

# APPENDIX E

## Best Practices Review





# **Town of Ajax Transportation Demand Management Plan Best Practices Review**

**June 2015**

**Town of Ajax**  
Planning and Development Services Department

## REVISION AND VERSION TRACKING

Report Title: Town of Ajax TDM Plan – Best Practices Review

<b>Version</b>	<b>Date</b>	<b>Originator (Print) (Signature)</b>	<b>Checker (Print) (Signature)</b>	<b>Approver (Print) (Signature)</b>	<b>Description</b>
v70	May 26, 2014	G. Chartier	G. Chartier	G. Chartier	DRAFT Issued for Review
v100	Feb. 17, 2015	G. Chartier	G. Chartier	G. Chartier	FINAL
	June 2015				FINAL SUBMISSION

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# 1 Introduction and Approach

The key to the successful delivery of any transportation demand management (TDM) Plan is to learn from the measures implemented elsewhere – to choose the very best examples and adapt them such that they thrive within the local community. For the Town of Ajax, the principle is to understand where a plan, or individual elements of a plan, has been implemented successfully and to recognize how these measures can be applied within the Town such that local conditions and priorities are reflected in their application.

This **Best Practices Report** discusses a wide range of measures that have been implemented successfully within Canada and around the world. This document provides a comprehensive suite of measures to provide a benchmark upon which the Ajax TDM Plan can be developed.

The document lists the various measures and interventions identified from best practices observed in other Canadian municipalities and internationally. Each measure is accompanied by a key of indicators, which should help the Town recognize the direct relevance of the example within the local community. These indicators are applied as follows:



*Canadian Example*



*Population Example (population of between 75,000-200,000 people)*



*Economic Example (displaying similar economic composition to Ajax)*



*Geo-location Example (displaying similar locational qualities relative to major urban centres)*



*Transit Example (displaying similar properties regarding transit infrastructure)*

In each example there is a description of type of intervention, the site location(s), a description of the intervention, the measured outcomes of this intervention, and how this could be relevant or applicable to Ajax.

## 2 Best Practice Examples

### 2.1 Canada

#### 2.1.1 Smart Commute (Greater Toronto and Hamilton Area, ON)

*TDM Type:* Region-wide



*Site Location:* Smart Commute is a large scale TDM service operating in the Greater Toronto and Hamilton Area (GTHA), with 12 local offices. The GTHA has a population of 6.5 million and includes the Regions of Halton, Peel, York and Durham and the Cities of Hamilton and Toronto. Each local Smart Commute office offers services tailored to the specific area. Smart Commute services are available in the Town of Ajax through the Durham office.

*TDM Description:* Smart Commute helps employers and commuters to explore different commute choices such as carpooling, cycling and transit. The goals of Smart Commute are to ease gridlock, improve air quality and reduce greenhouse gas emissions. Services of Smart Commute as noted on their website ([www.smartcommute.ca](http://www.smartcommute.ca)) include:

- ◆ Carpooling and vanpooling, ride matching programs for employers;
- ◆ Shuttle and emergency ride home programs;
- ◆ Transit and bike information;
- ◆ Employee work arrangement solutions including telework, compressed work weeks and flex hours, workshops, lunch-and-learns and seminars; and
- ◆ Events.

*Measured Outcomes:* The program has resulted in the following thus far:

- ◆ In five years, users of Carpool Zone have saved over ten million dollars and prevented the emission of the 24,000 tonnes of greenhouse gases;
- ◆ Smart Commute is used by over 325 workplaces, with 726,000 commuters in the network and over 14, 500 Carpool Zone users.

## 2.1.2 Travel Smart (Metro Vancouver Area, BC)

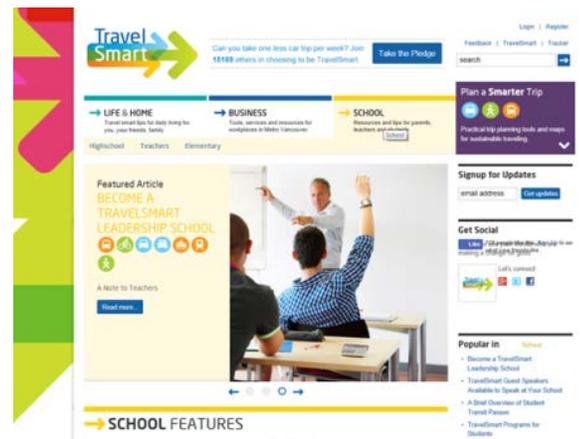


**TDM Type:** Region-wide

**Site Location:** Travel Smart is a large-scale TDM service available to residents of the Metro Vancouver area to reduce travel by private car, similar in nature to Smart Commute. Metro Vancouver is the third-largest urban area in Canada, with more than 2.5 million people covering 24 local authorities. The Travel Smart program is therefore one of the largest in the country. Many of the municipalities within the Greater Vancouver Area are of similar size and scale to Ajax, and occupy equivalent geographical proximity to its large regional centre. Towns such as Langley, Coquitlam and Maple Ridge can be considered as contemporaries of Ajax in this regard.

