

Presented To:	Operations Committee
Presented:	Monday, May 14, 2018
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Request for Decision

Transportation Demand Management Plan for Greater Sudbury

Resolution

Resolution #1

THAT the City of Greater Sudbury adopts the Transportation Demand Management Plan for Greater Sudbury, as outlined in the report entitled “Transportation Demand Management Plan for Greater Sudbury”, from the General Manager of Growth and Infrastructure, presented at the Operations Committee meeting on May 14, 2018.

Resolution #2

THAT the City of Greater Sudbury approves the use of \$25,000 from the Cycling Infrastructure capital budget to begin implementation of the Transportation Demand Management Plan for Greater Sudbury, which may be used to develop promotional and educational materials, to move forward with partnerships with community agencies and to support the delivery of TDM-specific events, as an interim measure until a business case can be considered, as outlined in the report entitled “Transportation Demand Management Plan for Greater Sudbury”, from the General Manager of Growth and Infrastructure, presented at the Operations Committee meeting on May 14, 2018.

Resolution #3

THAT the City of Greater Sudbury directs Infrastructure Capital Planning Services staff to prepare a business case for operating funding for Transportation Demand Management related program development and implementation to be considered during the 2019 budget process, as outlined in the report entitled “Transportation Demand Management Plan for Greater Sudbury”, from the General Manager of Growth and Infrastructure, presented at the Operations Committee meeting on May 14, 2018.

Resolution #4

THAT the City of Greater Sudbury directs Infrastructure Capital Planning Services staff to report to the

Signed By

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Operations Committee in 2019 on the status of implementation of TDM measures, as outlined in the report entitled “Transportation Demand Management Plan for Greater Sudbury”, from the General Manager of Growth and Infrastructure, presented at the Operations Committee meeting on May 14, 2018.

Relationship to the Strategic Plan / Health Impact Assessment

This report refers to providing quality multimodal transportation alternatives to connect neighbourhoods and communities and promote a high quality of life within Greater Sudbury, which are identified in the Strategic Plan under the key pillars of Sustainable Infrastructure and Quality of Life and Place.

Report Summary

This report introduces the Transportation Demand Management (TDM) Plan for Greater Sudbury and provides a summary of key recommendations for approval. The TDM Plan will provide the City with a framework to promote and facilitate the use of sustainable modes of transportation including walking, cycling, transit and carpooling. The TDM Plan and subsequent appendices are provided in Attachment 1.

Financial Implications

If approved, measures to be implemented in 2018 will be funded within existing approved capital budget and staff complement. To support this approach, staff are requesting to re-allocate up to \$25,000 from the Cycling Infrastructure capital budget to begin implementation of the TDM Plan, without delay. The re-allocation of this funding will not adversely impact any cycling infrastructure projects planned to be delivered in 2018. Projects planned to be implemented with funds from the Cycling Infrastructure budget include those identified on the approved project list for the Ontario Municipal Commuter Cycling (OMCC) Program and the Pedestrian Traffic Signals on Regent Street at the Junction Creek crossing. Future funding proposals related to the delivery of TDM measures will be brought forward through business cases during future budget processes.

Transportation Demand Management Plan for Greater Sudbury

Background:

Greater Together (2015), the Corporate Strategic Plan for the City of Greater Sudbury contemplates a more sustainable approach to how the City plans and delivers infrastructure. A priority of Greater Together is for the City to provide quality multimodal transportation alternatives for roads, transit, trails, paths and sidewalks that connect neighbourhoods and communities in Greater Sudbury.

The Transportation Master Plan (TMP) was updated in 2016 to better align with these priorities by taking a sustainability-focused approach to optimizing and enhancing the transportation network. The TMP outlines a cycling facility network, and recommends a suite of policy options to support the delivery of pedestrian and cycling infrastructure and a Complete Streets approach in Greater Sudbury. In line with this approach, the TMP recommends that the City prepare a Transportation Demand Management Plan for the community to ensure the infrastructure being delivered is complemented by appropriate policies and programs.

In May 2017, the Operations Committee was presented with an introductory report on transportation demand management, which defined TDM as the application of strategies and policies to influence travel behaviour, with the objective of both reducing overall demand, especially from single-occupant vehicle use, and seeking to influence when and where this demand occurs. The report further outlined the potential benefits of developing a TDM Plan for Greater Sudbury.

In late 2017, the City of Greater Sudbury began working to develop a Community Energy and Emissions Plan, which will be a comprehensive, long-term plan to improve energy efficiency, reduce greenhouse gas emissions and foster local sustainable energy solutions in the community. Transportation is identified as a priority Action Area in the provincial [Climate Change Action Plan](#) and the Transportation sector is responsible for contributing more than 35% of greenhouse gas emissions in Ontario today. Moving forward with implementing transportation demand management measures and encouraging more sustainable travel will contribute to reducing emissions in Greater Sudbury.

In January 2018, the City of Greater Sudbury was recognized with a Bronze Bicycle Friendly Community Award from Share the Road Cycling Coalition. By participating in this voluntary evaluation process, staff received valuable feedback on how the community can move towards the Silver level designation. This feedback included a recommendation that the City expand education efforts to more thoroughly engage the schools in Greater Sudbury through active school travel programs and cycling education, which is part of a comprehensive TDM Plan.

Plan Development Process and Public Consultation:

Development of the Transportation Demand Management Plan for Greater Sudbury is made possible by the Canada-Ontario Public Transit Infrastructure Fund (PTIF). WSP was retained by the City of Greater Sudbury in April 2017 to lead the preparation of the TDM Plan.

From May 15 to June 9, 2017, Greater Sudbury residents were invited to complete an online survey to provide the consultant team and City with information on how, why, and where they travel. The survey was completed by nearly 1500 residents, which provided the team with excellent data from which to develop a community profile.

Further resident engagement took place in September 2017, with a Public Consultation Session that was complemented by a Stakeholder Workshop, which brought together staff from various City divisions, major employers, school boards and travel service providers in the community. Members of the Sustainable Mobility Advisory Panel (SMAP) also took part in a workshop style meeting during this period.

The draft TDM Plan was circulated to internal staff in Planning Services, EarthCare Sudbury, Greater Sudbury Transit, Leisure Services and within Infrastructure Capital Planning Services for feedback. The draft TDM Plan was also circulated to members of the Sustainable Mobility Advisory Panel (SMAP) for their feedback prior to finalizing the document. Further details on consultation efforts are included in Attachment 2.

Themes Emerging from Public Consultation:

1. Transit – The transit system needs to be safe and efficient, with more frequent service. An application with real time updates will encourage more people to take transit, as this makes it easier to plan their day.
2. Infrastructure – There is a need for an increase in active transportation infrastructure in Greater Sudbury. From sidewalks, bike lanes, trails, connections to destinations and end-of-trip facilities, residents believe that investment in more infrastructure will give more people the opportunity to be active.
3. Community Partnerships – There is a need in Greater Sudbury to have organizations and the municipality partner in the pursuit of a more sustainable community. Keeping the community up to date with new facilities and trails can act as advertisements for active transportation. