Region of Peel
working with you

Transportation Demand Management Implementation Plan 2018–2022

Sustainable Transportation Strategy

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Introduction

1.1 Purpose of this Report

The Region of Peel's TDM efforts have been guided by five-year plans since 2008. This Transportation Demand Management (TDM) Implementation Plan 2018–2022 will guide the Region of Peel's TDM program over the next five years, in support of the broader vision and goals of Region's Sustainable Transportation Strategy (STS). It explains the plan's relationship to the STS, identifies eight action areas with 20 component actions, and outlines a path toward successful implementation.

The Region of Peel's TDM initiatives aim to influence personal travel choices by creating community capacity, transferring knowledge, and building trust through personal connections, complemented by education and promotion programs.

1.2 What's Inside

Chapter 2—TDM in the Sustainable Transportation Strategy provides an overview of TDM's role in the STS, and reviews the STS's key themes and long-term actions that are related to TDM.

Chapter 3—TDM Actions for 2018–2022 provides details on 20 recommended actions in eight key action areas (workplace TDM, TDM social marketing, TDM and new development, transit access, carpooling and vanpooling, new mobility, TDM leadership, and five-year TDM plan update), including information on specific tasks, timelines, resources, and roles and responsibilities.

Chapter 4—Implementation Framework summarizes the TDM program's overall timelines, required resources and funding opportunities, as well as a performance measurement framework and a list of recommended policy changes that will support the Region's TDM objectives and sustainable transportation goals.

2

Transportation Demand Management in the Sustainable Transportation Strategy

2.1 The Role of TDM in the STS

Transportation demand management (TDM) is a general term that describes the use of policies (e.g. parking pricing), programs (e.g. walking promotion campaigns), services (e.g. bicycle skills training), incentives (e.g. discounted transit passes) and small-scale infrastructure (e.g. preferential carpool parking) to promote travel by sustainable modes and reduce driving by individuals, particularly in weekday peak periods.

The Region's STS includes ambitious mode share targets for transit, walking, cycling, carpooling and telework in 2041, aiming to maximize the role of sustainable modes in serving the Region's projected 40% growth in travel demand. Achieving these targets will require substantial improvements in major transportation infrastructure (notably facilities for rapid transit, walking and cycling) and services (notably regional and local public transit services, and maintenance of walking and cycling facilities).

TDM tools and techniques represent an economical and efficient way to maximize the return on investment in major transportation infrastructure and services (e.g. rapid transit lines, cycling facilities and carpool lots). By ensuring that individuals are aware of their travel options, understand how to use them, and are willing try them, TDM measures can help maximize the usage of existing or new sidewalks, trails, bike lanes, cycle tracks, light rail and bus rapid transit lines, and commuter rail systems.

TDM has gained significant traction in the transportation policy landscape, including increased priority in Metrolinx's new Draft 2041 Regional Transportation Plan (RTP) for the Greater Toronto and Hamilton Area (GTHA). That plan references the need to enhance workplace programming, carpooling and vanpooling options, support for new rapid transit services, incentives for off-peak travel, and mobility pricing. Other priorities in the draft RTP that relate to TDM include transit fare integration across the GTHA, first- and last-mile access to transit stations, traveller information, mobility-as-a-service approaches, and high-occupancy vehicles (HOV) lanes.

*It is important to note that the Region of Peel's STS is accompanied by two supporting plans—namely, a **TDM Implementation Plan** and an **Active Transportation Implementation Plan**, both covering the period 2018–2022.*

The development of these plans reflects the operational distinction between staff and budgets allocated to TDM and active transportation within the Region of Peel. Both plans should be read in conjunction with each other, because of the strong support and collaboration between TDM and active transportation programs. This plan principally represents the actions that will be delivered by the Region's TDM staff, using the Region's TDM budget.

2.2 Key Themes and Long-Term Actions in the STS

Exhibit 2.1 identifies the structure used to organize recommended long-term actions within the STS: actions are sorted first by travel mode (i.e. multimodal, walking, cycling, transit, carpooling, telework) and second by key themes within each mode.

Exhibit 2.1: Key themes for long-term action in the Sustainable Transportation Strategy

MODE	KEY THEMES
MULTIMODAL	• Influence the shape of development • Strengthen the multimodal function of Regional roads • Make roads safer for vulnerable road users • Influence personal travel decisions • Strengthen the Region's leadership role
WALKING	• Provide comfortable, continuous walking routes • Improve winter maintenance of walking facilities • Promote walking across the Region
CYCLING	• Provide comfortable, continuous cycling facilities • Improve year-round maintenance of cycling facilities • Expand bicycle parking and end-of-trip facilities • Promote cycling across the Region
TRANSIT	• Make regional roads more transit-supportive • Improve connections to transit • Explore new technologies and business models to support transit • Promote transit use across the Region

CARPOOLING	• Expand carpool lots • Explore new technologies and business models to support carpooling • Promote carpooling in key markets
TELEWORK	• Promote flexible work arrangements as a win-win-win solution • Help workplaces support flexible work arrangements

Of the key themes listed above, more than half involve long-term actions related to TDM. Those themes are listed in Exhibit 2.2 below, along with the long-term actions related to TDM that the STS recommends. Chapter 3 of this plan sorts these long-term actions into eight short-term action areas, and describes what tasks, timelines and resources are recommended to implement them.

Exhibit 2.2: Long-term actions related to TDM in the Sustainable Transportation Strategy

Mode	**Multimodal**
Key Theme	**Influence the shape of development**
Action M1	Encourage local municipalities to reduce parking requirements and support sustainable modes through infrastructure and design
Action M2	Improve development approval processes to support sustainable transportation through infrastructure, design and TDM
Key Theme	**Strengthen the multimodal function of Regional roads**
Action M7	Assess feasibility of bus/HOV lanes on Regional roads, identify priority locations and implement a pilot project
Key Theme	**Influence personal travel decisions**
Action M13	Deliver TDM social marketing to priority areas
Action M14	Support workplace engagement by Smart Commute to promote commuting by walking, cycling, transit, carpooling and teleworking
Action M16	Support sustainable travel choices through new mobility technologies and business models
Key Theme	**Strengthen the Region's leadership role**
Action M17	Create knowledge through research, testing, evaluation and monitoring
Action M19	Provide learning opportunities for stakeholders
Action M20	Improve sustainable travel options for Regional employees and implement parking pricing at Regional workplaces

Mode	Walking
Key Theme	Promote walking across the Region
Action W6	Promote walking for short trips
Mode	**Cycling**
Key Theme	Promote cycling across the Region
Action B11	Promote cycling for short and medium-length trips
Mode	**Transit**
Key Theme	Improve connections to transit
Action T3	Improve first- and last-mile access to transit hubs
Key Theme	Explore new technologies and business models to support transit
Action T5	Pilot test alternative transit services
Key Theme	Promote transit use across the Region
Action T6	Promote transit near new rapid transit routes
Mode	**Carpooling**
Key Theme	Expand carpool lots
Action C1	Implement planned conventional carpool lots, and monitor need and opportunity for others
Action C2	Identify needs and opportunities for new third-party carpool lots
Key Theme	Explore new technologies and business models to support carpooling
Action C3	Assess the feasibility of public vanpool services
Action C4	Advocate for provincial legislation to enable third-party vanpools
Key Theme	Promote carpooling in key markets
Action C5	Promote carpooling in areas with long trips and lower-quality transit service
Mode	**Telework**
Key Theme	Promote flexible work arrangements as a win-win-win solution
Action TW1	Engage employers to promote flexible work arrangements
Key Theme	Help workplaces support flexible work arrangements
Action TW2	Deliver telework training and tools to employers
Action TW3	Study the feasibility of satellite workplaces

3
TDM Actions for 2018–2022

This chapter provides details on short-term actions to implement the TDM elements of the STS (see Exhibit 2.2). For the purpose of this plan, those long-term recommendations have been regrouped into the following eight action areas and 20 short-term actions:

Section 3.1—Workplace TDM

- Support for Smart Commute transportation management association (TMA) offices
- Targeted carpooling promotion
- Employer engagement on flexible work arrangements
- Telework toolkit dissemination
- Feasibility study of satellite workplaces

Section 3.2—TDM social marketing

- Deliver TDM social marketing program

Section 3.3—TDM and new development

- Guidance for municipal zoning by-laws
- Implementation of Guidelines for TDM and New Development
- Update of Transportation Impact Study Guidelines

Section 3.4—Transit access

- First- and last-mile audits, guidelines and improvements
- Testing alternative transit services

Section 3.5—Carpooling and vanpooling

- Implementation of new carpool lots
- Feasibility study of HOV lanes on Regional roads
- Feasibility study of public vanpooling
- Advocacy for Provincial legislation to enable vanpools

Section 3.6—New mobility

- Monitoring, evaluation and advocacy

Section 3.7—TDM leadership

- Tracking and reporting new TDM knowledge
- Stakeholder learning opportunities
- TDM measures at Regional workplaces

Section 3.8—Five-year TDM plan update

- Creating a TDM Implementation Plan for 2023–2027

Each short-term action is accompanied by an initial description, and timeline explaining the distribution of tasks across the five-year timeline (2018–2022) of this plan.An identification of expected roles and responsibilities of the Region and its partners (including the contribution of both in-kind and financial resources), is also provided. Finally, a year-by-year projection of annual expenses and is provided for the staff time requirements anticipated for the Region's Sustainable Transportation team, but not the Region's associated annual expenses and staff requirements.

3.1 Workplace TDM

3.1.1 SUPPORT FOR SMART COMMUTE TMA OFFICES

SUSTAINABLE TRANSPORTATION STRATEGY REFERENCE:

ACTION M14 Support workplace engagement by Smart Commute to promote commuting by walking, cycling, transit, carpooling and teleworking

Smart Commute transportation management association (TMA) offices currently operate in the Region of Peel with service areas that cover the entire Region, namely in Brampton-Caledon, Mississauga, and the Pearson Airport Area. These Smart Commute TMAs offer programs that include direct outreach to employers, carpool matching, commute program development, and marketing and outreach programs that encourage the use of sustainable modes of transportation. Smart Commute TMAs receive external funding to engage and deliver TDM services to their member workplaces; in the Region of Peel, their services and programs are financially supported by Metrolinx, the Region, local municipalities, and membership fees. An ammended agreement was recently entered into by various parties that amends their historical roles and responsibilities related to Smart Commute TMAs, and increases the responsibilities of Peel and other regional governments.

The Region will also work with Smart Commute TMA offices in the Region to identify additional tools and resources that it could provide to improve Smart Commute services. One example of this is the telework toolkit currently under development by the Region (see Section 3.1.4); other possible examples would be to develop toolkits guiding employers in the provision of discounted transit passes to employees who relinquish their right to a parking pass (based on a pilot project of the Greater Toronto Airport Authority) or in the general implementation of parking cash-out programs (whereby driving commuters relinquish their parking space in exchange for a monthly cash payment or transit subsidy).

The Region will also work with local municipalities and Smart Commute TMA offices to establish regional and municipal targets for mode shares and/or reductions in auto drive trips among Smart Commute member workplaces, consistent with the ultimate (2041) and interim (2021 and 2031) mode share targets of the Sustainable Transportation Strategy.

The Region will continue to encourage the Town of Caledon to create a designated TDM Coordinator staff position. Such positions have many benefits, including an enhanced ability of the municipality to support and partner with TMAs and other governments on TDM initiatives.

Timeline

2018–2022: Encourage the creation of TDM staff positions by the City of Brampton and Town of Caledon; set and maintain regional and municipal targets for mode shares and/or auto driver trip reductions at Smart Commute members; consider new tools and resources that the Region could develop for Smart Commute TMA offices to provide to members

Exhibit 3.1: Support for Smart Commute TMA offices – Participants and resource requirements

ROLE	ORGANIZATION	EXPECTED SUPPORT	
		IN-KIND	FINANCIAL
Lead		X	X
	• Region of Peel – Sustainable Transportation		
Support		X	X
	• Local municipalities and transit systems • Metrolinx • Smart Commute TMA offices in Region of Peel		

ANNUAL EXPENSES ($) AND STAFF TIME (FTE) REQUIREMENTS

2018		2019		2020		2021		2022	
Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time
$235K	0.20	$240K	0.20	$245K	0.25	$250K	0.25	$255K	0.30

3.1.2 TARGETED CARPOOLING PROMOTION

Sustainable transportation strategy reference:

ACTION C5 Promote carpooling in areas with long trips and lower-quality transit service

The Region and its partners will collaborate to build awareness and understanding of carpooling by offering information to potential carpoolers, and to motivate them to try carpooling by reducing barriers and offering incentives. The Region will enhance carpooling promotion in the workplace, which is where most carpool promotion occurs. Such efforts can complement and leverage concurrent efforts to promote active transportation, cycling and telework; they also recognize that employers can offer meaningful incentives such as preferential or discounted parking. Workplaces where carpooling might be seen as attractive include:

- Those in areas where transit service is infrequent or beyond a comfortable walking distance
- Those with many employees who commute long distances or from places that are difficult to reach by transit (e.g. rural areas or municipalities across the GTHA)
- Those with many low-paid and/or young employees for whom car ownership may be financially difficult or otherwise undesirable
- Those with fixed hours of operation (e.g. retail or shift work), meaning that many people start and stop work at the same time
- Those where limited parking is available
- Those near HOV lanes that offer time savings to carpool vehicles

Timeline

2019: Work with Smart Commute TMA offices in Peel to implement a campaign to promote carpooling; identify target areas (possibly including, but not limited to local workplaces not members of Smart Commute); initiate a pilot campaign.

2020: Continue the pilot test

2021: Measure and document the results

Exhibit 3.2: Targeted carpooling promotion – Participants and resource requirements

ROLE	ORGANIZATION	EXPECTED SUPPORT	
		IN-KIND	FINANCIAL
Lead		X	X
	• Region of Peel – Sustainable Transportation		
Support		X	
	• Smart Commute TMA offices in the Region of Peel • Local Municipalities • Metrolinx		

ANNUAL EXPENSES ($) AND STAFF TIME (FTE) REQUIREMENTS

2018		2019		2020		2021		2022	
Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time
-	-	$45K	0.10	$25K	0.10	-	0.10	-	-

3.1.3 EMPLOYER ENGAGEMENT ON FLEXIBLE WORK ARRANGEMENTS

SUSTAINABLE TRANSPORTATION STRATEGY REFERENCE:

ACTION TW1 Engage employers to promote flexible work arrangements

Telework is an arrangement that allows employees to work from home or other location instead of the traditional workplace, either temporarily or permanently, thereby eliminating or shortening some daily commuting trips. Along with other types of flexible work arrangements, telework is a complex issue for employers. It involves much more than transportation objectives, and presents operational and financial issues related to information technology, real estate management, personnel hiring and performance management, employee health and wellness, managerial culture, emergency preparedness, corporate social responsibility and community relations. In fact, transportation issues are rarely the motivator for an effective workplace telework program—real estate costs and employee satisfaction are much more common drivers; in the United States, government encouragement of telework is often based on the need to keep metropolitan regions functioning in a crisis (e.g. earthquake, terrorism). Similarly, the employer risks associated with telework (whether real or perceived) typically outweigh transportation-related benefits. For these reasons, any effective business case for telework must explicitly integrate a wide range of corporate and employee motivators and benefits not directly related to transportation.

To effectively drive employer interest in telework and inform action, the Region will collaborate with local Smart Commute TMA offices and organizations that have existing relationships, communication channels and credibility with the employer community (e.g. boards of trade, chambers of commerce, economic development agencies, Building Owners and Managers Association). Those organizations can help make a broad, meaningful business case for flexible work arrangements that will resonate with executives whose authority is needed to drive complex change. A collaborative campaign that focuses on making the case for telework, in which transportation issues are just one of many critical dimensions), would be an effective prelude to the provision of advice and tools at a more pragmatic level. A campaign could make use of social marketing techniques such as norm appeals and commitments, and could recognize employers who make meaningful progress.

Even though an alliance to promote flexible work arrangements would likely be regionally, sustainable transportation outcomes may be maximized by focusing promotional efforts in higher-density areas having the following characteristics:

- Higher levels of congestion and real estate costs
- Parking supply exceeded by demand, perhaps characterized by parking fees
- A high number of employees with long commutes (e.g. more than 20 km), possibly from rural areas, distant parts of the GTHA (e.g. Durham, Hamilton), or outside the GTHA (e.g. Orangeville, Barrie)
- A high number of professional or office-based employees, whose work can more readily be done off-site

Timeline

2020–2022: With partners, plan and implement an annual campaign involving advertising, events, presentations, and other forms of promotion to raise employer awareness and interest in telework and other alternative work arrangements

Exhibit 3.3: Employer engagement on flexible work arrangements – Participants and resource requirements

ROLE	ORGANIZATION	EXPECTED SUPPORT	
		IN-KIND	FINANCIAL
Lead		X	X
	• Region of Peel – Sustainable Transportation		
Support		X	X
	• Smart Commute TMA offices in Region of Peel • Business sector partners (e.g. boards of trade, chambers of commerce, economic development agencies, Building Owners and Managers Association)		

ANNUAL EXPENSES ($) AND STAFF TIME (FTE) REQUIREMENTS

2018		2019		2020		2021		2022	
Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time
-	-	-	-	$25K	0.10	$30K	0.10	$30K	0.10

3.1.4 TELEWORK TOOLKIT DISSEMINATION

Sustainable transportation strategy reference:

ACTION TW2 Deliver telework training and tools to employers

The Region of Peel has initiated development of a toolkit that Smart Commute TMA offices can use to help their member workplaces implement telework and other flexible work arrangements. To maximize the toolkit's benefits, the Region will make it available on its website so that it may be used by individual employers, boards of trade or other stakeholder organizations. With the inclusion of case studies that document the experiences of workplaces during the toolkit's testing phase, many employers would have the capacity to adopt or adapt the toolkit's sample policies, agreements and surveys without outside assistance. They could also approach Smart Commute TMA offices for help implementing the telework toolkit.

Timeline

2019: Make the telework toolkit available on the Region's website to any interested employers, and promote it with the assistance of business sector partners.

Exhibit 3.4: Telework toolkit dissemination – Participants and resource requirements

ROLE	ORGANIZATION	EXPECTED SUPPORT	
		IN-KIND	FINANCIAL
Lead		X	
	• Region of Peel – Sustainable Transportation		
Support		X	
	• Business sector partners (e.g. boards of trade, economic development) • Smart Commute TMA offices		

ANNUAL EXPENSES ($) AND STAFF TIME (FTE) REQUIREMENTS

2018		2019		2020		2021		2022	
Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time
-	-	-	0.05	-	-	-	-	-	-

3.1.5 FEASIBILITY STUDY OF SATELLITE WORKPLACES

Sustainable transportation strategy reference:

ACTION TW3 Study the feasibility of satellite workplaces

While most conditions favouring telework are not directly influenced or controlled by government, the Region could support telework progress by exploring innovations and emerging ideas. One such idea is the role of satellite workplaces in overcoming barriers to telework and mobile working that exist in homes, rather than in workplaces—for example, unsupportive home environments (e.g. distractions, lack of privacy) or a lack of suitable tools (e.g. high-speed internet, ergonomic workstation, videoconferencing equipment). Satellite workplaces provide commuters a location to work that is closer to their home than their regular workplace, thereby reducing the time and cost of commuting while providing a more "normal" office environment.

The Region will identify interested stakeholders and work with them to conduct an examination of best practices in satellite workplaces provided by individual employers, third-party businesses, non-governmental organizations, or governments themselves. Key issues to be addressed might include eliminating planning or zoning barriers, public-private partnership arrangements, adaptive re-use of existing public facilities (e.g. schools, libraries, community and recreation centres), physical specifications, insurance requirements, and operating protocols.

Timeline

2021: Initiate feasibility study of satellite workplaces

2022: Conclude feasibility study and initiate next steps

Exhibit 3.5: Feasibility study of satellite workplaces – Participants and resource requirements

ROLE	ORGANIZATION	EXPECTED SUPPORT	
		IN-KIND	FINANCIAL
Lead		X	X
	• Region of Peel – Sustainable Transportation		
Support		X	
	• Local municipalities • Business sector partners (e.g. boards of trade, chambers of commerce, economic development, Building Owners and Managers Association, Peel Multicultural Council)		

ANNUAL EXPENSES ($) AND STAFF TIME (FTE) REQUIREMENTS

2018		2019		2020		2021		2022	
Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time
-	-	-	-	-	-	$50K	0.15	-	0.10

3.2 TDM Social Marketing

3.2.1 DELIVER TDM SOCIAL MARKETING

Sustainable transportation strategy references:

ACTION M13	Deliver TDM social marketing to priority areas
ACTION W6	Promote walking for short trips
ACTION B11	Promote cycling for short and medium-length trips
ACTION T5	Promote transit near new rapid transit routes
ACTION C5	Promote carpooling in areas with long trips and lower-quality transit service

The Region will build on its experience with TDM social marketing (e.g. its "Meet at Mayfield|50" campaign in 2016, and its 2017–2018 social marketing pilot project to test tools and techniques in Bramalea, located in Brampton) to deliver the TDM social marketing program in priority neighbourhoods across the Region. This program would be in cooperation with local municipalities, transit operators and community associations, and would employ a readily transferable methodology for identifying and targeting priority markets, and for measuring the return on investment. Some initiatives within this program could be funded from transportation capital project budgets (see the supporting policy change recommended in Section 4.4.1 of this plan).

Priority markets to be considered could be those with the greatest potential for mode shift (e.g. those near rapid transit stations, high-occupancy vehicle lanes or carpool lots) or those facing equity issues (e.g. lower incomes or cultural barriers), and could selectively emphasize modal outcomes (e.g. focusing on active transportation, public transit, carpooling and/or telework). Campaigns could be designed to accompany the delivery of new transportation infrastructure (as the Hurontario LRT project), and to align or integrate with other sustainability initiatives such as those related to climate change. Additional campaigns could be targeted at newly developed communities and condominium developments, to help new residents understand their sustainable travel options, and could apply the Healthy Communities Communications strategy being developed by the Built Environment Team of Public Works.

The Region will continue to refine tools and techniques including practical evaluation methodologies, effective incentives for sustainable travel, and approaches for different community types (e.g. condominiums versus single-family homes).

In neighbourhoods engaged through TDM social marketing, the Region and its partners will conduct multimodal audits (using standardized methodologies and tools to be developed) of local destinations to identify barriers and possible improvements to sustainable travel. Focus destinations could include schools, community centres, parks and recreation facilities, libraries and retail centres. Engaging community groups in these audits could lead to the removal of barriers that enable individuals to make the travel choices that are best for them, and could also help build public engagement in the TDM social marketing program.

Walking focus.

In the identification and delivery of TDM social marketing programs, the Region and its partners will encourage a shift from car travel to walking for short trips (less than two kilometres) by building awareness and understanding of walking and its benefits, and by removing barriers and offering incentives to motivate people to try walking for short trips. Neighbourhoods that could have significant latent demand for walking, and thus may be good places to offer incentives and rewards, include:

- Those with higher densities and a greater mix of land uses
- Those where residents already tend to make more walking trips than average
- Those where residents already tend to make more short trips than average
- Those where more families than average own only one car

- Those with supportive infrastructure including continuous sidewalk networks and multi-use trails
- Those near walking facilities that have been included in a priority winter maintenance network (see Section 4.3.2)

Cycling focus.

In the identification and delivery of TDM social marketing programs, the Region and its partners will encourage a shift from car travel to cycling for short trips (two to five kilometres long) by building awareness and understanding of cycling and its benefits, and by removing barriers and offering incentives to motivate people to try cycling for medium-length trips. Neighbourhoods that could have significant latent demand for cycling, and thus may be good places to offer incentives and rewards, include:

- Those with higher densities and a greater mix of land uses
- Those where residents already tend to make more cycling trips than average
- Those where residents already tend to make more short and mid-length trips than average
- Those where more families than average own only one car
- Those with supportive infrastructure including on-road cycling facilities and multi-use trails, especially newly built infrastructure that significantly improves the quality of cycling options
- Those near cycling facilities that have been included in a priority winter maintenance network (see Section 5.3.2)

Transit focus.

In the identification and delivery of TDM social marketing programs, the Region and its partners will encourage a shift from car travel to transit by building awareness and understanding of transit and its benefits, by removing barriers, and by offering incentives and events that motivate people to try transit. Neighbourhoods that may have significant potential for increased transit ridership, and thus may be good places to offer incentives and rewards, include:

- Those where residents tend to have long commutes to destinations also served by rapid transit (e.g. downtown Toronto)
- Those where residents already tend to make more transit trips than average
- Those where more families than average own only one car
- Those with supportive infrastructure including light rail or bus rapid transit stations, transit priority corridors or park-and-ride facilities, especially newly built infrastructure that significantly improves the quality of transit options

Carpooling focus.

In the identification and delivery of TDM social marketing programs, the Region and its partners will encourage a shift from driving alone to carpooling by building awareness and understanding of carpooling and its benefits, and by removing barriers and offering incentives to motivate people to try carpooling. Neighbourhoods that could have significant latent demand for carpooling, and thus may be good places to offer incentives and rewards, include:

- Those with higher-than-average mode shares for motor vehicle drivers and lower-than-average mode shares for transit

- Those with longer-than average commutes
- Those where more families than average own only one car
- Those with many commuters travelling to urban areas that are congested or hard to reach by transit
- Those near supportive infrastructure including MTO or Regional carpool lots and HOV lanes (e.g. Highway 410 HOV lanes to be completed in 2019)
- Those upstream of road construction projects that will create traffic delays (e.g. highway widening or resurfacing)

Timeline

2018: Complete TDM social marketing pilot project targeting Bramalea and identify possible target locations or areas for future; develop templates and protocols for multimodal audits for this project

2019–2022: Deliver a sequence of projects in target areas; refine tools and techniques each year, based on performance

Exhibit 3.6: Deliver TDM social marketing program – Participants and resource requirements

ROLE	ORGANIZATION	EXPECTED SUPPORT	
		IN-KIND	FINANCIAL
Lead		X	X
	• Region of Peel – Sustainable Transportation		
Support		X	X
	• Region of Peel – Public Health • Region of Peel – Community Connections • Region of Peel – Marketing and Communications • Region of Peel – Community Partnerships • Local municipalities • Metrolinx		

ANNUAL EXPENSES ($) AND STAFF TIME (FTE) REQUIREMENTS

2018		2019		2020		2021		2022	
Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time
$20K	0.20	$265K	0.25	$270K	0.30	$275K	0.30	$280K	0.30

3.3 TDM and New Development

3.3.1 GUIDANCE FOR MUNICIPAL ZONING BY-LAWS

SUSTAINABLE TRANSPORTATION STRATEGY REFERENCE:

ACTION M1 Encourage local municipalities to reduce parking requirements and support sustainable modes through infrastructure and design

In accordance with the recommendations of its 2016 project on TDM and New Development, the Region will amend its Official Plan to more clearly require the Official Plans, Secondary Plans and zoning by-laws of local municipalities to strengthen their support for sustainable travel modes. To accelerate the process and encourage consistency between Regional and municipal policy frameworks, the Region will develop supporting guidelines and model by-laws that can be adapted by local municipalities for differing contexts. The purpose of this work will be to integrate the following into municipal planning documents:

- The establishment of parking maximums and reduced parking minimums at new developments, especially in walkable neighbourhoods and those with quality transit service
- The creation of transit-supportive development in key nodes and corridors, with a focus on densities, mixed uses, walking and cycling connections, and quality urban design
- The provision of bicycle parking and end-of-trip facilities for active commuters
- The provision of preferential carpool parking at workplaces
- The opportunity for developers to reduce parking below minimum requirements when site amenities such as carpool parking and carshare services are provided, or in exchange for cash-in-lieu-of-parking fees

TIMELINE

2019: Develop guidelines and model by-laws; identify policy text for inclusion in the next update of the Regional Official Plan

Exhibit 3.7: Guidance for municipal zoning by-laws – Participants and resource requirements

ROLE	ORGANIZATION	EXPECTED SUPPORT	
		IN-KIND	FINANCIAL
Lead		X	X
	• Region of Peel – Sustainable Transportation		
Support		X	
	• Region of Peel – Integrated Planning • Local municipalities		

ANNUAL EXPENSES ($) AND STAFF TIME (FTE) REQUIREMENTS

2018		2019		2020		2021		2022	
Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time
-	-	$40K	0.10	-	-	-	-	-	-

3.3.2 IMPLEMENTATION OF GUIDELINES FOR TDM AND NEW DEVELOPMENT

SUSTAINABLE TRANSPORTATION STRATEGY REFERENCE:

ACTION M2 Improve development approval processes to support sustainable transportation through infrastructure, design and TDM

The Region's 2016 project on TDM and New Development presented to Public Works & Regional Council in December 2016 included several key recommendations, including:

- **Pilot project and review.** Conduct a one-year pilot project with a municipality, adopt a Regional Official Plan policy requiring TDM to be integrated into development approvals processes, and provide workshops for the development community.
- **Implementation foundation.** Formalize guidelines for area municipalities, and identify development projects for monitoring TDM commitments.
- **Implement and monitor.** Provide resources for monitoring, update residential TDM programming based on the current community-based social marketing pilot, continue to monitor impacts of TDM, and update case studies and best practices.