**TDM Description:** The Travel Smart service is wide-ranging and offers an extensive variety of assistance that helps businesses and individuals – both residents and visitors – to take advantage of all the levels of support they require to adopt sustainable travel practices. The website ([www.travelsmart.ca](http://www.travelsmart.ca)) is categorized under three principal headings:

- ◆ **Life and Home:** Getting around for day-to-day activities, assistance for walking and cycling, advice for seniors, families and visitors. This section includes practical information about using public transit and outlines the benefits to individuals, the community and the environment in using more active and sustainable transport modes. This application is viewed as most applicable for the Town of Ajax.
- ◆ **Business:** Developing initiatives for businesses, or else assisting businesses in developing their own initiatives to encourage smarter travel amongst staff (and, where applicable, visitors/deliveries). Site audits, car-pooling advice and support, website support and advice (for companies to update their internet and intranet pages), cycle plans and remote and flexible working measures are all provided by Travel Smart for businesses across Metro Vancouver.
- ◆ **Schools:** Travel Smart provides a wide range of tools to school children, parents and school teachers on better ways to get to and from school. The “school run” is one of the most traffic-heavy sources of congestion as each child typically generates four car trips per day if they travel alone. Support includes cycle training and safety courses, trip planners, training courses for teachers and transit passes and other discounts. These tools are categorized according to age-group, with different measures for elementary, high-school and university/college students. A series of awards and competitions are held to encourage participation.



**Measured Outcomes:** The successes of the program are stated as follows:

- ◆ More than 15,000 people have committed to going car-free one day per week;
- ◆ Mode share in Downtown Vancouver for walking, cycling and transit use now exceeds 50%;
- ◆ The organization has been successful in lobbying for improved infrastructure – new cycle lanes and HOV lanes are being installed across the Metro area;
- ◆ During international “walk to school week” Travel Smart issues free transit passes to all participating schools. In 2013, more than 10,000 such passes were used.

### 2.1.3 Region of Peel Active Transport Study (Region of Peel, ON)



**TDM Type:** Region-wide

**Site Location:** The Region of Peel is located west of Toronto within the GTHA. Peel Region includes the cities of Mississauga and Brampton and has a population of 1.2 million people – the second most-populated region in Ontario. Peel Region occupies a similar location, relative to Downtown Toronto, as Durham Region (and the Town of Ajax) does to the east.

**TDM Description:** The Peel Active Transport Study (PATs) was commissioned in 2011 to reflect a growing desire within Peel Region to tackle the growth of traffic congestion in a rapidly developing part of Ontario. The Region’s population is increasing by more than 3% per annum, and road infrastructure is struggling to cope with this growing demand. The PATs sets out a series of objectives, which include:

- ◆ To protect, enhance and restore the environment by improving air quality, mitigate and adapt to climate change;
- ◆ To support and influence sustainable transport systems by supporting an improved and integrated active transport, transit and land-use system to effectively move people and goods through Peel Region;
- ◆ To maintain and improve the health of the community of Peel Region; and
- ◆ To strive for continued excellence as a municipal government by strengthening co-ordination between area municipalities and the Region.

The Study sets out the recommended improvements and schemes that will be required to realize the above objectives, and suggests a means and approach in providing these measures.

**Measured Outcomes:** This TDM Study delivered several important outcomes, which in their totality are having marked impact on the TDM prospects for the Region. These include:

- ◆ The launching and monitoring of Peel Walk and Roll – a specific campaign to promote walking and cycling through and across Peel Region. Walk and Roll has its own website ([www.walkandrollpeel.ca](http://www.walkandrollpeel.ca)), which provides journey planning and other key practice advice for undertaking walking and cycling in the Region.
- ◆ The Strategy recommended the launching of a public bike-sharing system, such as those that are growing in popularity across the world (the most significant in Canada being the Bixi Program in Montreal). The Cycle Loan Program in the City of Mississauga is aimed specifically at providing free cycle use for short periods of time for business use.
- ◆ The Strategy also focuses extensively on planning controls and suggests wide-ranging changes to planning policy protocols to integrate the needs of pedestrians and cyclists more effectively. Wider sidewalks, more pedestrian crossings, segregated cycle lanes, filling in gaps in the network to ensure connected streets, new links along waterways to provide leisure routes and a host of other measures are recommended.

