
TRANSPORTATION DEMAND MANAGEMENT BACKGROUND PAPER

EXECUTIVE SUMMARY

Technical Paper 10 to support the **Discussion Paper** for the *Next Regional Transportation Plan*



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Background

The Greater Toronto and Hamilton Area (GTHA) is undergoing rapid growth and development. Population and employment are both increasing, with rapid growth forecasted from 2015-2041. In order to accommodate this growth, the region’s transportation network must evolve. Metrolinx launched the 2015 regional transportation plan (RTP) review to ensure that the region’s transport network is read to support the development of an economically and culturally vibrant region.

This paper is one of a series of working papers that discusses critical topics for reviewing the previous RTP, 2008’s the Big Move, and developing a new plan. The focus of this paper is ‘Transportation Demand Management’ or TDM.

What is TDM?

Transport – or travel – demand management (TDM) seeks to apply behaviour change tools and incentives to align transport demand with supply. It can be defined as:

The application of behavioural tools to optimize the transport network by changing demand for travel based on time, mode, service, and destination.

In essence, TDM seeks to support new infrastructure while reducing stresses on the transportation network. Key considerations for TDM include:

- Shifting demand for specific times of travel (e.g. peak period)
- Shifting demand from one mode to another (e.g. use of private automobile shifting to car pool or transit use)

- Shifting demands to specific services (e.g. encouraging use of underutilized transit)
- Shifting demand for travel to and from specific locations (e.g. encouraging alternatives to downtown travel, encouraging telecommuting)

Historically, it has been assumed that the transport network will be used based on available infrastructure and services. For example, interventions such as building new infrastructure or implementing a new service were thought to automatically attract new users. In most cases, the network itself will not manage demand. Users may not be aware of existing services, and they may not understand how to best use a new service. TDM is focused on shifting demand to ensure optimal use of the transport network.

TDM’s Role in the Big Move

2008’s ‘the Big Move’ set out TDM as a key focus for achieving regional transport goals. The Big Move outlined ten strategies that employ a variety of measures and approaches to reach the overarching goals of the plan. While TDM can play a role in delivering all ten strategies, Strategy #4 specifically called for the creation of a TDM Program.

STRATEGY #4: CREATE AN AMBITIOUS TRANSPORTATION DEMAND MANAGEMENT (TDM) PROGRAM

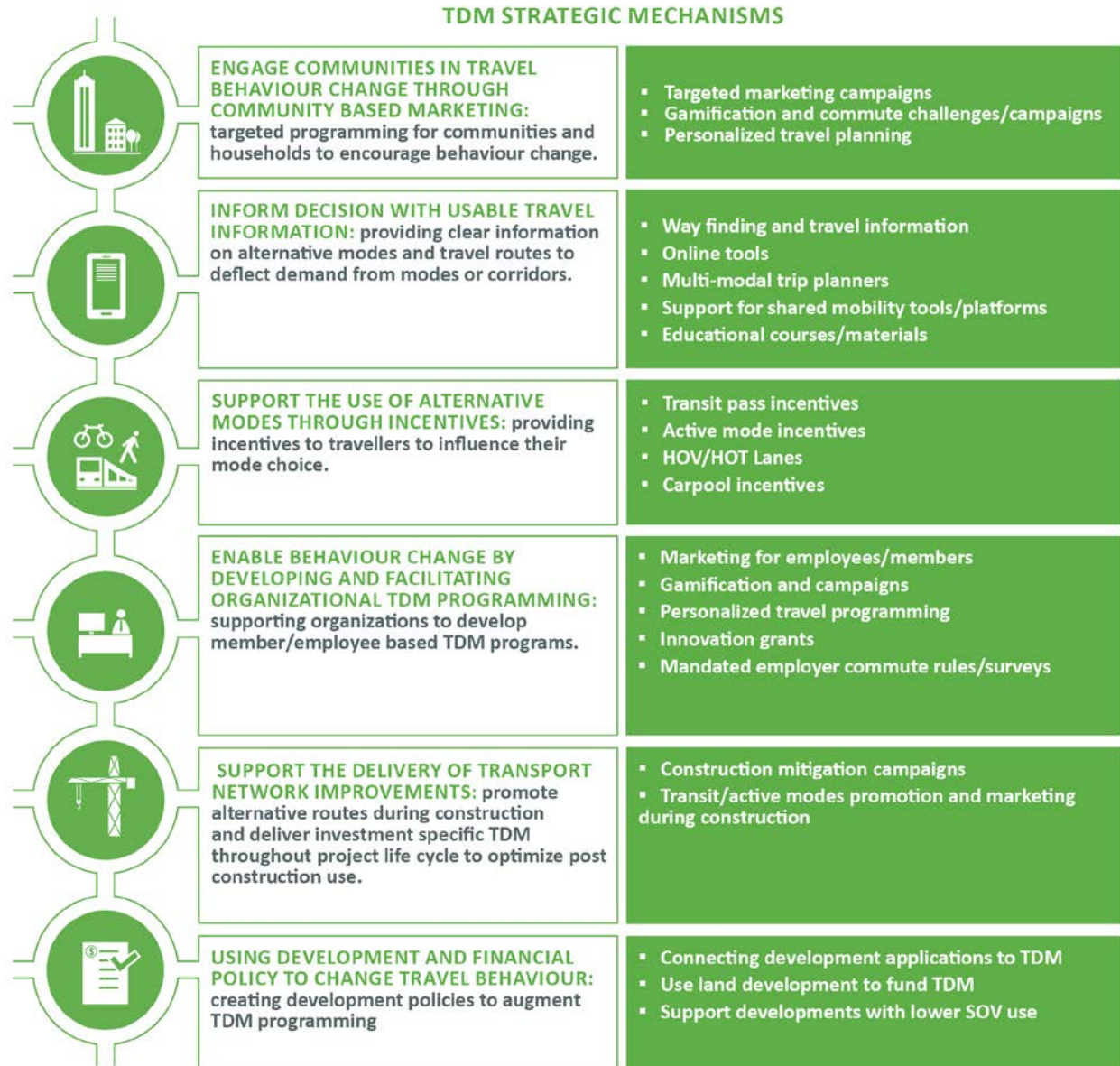
This strategy was defined by five priority actions (4.1-4.5) and one supporting policy (4.6), which were assessed to determine progress made to date. Progress against each policy and action was assessed:

Priority Action/Supporting Policy	Progress Made
<p>4.1 Develop a Transportation Demand Management (TDM) policy and strategy for provincial ministries and agencies such as school boards, hospitals and universities that include actions, timelines and targets.</p>	<p>No overarching policy has been drafted. Smart Commute supports TDM programming in public institutions. Some school boards have developed a TDM policy.</p>
<p>4.2 Establish guidelines and model policies to help municipalities develop and implement TDM policies in their Official Plans and Transportation Master Plans.</p>	<p>Smart Commute established to provide regional support on TDM programming. A GTHA wide TDM coordinating committee has been set up. Majority of official plans include TDM objectives or policies.</p>
<p>4.3 Encourage private sector employers to implement TDM programs.</p>	<p>Smart Commute works directly with employers to support private sector TDM services. To date, over 300 employers representing over 700,000 employees are participating in Smart Commute.</p>
<p>4.4 Encourage employers who currently offer their employees free or subsidized parking a choice between the parking or a cash equivalent that can be used for other means of transportation.</p>	<p>Supported by Smart Commute. Extent of implementation varies across GTHA.</p>
<p>4.5 Incorporate objectives and goals related to TDM as part of any revenue or financial tools that are recommended as part of the Metrolinx Investment Strategy.</p>	<p>Metrolinx Investment Strategy included revenue tools in line with TDM principles:</p> <ul style="list-style-type: none"> • Parking levies • High occupancy toll lanes • Mode specific feeds (gas tax)
<p>4.6 Official Plans shall require a TDM strategy as part of planning applications for any major commercial, employment or institutional development.</p>	<p>Policies related to TDM Strategies in the planning process are included in most municipal and regional municipality official plans.</p>

While no goal has been completely achieved, significant progress has been made in laying a foundation for TDM in the region, in particular due to the adoption of TDM within several municipalities as well as the continued growth of the Smart Commute program. All goals are recommended for further consideration within the RTP review, in particular:

- 4.1 encourage further enrollment of government offices in Smart Commute programs and use these offices as candidates for piloting new programming

- 4.2 retain this priority and focus on the development of a TDM toolkit and clarified roles and responsibilities for different institutions in providing TDM programs
- 4.3 retain the priority with an emphasis on expanding Smart Commute
- 4.4 Include as part of 4.3 for an overall TDM employer engagement strategy
- 4.5 focus on using TDM as part of investment in new transit infrastructure and services in order to realize the full benefits of investment
- 4.6 retain the priority as part of 4.2



Developing New TDM Strategies

The RTP review process is exploring 21 revised objectives for regional transport. These objectives both provide direction for how TDM may be structured and may also be achieved by strong TDM programs. A review of these objectives has noted six overall strategies that should be considered when developing TDM.

These TDM strategies may be delivered at three scales: the community or institution level

(within an employer or neighborhood, for example), at the municipal level (across an entire city, for example Toronto), or at the regional level (across the whole GTHA).

Each strategic mechanism may be applied differently at each scale to deliver different outcomes. Inasmuch, these six strategies were used to assess and review current TDM programs and policies across all three scales within the GTHA.