Workshops have begun, and local municipalities have started to consider implementing tools and processes consistent with the Region's recommendations. The Region will continue to apply those recommendations to development applications within its jurisdiction. It is also begin to collect data on the TDM performance of all major development projects in the region. It would also be helpful for the Region to advocate that the Province of Ontario amend the Planning Act to provide more support for municipalities to require TDM as a component of new developments.

Timeline

2018: Continue workshops with local municipalities; develop formal guidelines for local municipalities; develop tools and approaches to strengthen the Region's own approval processes; identify criteria for development projects to be monitored in future, and develop a monitoring framework.

2019–2022: Provide ongoing guidance to local municipalities, including tools and protocols for residential TDM programming; conduct monitoring on development projects that meet the selection criteria; prepare case studies and best practice summaries based on monitoring outcomes

Exhibit 3.8: Implementation of Guidelines for TDM and New Development – Participants and resource requirements

ROLE	ORGANIZATION	EXPECTED SUPPORT	
		IN-KIND	FINANCIAL
Lead		X	X
	• Region of Peel – Sustainable Transportation		
Support		X	
	• Region of Peel – Integrated Planning • Local municipalities		

ANNUAL EXPENSES ($) AND STAFF TIME (FTE) REQUIREMENTS

2018		2019		2020		2021		2022	
Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time
$35K	0.10	$35K	0.15	$35K	0.15	$35K	0.15	$35K	0.15

3.3.3 UPDATE OF TRANSPORTATION IMPACT STUDY GUIDELINES

Sustainable transportation strategy reference:

ACTION M2 Improve development approval processes to support sustainable transportation through infrastructure, design and TDM

The Region's 2016 project on TDM and New Development included a recommendation to integrate a number of sustainable transportation considerations into the Region's Transportation Impact Study (TIS) Guidelines. An update of its TIS Guidelines will, among other objectives, integrate multimodal levels of service (see action M6 in the Sustainable Transportation Strategy) and provide clearer direction on the development of TDM plans as a component of development applications.

Timeline

2018–2019: Initiate an update of the Region's TIS Guidelines to better integrate sustainable transportation priorities including multimodal levels of service and TDM

2020: Conclude the update and raise stakeholder awareness of new material

Exhibit 3.9: Update of Transportation Impact Study Guidelines – Participants and resource requirements

ROLE	ORGANIZATION	EXPECTED SUPPORT	
		IN-KIND	FINANCIAL
Lead		X	X
	• Region of Peel – Sustainable Transportation		
Support		X	
	• Region of Peel – Integrated Planning • Region of Peel – Traffic Operations		

ANNUAL EXPENSES ($) AND STAFF TIME (FTE) REQUIREMENTS

2018		2019		2020		2021		2022	
Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time
-	0.05	$90K	0.20	-	0.15	-	-	-	-

3.4 Transit Access

3.4.1 FIRST- AND LAST-MILE AUDITS, GUIDELINES AND IMPROVEMENTS

Sustainable transportation strategy reference:

ACTION T3 Improve first- and last-mile access to transit hubs

The quality of first- and last-mile access to transit services is a critical determinant of transit's competitiveness as a travel choice by Peel residents. This is especially true in suburban areas where access to transit can be difficult—for example, where many homes are physically close to a transit hub but no connecting pathway exists, or where rapid transit stations are separated from homes and jobs by wide arterial roads and expansive park-and-ride lots. However, more options exist for making first- and last-mile journeys than ever before.

The Region will work with local municipalities and transit agencies to assess the quality of multimodal access to transit hubs, develop guidelines for providing multimodal options, then prioritize and implement possible improvements. By collaborating to contrast existing conditions at rapid transit stations with opportunities to improve access by different modes (e.g. walking, cycling, local transit, carpooling, taxi/ride-hailing services, bikesharing and carsharing), organizations can overcome jurisdictional disconnects and seek the most efficient solutions.

This work would build on a recent GO Transit station access study, which examined current access to individual GO stations by conventional modes (i.e. walking, cycling, transit, pickup-drop-off, park and ride), and identified network-wide issues and trends; Metrolinx intends to build on this work to develop an action plan specific to each of its stations. Improving multimodal access to GO stations is required to overcome the limited capacity of park-and-ride lots, and could involve better facilities and services in the immediate area. Community-based marketing could also help reach GO and other rapid transit customers, and provide information and incentives that motivate new habits. Walking and cycling, which are the access modes with the lowest cost and smallest footprint, should be a principal focus of this work as it relates to both infrastructure (e.g. cycling routes to transit hubs) and TDM (e.g. social marketing to encourage users to cycle to stations). As such, measures to improve user information about first- and last-mile access should be coordinated with Action B6 to improve wayfinding for cycling facilities across the Region.

Timeline

2018: With partners, identify important transit hubs and conduct audits of first- and last-mile access by different modes; audits may include visual inspections and user interviews or surveys to identify gaps and opportunities

2019: With partners, review best practices and develop guidelines for first- and last-mile access to different types of transit hubs (e.g. GO stations, local transit centres)

2020–2022: With partners, conduct an annual program to prioritize and implement needed improvements to first- and last-mile access at transit hubs in the Region

Exhibit 3.10: First- and last-mile audits, guidelines and improvements – Participants and resource requirements

ROLE	ORGANIZATION	EXPECTED SUPPORT	
		IN-KIND	FINANCIAL
Lead		X	X
	• Region of Peel – Sustainable Transportation		
Support		X	X
	• Local municipalities • Local transit services • Metrolinx		

ANNUAL EXPENSES ($) AND STAFF TIME (FTE) REQUIREMENTS

2018		2019		2020		2021		2022	
Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time
$50K	0.15	$50K	0.15	$55K	0.15	$60K	0.15	$65K	0.15

3.4.2 TESTING ALTERNATIVE TRANSIT SERVICES

SUSTAINABLE TRANSPORTATION STRATEGY REFERENCE:
ACTION T5 Pilot test alternative transit services

Empowered by emerging technologies, innovative new mobility business models are creating the opportunity to improve transit's competitiveness and attract new riders in areas where conventional services have been challenged to do so cost-effectively. Alternative transit services include a rapidly evolving pool of concepts and pilot projects across North America, and operate outside the realm of what is considered to be conventional transit service. They all involve one or more innovative features including variable routes, on-demand service, privately owned vehicles, and flexible fares; most require mobile phone applications to arrange rides and pay electronic fares. Some examples include on-demand, dynamically-routed public transit services (e.g. York Region Transit's Dial-a-Ride); multiple-passenger versions of ride-hailing services (e.g. UberPOOL, Lyft Line, Via); fixed-route on-demand services using vans (e.g. Chariot) or cars (e.g. Lyft Shuttle); flexible-fare, shared ride-hailing models operated in partnership with municipalities or transit systems (e.g. Bridj in the U.S., Innisfil Transit just north of York Region); subsidized ride-hailing services contracted to provide commuter rail feeder service. As autonomous vehicle technologies progress further, new forms of alternative transit will undoubtedly emerge.

The Region will collaborate with local municipalities and transit operators to identify and evaluate opportunities for innovative transit technologies and service models, particularly those that can attract new riders and/or improve the cost-effectiveness of transit in low-demand, low-density areas. Such services might operate in North Brampton and Caledon, where densities are too low for conventional transit to provide attractive, cost-effective service, or in industrial employment areas (e.g. around the Airport Corporate Centre) where connections to rapid transit hubs could be more flexible and direct. Local Smart Commute TMA offices could play a role by encouraging any member workplaces in targeted employment areas to participate in feasibility-level analyses, and by promoting any new services to their employees.

Timeline

2018: Support development of Brampton Transit's dynamic transit pilot project, to be launched in 2019 or 2020

2021: Initiate a feasibility assessment and pilot test, in collaboration with one or more local municipalities and transit operators; in the first year, the Region's financial contribution would likely help support work to review best practices and scope the pilot phase

2022: Conclude the feasibility assessment and pilot test; in the second year, the Region's financial contribution would help support work to deliver, evaluate and document the pilot phase

Exhibit 3.11: Testing alternative transit services – Participants and resource requirements

ROLE	ORGANIZATION	EXPECTED SUPPORT	
		IN-KIND	FINANCIAL
Lead		X	X
	• Region of Peel – Sustainable Transportation		
Support		X	X
	• Region of Peel – Accessible Transportation • Local transit systems • Local municipalities • Transportation network companies (e.g. Uber, Lyft)		

ANNUAL EXPENSES ($) AND STAFF TIME (FTE) REQUIREMENTS

2018		2019		2020		2021		2022	
Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time
$60K	0.10	-	-	-	-	$90K	0.20	$90K	0.10

3.5 Carpooling and Vanpooling

3.5.1 IMPLEMENTATION OF NEW CARPOOL LOTS

SUSTAINABLE TRANSPORTATION STRATEGY REFERENCES:

ACTION C1	Implement planned conventional carpool lots, and monitor need and opportunity for others
ACTION C2	Identify needs and opportunities for new third-party carpool lots

Since the 2009 Carpool Lot Study, the Region has constructed the Regionally-owned Mayfield|50 commuter lot, and has added two additional conventional carpool lots to its capital plan: one at Mississauga Road/Bovaird Drive (responding to proposed growth in northwest Brampton) and one at Airport Road/Olde Base Line Road (serving development in eastern Caledon, although this project is now unlikely since no road widening is required). These three Regional carpool lots, in conjunction with MTO's five existing carpool lots in the Region (as well as two in Oakville and Orangeville, just outside the Region's boundary), would provide comprehensive directional coverage in terms of intercepting trips into the Region and generated within the Region. The Region will work with partners to monitor demand at existing carpool lots in the Region, and to identify if and when additional major capital investments in carpool lots are warranted. At carpool lots that are typically almost full, a user survey could determine whether more parking in the same location would help carpoolers more than a new lot in a different location.

The Region will also help carpoolers make use of existing, underused third-party parking lots (e.g. at community centres, churches or shopping malls), which can be a more cost-effective approach to providing carpool parking than building new lots. Third-party lots are cost-effective, and can make use of locations that are close to shops and services. Once a suitable host is identified for a third-party lot, a contract will be needed to address operating issues such as liability and cost-sharing of lighting, winter maintenance, line painting, and so on. Such community-based arrangements exist in many communities across Canada, and several exist in the Region today although none has been formalized.

The Region will work with the support of local municipalities to update the 2009 Carpool Lot Study's evaluation of general areas where third-party lots could be arranged, seek specific candidate locations for third-party carpool lots, and develop a template agreement to formalize arrangements. Advertising for willing hosts may yield results, since some hosts could see these arrangements as beneficial to them (e.g. stores or malls). By offering to install signage, providing simple legal agreements and sharing any costs, the Region can make it as trouble-free as possible for a landowner to open their parking facility to carpoolers.

The Region will also approach park-and-ride lot operators to explore the concurrent use of those facilities as carpool lots. Four Mississauga Transitway stations already offer parking for carpoolers (Winston Churchill has 300 spaces; Erin Mills has 300 spaces; Cawthra has 60 spaces; Dixie has 170 spaces). With the approval of Metrolinx, this idea could be extended to any GO station Park and Ride lots in the Region that have spare capacity.

Timeline

2018: Update the evaluation of general locations in the 2009 Carpool Lot Study to identify any new or amended recommendations

2019–2022: Work on an ongoing basis with local municipalities, Metrolinx and MTO to monitor demand at existing carpool lots, identify the need and opportunity for new carpool lots, and support their implementation; while opportunities may exist to construct new conventional carpool lots or leverage spare capacity at park-and-ride lots, a greater focus is likely to be placed on developing third-party carpool lots that may be more feasible and cost-effective

Exhibit 3.12: Implementation of new carpool lots – Participants and resource requirements

ROLE	ORGANIZATION	EXPECTED SUPPORT	
		IN-KIND	FINANCIAL
Lead		X	X
	• Region of Peel – Sustainable Transportation		
Support		X	
	• Local municipalities • Local transit systems • Ontario Ministry of Transportation • Metrolinx		

ANNUAL EXPENSES ($) AND STAFF TIME (FTE) REQUIREMENTS

2018		2019		2020		2021		2022	
Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time
$60K	0.10	$20K	0.10	$25K	0.10	$30K	0.10	$35K	0.10

Note: From 2019 onward, the "expense" amount includes $10K for basic program costs (e.g. advertising, legal) plus an allowance for leasing third-party parking spaces at an average annual cost of $250 each (i.e. allowing for about 40 spaces in 2019 plus 20 additional spaces each year thereafter, with a total of about 100 spaces in 2022).

3.5.2 FEASIBILITY STUDY OF HOV LANES ON REGIONAL ROADS

SUSTAINABLE TRANSPORTATION STRATEGY REFERENCE:

ACTION M7 Assess feasibility of bus/HOV lanes on Regional roads, identify priority locations and implement a pilot project

High-occupancy vehicle (HOV) lanes are being deployed across the GTHA on municipal arterial roads and Provincial 400-series highways. If they are planned, designed and operated correctly, HOV lanes can help maximize the effective person-carrying capacity of the transportation network. They can also give priority to key transit services, increasing the speed and reliability of bus operations and contributing to higher ridership and reduced auto use.

York Region has implemented HOV lanes in key arterial corridors where roadway expansion has been identified as a short-term need; its goal was to provide more capacity while giving priority to carpools and buses. In the longer term, York Region's HOV lanes may be converted to full-time reserved transit facilities. The Region of Peel could take a similar approach by identifying key transit priority corridors (e.g. Winston Churchill/Southdown, Dixie Road, Steeles Avenue and Britannia-Matheson) and creating HOV lanes either by converting an existing travel lane or by road widening. Any new HOV lanes in the Region would be more effective if they connect to the HOV network planned for MTO's 400-series highways, and to higher-order rapid transit services. HOV lanes could act as a transit priority network to boost the speed and reliability of transit journeys within the Region, improve service for the last mile of longer transit trips to and from the rest of the GTHA, and increase the attractiveness of carpooling in the Region.

The Region will assess the feasibility and effectiveness of bus/HOV lanes in various Regional road corridors, identify a conceptual long-term network, and prioritize corridors for a possible pilot project. The Region should collaborate with MTO regarding connectivity to current and future 400-series HOV lanes, and with GO Transit and local transit providers regarding possible integration with transit services. To evaluate the applicability of bus/HOV lanes in a given corridor, a screening methodology similar to that shown in the following table may be applied.

TIMELINE

2020: Initiate a feasibility assessment, including benefits and costs, of HOV lanes on Regional roads; work would likely include identification of candidate corridors, development of evaluation criteria, demand and operations modelling, and consultation with stakeholders

Exhibit 3.13: Feasibility study of HOV lanes on Regional roads – Participants and resource requirements

ROLE	ORGANIZATION	EXPECTED SUPPORT	
		IN-KIND	FINANCIAL
Lead		X	X
	• Region of Peel – Sustainable Transportation		
Support		X	X
	• Region of Peel – Infrastructure Programming and Studies • Region of Peel – Roads Design and Construction • Region of Peel – Traffic Engineering • Metrolinx • Local transit systems • Ontario Ministry of Transportation		

ANNUAL EXPENSES ($) AND STAFF TIME (FTE) REQUIREMENTS

2018		2019		2020		2021		2022	
Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time
-	-	-	-	$125K	0.20	-	-	-	-

3.5.3 FEASIBILITY STUDY OF PUBLIC VANPOOLING

SUSTAINABLE TRANSPORTATION STRATEGY REFERENCE:
ACTION C3 Assess the feasibility of public vanpool services

A GTHA-wide vanpool service could be independently or collaboratively delivered by a public agency (e.g. Metrolinx, or the Region of Peel which already operates the TransHelp service), a non-profit organization (e.g. the Jack Bell Foundation, which operates vanpools in British Columbia) and/or a private business (as happens in Nova Scotia and the United States). In general, the market for public vanpools would be commuters making long trips across municipal boundaries for which local or GO transit services may not be competitive, such as from outside the GTHA, or across the central or northern GTHA. Vanpool trips tend to terminate in employment clusters such as downtown cores, business parks or large individual workplaces.

The Region will work with partners to collaboratively assess the feasibility of a public vanpool service in the Region and across the GTHA. Note that Metrolinx is well positioned to lead a GTHA-wide review of vanpooling opportunities as a complement to regional GO transit services, in partnership with the Region and other municipalities; however, the Region and its partners could conduct the feasibility study independently of Metrolinx. A feasibility study could identify legislative barriers, quantify the market, compare alternative operating arrangements (public/non-profit/private), estimate costs and benefits, and define the scope of a pilot test.

Timeline

2019: Conduct a feasibility study including a best practice review, market and risk assessment, evaluation of options, business case, and scope of a potential pilot test

Exhibit 3.14: Feasibility study of public vanpooling – Participants and resource requirements

ROLE	ORGANIZATION	EXPECTED SUPPORT	
		IN-KIND	FINANCIAL
Lead		X	X
	• Region of Peel – Sustainable Transportation		
Support		X	X
	• Region of Peel – Accessible Transportation • Local municipalities • Local transit services • Metrolinx		

ANNUAL EXPENSES ($) AND STAFF TIME (FTE) REQUIREMENTS

2018		2019		2020		2021		2022	
Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time
-	-	$30K	0.10	-	-	-	-	-	-

3.5.4 ADVOCACY FOR PROVINCIAL LEGISLATION TO ENABLE VANPOOLS

SUSTAINABLE TRANSPORTATION STRATEGY REFERENCE:

ACTION C4 Advocate for provincial legislation to enable third-party vanpools

Regardless of the outcome of the feasibility assessment of public vanpool services recommended in Section 3.5.3, the Region will ask Metrolinx to pursue an amendment to Provincial legislation that would enable third-party vanpools in Ontario; the Region will join forces with interested GTHA municipalities to increase the profile of this request. This change was identified in *The Big Move,* Metrolinx's 2008 Regional Transportation Plan, which called for an amendment to provincial *Public Vehicles Act* to "allow third-parties such as non-governmental organizations to provide vanpools to service major trip generators such as employers, post-secondary institutions and tourism destinations and to augment public transit service in low density or dispersed employment areas."

TIMELINE

2018: Formally request that Metrolinx pursue a change to the Public Vehicles Act to permit third-party vanpool operations in Ontario

Exhibit 3.15: Advocacy for Provincial legislation to enable vanpools – Participants and resource requirements

ROLE	ORGANIZATION	EXPECTED SUPPORT	
		IN-KIND	FINANCIAL
Lead		X	
	• Region of Peel – Sustainable Transportation		
Support		X	
	• GTHA municipalities • Metrolinx • Ontario Ministry of Transportation		

ANNUAL EXPENSES ($) AND STAFF TIME (FTE) REQUIREMENTS

2018		2019		2020		2021		2022	
Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time
-	0.05	-	-	-	-	-	-	-	-

3.6 New Mobility

3.6.1 MONITORING, EVALUATION AND ADVOCACY

SUSTAINABLE TRANSPORTATION STRATEGY REFERENCE:

ACTION M16 Support sustainable travel choices through new mobility technologies and business models

Enabled by emerging technologies, innovative new mobility business models have the potential to improve existing sustainable travel choices. New travel options such as car sharing and ride-hailing are already obscuring the once-clear distinctions between public and private transportation; however, these options (ride-hailing in particular) have been observed to shift demand away from transit and active transportation in some large North American cities. The Region will work with local municipalities and other governments across the GTHA and Ontario, applying licensing and regulatory tools to influence the delivery of ride-hailing and other new mobility modes with the goal of reducing auto ownership, auto trips and vehicle-kilometres travelled.

Another looming disruption is the mass marketing of driverless vehicles; the magnitude of this eventuality would be immense, even if it remains years away. To prepare for it, the Region will monitor the evolution of connected and autonomous vehicles (CAVs) to ensure that their implementation will benefit (rather than obstruct) the Region's sustainable transportation goals. For example, a future scenario in which privately owned zero-occupancy vehicles (those without drivers or passengers, and not performing a public service) operate on urban roads should be adamantly resisted by municipalities. The Region and its partners across the GTHA and Canada will have an important role to play in enabling and regulating the use CAVs, and should ensure their interests are met.

The Region will also encourage and support the development of mobility-as-a-service (MaaS) tools that provide consumers with integrated, multimodal subscription payment options. For example, a consumer could choose from among monthly packages that include different amounts of travel by GO transit, local transit, car sharing, bike sharing, ride-hailing and taxi services. MaaS tools that simplify payments and save consumers money are now being developed in tested in Europe. MaaS is an important tool to leverage the current trend (particularly among urban young adults) toward purchasing trips, rather than purchasing cars.

Timeline

2018–2022: Work with local municipalities and other governments across the GTHA and Ontario to manage the implementation of ride-hailing and other new mobility technologies and business models; monitor the evolution of connected and autonomous vehicles while encouraging and supporting the development of mobility-as-a-service (MaaS) tools

Exhibit 3.16: Monitoring, evaluation and advocacy – Participants and resource requirements

ROLE	ORGANIZATION	EXPECTED SUPPORT	
		IN-KIND	FINANCIAL
Lead		X	
	• Region of Peel – Sustainable Transportation • Region of Peel – Transportation System Planning		
Support		X	
	• GTHA • Region of Peel – Information Technology Services • Ontario Ministry of Transportation • Metrolinx		

ANNUAL EXPENSES ($) AND STAFF TIME (FTE) REQUIREMENTS

2018		2019		2020		2021		2022	
Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time
-	0.05	-	0.10	-	0.15	-	0.20	-	0.25

3.7 TDM Leadership

3.7.1 TRACKING AND REPORTING NEW TDM KNOWLEDGE

SUSTAINABLE TRANSPORTATION STRATEGY REFERENCE:

ACTION M17 Create knowledge through research, testing, evaluation and monitoring

Many of the actions recommended in this plan will lead to the creation of new knowledge through research, pilot testing, evaluation and monitoring. This work will reveal the highs and lows of each project, and how the Region and its partners can learn from their experiences and apply lessons learned to future work. To enable this learning, the Region will develop a methodical approach to consistently tracking, recording and reporting on new knowledge created through the implementation of TDM actions as part of the Sustainable Transportation Strategy. Pilot projects

are smaller-scale applications of innovative approaches that are intended to inform decisions about larger-scale implementation, and they are a prime example of the methodical approach the Region will adopt.

Timeline

2018–2022: Work on an ongoing basis to consistently measure, document and report on innovative projects and their impacts; compile findings and share them with interested stakeholders through online reports, workshops, conferences, journals and the media

Exhibit 3.17: Tracking and reporting new TDM knowledge – Participants and resource requirements

ROLE	ORGANIZATION	EXPECTED SUPPORT	
		IN-KIND	FINANCIAL
Lead		X	
	• Region of Peel – Sustainable Transportation		
Support		X	
	• Region of Peel – Infrastructure Programming and Studies • Region of Peel – Traffic Engineering • Region of Peel – Development Services • Region of Peel – Public Health • Region of Peel – Integrated Planning • Region of Peel – Corporate Strategy Office • Region of Peel – Internal Audit • Region of Peel – Office of Climate Change and Energy • Region of Peel – Information Technology Services • Various project partners		

ANNUAL EXPENSES ($) AND STAFF TIME (FTE) REQUIREMENTS

2018		2019		2020		2021		2022	
Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time
-	0.05	-	0.05	-	0.10	-	0.10	-	0.10

3.7.2 STAKEHOLDER LEARNING OPPORTUNITIES

SUSTAINABLE TRANSPORTATION STRATEGY REFERENCE:

ACTION M19 Provide learning opportunities for stakeholders

The Region has an important leadership role in building capacity among TDM stakeholders, including local municipalities, transit systems, Smart Commute TMA offices, employers, schools and community organizations. The Region will provide opportunities (e.g. seminars, workshops, training sessions, electronic newsletters) for staff, partners and stakeholders to share information and learn from each other, maximizing the value of new knowledge created through innovation and practical experiences. Online events (e.g. webinars) are convenient and efficient, and in-person events are valuable because they transmit information more effectively and allow participants to network and improve their relationships.

Specific examples of learning opportunities could include workshops for regional partners and stakeholders on TDM and development approvals, workshops on best practices in workplace-based or school-based TDM programs, and more general events (possibly held annually or semi-annually) at which sustainable transportation stakeholders gather for a day to exchange ideas and information, identify challenges and opportunities, and report on lessons learned.

TIMELINE

2018–2022: Offer online webinars and in-person workshops that encourage sharing of information on TDM experiences and best practices by regional partners and stakeholders

Exhibit 3.18: Stakeholder learning opportunities – Participants and resource requirements

ROLE	ORGANIZATION	EXPECTED SUPPORT	
		IN-KIND	FINANCIAL
Lead		X	X
	• Region of Peel – Sustainable Transportation		
Support		X	
	• Region of Peel – Infrastructure Programming and Studies • Region of Peel – Roads Design and Construction • Region of Peel – Traffic Engineering • Region of Peel – Development Services • Region of Peel – Public Health • Local municipalities • Local transit systems • Smart Commute TMA offices • Metrolinx		

ANNUAL EXPENSES ($) AND STAFF TIME (FTE) REQUIREMENTS

2018		2019		2020		2021		2022	
Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time
$30K	0.05	$30K	0.05	$30K	0.10	$30K	0.10	$30K	0.10

3.7.3 TDM MEASURES AT REGIONAL WORKPLACES

SUSTAINABLE TRANSPORTATION STRATEGY REFERENCE:

ACTION M20 Improve sustainable travel options for Regional employees and implement parking pricing at Regional workplaces

The Region has an important "leadership by example" role in encouraging sustainable commuting among its own employees. It plans and implements commuter options improvements, incentives and communications in conjunction with various partners.

The Region of Peel will continue to expand its provision of sheltered and secure employee bicycle parking at all Regional workplaces (where feasible), to protect bicycles from the elements and minimize the risk of theft. In addition, Regional workplaces will continue to provide change rooms, showers and lockers for active commuters, where feasible. These facilities remove a key barrier to longer commuters when biking or walking to work.

Regional workplaces will provide preferential carpool parking for qualified employees, where feasible, and ensure that the capacity of those spaces is adequate as carpooling use increases. At larger workplaces, conveniently located preferential parking can be a tangible incentive that saves time for carpoolers; at smaller workplaces the incentive may be more symbolic, but the visibility of preferential spaces is a good reminder to non-carpoolers. To prevent their misuse, carpool spaces need to be signed and marked; eligible carpool vehicles need to be registered and identified (e.g. with hangtags) to simplify enforcement.

The Region will enhance telework-supportive policies and practices at its workplaces where appropriate, building on its Workforce Modernization Strategy and current corporate telework policies, and incorporating the results of its current telework pilot project and toolkit development. Given the usual complexity of telework programs in large organizations, this will be a multi-departmental initiative requiring the consideration of numerous issues related to human resources, information technology, operational needs, management practices, facilities and funding. By tracking, measuring and sharing the results of its own efforts, the Region will help other large employers tackle their own challenges and make telework an option for more commuters.

The Region will offer other incentives and policies that motivate sustainable commuting by employees. Currently, it offers an employee benefit to transit commuters (a 50% subsidy for Brampton Transit monthly pass holders, and a $50 monthly rebate for Regional employees who use PRESTO cards to commute by transit); preferential underground parking for carpool vehicles at Regional headquarters; an emergency ride home service for employees who are registered with Smart Commute and take transit, carpool, walk or bike to work; fleet cars for local business travel during the day; and free breakfasts on Bike to Work Fridays in the summer and fall. Possible new actions could include offering current drivers a pre-loaded PRESTO card to try transit, offering a discount for underground carpool parking at Regional headquarters, and offering carshare services and subsidized memberships for non-driving commuters to make personal errands at lunchtime or after work.

Finally, the Region will charge employees to park at workplaces where sustainable travel modes represent a practical option. Currently, employees at Regional headquarters (10 Peel Centre Drive) who park underground are charged $20 per month (employees may park elsewhere for free). Other workplaces also offer free parking. While charging "market value" for parking fees is a reasonable objective, it can be difficult to quantify in urban environments where free parking is the norm. Nevertheless, the provision of free employee parking is inequitable in the absence of similar incentives for people who commute by other modes (e.g. cycling or transit); it is also a missed opportunity to demonstrate leadership to other employers. Using employee parking revenues to fund concurrent improvements to other commuting facilities and services (e.g. showers and lockers, secure bike parking, transit pass subsidy) improves equity and reassures drivers that their parking fees are helping more of their colleagues choose sustainable modes.