#### 2.1.4 City of Kitchener TDM Plan (Kitchener, ON)

**TDM Type:** City-wide



**Site Location:** The City of Kitchener is a lower-tier municipality with a population of approximately 220,000 people. Located in the Region of Waterloo, Kitchener is approximately 100km west of Toronto. Like Ajax, the City of Kitchener is also committed to the intensification of its Downtown Core and faces similar issues related to reducing single-occupant vehicle (SOV) travel.

**TDM Description:** In 2010, the City of Kitchener initiated a Transportation Demand Management Plan, recognizing the need to promote more sustainable modes of transportation. Based on the increasing parking demand coupled with a lack of parking supply and the commitment to support a dynamic and intensified Downtown, there was a need to encourage a shift from SOV travel to other modes of transportation.

The City of Kitchener TDM Strategy provides a four phases series of recommendations to achieve the following goals:

- ◆ To reduce the use of SOV travel and increase the non-SOV modal split to downtown Kitchener;
- ◆ To reduce the demand for parking in downtown Kitchener by encouraging travel by other modes;
- ◆ To support and increase active and sustainable modes of transportation and associated infrastructure;
- ◆ Improve the quality of life of Kitchener residents and workers;
- ◆ Effectively measure the benefits associated with TDM programs.

The Strategy outlines the program budget and timeline for implementation and the possible short and long term benefits associated with each phase of the TDM Strategy.

**Measured Outcomes:** Implementation of the TDM Strategy is still ongoing, however the following outcomes have already been developed:

- ◆ Along with the TDM Strategy, the City of Kitchener implemented a Cycling Master Plan in 2010, to create a more bicycle-friendly City and promote active transportation. The Cycling Master Plan outlines recommendations to attract new cyclists, strengthen bicycle policies,
- ◆ The Strategy recommended a variety of TDM techniques for the City to implement for its own staff to promote and lead by example. In response, the City has implemented subsidized Corporate GRT Passes and Carpooling Matching.

### 2.1.5 City of Ottawa Transportation Demand Management Strategy (Ottawa, ON)



**TDM Type:** Region-wide

**Site Description:** The City of Ottawa is Canada’s capital and fourth largest city, located near the Ontario-Quebec border. Many federal government services are located in Ottawa, with a large population working in the public sector. Ottawa has previously implemented TDM practices, and has developed an extensive public transportation and bicycle and pedestrian pathway network within the City.

**TDM Description:** Ottawa has developed and implemented a variety of TDM practices and policies, as detailed in the City’s Transportation Master Plan (TMP). The TDM Strategy builds on the TMP policies, with updates to reflect current opportunities and constraints. Within a ten-year time horizon, the strategy proposes four key goals, with key actions implemented over a three-year period:

- ◆ *Employee Commuting and Business Travel* – Lead by example by motivating more sustainable commuting and business travel by City of Ottawa employees;
- ◆ *Communication and Promotion* – Use communication and promotion initiatives to remove barriers to more sustainable travel choices by individuals;
- ◆ *Community Partnerships* – Establish strong partnerships to engage individuals in workplaces, schools, neighbourhoods, extend the City’s reach, and leverage community resources;
- ◆ *Internal Linkages* – Integrate TDM principles into a wide range of related City initiatives.

**Measured Outcomes:** Implementation of the TDM Strategy is still ongoing.

### 2.1.6 Peterborough Moves (Peterborough, ON)



**TDM Type:** City Wide

**Site Description:** The City of Peterborough is located approximately 125 km northeast of Toronto, and is home to many technology and manufacturing operations, as well as people commuting to the east end of the GTHA. The population of Peterborough is approximately 120,000 people, similar to the Town of Ajax. Additionally, the transit services available in Peterborough are similar to those of Ajax.

**TDM Description:** Peterborough Moves is a joint effort between the City of Peterborough, Peterborough Green-UP and Peterborough County/City Health Unit to provide a collection of programs and initiatives that promote active transportation. Programs created under Peterborough Moves include Active and Safe Routes to School, and Workplace Shifting Gears Challenge, a competition to inspire and assist people to use active and efficient modes of transportation. Peterborough Moves offers free workplace, community and adapted cycling and maintenance courses. Additionally, a variety of maps and resources relating to alternative modes of transportation are available on the Peterborough Moves website ([www.peterboroughmoves.com](http://www.peterboroughmoves.com)).

**Measured Outcomes:** The program has achieved the following successes to date:

- ◆ During the 2012-2013 school year, over 3000 students participated seven programs as part of the Active and Safe Routes to School Program;
- ◆ The Workplace Shifting Gears Challenge has continued to grow over the past 11 years, logging over 20,000 trips using sustainable modes of transportation in 2013 alone. The direct program impact is a 25.5% decrease in drive trips alone.

### 2.1.7 York Region Personal Travel Planning Pilot Program



**TDM Type:** Pilot Program – Selected Communities

**Site Description:** The Regional Municipality of York shares its southern border with the City of Toronto, with a population of just over one million residents. The pilot program was tested in the communities of Cornell in Markham and Thornhill in Markham/Vaughan. Cornell is a pedestrian oriented neighborhood with mixed housing types and similar access to transit as Ajax. The Thornhill community has higher accessibility to transit, located 3 km north of the Yonge Subway line terminus. Both target areas have approximately 2,500 households.

**TDM Description:** The Travel Planning Pilot Program was developed as a Transportation Demand Management approach that targets specific households or individuals that express an interest in changing their travel behavior. The Region worked with stakeholders to develop a program that presented material from the various resources

already available in a direct manner, with the expectation of travellers shifting modes. Each interested household was sent a “travel kit” with information about travel modes that interested them. In addition, they had the opportunity to meet with a professional Travel Planner and a website with additional information was set-up for each of the communities. Residents responding to the survey were asked to provide their prior travel modes and any changes after the pilot program.

**Measured Outcomes:** Upon completion of the program, the following results were recognized:

- ◆ In Thornhill, there was a 17% reduction in single-occupant vehicle trips and a doubling of transit trips;
- ◆ The results measured from the Cornell community were not statistically significant; and
- ◆ Personal travel planning through individualized marketing can be an effective way to shift people’s travel behavior.

## 2.2 United Kingdom

### 2.2.1 Arroe Park Hospital (Wirral, UK)



**TDM Type:** Hospital Workplace

**Site Location:** The Arroe Park Hospital is an edge of town hospital site at Birkenhead, part of metropolitan Liverpool in northwest England. Population of the town is around 90,000. Distance to Liverpool CBD is approximately 15 km. The site is around 3 km from the nearest rail station, which provides commuter services throughout the area. Bus services are limited to the site itself, but more frequent along the main highway a short distance away.

**TDM Description:** The TDM measures for this hospital included the establishment of a dedicated Transport Strategy Group, which meets quarterly to discuss travel and accessibility issues and to oversee implementation and monitoring of the measures employed. At the hospital:

- ◆ Travel information is provided to staff in the Trust’s monthly global emails, including key events and initiatives;
- ◆ All new staff receive a staff handbook during induction that provides details on travel plan initiatives and guides staff to information on the Trust’s website;
- ◆ Travel-related events, such as Bike Week, ‘Fitter for Health’ awareness events, which incorporate travel kiosks and public transport ticket giveaways, and ‘In Town Without My Car’ day, are offered;
- ◆ A Cycle to Work payroll deduction program is offered to staff twice a year to enable them to purchase a bike at a discount cost due to income tax and National Insurance contributions;
- ◆ The Trust works with local bus operators to identify potential ticket discounts for staff;

- ◆ The Trust works with Merseytravel (the urban transit operators) to identify future grant schemes and funding streams for travel initiatives;
- ◆ Department for Transport Better Bus Area funding is being used to provide two new bus shelters and a Real Time Information screen.

**Measured Outcomes:** Between October 2011 and October 2012, the Trust exceeded the targets set regarding the use of sustainable modes as follows:

- ◆ The proportion of staff using sustainable modes for travel to work increased from 35% to 44%, against a target of 41%;
- ◆ There was therefore a 9% reduction in the proportion of staff driving to work alone;
- ◆ This included a 6% increase in the proportion of car sharers and a 2% increase in walking;
- ◆ Overall, this saved over 100,000 km of auto travel per year.

**Application in Ajax:** There are many single-campus employment sites in Ajax where such an approach may be applicable, including health facilities such as Rouge Valley. Medical centres tend to generate very high numbers of trips relative to the number of staff, given the number of arrivals and departures amongst patients, visitors, staff, deliveries and emergency vehicles. As a consequence, such sites often suffer from localized congestion, parking and environmental issues – which, given the nature of the operation is to improve health, is especially difficult. Medical sites often have fixed shift patterns, which can also make the introduction of sustainable travel options more easily applied.

