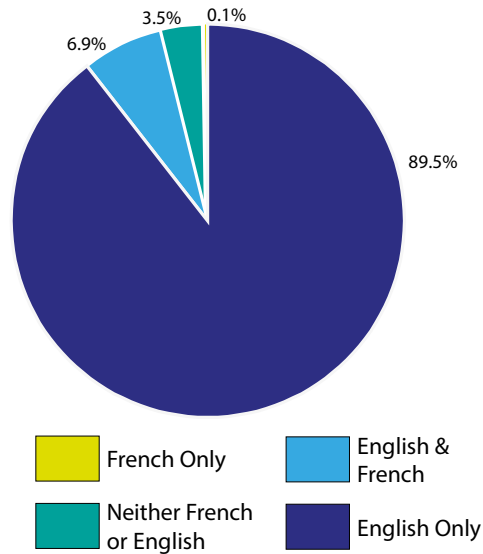
Mississauga is growing as a result of its proximity to Toronto and is a multicultural community. This is reflected in its diversity of languages and activities. A majority of residents speak either English or French, however many of Mississauga’s residents have a mother tongue that is not one of Canada’s official languages.

More than half of residents whose first language is not French or English indicate that their mother tongue is a Chinese language, Urdu, Polish, Punjabi or Arabic. Mississauga has a large Asian population from a wide array of countries, and there is a trend of increasing

immigration from Asia with most newcomers coming from India, Pakistan, Philippines and China. Polish, Spanish and Portuguese are the most prevalent European languages other than English and French.

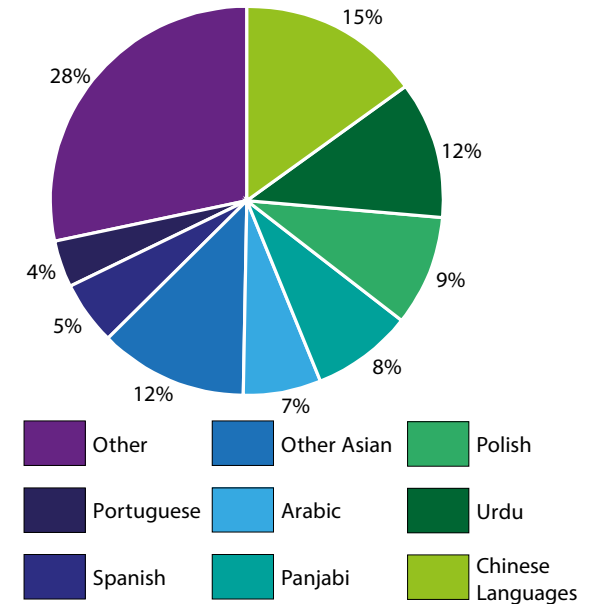
In developing and delivering its TDM program, Mississauga must take this ethnic and linguistic diversity into account. This includes helping new residents understand the full breadth of mobility options available to them and in many cases tailoring and delivering useful information on transportation options and programs to residents with special linguistic needs.

Figure 7: Proficiency of First Languages



Source: City of Mississauga - Population, Demographics & Housing Survey (2016)

Figure 8: Major Mother Tongues Other than English or French



Travel Behaviour

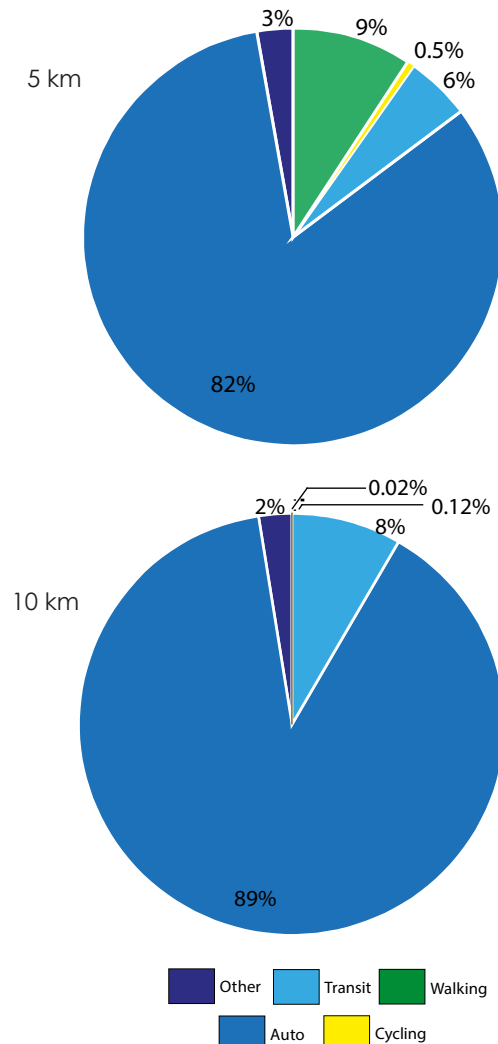
The opportunity to create more sustainable travel patterns for both short and longer distance trips.

The 2011 Transportation Tomorrow Survey records travel behaviour across the GTHA, including Mississauga. The travel data can be analyzed and broken down by time of day, origin, destination, mode of transportation and other criteria to give a snapshot of typical travel behaviour within Mississauga.

Analysis of data from 2011 reveals that the private automobile remains a dominant mode of transportation for all trips, even those less than 1km or 2km in length. Shorter distance trips represent low hanging fruit for TDM and potential to reduce car trips.

There are also some notable travel characteristics that provide a healthy evidence base for an increase in sustainable travel. In 2011, walking represented a quarter of all trips undertaken within Mississauga under 1km. The vast majority of transit trips (>85%) are split almost equally between those trips that are 2-5km and 5-10km in length. The data shows that continued development of TDM tools, measures and programs to increase the percentage of both short and longer distance trips within Mississauga by sustainable modes is substantial.

Figure 9: Mode Share per travel type for 5 km, and 10 km



Source: Transportation Tomorrow Household Travel Survey (2011)



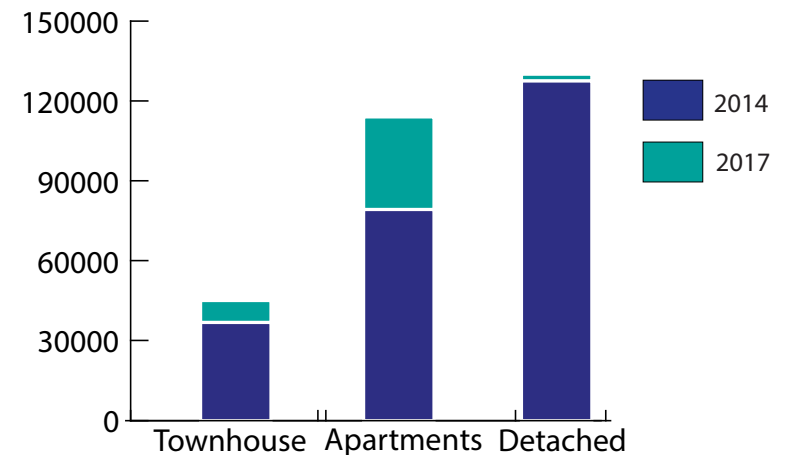
Land Use & Housing

Mississauga expects that most future increases to housing inventory will be driven by the trends towards apartments and condominiums.

Over the past decade, Mississauga has experienced consolidation of land to facilitate urban expansion. From 2011 to 2017, 327 hectares of vacant, farmland and public lands have been reallocated for open space and commercial/office/mixed-use developments. Over that period, the amount of land used for residential development increased by 39 hectares (0.4%) while the City's population grew by 2.6%. This indicates that dwelling types are shifting towards higher-density forms of housing such as condominiums and townhouses.

Mississauga expects that most future increases to housing inventory will be driven by the trends towards apartments and condominiums. The number of detached and semi-detached housing types is only expected to grow by 2,338 units by 2041, meaning that future residential areas are likely to be denser than today's older neighbourhoods. This denser residential form is well-suited to the delivery of residential TDM programs as it can often provide the 'critical mass' needed for these programs to succeed.

Figure 10: Housing Units in Mississauga by Type



Source: City of Mississauga - Population, Demographics & Housing Survey (2016)

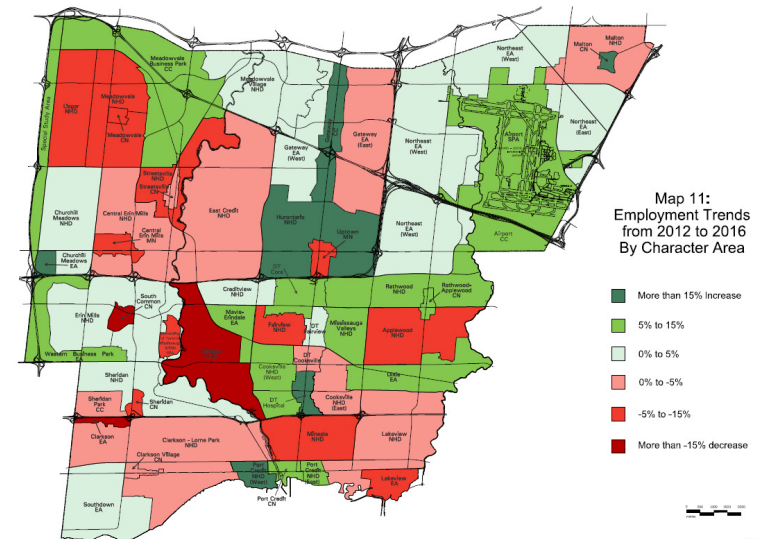
Employment

Employment in Mississauga has grown steadily, with over 10,000 jobs created between 2013 and 2017. During that period the number of businesses also increased. Service-based sectors are driving employment and business growth in Mississauga, while manufacturing and wholesale trade are shrinking.

Job growth is occurring throughout the City, in particular around the downtown area, Pearson Airport, Meadowvale and Western Business Parks and the Port Credit Area. If this new employment is primarily non-shift, service-based jobs then there is an opportunity to implement effective workplace TDM programs.

It is worth noting that over 650 businesses in Mississauga have been identified as employing more than 100 people (source: City of Mississauga – 2017 Employment Profile).

Figure 11: Employment Trends in Mississauga



Source: City of Mississauga - 2017 Employment Profile



Transportation Trends

At present, Mississauga is a largely car-oriented city. In 2011, 62% of trips originating from Mississauga and 70% of trips to Mississauga were made by drivers of single-occupant vehicles (2011 Transportation Tomorrow Survey), with transit and active transportation playing secondary roles. However, current and planned investments in regional rail, bus rapid transit (BRT) and light rail transit (LRT) are intended to support growing transit ridership.

Most trips to and from Mississauga are the result of commuting and other home-based trips, meaning that TDM programs for commuters and workplaces may be very effective in shifting travel demand from single-occupant vehicles to more sustainable modes. Other trips, which are made for diverse reasons and tend to be irregular in nature, may be harder to address.

Figure 12: Growth in Sustainable Modes for Daily Trips Between 2006 and 2011

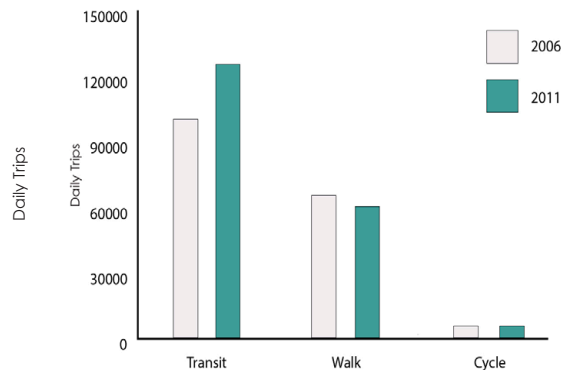
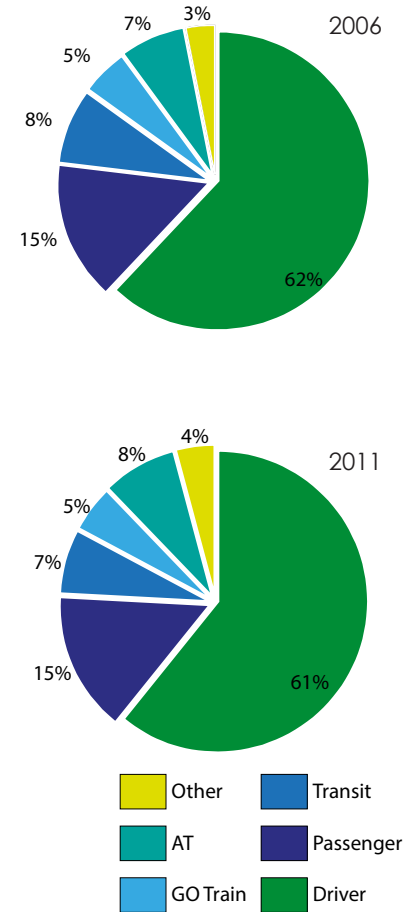


Figure 13: Mode-Split from 2006-2011 in Mississauga



Source: Transportation Tomorrow Household Travel Survey (2011)

On a typical weekday in Mississauga, 0.3% of all trips are made by bicycle.

From 2006 to 2011, the share of travel by active transportation (cycling and walking) did not grow significantly. However, since 2011 Ontario has developed a provincial cycling strategy and the City of Mississauga is currently updating the 2010 Cycling Master Plan. TDM measures provide essential support to new active transportation infrastructure.

On a typical weekday in Mississauga, 0.3% of all trips are made by bicycle. 84% of these trips are 5 km long or less. There are approximately 457 030 automobile trips 5 km or less. Many of these trips could feasibly be taken by other modes.

Figure 14: Purpose of Bicycle Trips in Mississauga

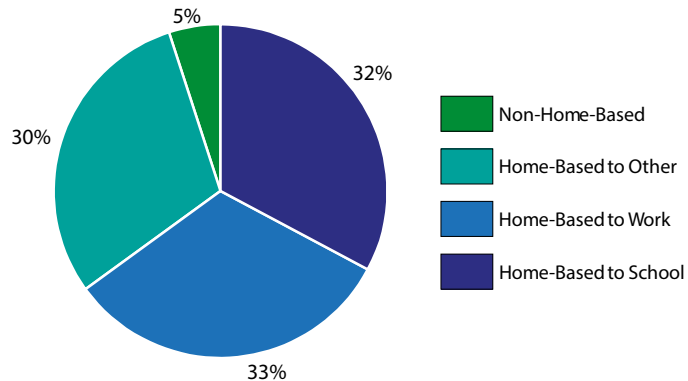
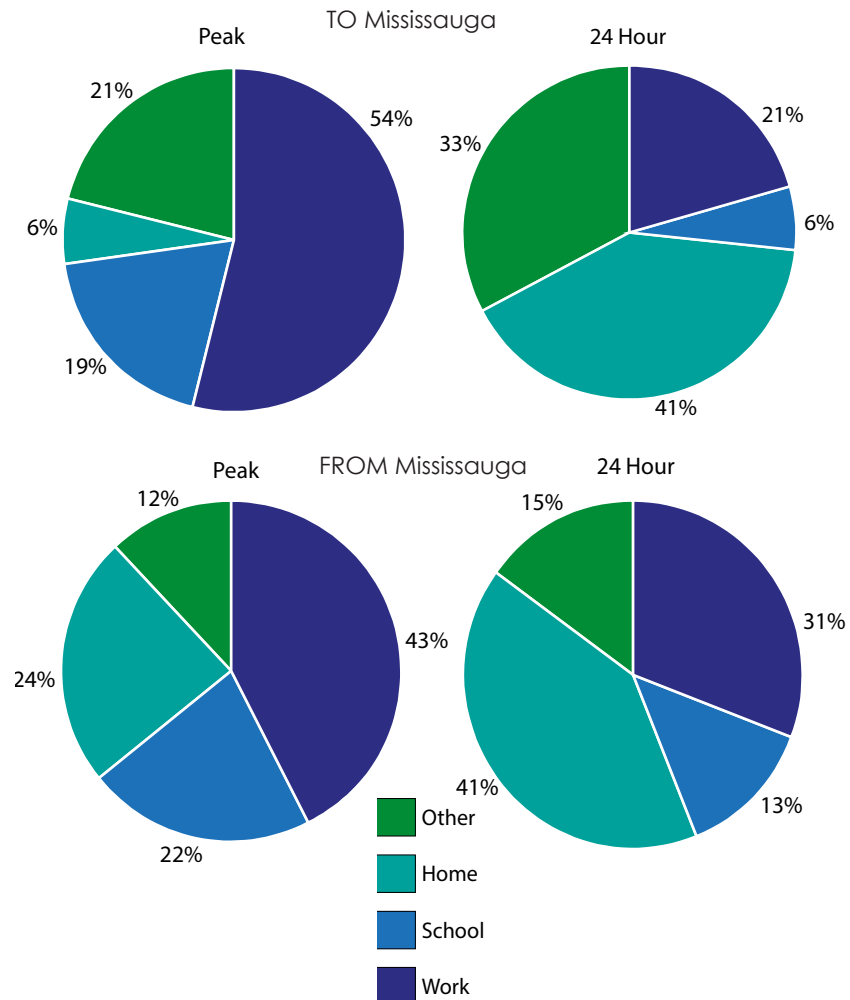


Figure 15: Trip Purpose TO and FROM Mississauga



Source: Transportation Tomorrow Household Travel Survey (2011)



Policy Framework

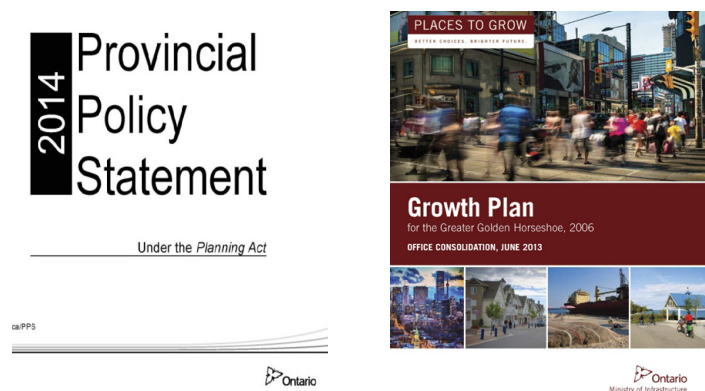
There are a number of Federal, Provincial, Regional, and City policies that support the actions outlined in this TDM Plan.

These policies address themes such as:

- Active transportation
- Transit
- Community development
- Sustainability

An overarching goal of these policies is the creation of multi-modal communities by creating more and improved travel choices. More options will create a city that can easily be traveled around no matter the age or ability.

Figure 16: Policy Documents Use in Policy Analysis



Active Transportation

The Region of Peel's Active Transportation Plan (2012) provides a framework for Mississauga to increase walking and cycling within the City, and to enhance integration with other modes. Creating a supportive environment for pedestrians and cyclists is a priority for the City. The City's Cycling Master Plan (2010) outlines recommendations for the design, construction and operation of the cycling network, in pursuit of goals such as fostering a culture of everyday cycling, integrating an on and off-road network, and applying a "safety first" approach. The City is currently updating the Cycling Master Plan to support future growth in cycling, and the TDM Plan will guide the promotion of cycling for everyday travel.

Figure 17: Cycling is a Priority in Mississauga



Transit

Metrolinx's 2008 Regional Transportation Plan (The Big Move) discusses the importance of large transit infrastructure projects within Mississauga, and how they will support the evolution of the City's form and function. Mississauga's own transit-related policies including the MiWay Five 2016-2020 Plan concentrate on becoming a transit-oriented city with an emphasis on affordability and accessibility for everyone. Policies continue to be developed to increase the awareness of transit services and expand the network to where people live and work. With an expanded network, the transit system will attract more passengers and increase transit's mode share.

Figure 18: GO Train at a Mississauga station



Figure 19: Aerial View of Port Credit



Community Development

The City recognizes the importance of community development to achieve the City's transportation goals. As an example, in 2010 the City prepared the Downtown 21 Master Plan, which discusses the need to have compact "complete communities" within Mississauga. This includes the framework for a mixed-use and multi-modal community that will create a more vibrant and healthier downtown. In order to achieve this the City recognizes that it will need to design streets to facilitate sustainable modes such as biking and walking. Other policies also support the development of more walkable communities.

Sustainability

With growing population and auto use, Mississauga has begun to put a greater emphasis on becoming sustainable, in part by helping residents to change their travel behaviours. As an example, the City's Strategic Plan (2009) aims to minimize resource consumption and reduce emissions that pollute the air and contribute to climate change. Supporting a shift from driving to sustainable modes can play a large role in this plan.

Figure 20: Example of an Electric Plug-in Station





3 TDM Framework

Mississauga has resolved to create a multi-modal city that integrates land use and transportation planning, and accommodates the needs of all road users.

TDM Vision

As outlined in its Official Plan, Mississauga aspires to provide seamlessly connected networks and an urban fabric that will enable and motivate sustainable travel by residents. TDM strategies will support this vision, together with policies at the Federal, Provincial, Regional and local levels. Key platforms for TDM delivery will include the development approval process, city-wide programs, and collaborative efforts with key partners.



TDM Objectives

These objectives will guide the successful delivery of the TDM Plan and support achievement of any proposed mode share targets in the City's upcoming Transportation Master Plan (TMP).

1. Shift Travel Behaviour

Mississauga will shift travel demand from predominantly single-occupant vehicles to more sustainable modes including walking, cycling, transit, carpooling and carshare/bikeshare. It will also reduce the overall number of trips taken by encouraging telework, trip chaining and trip consolidation.

2. Integrate Transportation and Land-Use Planning

Mississauga will continue to integrate transportation and land use planning to ensure the transportation network supports higher density, mixed-use developments. This combination will make sustainable travel options more competitive, and encourage residents to use them more often.

3. Use Existing Transportation Infrastructure More Efficiently

By shifting travel demand from driving to sustainable modes, Mississauga's TDM measures will encourage the efficient use of existing infrastructure and manage the need to expand road networks and parking supplies.

4. Improve Health, the Environment, and Equality of Life

The City will:

- Improve public health in the community by encouraging physical activity, reducing pollution, and lowering stress from driving;
- Reduce greenhouse gas emissions, stormwater run-off and other pollution from motor vehicles and supporting infrastructure; and
- Boost the quality of life for all residents by improving travel options, creating walkable and compact communities, and enhancing the sense of place.

Legal Framework

While there is considerable support for TDM programs in municipal policies, Ontario's overarching legislation does not readily enable municipalities to require TDM measures in new developments.

Planning practitioners understand the need for, and benefits of measures to promote sustainable travel; however, limits on municipal authority prevent them from using all possible tools at present.

Despite the current legal framework, there is still scope and precedent for private and public land developers to voluntarily incorporate TDM measures into their projects. Municipalities have some limited discretion to offer incentives for this to happen. Furthermore, municipalities and applicants can work together as appropriate to identify and implement suitable TDM programs that manage a development's traffic impacts.

Consequently, it is recommended that the City of Mississauga should take a formal policy stance that it welcomes TDM-supportive infrastructure and design features in all land development. Section 34 of the Planning Act outlines what can be addressed through zoning by-laws, including building location and parking-related infrastructure. As bicycles are

considered vehicles under the Motor Vehicle Act, a municipality can regulate bicycle parking supply in its zoning by-law; accessory features to bicycle parking, such as showers and locker rooms, are possible when both parties agree to incorporate these amenities into the development. The Planning Act also supports the inclusion of affordable housing within residential developments, so supportive features enabling sustainable (and affordable) travel options such as walking, cycling and transit should be included.

Section 37 of the Planning Act may also support TDM-related measures through bonusing provisions that allow density increases in return for measures that benefit the wider community. A promising opportunity is when applications seek densities greater than permitted by zoning; for example the City can work with developers to implement TDM measures.

The City should continue to further refine the potential of its existing powers under the Planning Act to support sustainable travel options through the development approvals process. As well, given the policies within the Places to Grow Act and the Draft Regional Transportation Master Plan, City Council may consider requesting the Province of Ontario to amend the Planning Act to allow municipalities to require the implementation of TDM measures by developers as a way of mitigating impacts of developments on the transportation network and its users.



TDM Measures

TDM measures and tools proposed here are designed by land use.

A key consideration for the TDM Plan was to take into account prevailing land use and target the deployment of any proposed TDM measures or tools to those areas of the municipality with the greatest chance of success.

An evaluation was conducted to establish the suitability of individual TDM measures and tools for each major land use classification in the Mississauga Official Plan. The full evaluation by geographic area can be found in Appendix E.

At the municipality level, the possible TDM measures and tools were separated into four categories depending on whether they were targeted at times of travel, the workplace, existing or future infrastructure or the role of the City in designing and delivering programs to provide services and drive behavioural change.

These fell into one of the following four categories:

1. Changes to the times that people travel at (the 'temporal' aspect)
2. Workplace measures
3. TDM supportive infrastructure and policy (soft and hard measures)
4. Municipally delivered and other programs

The evaluation also took the following considerations into account:

1. What is the proposed TDM measure?
2. Who is proposed to deliver it?
3. What is the primary intent for introducing the TDM measure or tool?
4. What is the estimated impact on existing services and infrastructure?
5. Will new infrastructure or services be needed

The summary results are illustrated below in Table 6.

Measures

Table 6: TDM Measures

TDM Measures Evaluated					
	MEASURE	WHO WILL DELIVER	PRIMARY INTENT AND OBJECTIVE	IMPACT ON EXISTING INFRASTRUCTURE/SERVICES	NEW INFRASTRUCTURE OR SERVICES NEEDED
Changes to Travel Times	Change in Work Arrangements	Public and Private Sector Employers	Reduce demand for travel, lessen parking impact on land use and peak transportation network load	Reduce the amount and resulting impact of peak period private car travel on the transportation network, particularly on roads	No, IT resources potentially required to host public data sets on real time travel and parking information
	Carpooling (Ridematching, Guaranteed Ride Home)	SmartCommute Mississauga, Smart Commute Pearson Airport Area, Region of Peel	Lessen peak transportation network load, increase system efficiency (move more people with fewer resources) lower environmental impact through fewer single occupant vehicles and less traffic congestion	More pick up and drop off locations, potential negative impact on transit ridership	Yes, contract of service to provide a Guaranteed Ride Home program on demand
Work-place Measures	Transit Passes	MiWay, City	Mode shift where reasonable alternatives already exist	Increased transit ridership Reduce the impact of peak period private car travel on transportation network, particularly on roads	No, unless additional ridership triggers increase in service levels
	Bicycle Parking	City , Property Owners	Mode shift where reasonable alternatives already exist	Workplace-based bicycle parking assessments required to maximize effectiveness of workplace parking arrangements	Yes, where facilities are provided on public land
	Pricing Parking	Property Owners, City	Mode shift, reduce parking demand	Potential spillover into off-street and on-street public parking where 'free' parking exists	Yes, Additional City or private infrastructure associated with paid parking
TDM Supportive Infrastructure and Policy	Park and Ride Facilities at Transit Stations	MiWay, GO Transit	Mode shift	Mixed. May lead to decrease in feeder services.	Yes, enforcement of existing facilities, potentially new infrastructure if demand exceeds supply
	Accessible connections and amenities	City, Property Owners	Equitable access to sustainable transportation	Increased transit ridership and active transportation activity	Yes, Accessibility for Ontarions with Disabilities (AODA) compliant infrastructure
	On-road Active Transportation Infrastructure	City	Mode shift	Increased active transportation activity	Yes, particularly where significant reallocation of existing road space is required
	Change Parking Demand Through Supply and Restrictions	City	Mode shift	Increased transit ridership, increased vehicle occupancy	Yes, repurposing of existing parking and development standards for more spatially compact forms of parking (i.e. structured and mechanical parking)



Report Chapters					
	MEASURE	WHO WILL DELIVER IT	PRIMARY INTENT AND OBJECTIVE	IMPACT ON EXISTING INFRASTRUCTURE AND SERVICES	NEW INFRASTRUCTURE OR SERVICES NEEDED
TDM Supportive Infrastructure and Policy	Transit Priority Lanes	City	Mode shift	Increased transit ridership, increased vehicle occupancy	Type of priority lanes will determine extend of new infrastructure required
	Bicycle Parking Regulations and Standards	City	Mode shift	Low	Yes, new bicycle parking development standards
	Development Application Requirements and TDM Plan Outline as part of Transportation Impacts Study (TIS)	City	Incentivize and regulate provision of viable travel alternatives leading to mode shift	Low	Yes, new TDM and TIS plan development requirements
Municipality Delivered and other Programs	Community Outreach and Engagement	City in partnership with the Region of Peel, Smart Commute as applicable	Increase information on travel alternatives, mode shift	N/A	Yes, mobility as a service (MaSS) infrastructure, including systems for resource poolings and risk management processes. MaaS is the integration of various forms of transport modes into a single mobility service accessible on demand.
	School Travel Planning and Support	Regional School Boards/City/Private Schools	Education of children and youth to promote life long sustainable travel behaviour, reduction in parents and guardians driving children to school	Increased transit ridership, increased vehicle occupancy, increased active transportation	No
	Youth Initiatives	City, Regional School Boards, Private Schools	Education of children and youth to promote life long sustainable travel behaviour, reduction in parents and guardians driving children to school	Increased transit ridership, increased vehicle occupancy, increased active transportation	No
	Land Use Policy	City	Compact urban form supports more sustainable travel behaviour	N/A	No



4 Strategies for Moving Forward

Existing strategic directions allows the City of Mississauga to achieve future mode share target and shift towards a more sustainable transportation system.

The previous chapters have highlighted that strategic initiatives are required to ensure that TDM measures and related infrastructure are implemented and developed in Mississauga in the future.

This chapter outlines the strategic directions the City of Mississauga should undertake to assist with achieving future mode share targets and shifts to sustainable transportation systems.



Development Approval Process

Integrating TDM measures into new development applications is a great opportunity to pursue the integration of more sustainable transportation into broader transportation and land use changes.

People are most likely to adopt new travel behaviours during significant life events, such as moving to a new location. For this reason, the integration of TDM measures into new developments is a great opportunity for pursuing more sustainable transportation outcomes. It is recommended that the City request TDM plans for all development applications that are submitted to the City for review and develop thresholds that are broadly commensurate with the scale of development being undertaken.

Figure 21: Safe Crosswalks are important to encourage more residents to walk to their destinations



When to Request a TDM Plan

The City should guide and collaborate with developers in deciding how best to achieve mode share aspirations for a proposed development.

The value in asking developers for a TDM plan is determined by a number of factors that will also influence the nature and scale of appropriate TDM measures. The City should guide and collaborate with developers in deciding how best to achieve mode share aspirations for a proposed development and to reduce its unwanted impacts, both through TDM measures and by integrating the development with local and regional transportation networks.

For instance, by drawing upon the City of Mississauga's Official Plan (2017), a complete development application may require a TDM plan to demonstrate the site's connectivity to transit networks and integrate active transportation measures as possible ways of reducing vehicular traffic demand and the associated impacts on traffic and transit operations, local residents and the environment.

As discussed in Chapter 3, mandatory integration of TDM measures in development applications is limited based on Ontario's Planning Act. However, a number of interim measures, such as working with developers to incorporate TDM-related measures into a development to allow increases in density, reduction in parking requirements and incorporating bicycle parking into the parking regulations within the City's Zoning Bylaw, as well as the City's Parking Master Plan (anticipated in 2018) will allow Mississauga to make effective use of its existing powers.

Finally, at this time, the City can require certain TDM measures to be included in Transportation Impact Studies (TIS) to address site-related traffic concerns as identified in the TIS. The City should update the TIS guidelines to include specific triggers for when a TDM Plan should be developed. The thresholds and type of plan are outlined next.



The City should guide and collaborate with developers in deciding how best to achieve mode share aspirations for a proposed development.

TDM Statement

A TDM statement is a short description of TDM measures that should be required when an individual development is found to result in an increase in up to 50 additional trips per day. The types of measures that could be included in the statement are bicycle parking, pathway connections to sidewalks and transit stops, priority carpool parking, and other priority parking locations for carshare and electric vehicles.

Short TDM Plan

This type of plan will build upon the basic requirements of the TDM Statement. It will be required for developments that are estimated to generate between 50 to 200 additional trips per day. The plan will provide an opportunity for staff and applicants to evaluate the types of measures that could be

incorporated into the development to mitigate the impacts of additional traffic generated due to the development. The plan could include additional measures such as shower and locker rooms facilities, promotion of transit use through the availability of transit information, higher levels of priority parking for carpools, carshare and electric vehicles, ridematching programs and others.

Full TDM Plan

A full TDM Plan will be required for large mixed use developments that could have a considerable impact on the transportation network and the surrounding the proposed development. It should be at the discretion of the City to require this particular kind of TDM plan. Large developments that include a mix of residential, employment, commercial and personal services typically have considerable scope to reduce the number of trips traveled on a daily basis. All TDM measures that can be found in the tool kit (Appendix E) can be negotiated to be incorporated into the TDM plan to reduce the impact of the potential single occupant trips generated and increase the use of sustainable modes.

Bike Parking Guidelines

The bike parking guidelines determine the quantity and nature of bicycle parking spaces for different kinds of residential and employment land uses.

Where, When and How

Bike parking design guidelines determine the quantity and nature (e.g. dimensions, location) of bicycle parking spaces (e.g. racks, lockers, rooms) at different kinds of residential and employment land uses. Many large cities in Canada require bicycle parking in their zoning by-laws. However, Mississauga has not yet done so, nor has it developed general guidance for developers. Safe and secure bicycle parking is an important means of enabling and motivating cycling, particularly where it can be designed to help to both help promote cycling as well as reduce rates of bicycle theft.

Bike parking can be separated in two different categories: long-term and short-term. Long-term bike parking includes bicycle racks in secure, enclosed, weather-protected areas with controlled access. Short-term bike parking usually constitutes bike racks in a visible, accessible location that may or may not be weather-protected.

Figure 22: Biking on the sidewalk often occurs where there is no formal bike infrastructure in Mississauga



The typical options available to designers and engineers range from on-street ring-and-post parking to outdoor bike lockers and indoor bike rooms. The City has developed its own Bike Parking Design Guidelines to help guide decision making about bike parking design and placement. The Design Guidelines can be found in Appendix D



Bike Parking Standards

Many municipalities have established standards to ensure that a site's users (i.e. employees, residents, visitors) have access to short-term and long-term bike parking.

Development Standards

Bike parking standards specify the rate of bicycle parking capacity a development is required to provide, proportional to its size, land use type and location. Bike parking standards encourage sustainable travel behaviour and can help reduce a development's traffic and other environmental impacts. Many municipalities use standards to ensure that a site's users (i.e. employees, residents, visitors) have access to short-term and long-term bike parking. A good example is the City of Toronto's Green Standard, which outlines specific policy zones that require different standards based on the density of the built environment.

Figure 23: Bike Parking in Port Credit



This approach is supported by several relevant policies and plans:

- **Climate Change Action Plan 2016-2020.**

This is Ontario's most recent plan, coupled with specific legislation, actions and programs to address climate change. It discusses the need for more public bike parking at transit stations.

- **City of Mississauga's Cycling Master Plan.**

The 2010 Plan is currently being updated by the City's Active Transportation Office, and will examine the needs and opportunities for improved bicycle parking in the public realm.

- **Mississauga Living Green Master Plan.**

The 2012 LGMP provides a framework for the City to meet environmental goals in the Strategic Plan. The LGMP connects our Future Mississauga Strategic Plan through the "Move", "Connect" and "Green" Strategic Pillars for Change working in collaboration with the community, businesses and other levels of government,

- **Waterfront Parks Strategy.**

Mississauga City Council approved this strategy in March 2008 as a comprehensive long-term plan for the development of waterfront parks. It aims to reduce vehicle parking, encourages non-auto modes of transportation such as cycling, and supports the provision of bike parking near park

- **Mississauga Official Plan (2017).**

The Official Plan calls for Major Transit Areas (i.e. the locations of existing or planned higher-order transit stations) to provide connections to various modes, such as through bicycle parking and commuter pick up/drop-off areas. The Official Plan's parking policies generally call for more a more deliberate approach to parking management, and support bicycle parking and related amenities as part of site development. A current Official Plan policy for instance is to require bike parking at certain corporate centres (refer to policy 15.2.2.1.1).

- **Metrolinx GO Rail Station Access Plan (2016).**

This plan discusses the need for more active transportation facilities around stations, and in particular calls for the integration of secure bike parking and bike-share programs with existing information and payment platforms (e.g. PRESTO).

Required bicycle parking ratios vary by municipality, and within a community they can vary according to geographic area (e.g. urban or suburban). The following table shows bicycle parking ratios for a cross-section of Canadian municipalities.



Table 7: Bike Parking Requirements

Bicycle Parking Requirements in Select Canadian Cities by use						
LAND USE	OAKVILLE (ZONING BY-LAW 2014-014)	HALIFAX	VAUGHAN METROPOLITAN CENTRE	TORONTO (ZONE 1 ONLY)	VANCOUVER (PARKING BY-LAW 6059)	
					CLASS A (LOCKERS)	CLASS B (RACKS)
Residential Apartment	1 space /dwelling*	0.5 spaces/unit (80% class A; 20% class B)	0.1 per unit or 6 spaces (whatever is greater – short term; .5 per unit with over 10 units – long term)		0.75 to 2.25/ unit varies by type of unit	Generally – Minimum of 6
Retail	Greater of 2 or 1/1000m ² (NFA)*	1/300m ² GFA – 20% Class A; 80% Class B	0.15 or 6 (whatever is great- er – short term; 0.1 – long term)	Short term: 3 + 0.3 per 100m ² of interior floor space; Long term 0.2 per 100m ² of interior floor space	Min 1/500 m ² GFA	Min of 6 spaces (min of 1000m ²)
Business Office	Greater of 2 or 1/1000m ² (NFA)*	1 / 500m ² GFA – 50% Class A; 50% Class B	0.1 or 6 – (whatever is great- er – short term; 0.13 long term)	Short term: 3+0.2 per 100 m ² of interior floor space; 0.2 per 100m ² of interior floor space Long term: 0.2 for each 100 m ² of interior floor area used for an office, other than a medical office;	1/500 m ² GFA	Min of 6 spaces (min of 2000m ²)
Medical Office	Greater of 2 or 1/1000m ² (NFA)*	1 / 500m ² GFA – 50% Class A; 50% Class B	0.1 or 6 – (whatever is greater – short term; 0.1 long term)	Short term: 3 +0.15 per 100 m ² of interior floor space; Long term: 0.15/ per 100 m ² of interior floor space	Section 6.1.3 (Uses not Listed) 'The number of bicycle spaces shall be calculated on the basis of a similar use as deter- mined by the Director of Planning.	Section 6.1.3 (Uses not Listed) 'The number of bicycle spaces shall be calculated on the basis of a similar use as determined by the Director of Planning.
Employment	2 + 0.25 per 1000m ² (NFA)*	1 /1000m ² GFA. 80% Class A; 20% Class B (Min of 2 Class B to a max of 20)	Commercial Uses: Short term 0.15 spaces per 100m ² GFA or 6 bicycle spaces which- ever is greater for buildings with GFA >1000m ² Long term 0.1 spaces per 100m ² GFA	Same as business office	1/1000 m ² or 1/17 employ- ees (whatever is greater)	N/A
School, Post- Secondary	Greater of 3 or 2.0 per 100 m ² (NFA)*	1 space for every 250 m ² GFA. 20% Class A; 80% Class B		Short term: 3 +0.3 per 100 m ² of interior floor space; Long-term: 1/100 sq. m. of interior floor space	0.4 for every 10 students	0.6 for every 10 students

* Section 5.4.1b) states that 'in no circumstance shall the number of minimum bicycle parking spaces required on a lot be greater than 30.'

Based on a review of the existing standards in Table 8 the following table identifies the recommended minimum bicycle parking requirements in Mississauga. The City may wish to consider offering incentives to developers who wish to offer bicycle parking above and beyond this rate in lieu of conventional vehicle parking, particularly where it can be demonstrated in a Short or Full TDM Plan that this is likely to lead to a reduced level of motorized vehicle travel to individual sites and locations.

For the sake of simplicity, cost effectiveness, public health and to foster a culture of cycling, short and long term bicycle parking requirements are recommended to be set at a simple ratio of 1 per 15 students for class A and 1 per 10 students for class B at elementary and secondary schools and 1 per 15 students for post-secondary schools.

Table 8: Recommended Minimum Bike Parking Requirements

Land Use	Bicycle Requirement Class	
	CLASS A (LONG-TERM)	CLASS B (SHORT-TERM)
Residential apartments and multi-unit dwellings	0.8 spaces per unit	Minimum 6 spaces for visitors
Retail	0.5 per 500m ² (GFA)	1.0 per 500m ² (GFA)
Business office	0.5 per 500m ² (GFA)	0.5 per 500m ² (GFA)
Medical office	0.5 per 500m ² (GFA)	0.5 per 500m ²
Employment	0.5 per 500m ² (GFA)	Minimum 2 spaces
Elementary school, secondary school	1 per 15 students	1 for every 10 students
Post-secondary school	1 per 15 students	1 per 15 students
Institutional	0.5 per 500m ² (GFA)	0.5 per 500m ² (GFA)



Class A & B Bike Parking

The most common forms of long-term or Class A bike parking are bike cages, bike rooms and bike lockers. Cages and rooms are more common in multi-unit residential buildings, employment uses and post-secondary institutions. Bicycle lockers (which can be located outdoors, away from other forms of shelter) have been used successfully at transit stations, post-secondary institutions and other places where individuals can rent them out during the cycling season.

Short-term or Class B bicycle parking is typically for customers or visitors. It should be made of strong metal and secured to the ground, and should enable a bicycle to be secured at two places to avoid being stolen. Two common types of racks are single racks that typically hold up to two bicycles, and multi-unit racks with the ability to accommodate 5-20 bicycles in a row.

Bicycle racks on private developments should also be located in areas that are well lit, within 15 metres of a building entrance, and visible from that entrance. Racks in a road right-of-way should not impede pedestrian, cyclist or vehicular travel.

Figure 24: Examples of Types of Bike Parking



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End-of-Trip Facilities

End-of-trip facilities for active transportation users (e.g. showers, lockers and change rooms) are required at employment land uses by some municipalities as an adjunct to bicycle parking standards. The number of facilities (e.g. lockers or grooming stations) or their floor area (e.g. of change rooms) is typically linked to the required number of Class A bicycle parking spaces, and may be specified for both male and female users. More information can be found in Appendix D.

Freestanding bike repair stations (i.e. that provide tools to inflate or repair tires, or adjust brakes) are another end-of-trip amenity that can be provided to make regular cycling more convenient and reliable. They can be suggested to developers during discussions about bicycle parking, showers and lockers.

Figure 25: Class A Bike Parking



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Table 9: Recommended End-of-Trip Facilities

Required number of Class A Bicycle Spaces	Toilets	Bathroom Sinks	Showers and lockers
0-3	0	0	0
4-29	1	1	1
30-64	2	1	2
65-94	3	2	3
95-129	4	2	4
130-159	5	3	5
160-194	6	3	6
Over 194	6 plus 1 for each additional 30 bicycle spaces	3 plus 1 for each additional 30 bicycles spaces	6 plus 1 for each additional 30 bicycle spaces



Existing TDM Programs

TDM programs are an important part to successfully facilitate behaviour change in travel.

Existing Programs

The City of Mississauga currently leads TDM programs with a number of partners. These programs have successfully facilitated behaviour change, yet are limited in scope and have not always engaged with larger programs and departments. They engage the public through digital, physical and policy realms, and include mostly 'pull' strategies. 'Pull' strategies consist of 'carrots' that increase the appeal of sustainable travel choices by improving information and service levels. By contrast 'push' strategies (i.e. sticks) shift the costs of travel onto end users to reduce or eliminate hidden subsidies for driving and better reflect the true costs of travel choices for the whole community.

The following highlights those TDM programs that are currently led by the City.



St Lawrence Park, Port Credit

City Led Programs

Bike to Work Day & Other Campaigns

City staff are encouraged to participate in a number of campaigns each year including Bike to Work Day, Smart Commute Week, Carpool Week etc. These campaigns reinforce the Smart Commute messaging and encourage staff to participate by offering incentives and prizes.

Other employers in the City are encouraged to promote these events and campaigns to their staff:

- Can-Bike training and safety education for cyclists. Cycling Canada's education program has been designed for cyclists of all skill levels. Can-Bike teaches individuals how to ride safely and effectively in different settings and weather conditions with the end goal of safety and enjoyment for all.
- Mississauga Cycling Handbook. This helps cyclists understand the rules and regulations of cycling in Mississauga is available in several languages. It acts as a user's guide and discusses the parts of a bike, maintenance, road safety, and rules of the road.



MiWay Outreach

MiWay's Outreach Team participates in various events throughout the city and organizes information sessions for students, older adults and local businesses.

- MiWay also administers a Student Ambassador Program (www.miway.ca/ambassador) - a fun, creative and educational program that provides a great opportunity for Mississauga's high school students to educate their school community about the benefits of public transit on the Mississauga website.
- The downtown Mississauga website has a tab specifically for "getting around". The website promotes the use of public transit and provides maps for walking trails and transit, along with a user's guide for places to visit within the core area.



TDM in Large Infrastructure Projects

Large infrastructure projects can have a major impact on people's ability to get around.

During construction of large infrastructure projects, potential disruptions include changes to existing transit services routes and times, closures of bicycle lanes and sidewalks, and changes to vehicle travel lanes. TDM strategies can help minimize disruption during construction, and should be put in place before work begins.

The City and Metrolinx have been proactive in developing a plan for traffic control and communications during construction of the Hurontario Light Rapid Transit (LRT) line, including a TDM strategy to help mitigate construction impacts on travel in the area and along Hurontario. The strategy will inform area residents and employees about the travel options available to them during the construction period. It is anticipated that the plan will encourage a reduction in vehicle trips taken along the corridor, and help the public understand opportunities to shift travel modes, times and routes throughout the project.

For the Hurontario TDM strategy to be successful, a collaborative process involving several City of Mississauga departments, the Region of Peel, Metrolinx and others is critical. It will allow each partner to take well defined and targeted roles, overseen by the City's TDM Coordinator.

The Hurontario LRT TDM plan will be implemented in three phases: pre-construction, construction and post-construction. Each phase includes specific messages, tactics, and delivery agents. While the first two phases will provide short-term benefits, follow-on TDM measures can support long-term changes in travel behaviour arising from the new LRT. For example, when the Hurontario LRT service starts, it is anticipated that the TDM plan will provide additional incentives for residents and commuters to use it, rather than drive.

This is the first TDM strategy in Mississauga for such a large project, and its success will be monitored and fully evaluated to identify lessons learned. The general approach can be modified and used for other projects. Because TDM is context-sensitive, any future adaptations must consider the needs of adjacent communities, the expected duration of construction, available modes of travel, and surrounding land uses.

TDM Partnership Opportunities

The City has an opportunity to become more active in the promotion and delivery of TDM programs by increasing its collaboration with the Region of Peel, Metrolinx, school boards and local Smart Commute offices.

Table 10 includes a preliminary assessment of the extent to which external organizations are involved in the delivery of TDM Programs.

Table 10: External Organization Involvement in TDM

Partner	Current Role in TDM Program Delivery		
	● Major	● Minor	○ None
	Workplace Programs	Household Programs	School Programs
Region of Peel - Planning	●	●	●
Region of Peel - Public Health	●	●	●
Smart Commute Offices	●	●	○
Metrolinx/ GO Transit	●	○	●
Employers/ Property Managers	●	○	○
Schools/ School Boards	●	○	●
Developers/ Property Owners	●	●	○



Partnerships in Peel

TDM large infrastructure projects can have a major impact on people's ability to get around.

A strong partnership with the Region of Peel is important for the City of Mississauga. It enables connections to TDM programs being delivered by the Region and other municipalities in Peel (i.e. Brampton and Caledon), and across the Greater Toronto and Hamilton Area (GTHA). It allows the City to learn from and leverage the knowledge and experience of other governments, and to advise local residents, employees and developers about activities elsewhere in the Region that could benefit them. It also allows the City to provide input on Mississauga-specific challenges and opportunities related to Peel or GTHA-wide initiatives.

Region of Peel is known for its innovative and progressive approach to encouraging residents, workers and visitors to use sustainable modes of travel for commuting and day-to-day movements. With its partners, it has undertaken a number of programs to encourage long-term travel behaviour change which can inspire Mississauga's own efforts. Those programs are reviewed next.



Streetsville GO Station

A) Existing Employer Individualized Marketing (EIM) Campaign

The EIM campaign represented an innovative, tailored approach to the delivery of workplace TDM programs in Peel. It used community-based social marketing techniques in the workplace to reduce single-occupancy vehicle travel and increase travel by sustainable modes during peak periods. It was the first large-scale program of its kind in Peel and included sites in Mississauga. It helped individual commuters select the right commuting solution for their own needs, whether carpooling, taking transit or using active transportation.

Phase 1 of the program focused on three large employers: a large private consulting firm, the Greater Toronto Airport Authority (Pearson Airport) and the Region of Peel. The firms were members of Smart Commute, with mature TDM programs supporting workplace travel options. Phase 2 included small and mid-size employers, primarily in Brampton and Caledon, and at different stages in the delivery of TDM programs.

Each EIM campaign was delivered in three stages: (a) initial survey and segmentation of participants to identify those who were interested in changing their behaviour; (b) the motivation and information stage, where participants were educated on travel options and given incentives; and (c) the evaluation stage where participants were re-surveyed to quantify new behaviours.