Regional Programming

The majority of regional programming in the GTHA is coordinated by Metrolinx's Smart Commute program. Key initiatives within Metrolinx's Smart Commute program include:

- Employer outreach – part-funding each of the 13 local Smart Commute offices
- Community outreach - strategy developed in 2014, early initiatives include broadening of campaigns to build awareness of transportation options, and broadening availability, quality and awareness of all transportation options to GO stations
- School outreach – initiated a comprehensive review and implementation plan with the Ontario MTO and regional and local partners

A review of Smart Commute noted that it has developed strong partnerships with local and municipal programs. Moving forward, Smart Commute has an ambitious mandate to deliver TDM policies, which may be constrained by existing funding and delivery responsibilities. There is further opportunity for Smart Commute to deliver its mandate by aligning programming with large regional investments, including new rapid transit and regional express rail.

Municipal Programming

A key recommendation in the Big Move was the inclusion of TDM strategies as part of key planning policies such as the Official Plan and Transportation Master Plans. A review of all regional and local municipalities in the GTHA has determined that TDM policy has been identified and included in many key policy documents across the GTHA.

TDM programming varies across municipalities; however 18 municipalities have included TDM in their official plans directly, while 6

municipalities have noted programs similar to TDM in their official plans.

At a municipal level, the review indicated that:

- Most of the larger municipal governments have a robust high level policy framework for TDM (OP & TMP)
- While several governments have a development planning TDM regulations, few have detailed processes for requirements, assessment and monitoring
- Most governments have few TDM programs or initiatives (education, encouragement, marketing, etc.) and are instead focused on providing infrastructure for transportation alternatives (e.g. sidewalks, bike network, transit, carpool lots/parking)
- In most cases, governments look to their upper-tier regional partners to provide non-infrastructure TDM programming

Local Programming

The local scale includes employers, schools, and other institutions. As there are numerous community organizations and hundreds of employers actively involved in TDM programming throughout the region, this paper focused on a high level review of the types of TDM strategies local program can support. In general, local TDM programs are able to support 5/6 mechanisms, as noted below.

Strategic Mechanism	Example Programs
(1) Engage communities in travel behaviour change through community based marketing	<ul style="list-style-type: none"> • Campaigns and events • Site assessments and surveys • Social media campaigns • Resource packs • Email blasts • School and workplace travel planning • Individualised marketing
(2) Inform decisions with usable travel information	<ul style="list-style-type: none"> • Portals for ride matching / van pooling / car pooling • Individualised marketing • School and workplace travel planning
(3) Support the use of alternative modes through incentives	<ul style="list-style-type: none"> • Award and designation programs e.g. Smart Commute, EcoSchools • Employer discount on transit passes • Making bikes/cars available through sharing e.g. Car2Go for trips during the work day • Emergency ride home • Availability of teleworking
(4) Enable behaviour change by developing and facilitating organizational TDM programming	<ul style="list-style-type: none"> • Smart Commute • School Boards
(5) Support the delivery of transport network improvements	<ul style="list-style-type: none"> • School Bike Rack programs • City of Hamilton Individualised marketing to support Queen Street Hill • Road construction
(6) Using development and financial policy to change travel behaviour	<ul style="list-style-type: none"> • N/A

Challenges and Opportunities for Improved TDM

The program review explored challenges and opportunities from a regional, municipal, and local level. This review included engagement with Smart Commute and each upper and lower tier municipality as well as the thorough review of plans, policies, and strategies.

The program review and analysis noted several key challenges for TDM achieving RTP goals in the GTHA:

- TDM program funding and resourcing
- Coordination and partnerships
- Planning, Evaluation, and Implementation Challenges
- Provision of context specific TDM

Some of the key opportunities and challenges that regional and municipal staff provided include:

- Focus on context specific TDM
- Improved Collaboration
- Clarify and expand role of TDM with existing travel tools
- Adapt tools for context specific application
- Frame TDM as an alternative congestion management approach
- Explore the role of financial measures
- Develop project specific TDM for new rapid transit
- Leverage mandates in official plans
- Connect TDM to overarching environmental policies and issues
- Emphasize role of TDM in planning process

From the review of program specific challenges and opportunities, a set of overarching challenges and opportunities has been developed as presented below.