### 2.2.2 London 2012 Olympics (London, UK)

**TDM Type:** Major Events – Staff, Visitor, Workplace, Residential



**Site Location:** The London 2012 Olympic and Paralympic Games were held at various locations across London at the surrounding environs, including nearby towns. The event – the biggest of any kind ever seen in the UK – required vast travel management planning. For each location it was necessary to establish TDM plans for Games workers, Games visitors (including the “Games Family” and VIPs) and local businesses and residents. Many locations had commuting circumstances similar to that of Ajax, with comparable industrial and economic compositions.

**TDM Description:** Transport for London ran a successful Travel Advice to Business program that focused on organizations most likely to be affected by the Games (those in central London, close to Games venues and the Olympic Route Network/Paralympic Route Network). The locations affected included high profile organizations

and visitor destinations such as the London Stock Exchange, the Tower of London, Harrods and Kensington Palace.

Businesses were offered both workshops and site specific travel advice from a dedicated travel planner, who developed a site-specific action plan based on work patterns, existing travel behaviour and business need. The main aim of the program was to educate businesses and employees about the potential impacts of the Games on their operations/travel and to help them manage and reduce these impacts.

A wider ‘Get Ahead of the Games’ publicity campaign provided additional information for both businesses and individuals, in recognition of the fact that regular travellers are usually aware of the options available to them and that change will only be sustained where a better option is revealed. The campaign had its own website and Twitter feed and direct communication methods were also employed, including emails and text messages.

The key reason behind the changes to travel behaviour observed was that individuals and businesses believed that the consequences of not changing were worse than the inconvenience of making a change.

**Measured Outcomes:** This program resulted in the following measured successes:

- ◆ An observed reduction in background travel demand (normal travel not related to the Games) by 5% on an average day during the Olympic Games and 3% during the Paralympic Games;
- ◆ 35% of regular travellers changed their travel in some way on an average weekday during the Olympics. 31% did so during the Paralympics;
- ◆ More than half of businesses in the targeted areas encouraged or permitted changes in staff travel times;
- ◆ During the Olympics, more than three quarters of the London travelling population changed their travel behaviour. In total, 63% reduced their travel, 28% changed the time of their journey, 21% changed route and 19% changed mode;
- ◆ Commuters who changed their mode of travel generally changed from public transport to walking and cycling;
- ◆ There has been a sustained change in travel behaviour – approximately 11% of all regular London travellers have continued with their change.

In terms of the individual measures employed:

- ◆ 64% had visited the Get Ahead of the Games website ([www.getaheadofthegames.org](http://www.getaheadofthegames.org)) and 69% of those were planning to use it to plan journeys. 13% were planning to use the Twitter account for journey planning.;
- ◆ Nine in ten recipients of emails and text messages found them useful.

### 2.2.3 Bentley Motors Limited (Crewe, UK)

*TDM Type:* Workplace



*Site Location:* The headquarters of Bentley Motors is located to the western edge of Crewe in north-west England. The site, which employs around 4,000 people, is located approximately 4 km from the town centre and rail station. The site has limited bus services. This situation is similar to many large employers in Ajax, located on the edge of a town that has developed mostly during the middle and latter parts of the 20th century (and consequently developed to accommodate the car). Crewe itself is approximately 60 km from Manchester and 80 km from Liverpool by both road and rail, and is thus considered both a standalone community with its own industries and a sizeable commuter population.

*TDM Description:* The Bentley site is dominated by car travel, due to its location relative to the town and the nature of the business allowing lots of car parking. A travel plan was put in place to relieve parking pressures in the context of a growing workforce and to improve travel options for staff, due to its distance from the town centre.

Financial incentives are a large part of the initiatives implemented, with entry into weekly and monthly prize draws for all staff that are registered on the walk, cycle, motorcycle and car share schemes. Each time an employee travels to work using one of these modes, they receive a token. Once they have four tokens in a week they are eligible for entry into the draw. The weekly draw offers the chance to win up to £50 (\$85) in shopping vouchers and the monthly prize is £100 (\$170) shopping vouchers. Each year the company gives away more than £7,000 (\$12,500) in shopping vouchers to its staff. There is also a quarterly ‘Grand Green Travel Prize Draw’ where all participants are given the chance to win a Bentley for use over the weekend. As well, employees are offered Personalized Travel Planning (PTP) as a means of determining how they can best travel to work sustainably.

*Measured Outcomes:* The impacts of this program, now in its tenth year, are significant:

- ◆ A 10% decrease in single occupancy car travel was achieved between 2004 and 2008;
- ◆ 21% of staff has signed up for the car sharing scheme and typically 56% of members will car share on any given day;
- ◆ 140 members of staff have purchased bikes and equipment through payroll deduction and 11% of staff now cycle to work on a daily basis;
- ◆ 4% of the workforce is registered on the Walk to Work scheme;
- ◆ There has been a reduction in sick leave of 2.2%.