The EIM campaign led to following conclusions:

- High familiarity with TDM programs at worksites reinvigorated existing workplace travel programs.
- Commuter profiles and individual travel plans were harder to implement when provided at large outreach events with the larger employers.
- Providing exciting outreach events with the EIM program provided on-site opportunities for employees to take part in the individualized travel planning and commuter assistance programs.
- EIM was most effective at worksites where TDM programs were in the conception stage (Presentation to ACT Canada Sustainable Mobility Summit, November 2012)

Overall, the program was considered a success and the City should consider working with local Smart Commute offices and the Region to bring EIM to more workplaces in Mississauga.



b) School Travel Planning

The City can support school-based TDM programs by partnering with working groups and individual schools. The Region of Peel's school travel planning programs help schools shift travel to active and sustainable modes, and to reduce traffic volumes around schools in morning and afternoon peak hours. The City should continue to be involved as initiatives evolve. In particular, as schools are rebuilt or new schools open, the City should work with the Region to require TDM plans as part of any new site plan, as described earlier.

Existing school travel planning programs directly supported by the Region of Peel are described below.

Stepping It Up

To address a long trend of more children being driven to school in cars, Metrolinx developed the "Stepping It Up" pilot project in partnership with the Region of Peel and others. The project worked directly with schools to promote sustainable modes of transportation and raise awareness of the importance of active transportation by children. It demonstrated that many stakeholders, from provincial ministries and school boards to parents and children, have an important role to play. Through the various forms in which it has been continued, it will remain an important component of a larger TDM strategy.



High School TDM Pilot Program

Select schools in Mississauga have chosen to participate in the High School TDM pilot project, which aims to reduce traffic at Peel high schools, improve safety for students who walk to school, keep students active, and improve air quality. It is “designed for students by students,” and offers education on the importance of active transportation while giving students the chance to learn how planning processes work and have their say in decision-making.

Peel Safe and Active Routes to School

The Peel Safe and Active Routes to School (PSARTS) is led by Peel’s Transportation Planning and Health departments. It encourages more children to walk to school by promoting safe, walkable school routes. It has had an impact in the region, and the number of students walking to school has increased.

Table 11: Existing School Programs in Peel Region

Other School Programs in Peel Region	
Peel School Travel Planning Project (STP)	This program addresses school traffic related issues and promotes walking and cycling to school through walking with the community to develop school travel plans.
School Bicycling Parking Program	A program to provide safe and secure bike racks at schools.
Bike to School Week	A week dedicated to bike safety and promotion
Peel Children’s Safety Village	A program to educate elementary children on road safety rules to prevent traffic accidents to children aged 1-9. The program offers pedestrian and school safety workshops.



C) Smart Commute Offices

Smart Commute, a program coordinated by Metrolinx, offers sustainable travel programs through thirteen individual transportation management associations (TMAs) across the GTHA. There are two Smart Commute associations that serve the City of Mississauga: Smart Commute Pearson Airport Area (SCPAA) and Smart Commute Mississauga (SCM). SCPAA focuses on the employees that work at or near the airport, an area that offers limited options for active commuting and thus puts a focus on transit and carpooling. SCM focuses on local businesses within the City of Mississauga, including the City of Mississauga itself. Smart Commute offices create action plans for each member employer, provides educational opportunities, coordinates promotional events, advocates for improved transit services, and recognize employer achievements.

Figure 25: Examples of Smart Commute Promotions





5 TDM Action Plan

Key strategies will provide a framework for implementation and monitoring processes to ensure progress toward a more sustainable city.

This chapter builds on the key strategies identified in Chapter 4 to provide an implementation and monitoring framework that will ensure progress toward the City's environmental, economic and social goals, including those for transportation and land use. It recommends a number of TDM measures and tools, linking them to the four TDM objectives identified in Chapter 3.

Definitions

TDM Measures - Ongoing initiatives that are intended to do the 'heavy lifting' with regards to long-term travel behaviour change. They will be subject to regular performance evaluation, requiring the collection of meaningful and representative data over time.

TDM Tools - Supporting actions to complement and enable TDM measures. They will be standalone activities that are not necessarily time-specific or dependent on the implementation of other TDM Tools.



Action Plan

As discussed in Chapter 4, successful implementation of the TDM tools and measures requires key partnerships for implementing and monitoring the program. Potential partners include Smart Commute, schools and school boards, community organizations, environmental groups, the Region of Peel, neighbouring local municipalities, employers, developers, property owners, etc. It will be essential to integrate existing TDM programs (e.g. Smart Commute, school travel planning) with new initiatives.

The TDM action plan includes “soft measures” (e.g. education and promotion) to encourage sustainable travel modes, as well as supportive “hard measures”

that include physical infrastructure and services such as bike lanes, sidewalks and transit services. For the plan to succeed, both types of measures are required and should be implemented together.

Three different implementation timelines are addressed: “quick win” actions in the first two years, followed by mid-term actions (years 3 through 5) and long-term actions (years 6 to 10). Financial and staff resourcing needs for each action are addressed.

The chapter concludes with recommendations on monitoring the program’s delivery and impacts, and ultimately measuring its success in shifting travel behaviours over time.

Key Steps

The success of this action plan will depend heavily on the creation of strong partnerships for program delivery.

Establish Partnerships

As noted above, strong partnerships for program delivery are essential for TDM success. In turn, this will require:

- The identification of partners who are able to support specific programs and activities (see the profile of Arlington County's Commuter Services Bureau where employers partner with ACCS to establish in workplace consultations, information fairs and events and conduct individual travel surveys that collect data to show travel patterns).
- Working with organizations already involved in TDM to improve existing programs.
- Improving social marketing through joint strategies designed to reach a range of audiences.
- Ensuring strong take-up of TDM measures where the ability to drive behaviour change resides with a partner organization.

Example Model for Partnerships: Arlington County Commuter Services Bureau

The Arlington County Commuter Services (ACCS) Bureau in Arlington, Virginia funds Arlington Transportation Partners (ATP), and administers the following incentives:

- **ATP Champions:** recognition and reward for businesses, residential communities, commercial properties and schools for implementing transportation programs and strategies
- **Employee Transportation Survey:** to establish commuting patterns, modal splits and program recommendations
- **Customized Services:** newsletters, commuter planners, company-specific resources
- **Transportation Events for employees, and tenants:** seminars, brown-bag lunches and workshops to provide information to employees about commuting options and benefit information.
- **Transportation Brochures:** an easy online brochure service about all sustainable travel options



Partnerships are about synergy and leverage—the notion that ‘the whole is greater than the sum of its parts’. Partnerships enable information and support to be provided by colleagues, neighbours and local organizations who know their communities and the people in them. They also permit the efficient distribution of information by using channels that connect to new potential user groups and interested persons.

Community Partnerships

The City’s TDM leadership will allow other organizations, businesses and community groups to follow in its footsteps. Partnering with community groups is vital for support outside workplaces and within the community.

TDM Working Group

An effective TDM program cannot be managed and delivered by a single individual or staff group. Success will require active support from other municipal departments and their work programs. For example, collaboration between MiWay staff and the City’s TDM Coordinator could help to improve multimodal “first and last mile” connections to transit hubs and drive increases in transit ridership.

Similarly, construction project managers for major infrastructure projects could work with the TDM Coordinator to mitigate negative traffic impacts and improve travel choices for residents during disruptions. The formation of a working group, which includes representatives of several departments and meets regularly to exchange information and coordinate actions, can help facilitate these partnerships and support a more robust TDM program.

Recommendations

1. The City should develop a list of willing and participating organizations to support the ongoing implementation of the TDM Plan.
2. The City should develop a TDM Working Group to, among other things, help integrate TDM and transit as well as TDM into major construction projects. (See Promotion of TDM in Appendix F).

Create Outreach, Marketing, and Education Programs

Social marketing programs are important to the success of TDM measures, and need to be backed up with education about the 'how' and 'why' sustainable transportation needs to become a more widely used measure. Without a substantial program to increase the awareness for the need of more widely used sustainable transportation, the goal of increase mode share will not be reached. The TDM Coordinator should work with the Region of Peel as well to assist with the development of these programs. Details of the programs can be found in Appendix G.

Link TDM projects using a strong brand and positive message

Experience in North American communities shows that branding TDM programs can increase the perceived value of the services and branding is about more than name recognition - through consistent messaging it can establish a defining program characteristic (such as economical, green, healthy or safe) that builds consumer confidence and increases demand.

Recommendations

3. The City should evaluate the full list of municipally delivered programs outlined in Chapter 3 against the new objectives of the Transportation Master Plan (currently underway) to establish funding and policy priorities for future outreach, marketing and education programs. This will allow for strategic alignment between the City's Official Plan policy priorities, TMP and TDM objectives.



Develop TDM Requirements for Developments

An important step for the City will be to integrate TDM more fully into the development application and approval process. Mississauga's intensification will continue, and higher density residential and mixed use development in intensification areas is likely to grow more prevalent.

The City will need to work with developers to have TDM programs ready for delivery when new employers, employees, condo owners and tenants move in. Those programs will need to be easy to deliver and enforceable by the City. These could include incentives such as free transit passes for a limited period of time as people adjust to their new environment.

Recommendations

4. Develop a formalized process for incorporating:
 - a. TDM soft and hard measures/ TDM supportive infrastructure in the existing development applications process as part of a TDM Plan under existing legislation (Planning Act and City by-laws)
 - b. TDM Statements, Short and Full TDM Plans into the development process
5. Lobby the Province for amendments to the Planning Act that would allow municipalities to create enforceable undertakings that would require developers to:
 - a. Provide a number of TDM hard measures in accordance with a new policy that would require a certain TDM standard to be met as part of the urban development process
 - b. Provide, support and oversee the implementation and monitoring of TDM soft measures beyond the opening day of developments for a defined time period.

Establish Programs to be Implemented

The phasing of programs is vital to establishment of successful TDM within Mississauga. Programs that already exist in Mississauga are implemented through Smart Commute, which, as previously noted, is an association created to establish smart commuting programs within the Region of Peel. It creates personalized programs to encourage employees, students, and households to use more sustainable mode of transportation.

Recommendations

6. The City should continue to further develop existing programs and work with the community to develop new initiatives that align with the City's transportation priorities. The Transportation Master Plan (currently underway) should set the stage for identifying program priorities by analyzing existing transportation patterns and the potential for TDM measures and tools to form the basis of new TDM strategies that make better use of existing infrastructure or provide equivalent levels of mobility and accessibility at a lower cost to the community than large scale physical infrastructure.



The Action Plan

During the early stages of the action plan, it is worth focusing on “quick wins” that demonstrate success, attract partners, and build confidence in TDM among decision-makers and the public.

Table 12: Quick Wins

Quick Wins		
SHORT (YEAR 1-2)	MEDIUM (YEAR 3-5)	LONG (YEAR 6-10)
<ul style="list-style-type: none"> • Develop partnerships internally • Develop partnerships externally • Enhance the current workplace program • Enhance OP policies in coordination with the TMP • Update TIS guidelines to include TDM-supportive infrastructure • Incorporate Bike Parking into the Zoning By-Law • Develop a TDM Web hub for developing an incentive program • Improved use of social media • Create TDM collateral targeting to different community and business groups (web content, brochures, handouts, bookmarks, etc) • Develop TDM recognition program for new and existing developments • Request City Council work with the GTHA to amend the Planning Act to include TDM policies • Promote new AT facilities as they are being implemented • A web resource for TMP initiatives currently underway to demonstrate success to local businesses similar to the Mississauga Moves TMP project website. 	<ul style="list-style-type: none"> • Evaluate first phase to assess effectiveness and makemprovements • Promote new AT facilities as they are being implemented • Create a TDM outreach program based on work undertaken in first phase • Work with associations in the community to encourage long term behaviour changes 	<ul style="list-style-type: none"> • Update TDM strategy and implementation plan to ensure it is up to date with current technology and research • Evaluate changes in TDM delivery and incorporate into strategy • Update outreach and education programs • Promote new AT facilities as they are being implemented

Budget

It is recommended that a budget be created of at least \$50,000 for the first phase. This will cover costs for early projects, programs, and other start-up costs. The funds are expected to come from a strategic initiative or from various departments within the City.

Link TDM Projects Using a Strong Brand and Positive Message

Experience in North American communities shows that branding TDM programs can increase the perceived value of the services and products being offered. Note that successful branding is about more than name recognition – through consistent messaging it can establish a defining program characteristic (such as economical, green, healthy or safe) that builds consumer confidence and increase demand.

- Set up a booth at an event or a prominent public space to promote the use of sustainable modes; and host an event that will encourage the use of sustainable modes of travel. It is important to promote the use of sustainable travel modes and develop a strong and identifiable brand.

Link Use Special Events to Build Awareness and Enthusiasm

Special events encourage people to try a new way of getting around, even for just one day. They also validate sustainable travel choices through media coverage, political endorsements and celebrity involvement. Many municipalities conduct or sponsor local versions of the Commuter Challenge, International Car Free Day, International Walk to School Month, Rideshare Week, Bike to Work Week and other events, tailoring national materials to fit their local circumstances.



Financial Implications

Although TDM programs involve a financial commitment they are a very cost effective strategy to manage transportation issues.

It is recommended that a projects budget be created of at least \$50, 000 for the first phase. This will cover costs for early projects, programs, and other start-up costs. The funds are expected to come from a strategic initiative or from various departments within the city.

The delivery of a TDM program can be very cost-effective compared to other transportation programs. The short, medium and long-term financial resource implications of this TDM Plan have been estimated.

Table 13: Cost of Programs

Program	Delivery agent	Duration	Estimated Cost
SHORT (YEAR 1-2)			
City workplace promotion for sustainable travel	TDM Coordinator with Smart Commute	Ongoing	Cost of salary + any funding to Smart Commute
Promotional materials and incentive programs	TDM Coordinator	Ongoing	\$10,000 annually (e.g. for printing)
Community events	TDM Coordinator, community Groups, City departments, etc.	As needed	\$5,000 to \$10,000 annually
MEDIUM (YEAR 3-5)			
TDM-supportive amenities (e.g. bike lockers)	TDM Coordinator community groups, property owners etc	Ongoing	\$2,000 to \$10,000 annually
Commuter Program	TDM Coordinator with community and business groups and consultants	One-year pilot program plus planning and evaluation periods	\$100,000 to \$300,000
LONG (6-10 YEARS)			
Additional Resources	Council/Senior Management	Ongoing	\$75,000 -150,000 annually (e.g. for salary, benefits, office equipment, technology)
Workplace program	Smart Commute Mississauga and Pearson Airport Area	Ongoing	\$60,000 or more annually (e.g. for staffing, outreach)

Monitoring

Monitoring the impacts of TDM initiatives is key to their long-term success. However, little has been done to date in Mississauga to monitor TDM measures, making it difficult to know what works and what doesn't.

Why Monitor?

The purpose of monitoring is to identify changes in transportation behaviour and progress toward pre-determined targets over time. It is a continuous process that involves both quantitative and qualitative measurements, and requires baseline measurements that provide a starting point for measuring change.

Monitoring the success of past TDM measures supports the implementation of future measures by enabling adjustments when progress toward targets is insufficient. Regular monitoring updates on the TDM plan can also maintain accountability by giving residents information that shows how travel behaviours are being influenced in their neighbourhoods and across the City.

Figure 26: Monitoring Program Elements

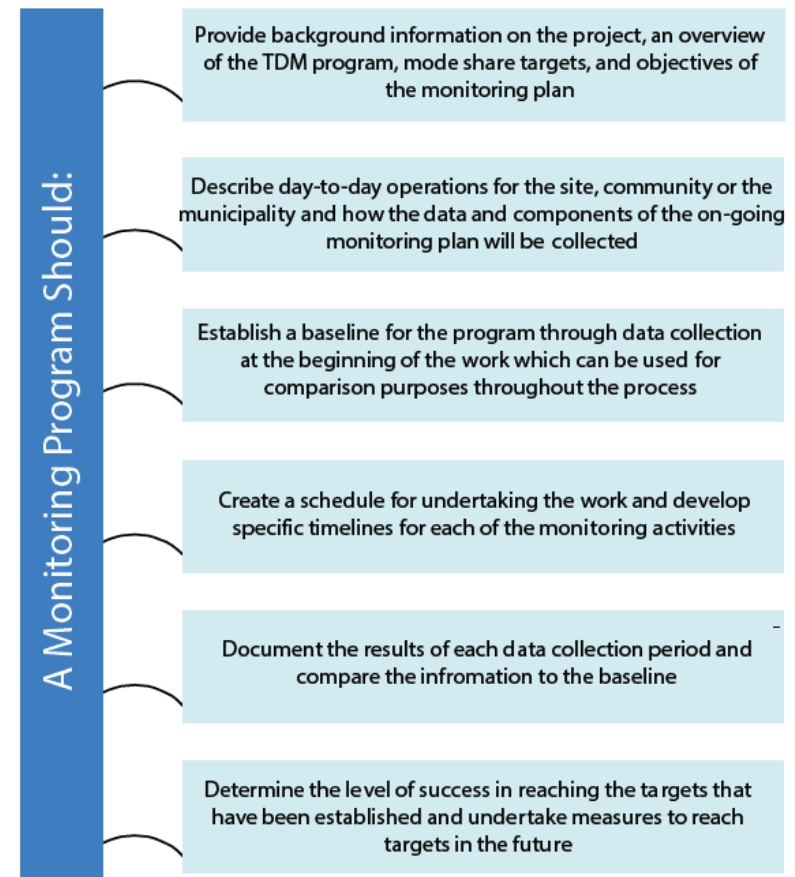


Figure 26 illustrates the key elements of a monitoring program. It is recommended that the City develop a monitoring program with the following in mind (as shown in Figure 27).

A thorough monitoring program would include the following:

- Data to be collected by type and source.
- A timeline for data collection.
- General and/or specific program goals or targets.
- Collection of data as per the timeline established.
- Analysis of data with regards to program goals and targets.
- Planned interventions for programs that do not meet target expectations.

Figure 26: Monitoring Program Components

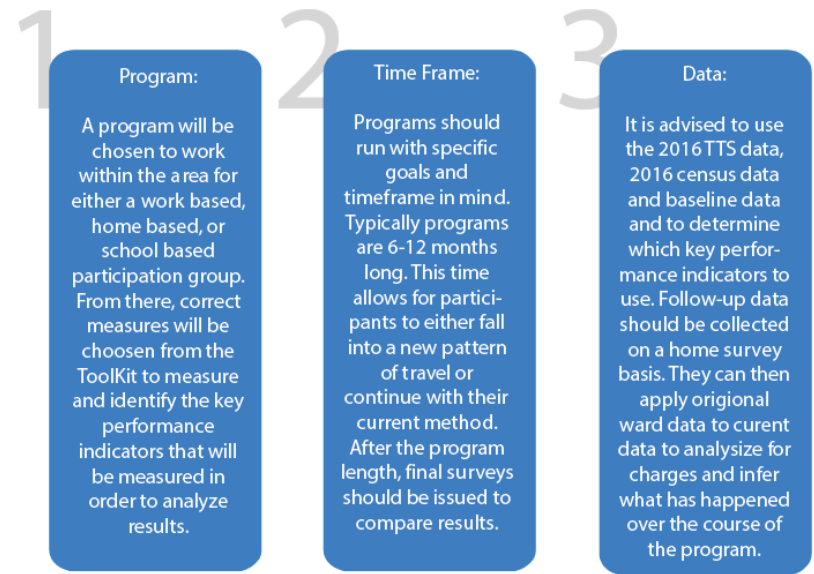
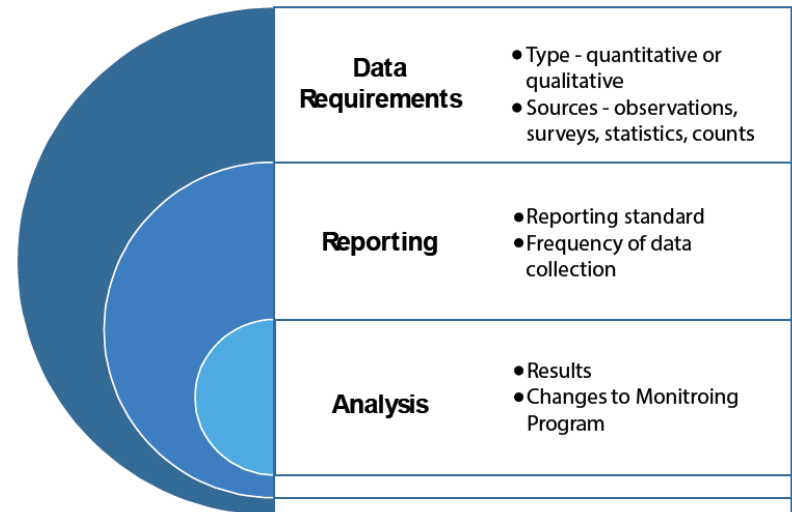


Figure 27: Monitoring Program Concepts



What to Monitor?