Timeline

2018–2022: Work on an ongoing basis to identify gaps and priority actions, to coordinate implementation of improvements, and to fund minor events or incentives where feasible

Exhibit 3.19: TDM measures at Regional workplaces – Participants and resource requirements

ROLE	ORGANIZATION	EXPECTED SUPPORT	
		IN-KIND	FINANCIAL
Lead		X	X
	• Region of Peel – Sustainable Transportation		
Support		X	X
	• Region of Peel – Real Property Asset Management • Region of Peel – Office of Climate Change and Energy • Region of Peel – Human Resources		

ANNUAL EXPENSES ($) AND STAFF TIME (FTE) REQUIREMENTS

2018		2019		2020		2021		2022	
Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time
-	-	-	-	-	-	-	-	-	-

Note: Measures related to this action are funded through the Region's operating budget, and related expenses would not affect the TDM budget.

3.8 Five-Year TDM Plan Update

3.8.1 CREATING A TDM IMPLEMENTATION PLAN FOR 2023–2027

Toward the conclusion of this five-year TDM Implementation Plan, it is recommended that Peel Region develop a new plan to guide TDM efforts for the subsequent five-year period of 2023-2027. This would provide the Region with an opportunity to review what worked well and what could be improved, and to identify how funds and staffing could be best applied during the next five-year period. Plan development will also identify program costs, timelines, and roles and responsibilities. It is recommended that development of the next plan follow a process similar to this plan's, and include the following elements:

1. Review initiatives delivered during the previous five years
2. Collect applicable data
3. Identify TDM service providers and partners to solicit their input
4. Develop goals and objectives
5. Identify potential new TDM initiatives
6. Evaluate and select TDM initiatives based on their ability to accomplish identified objectives
7. Develop a final plan that describes all recommended TDM initiatives and costs, provides implementation timelines, assigns roles, and estimates program impacts.

This work may be undertaken concurrently with updates to the Sustainable Transportation Strategy and/or the Active Transportation Implementation Plan.

Timeline

2022: Update this TDM Implementation Plan for the 2023–2027 timeframe

Exhibit 3.20: Creating a TDM Implementation Plan for 2023–2027 – Participants and resource requirements

ROLE	ORGANIZATION	EXPECTED SUPPORT	
		IN-KIND	FINANCIAL
Lead		X	X
	• Region of Peel – Sustainable Transportation		
Support		X	
	• Region of Peel – Transportation System Planning • Region of Peel – Public Health • Local municipalities • Local transit systems		

ANNUAL EXPENSES ($) AND STAFF TIME (FTE) REQUIREMENTS

2018		2019		2020		2021		2022	
Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time
-	-	-	-	-	-	-	-	$35K	$0.20

4
Implementation Framework

4.1 Timelines and Required Resources

Exhibit 4.1 compiles the financial and staff time requirements needed to enable the actions recommended in this plan. Total expenses (net of reimbursement from Metrolinx for the Region's annual contribution to Smart Commute TMA offices) for the Region's TDM activities are expected to increase from $490,000 in 2018 to $855,000 in 2022. Over the same period, the staff time requirement is expected to increase from 1.1 FTE to 1.95 FTE; this will be enabled by the expected addition of two new full-time staff positions in the Sustainable Transportation group, supporting both TDM and active transportation initiatives. The TDM agreement is now going into it's second year - it's not new, but duties are growing. These additional resources are required, in part, due to the impact of a new Smart Commute TMA agreement with Metrolinx that necessitates more staff time to effectively administer the Smart Commute TMAs and oversee their activities; expanded resources will also enable the Region of Peel to grow its base of successful initiatives, and to take a leadership role in new initiatives including:

- Expanding Smart Commute TMA services in partnership with Metrolinx and local municipalities
- Advancing the concepts of flexible work arrangements and satellite workplaces
- Implementing a Region-wide program of TDM social marketing program
- Promoting and enabling the integration of TDM into new developments
- Improving multimodal access to transit stations across the Region
- Seeking opportunities to improve carpool parking and HOV lanes
- Preparing for the arrival of new mobility technologies and business models
- Sharing information on TDM lessons learned and best practices

4.2 Funding Opportunities

The Region of Peel's TDM program budget (which covers both expenses and chargeable staff time costs) is currently sourced 50% from property taxes and 50% from development charges—or about $350,000 from each source in 2018.

One way to minimize the impact of an expanded TDM program budget on the property tax base would be to increase the proportion of future TDM funding that is derived from development charges. The Region plans to have a new Development Charge By-law in place by October 2020 at the latest, and the required background study will be initiated by Corporate Finance in early 2018. The Region's future needs in the areas of active transportation and TDM that need funding through development charges will be provided as input to that background study, based on work to begin in late 2017.

Cost-sharing of specific projects is another possible funding source—as suggested wherever financial support from partners is indicated as "expected" in Chapter 3 of this plan. Note that any such financial support would supplement, rather than replace, the Regional expenses shown in this plan; in some cases, the Regional contribution indicated would be only a small portion of the overall funding required to complete the envisioned tasks.

Exhibit 4.1: Annual expenses and staff time requirements for recommended short-term actions

	Annual expenses ($ thousands) and staff time (full-time equivalent) requirements									
Recommendation	2018		2019		2020		2021		2022	
	Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time	Expense	Staff time
Workplace TDM (see Section 3.1)	**235**	**0.20**	**285**	**0.35**	**295**	**0.45**	**330**	**0.60**	**285**	**0.50**
Support for Smart Commute TMA offices (see Sec. 3.1.1)	*235*	*0.20*	*240*	*0.20*	*245*	*0.25*	*250*	*0.25*	*255*	*0.30*
Targeted carpooling promotion (see Sec. 3.1.2)	-	-	*45*	*0.10*	*25*	*0.10*	-	*0.10*	-	-
Employer engagement on flexible work arrangements (see Sec. 3.1.3)	-	-	-	-	*25*	*0.10*	*30*	*0.10*	*30*	*0.10*
Telework toolkit dissemination (see Sec. 3.1.4)	-	-	-	*0.05*	-	-	-	-	-	-
Feasibility study of satellite workplaces (see Sec. 3.1.5)	-	-	-	-	-	-	*50*	*0.15*	-	*0.10*
TDM social marketing (see Section 3.2)	**20**	**0.20**	**265**	**0.25**	**270**	**0.30**	**275**	**0.30**	**280**	**0.30**
Plan, pilot & deliver TDM social marketing program (see Sec. 3.2.1)	*20*	*0.20*	*265*	*0.25*	*270*	*0.30*	*275*	*0.30*	*280*	*0.30*
TDM & new development (see Section 3.3)	**35**	**0.15**	**165**	**0.45**	**35**	**0.30**	**35**	**0.15**	**35**	**0.15**
Guidance for municipal zoning by-laws (see Sec. 3.3.1)	-	-	*40*	*0.10*	-	-	-	-	-	-
Implementation of Guidelines for TDM & New Development (see Sec. 3.3.2)	*35*	*0.10*	*35*	*0.15*	*35*	*0.15*	*35*	*0.15*	*35*	*0.15*
Update of TIS Guidelines (see Sec. 3.3.3)	-	*0.05*	*90*	*0.20*	-	*0.15*	-	-	-	-
Transit access (see section 3.4)	**110**	**0.25**	**50**	**0.15**	**55**	**0.15**	**150**	**0.35**	**155**	**0.25**
First- & last-mile audits, guidelines & improvements (see Sec. 3.4.1)	*50*	*0.15*	*50*	*0.15*	*55*	*0.15*	*60*	*0.15*	*65*	*0.15*
Testing alternative transit services (see Sec. 3.4.2)	*60*	*0.10*	-	-	-	-	*90*	*0.20*	*90*	*0.10*

Carpooling and vanpooling (see Section 3.5)	**60**	**0.15**	**50**	**0.20**	**150**	**0.30**	**30**	**0.10**	**35**	**0.10**
Implementation of new carpool lots (see Sec. 3.5.1)	*60*	*0.10*	*20*	*0.10*	*25*	*0.10*	*30*	*0.10*	*35*	*0.10*
Feasibility study of HOV lanes on Regional roads (see Sec. 3.5.2)	-	-	-	-	*125*	*0.20*	-	-	-	-
Feasibility study of public vanpooling (see Sec. 3.5.3)	-	-	*30*	*0.10*	-	-	-	-	-	-
Advocacy for Provincial legislation to enable vanpools (see Sec. 3.5.4)	-	*0.05*	-	-	-	-	-	-	-	-
New mobility (see Section 3.6)	**-**	**0.05**	**-**	**0.10**	**-**	**0.15**	**-**	**0.20**	**-**	**0.25**
Monitoring, evaluation & advocacy (see Sec. 3.6.1)	-	*0.05*	-	*0.10*	-	*0.15*	-	*0.20*	-	*0.25*
TDM leadership (see Section 3.7)	**30**	**0.10**	**30**	**0.10**	**30**	**0.20**	**30**	**0.20**	**30**	**0.20**
Tracking & reporting new TDM knowledge (see Sec. 3.7.1)	-	*0.05*	-	*0.05*	-	*0.10*	-	*0.10*	-	*0.10*
Stakeholder learning opportunities (see Sec. 3.7.2)	*30*	*0.05*	*30*	*0.05*	*30*	*0.10*	*30*	*0.10*	*30*	*0.10*
TDM measures at Regional workplaces (see Sec. 3.7.3)	-	-	-	-	-	-	-	-	-	-
Five-year TDM plan update (see Section 3.8)	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**35**	**0.20**
Prepare 2023-2028 TDM Implementation Plan (see Sec. 3.8.1)	-	-	-	-	-	-	-	-	*35*	*0.20*
Total>	**490**	**1.10**	**845**	**1.60**	**835**	**1.85**	**850**	**1.90**	**855**	**1.95**

4.3 Performance Measurement

The two main dimensions of this implementation plan that require monitoring are:

- Outputs—What resources are being applied? What activities are being conducted?
- Outcomes—What effects are the actions having on travel behaviour, and on the impacts of travel activity (i.e. "downstream" effects on the environment, economy or society)?