## 2.2.4 BskyB Broadcasting Osterley (London, UK)



**TDM Type:** Workplace

**Site Location:** The headquarters of BskyB, the satellite broadcasting conglomerate, are located in a large site adjacent to a major highway in west London, approximately 11 km from the central core of the city. This site employs more than 6,000 people and is one of the largest single employment sites in the area. It also operates 24 hours a day, 365 days a year. Public transport options are less plentiful than in many other parts of London, due in part to the A4 highway that runs past the front door providing pre-dominance to the private car.

**TDM Description:** In the context of an expanding workforce but decreasing car parking facilities, BskyB introduced an employee travel plan, which was launched during Bike Week. 6,000 people are employed at its Osterley site, which operates 24 hours a day, 7 days a week, with many staff working shifts. In the local area, public transport is in need of improvement and walking and cycle routes are also in need of upgrading.

BskyB has a strong environmental ethos and was the first media company in the UK to become carbon neutral. The following strategies have been used to obtain staff 'buy-in', many aiming to capitalize on BskyB's sponsorship of the British Cycling Team ("Team Sky") that has proven so successful in recent years:

- ◆ A sustained media campaign to advise staff of changes well in advance of implementation;
- ◆ Improvements to showers and on-site cycle parking;
- ◆ A high frequency staff shuttle bus with buses running to five different public transport stations;
- ◆ Promotion of car sharing;
- ◆ Staff cycle training;
- ◆ Personalized Travel Planning (PTP);
- ◆ Dedicated car-share parking;
- ◆ On-site cycle and repair shop;
- ◆ Organized cycle rides;
- ◆ Bicycle and motorcycle training;
- ◆ Reclaiming space from cars to provide social areas;
- ◆ Free shuttle bus;
- ◆ Pool cars for employees;
- ◆ Dedicated transport hub webpage with interactive map;
- ◆ Free car washes for car sharers;
- ◆ Fun promotional events – such as turning part of the site into a mini go-kart track;

- ◆ Modern and up-to-date changing and shower facilities – including iron, hair dryer and a large number of personal lockers;
- ◆ Employee forums and monitoring – acting on employee feedback.

**Measured Outcomes:** The BskyB example is one of the UK’s most famous workplace TDM examples. The company has won numerous awards for its inventive and engaging program. Some of the measured outcomes are as follows:

- ◆ During Bike Week, the proportion of cyclists increased by nearly 66%;
- ◆ The proportion of staff who car share rose from 0.5% to 2.3%;
- ◆ Single-occupant vehicle use has fallen from 63% in 2006 to 37% in 2013;
- ◆ Cycle use has increased from 2.5% to 8% during the same period; and
- ◆ Public transport use has increased from 28.5% to 41% during the same period.

## 2.3 International

### 2.3.1 Land Transport Authority (Singapore)



**TDM Type:** Network-Wide

**Site Location:** The Singapore Land Transport Authority (LTA) is the transit authority for the city and nation of Singapore, which has a population of 5.4 million people and daily metro ridership of more than 6 million trips. The LTA carries for more than 2 out of every 3 journeys made in the country, given that mass transit travel outstrips car journeys by a ratio of 2 to 1.

The TDM approach taken by LTA is focused on reducing pressure on the over-crowded public transit network during peak hours – the concept known as Peak-Spreading. The scale and nature of the measures in Singapore will be different from those likely for Ajax, but the concepts and ideas of these interventions are considered to be scalable and adaptable, and provide the Town with an indication as to the reach and results that TDM can have at a city-wide level.

**TDM Description:** The LTA has taken several approaches to tackling specific issues on their network. The largest of these is an on-going measure is to provide free-transit on the metro network (trains, buses and subways) if riders travel early mornings ahead of conventional peak hours. If users enter and also exit the network before 7:45am at certain stations, their rides are free until January 2015. Exit between 7:45am and 8:00am and there is a discount of 50 cents. This encourages people to travel earlier – to spread the demand on the network and reduce the stress on vehicles and at stations.



In addition, at the main stations, free breakfast coupons are offered to travellers in the earliest hours to encourage earlier commuting. There are additional incentives in the form of triple credits for people travelling in the early mornings before peak hour in the InSinc rewards program for transit users. This mechanism was originally setup to encourage use of transit over the car, but has now become a highly sophisticated scheme to better reward travellers whose journeys avoid the busiest times.