THEME	OVERVIEW	KEY CHALLENGE	KEY OPPORTUNITY
<p>CLARIFICATION OF ROLES OF DIFFERENT AGENCIES/ACTORS</p> 	<p>TDM programming throughout the GTHA involves a number of different actors at each scale of programming (metropolitan, regional/municipal, local). This allows for flexible service delivery, but also may contribute to ambiguity regarding the roles of actors.</p>	<p>Currently there is no overarching policy framework or strategy to align and integrate action. This hinders coordination and cohesive action by actors at all three scales (metropolitan, regional/municipal, local).</p>	<p>Develop a stronger delineation of the roles for each agency or actor in TDM at a policy level that builds on the current flexibility, but strengthens TDM through clarity.</p>
<p>STRENGTHENING OF GUIDANCE FOR TDM IMPLEMENTATION</p> 	<p>The Big Move called for the inclusion of TDM in official plans. While there has been success towards this, including the development of TDM policy fit for geographic context, there is also an implementation gap for achieving targets and implementing robust TDM programming.</p>	<p>The potential of TDM has been emphasized in official plans, but tools and processes to achieve TDM goals at a regional/municipal level have not been established.</p>	<p>Develop support for TDM program implementation based on the varying contexts (land uses, accessibility to transit, trip types) that expands upon the tools already being created by Smart Commute as well as early leadership and success stories from regional/municipal actors.</p>
<p>INTEGRATION OF TDM INTO THE LIFECYCLE OF MAJOR TRANSPORT INVESTMENTS</p> 	<p>The GTHA is undergoing rapid growth and has recently invested in numerous rapid transit and transportation network improvement and expansion projects. These projects can be more fully leveraged by pursuing network optimization across the whole project life cycle (planning, construction, service delivery, maintenance).</p>	<p>Across metropolitan, municipal, and local scales, various actors are implementing transport improvements. There is no overarching and consistent approach to using TDM to ensure projects allow for network optimization.</p>	<p>Develop a set of policies and tools to aid in the delivery of new infrastructure investment as well as the optimization of delivered projects.</p>
<p>EXPANDED TOOLBOX OF TDM MEASURES</p> 	<p>Currently TDM programming relies on a select number of TDM approaches across each mechanism. While these measures are creating results, further measures including legislated TDM mechanisms, standardized TDM approaches, new funding models, and new financial instruments may further enhance TDM programming.</p>	<p>Currently, many of the strategic mechanisms to achieve RTP goals are not reaching their potential due to limited powers and TDM tools.</p>	<p>A scalable set of TDM measures that can be adapted across the GTHA's contexts. can be created to enhance TDM. These approaches can be expanded by global best practice. Measures may include:</p> <ul style="list-style-type: none"> • Legislated TDM rules (e.g. employers over 100 must comply with TDM programming) • Grants and performance based funding tools to strengthen role of all TDM actors • Financial tools to encourage mode shift.

A Broader Context on TDM

To support future development of TDM programming and policy 5 case studies were completed: London, Portland, San Diego, UK Sustainable Travel Towns, and Tokyo. A number of key programs and strategies were selected from each case study as being particularly relevant to the GTHA.

London employs a range of well-funded infrastructure and programs to ensure widespread awareness and use of sustainable travel options. London’s high alternative mode share can be attributed to the combination of diverse and convenient public transport alternatives. The key TDM initiatives that have

influenced travel behaviour in the last decade include:

- Investments in bicycle infrastructure and shared mobility
- TDM in the development approvals process
- Congestion charging in Central London

The majority of Metro’s TDM programs are funded under the Regional Travel Options program, which works to improve awareness and use of sustainable travel options in the Portland metropolitan region. This is accomplished through strategic investment in a range of programs and services which promote non-drive alone modes including individualized marketing, employer commuter travel options, partnership grants and traveler information

tools. Metro's key best practice initiatives which apply to the GTHA context include:

- Grant programs
- Individualized Marketing
- TMAs

SANDAG's TDM activities are largely guided by the Regional Transportation Plan, with implementation primarily led through the iCommute program. Key best practice initiatives emerging from SANDAG that apply to the context of the GTHA include:

- Their approach to employer outreach;
- The introduction of construction mitigation plans and programs
- Inter-departmental relationships

The Travel Towns program invested provided with several millions dollars of funding into three towns to implement a range of TDM measures. The intent was to saturate the cities with improved transportation services, information, education, and incentives. Across the three towns, there were several consistent approaches that defined the programs and have served as best practice for other initiatives in the UK, including:

- Brand identity for TDM
- Personal Travel Planning
- School Travel Planning

The Tokyo Metropolitan Government has benefited from TDM programming that aims to achieve a number of policy objectives, including environmental, health, equity, and transport network performance. The key TDM programs from Tokyo that were reviewed in this process that offer benefits to the GTHA are:

- Parking management and regulation
- Low Emission Zones
- Employer Transit Subsidies

Next Steps

This paper was developed as an information piece that will support broader strategic work with respect to TDM. A future companion paper will be developed that will propose policies and approaches to support the delivery of successful TDM based on the strategies, challenges, and opportunities identified in this paper.