To achieve the above properties of a monitoring program there are several things to consider as shown in Figure 27. These include the data requirements, the methods of reporting and the analysis of the data in comparison to baseline information).

The features of a monitoring plan are best determined according to the nature of the program being monitored, the program's established goals and targets, and the types of available data.

There will be two types of TDM initiatives in Mississauga. First, there are site-specific programs that can be associated with a new development or an existing site with a specific program (such as a school or workplace). Second, there are broad TDM initiatives (e.g. City-wide bicycle rack program, new transit service, individualized marketing program, or website).

A toolkit has been developed with measures for these programs that will identify where problems lie and where more attention is needed to mitigate these areas of concern. Each component of the toolkit is discussed in the following pages and includes the following data:

- Intersection turning movement counts: to be undertaken at key times and peak periods at both times following the parameters of the City of Mississauga
- Vehicle classification and occupancy counts: to be undertaken at key times and peak periods to determine the changes in vehicle use and occupancy

- Parking usage (structured, lots, on-street): turnover rates and parking duration to determine short vs. long term parking utilization
- Use of transit: to be undertaken in partnership with MiWay to determine changes in the number of boardings/alightings and the number of MiWay fares paid with a PRESTO cards purchased in the area
- Use of bicycle parking facilities: mid-morning, mid-day and mid-afternoon counts on pre-determined dates
- Use of car-sharing: monitor the use of car sharing through membership and assigned individuals who can use the car-share program
- Annual report: develop an annual report outlining the monitoring programs and changes over time

The various monitoring activities are outlined in the following table, with details provided in subsequent sections. It is important that at least for the first few years both the Region and City follow the Monitoring Plan Activity Framework as outlined below and undertake counts on a regular basis to determine how successful the TDM programs are at shifting travel behaviour as they are being introduced. These results can then be used to better understand and underline the transportation impact of TDM initiatives to political and other community representatives.



Possible Monitoring Activities

Table 14: Possible Monitoring Activities

Element	Application			
	WHAT	WHERE	WHEN	WHO
Intersection turning movement counts	All turning movements	Intersections along perimeter and within development	March and October	City of Mississauga and Region of Peel
Vehicle classification and occupancy counts (all modes)	Classification of all modes and occupancy counts for all modes	At intersections	March and October (same week each year)	City of Mississauga and Region of Peel
On-site parking usage	Parking occupancy	Parking garage and surface parking	Monthly - weekday, Saturday and Sunday	Automated Collection received from facility operator and periodic observational counts in lots that are "free"
On-street parking usage	Parking occupancy	On all streets within the site with on-street parking	March and October	City of Mississauga
Transit usage (ridership)	Ridership on identified routes for Weekdays, Saturdays and Sundays Transit passengers boarding and alighting Origin/Destination Survey		Each booking (APC) Every 5 years (Most recent available is 2015-2016)	MiWay
Transit service supply	Scheduled trips on specified routes	All stops adjacent to the site	Each booking (APC)	MiWay
Use of on-site bicycle racks	Number of cyclists traveling to a specified location	All surface permanent bicycle racks	Three times per year - May, July and September	City of Mississauga & automated bicycle counters
Use of car sharing	Use on site	Reserved spaces at condo towers	Monthly from Car-sharing company	Car-share provider
Overall mode share	Transportation Tomorrow Survey (TTS)	Study area	Every five (5) years	City of Mississauga
Safety data	Collision Data	Specified intersections	Monthly or when available	City of Mississauga
Annual report	Cover all aspects of TDM program	City of Mississauga	Annually	City of Mississauga

Origin Destination Data

The Transportation Tomorrow Survey provides data on mode usage and destinations for millions of residents within Southern Ontario.

Every five years, the Data Management Group at the University of Toronto undertakes the Transportation Tomorrow Survey which provides data on mode usage and destinations of households throughout southern Ontario. Data is available for the 2006 and 2011 surveys.

The Origin Destination Data (O-D) survey data that is available can be used to supplement the transportation monitoring program. Data can be obtained to provide insight, for example, into the use of bicycling and walking to and from the site for daily activities. This data can be analyzed in association with data collected through surveys

with workers and residents, bicycle parking counts and traffic count data. The O-D surveys should also be analyzed to determine the change over time in the use of active modes for commuting and other purposes. This is very valuable and informative data that should be used in conjunction with annual data collection efforts.

As well, census data can be used to determine the how people commute and how far they are commuting. This data is available every five years as well and can be used to support other data collected and to make policy decisions.



Traffic Safety Data

Region of Peel maintains select safety statistics along Regional Roads.

This data is summarized in annual reports which are available on the website. The most recent report (2015) indicates a decrease in the number of collisions along Regional roads. The Region and the City support and participate in a range of traffic, cycling and pedestrian safety programs and initiatives. These include pedestrian safety videos, construction safety zone information and infrastructure improvements.

Peel Regional Police have a traffic management strategy to make the roads safer and offers considerable information on its website about safety for pedestrians, cyclists and motorists. They also have statistics available. Children can learn about the rules of the road through cycling, walking and mini battery-operated cars in a scaled-down community equipped with buildings, traffic signals, signs, railway crossings among others.



Elizabeth St South
and Lakeshore Road East
Port Credit



6 Conclusions and Recommendations

Coordinate, promote, enhance, monitor, and evaluate.

Based on the issues highlighted and reviewed in this plan, it is recommended that the City implement the short, medium and long term actions outlined in the TDM Action Plan. These have been broken down into five key themes: Coordinate, Promote, Enhance, Monitor and Evaluate/Advocate and separated by time period (Short, medium, long term).



Table 15: TDM Action Plan

	Short-Term	Medium-Term	Long-Term
Coordinate	<ul style="list-style-type: none"> Establish a TDM Working Group to, among other things, help integrate TDM and transit as well as TDM and major construction projects. Develop a formalized process for incorporating TDM soft and hard measures/TDM supportive infrastructure in the existing development applications process as part of a TDM Plan under existing legislation (Planning Act and City by-laws). 	<ul style="list-style-type: none"> Update the formalized process for incorporating TDM soft and hard measures/TDM supportive infrastructure once legislation is in place giving City's the power to create enforceable undertakings (Planning Act and City by-laws). 	<ul style="list-style-type: none"> Work to transition TDM programs to be fully self-funded by the community
Promote	<ul style="list-style-type: none"> Establish a web-page on the City of Mississauga's website that provides a central location for information about all existing TDM programs in Mississauga. 	<ul style="list-style-type: none"> Promote new active transportation facilities as they are being constructed and as they are opened. 	
Enhance	<ul style="list-style-type: none"> Review partnership opportunities and assess City's ability to provide targeted outreach support to enhance TDM programs. Review and improve the City's current workplace programs for City staff through Smart Commute: Develop a program of internal incentives Simplify the program so that staff understand its intent, services and benefits. Host lunch-and-learn sessions at workplaces across Mississauga Create a TDM incentive program for the Hurontario LRT construction period. Relying solely on a communications plan will not likely be sufficient to encourage a shift to sustainable modes. Add bicycle parking requirements to the City's Zoning By-law, and develop a program to install bicycle racks throughout the City. 	<ul style="list-style-type: none"> Create a comprehensive TDM outreach and education program. Work with property managers, condominium boards, community associations and others to encourage sustainable travel in neighbourhoods. Update the City's Traffic Impact Study guidelines to require the consideration of TDM measures and TDM-supportive infrastructure and design elements in development applications. Enhance Official Plan policies related to TDM, and ensure that the TDM section of the upcoming TMP is reflective of the TDM Plan and Implementation Strategy. 	<ul style="list-style-type: none"> Update the TDM Strategy and Implementation Plan to ensure that it remains current and reflects changes in technology, land use, transportation infrastructure and services, and social concerns about climate change and public health.

Short-Term	Medium-Term	Long-Term
<p>Monitor and Evaluate</p>	<ul style="list-style-type: none"> • Evaluate “quick win” projects and programs to determine effectiveness, decide the need for continuation, and make improvements. • Set up a formal review process for the delivery of existing TDM programs that the City is involved in to: <ul style="list-style-type: none"> a. Ensure the strategic positioning of the City in the delivery of TDM programs: b. Review new strategic partnership opportunities for the City to increase uptake of TDM programs for residents and persons traveling to and from Mississauga c. Periodically evaluate City-funded programs against key performance indicators based on monitoring activities in the monitoring program 	<ul style="list-style-type: none"> • Evaluate changes in context for TDM service delivery and determine how to incorporate them into the strategy as they occur. • Update the outreach and education program to be consistent with changes in the delivery of City communications, and to be consistent with new technologies and programs.
<p>Advocate</p>	<ul style="list-style-type: none"> • Work with the Province for amendments to the Planning Act that would allow municipalities to create enforceable undertakings that would require developers to: <ul style="list-style-type: none"> a. Provide a number of TDM hard measures in accordance with a new TDM policy that would require a certain TDM standard to be met as part of the urban development process for a defined period of time b. Provide, support and oversee the implementation and monitoring of TDM soft measures beyond the opening day of developments for a defined time period 	





109 VIA TRANSITWAY

1304

CAUTION
THIS BUS KNEELS
STAND CLEAR

Kneeling
Bus
RAMP

CELSIOR
XD40

B



MISSISSAUGA