The outcomes of TDM initiatives are best measured at a localized scale, preferably limited to the initiative's target market. It is very difficult to attribute causality to travel behaviour changes that are measured at a Regional level, which are influenced by many factors in addition to TDM initiatives.

In an environment with limited resources, it is essential that monitoring be tackled strategically. Any attempt to accurately measure and document the outputs and outcomes of every TDM initiative would consume an inordinate amount of time and energy. Changes in travel behaviour are notoriously challenging to measure efficiently, so "keep it simple" is good guiding principle; unless details are necessary to answer specific questions or refine initiatives at the pilot phase, it is best to avoid the expense and trouble of gathering them.

It is strongly recommended that the collection of performance measurement data be built into various initiatives at the outset, because addressing these needs retroactively can be both more costly and less effective. The large number of recommended TDM initiatives that involve partnerships is an advantage for the Region, because in many cases the Region's partners may be better positioned to efficiently collect the required data, which could be equally valuable to them.

Exhibit 4.2 identifies possible performance measurement indicators for each TDM action recommended in Chapter 3.

Exhibit 4.2: Possible performance measurement indicators

Actions	Possible Output Indicators	Possible Outcome Indicators (and measurement scale where applicable)
Workplace TDM Section 3.1		
Support for Smart Commute TMA offices *Section 3.1.1*	• Funding provided • Number of new tools and resources provided • Creation of mode share targets • Partner funding leveraged • Creation of TDM Coordinator positions by Brampton and Caledon	• Number of workplace members engaged by Smart Commute TMA offices • Number of new workplace members • Mode shares (TMA workplaces) • Reduction in VKT (TMA workplaces) • Reduction in criteria air pollutants emitted from transportation (TMA workplaces) • Reduction in greenhouse gases emitted from transportation (TMA workplaces) • Vehicle occupancy ratio (TMA workplaces) • Satisfaction with commutes by workers (TMA workplaces) • Reduction in economic cost of transportation borne by individuals and society (TMA workplaces)
Targeted carpooling promotion *Section 3.1.2*	• Completion of pilot test • Number of workplace sites involved • Number of promotional events held • Number of individuals engaged at events	• Mode shares (workplaces) • Number of person trips by mode (workplaces) • Vehicle occupancy ratio (workplaces) • Reduction in VKT (workplaces) • Reduction in greenhouse gases emitted from transportation (workplaces) • Number of new carpool registrants (workplaces) • Number of new carpool participants (workplaces)

Actions	Possible Output Indicators	Possible Outcome Indicators (and measurement scale where applicable)
Employer engagement on flexible work arrangements *Section 3.1.3*	• Number of partners engaged • Number of annual campaigns completed • Number of workplaces engaged • Partner funding leveraged	• Number of workplaces implementing flexible work arrangements
Telework toolkit dissemination *Section 3.1.4*	• Number of promotions conducted • Number of toolkits distributed	• Number of workplaces applying telework toolkit
Feasibility study of satellite workplaces *Section 3.1.5*	• Completion of feasibility study	• n/a

Actions	Possible Output Indicators	Possible Outcome Indicators (and measurement scale where applicable)
TDM social marketing **Section 3.2**		
Deliver TDM social marketing program *Section 3.2.1*	• Number of neighbourhoods engaged • Number of households engaged • Number of households participating • Number of active individuals • Number of complete user trip profiles • Number of complete trip profiles available for matching by different modes • Number of carpool partner email requests sent • Number of travel ambassadors participating • Number of events attended by travel ambassadors • Number of community groups engaged • Number of information packages distributed • Number of survey responses • Number of participants receiving incentives • Number of sponsors participating • Number of interactions on social media • Partner funding leveraged	• Mode shares (neighbourhood) • Reduction in VKT (neighbourhood) • Number of person-trips by mode (neighbourhood) • Number of person-km travelled (neighbourhood) • Rate of awareness of travel options among residents (neighbourhood) • Rate of satisfaction with travel options among residents (neighbourhood) • Reduction in criteria air pollutants emitted from transportation (neighbourhood) • Reduction in greenhouse gases emitted from transportation (neighbourhood) • Number of injuries and deaths from collisions (neighbourhood) • Number of children who walk or cycle to school (schools, neighbourhood) • Change in spending patterns (retail destinations, neighbourhood) • Reduction in economic cost of transportation borne by individuals and society (neighbourhood)

Actions	Possible Output Indicators	Possible Outcome Indicators (and measurement scale where applicable)
TDM and new development Section 3.3		
Guidance for municipal zoning by-laws *Section 3.3.1*	• Provision of guidance in various forms	• Updating of municipal by-laws
Implementation of Guidelines for TDM and New Development *Section 3.3.2*	• Pilot project completed • Number of workshops held • Number of workshop participants • Provision of guidance in various forms • Initiation of monitoring program • Documentation of case studies/ best practices	• TDM performance of major development projects in Region
Update of Transportation Impact Study Guidelines *Section 3.3.3*	• Updating of TIS Guidelines	• n/a
Transit access Section 3.4		
First- and last-mile audits, guidelines and improvements *Section 3.4.1*	• Partner funding leveraged • Number of audits completed • Completion of guidelines • Completion of improvements: number of stations, number related to specific modes, dollar value	• Mode shares (transit station) • Number of person-trips by mode (transit station) • Number of multimodal trips (transit station)
Testing alternative transit services *Section 3.4.2*	• Partner funding leveraged • Completion of feasibility study • Implementation of pilot project	• Establishment of permanent services

Actions	Possible Output Indicators	Possible Outcome Indicators (and measurement scale where applicable)
Carpooling and vanpooling Section 3.5		
Implementation of new carpool lots *Section 3.5.1*	• Completion of update to 2009 Carpool Lot Study • Number of carpool lots implemented • Number of carpool spaces created	• Number of new carpool lot users • Number of new carpools enabled • Reductions in VKT • Reductions in greenhouse gases emitted from transportation • Reductions in user costs
Feasibility study of HOV lanes on Regional roads *Section 3.5.2*	• Partner funding leveraged • Completion of feasibility study	• n/a
Feasibility study of public vanpooling *Section 3.5.3*	• Partner funding leveraged • Completion of study	• n/a
Advocacy for Provincial legislation to enable vanpools *Section 3.5.3*	• Submission of request	• Changed legislation
New mobility Section 3.6		
Monitoring, evaluation and advocacy *Section 3.6.1*	• To be determined	• To be determined

Actions	Possible Output Indicators	Possible Outcome Indicators (and measurement scale where applicable)
TDM leadership *Section 3.7*		
Tracking and reporting new TDM knowledge *Section 3.7.1*	• Number of reports published • Number of presentations delivered	• n/a
Stakeholder learning opportunities *Section 3.7.2*	• Number of learning events held • Number of participants • Participant learning level	• n/a
TDM measures at Regional workplaces *Section 3.7.3*	• Improvements made (number of workplaces, number related to specific modes, dollar value)	• Mode shares (Regional workplaces) • Reduction in VKT (Regional workplaces) • Reduction in criteria air pollutants emitted from transportation (Regional workplaces) • Reduction in greenhouse gases emitted from transportation (Regional workplaces) • Vehicle occupancy ratio (Regional workplaces) • Number of multimodal trips (Regional workplaces) • Rate of commute satisfaction by workers (Regional workplaces) • Economic cost of transportation borne by individuals and society (Regional workplaces)
Five-year TDM plan update *Section 3.8*		
Creating a TDM Implementation Plan for 2023–2027 *Section 3.8.1*	• Completion of updated plan	• n/a

4.4 Policy Changes

To be successful, many actions recommended in this plan will require policy support from the Region or its constituent local municipalities. This support could take the form of changes in formal policy documents (Official Plans, zoning-by-laws) or arrangements for staffing and funding.

4.4.1 REGION OF PEEL POLICIES

The following changes are recommended to Region of Peel policies:

Region of Peel—Official Plan

- Highlight the importance of improving first- and last-mile access to transit hubs (e.g. GO stations, local transit centres) through audits, guidelines and capital improvements (see Section 3.4.1).
- Designate appropriate Regional roads as future locations for HOV lanes, further to the conclusions of a feasibility assessment and pilot project (see Section 3.5.2).
- Highlight the need to work with other governments across the GTHA and Ontario to manage the implementation of new mobility technologies and business models, and to monitor the evolution of connected and autonomous vehicles (see Section 3.6.1).

Region of Peel—TDM funding

- Include funding for TDM initiatives in the budgets for transportation capital projects (e.g. demand diversion during construction, and social marketing programs pre- and post-opening to maximize demand for active transportation, transit and carpool facilities).

4.4.2 LOCAL MUNICIPAL POLICIES

The Region will strongly encourage local municipalities to incorporate the following changes into their own policy frameworks:

Local municipalities—Official Plans and transportation plans

- Enhance policies guiding the development approvals process to support sustainable travel modes through site design and infrastructure, and through post-occupancy TDM programs (see Sections 3.3.1 and 3.3.2).

Local municipalities—Zoning by-laws

- Strengthen the support provided to sustainable travel modes through site design and infrastructure (see Section 3.3.1).

Local municipalities—TDM staffing and funding

- Investigate the increase of funding for Region of Peel Smart Commute TMA offices (see Section 3.1.1).
- Investigate the opportunity of creating a TDM coordinator staff position at the Town of Caledon (see Section 3.1.1).
- Support an annual program to prioritize and implement needed improvements to first- and last-mile access at transit hubs in the Region (see Section 3.4.1).
- Support a pilot test of alternative transit services (see Section 3.4.2).