Complementing this is the newly-launched “Walk2Ride” initiative, at a cost of approximately S\$330 million (CAD\$286 million). This scheme involves working with developers to ensure that all key developments within 400m of a metro station or 200m of a high-frequency bus stop (which covers a large swathe of the city) are provided with covered walkways to the station/stop to make transit use easier for people during the hottest months. This is an exemplar example of TDM integrating with development planning to provide a cohesive and user-focused approach to smarter travel. Such measures are easily adapted for use in Ajax, as they can be applied individually to a particular development or as an integrated component of the planning process.

**Measured Outcomes:** Since the introduction of the Free Travel scheme, 7% of commuters – the equivalent of around 20,000 people a day – have altered their commuting hours to travel for free. During the trial period road volumes also reduced by around 3%, indicating that road users are also switching to early commutes to save money. It is estimated that this strategy has reduced annual maintenance costs for metro services and stations (including savings achieved by deferring capacity enhancement works) by more than S\$3 million per year.

### 2.3.2 TMM Implementation Program (Abu Dhabi, UAE)

**TDM Type:** Workplace, Visitor/Events, Educational, Campus TDM, Residential, Emirate-wide



**Site Location:** The Abu Dhabi Department of Transport (DOT) has recently launched an Emirate-wide program to implement Transport Mobility Management (TMM – another term for TDM) measures. Geographically-speaking, it is one of the largest and most comprehensive schemes in the world, covering a population of just over 2.2 million people and an area of 26,000 square miles. The main focus of activity is the most congested areas of the Emirate, which are the downtown core of the city of Abu Dhabi – especially the northern portion of Abu Dhabi Island – though all areas of congestion and traffic growth are areas of focus.

**TDM Description:** The TMM Program involves a vast range and scales of interventions and should be considered as an umbrella program under which a number of smaller schemes, specific to individual locations and organisations, are implemented. Some example measures include:

- ◆ Park and ride schemes for banks, hotels and the DOT itself;
- ◆ Car-pooling for individual companies, plus the introduction of an Emirate-wide car-pooling website for anyone to register to use (one of the biggest such schemes in the world);

- ◆ Flexible working measures for a wider range of employers including energy companies and government staff to encourage the reduction in travel and to ease congestion at peak times;
- ◆ The promotion of public transport to both specific campuses (such as new mixed-use developments) and the wider public through radio and press campaigns;
- ◆ The development of new company-transport schemes, particularly successful for organizations with fixed-shift patterns (industry and hospitality sectors, for example);
- ◆ School sustainable travel campaigns, introducing rewards and prizes for students to learn about and adopt sustainable travel approaches to get to and from school. These measures can include cycle training schemes and free bike loans, free bus passes, awards for the most changes in a class/year group/school and linking more broadly with other sustainability learning;
- ◆ Collaboration with hotels to introduce free cycle rentals for hotel guests to encourage tourists to cycle around the city rather than take taxis;
- ◆ Working with developers to entrench smarter choices measures and infrastructure into new communities and developments. For example, providing cycle racks and showers on site, priority parking stalls for car-sharers, shaded walking routes to bus stops and so forth;
- ◆ Enabling student groups at universities to develop their own sustainable travel solutions, as well as introducing the TDM concept to student education through the most appropriate courses (guest-speaking on Sustainability or Environmental programs).

**Measured Outcomes:** The TMM Program has achieved several key outcomes, not the least of which is wide-scale recognition and understanding of the concept of sustainable travel and its merits in Abu Dhabi society, from a starting position of negligible awareness. Additional measures include:

- ◆ A 300% rise in the number of car sharers amongst head office employees at Rotana (a major hotel company);
- ◆ A 10% rise in public transport use amongst DOT staff;
- ◆ A successful program of staggered school hours in the city of Al Ain;
- ◆ A 15% increase in usage of the Park and Ride service provided by First Gulf Bank for its employees;
- ◆ A number of new Park and Ride services across the city for public use;
- ◆ The pilot launch of a car-pooling website (currently in its final testing phase);
- ◆ More than 500 school pupils engaging in sustainable travel activities across the city (through pilot schools – the program is being expanded at present to more than 50 more schools);
- ◆ A 12% increase in flexible working hours at a major energy company has reduced carbon emissions by more than 10% amongst participating staff;
- ◆ The successful implementation of a walking and cycling master plan ensures full consideration of these modes in all future transportation developments;

- ◆ More than 10km of new cycle way in the last year.

## 2.4 United States

### 2.4.1 Safe Routes to School (Vermont, USA)

**TDM Type:** Education



**Site Location:** The State of Vermont is a small, largely rural state in New England, with its northern border forming a boundary with Quebec. The Safe Routes to School (SRTS) is a state-wide (indeed nationwide) program and therefore applies to all manner of communities – the largest of which is metropolitan Burlington, which is of comparable size to Ajax. The state’s low density and topography mean that Vermont has nearly as many motor vehicles as people – only 5% of households do not own a car, and as such half of all carbon emission from the state comes from private transport.

**TDM Description:** The Vermont Agency for Transportation (VTrans) introduced the SRTS Program following the enabling of the *Safe, Accountable, Flexible, Efficient Transportation Equity Act*, which was signed into law by the federal government in 2005. To date 70 schools across the state (around 25% of the total) have received over \$4 million in funding to provide safe routes for students to walk and cycle to school as a means of improving health, community engagement, child safety, and reduce harmful emissions from motor vehicles. The program is open to all schools in the state, and active participants are increasing each year. The program awards schools with different levels of Partnership Awards depending upon their level of participation ranging from basic level through bronze, silver and gold to platinum level which is awarded to exemplar schools that have done the most to participate in the SRTS Program.

**Measured Outcomes:** The 2012/13 Annual Report for the Vermont SRTS Program reveals the following outcomes:

- ◆ More than 20,000 school students participate in the scheme, one of the highest proportions anywhere in the United States;
- ◆ 44% of participating schools moved up a level in the Partnership Awards hierarchy – indicating an overall increase in participation in the last year;
- ◆ The first “Platinum” award was granted in 2012 to a school that went so far as to collaborate activities with police education programs, “walk to school week” where everyone was rewarded for walking to school for the whole week;
- ◆ 96% of school students have cycled at least once, with many now cycling regularly;
- ◆ School participation in the “Walk Across America” Program.

## 2.5 Other Examples

Below is a list of individual TDM activities that have been, or are being, implemented around the world:

- ◆ In **Sweden**, a tax has been introduced on the benefit of free or inexpensive parking paid by an employer, in situations in which workers would otherwise have to pay. This tax has led to a reduction in the number of workers driving into the inner city, particularly in Stockholm;
- ◆ In **Florence, Italy** there has been a large increase in the number of car-sharers in recent years as the authorities introduce high occupancy vehicle (HOV) lanes to many radial routes into the city, and provide pricing incentives for people to share their journeys to work;
- ◆ The website **carpooling.com** has reported that 1.82 million car-pool trips are made across Europe every day, saving more than 30 million gallons of fuel and a third of a million tonnes of CO<sub>2</sub> emissions each year;
- ◆ **Bicycle Sharing Systems** are increasing in number across the world, with more than **530 cities** in 47 countries now running their own schemes. These range from the vast-scale schemes in China (Wuhan Bike Share has 90,000 vehicles and 300 docking stations) to the more modest schemes in smaller European cities and town (such as the 300 bikes and 33 docking stations in the Lithuanian capital Vilnius). The total fleet of cycles is expected to exceed 600,000 by the end of 2013;
- ◆ In **Bremen, Germany** there is a system by which local residents can obtain a “Transit Plus Car” pass, which combines monthly or annual season tickets for the transit network with membership of the local car club “StadtAuto” [meaning City Car]. Customers receive a discount on their transit pass, but must also pay a one-off membership fee for the car club. The car club vehicles are located at all of the city’s rail and metro stations to allow for seamless transition between modes, and avoids the costs of parking at stations using personal cars; and
- ◆ When **Erasmus Medical Centre in Rotterdam, Netherlands** was extended in 2004, the number of parking spaces available to staff was reduced, such that staff were offered two options: they could either pay to park, with charges based on a sliding scale depending on demand; or they could receive credits for not driving (or for sharing vehicles) which worked out at €0.10 per km taken by sustainable modes. As a consequence, auto use fell by a half in one year.

## 3 Applying Best Practice TDM to Ajax

This report has summarized a handful of the hundreds of individual examples of TDM “in action” across the world. In nearly all cases, the scheme started with a problem that needed to be solved, and an objective that needed to be satisfied. Such measures are growing in both scope (the number of countries with active TDM

protocols is rising annually) and scale (nationwide measures in some cases), and so provide an excellent evidence base on which to develop a TDM Plan for the Town of Ajax.

Clearly many of the examples illustrated above are of a magnitude that is far in excess of what would be initially required or feasible within the Town. However, the purpose of this document is to emphasize the wide range of measures that are available to be considered for the Town of Ajax TDM Plan, and which can be adapted to suit the particular requirements and solve the particular pressing issues for the Town.

Many of the best practice examples can be applied to single institutions or sites. Typically, the approach of involving stakeholders to help develop a plan for wider implementation is one that has proven successful in almost all of the above examples.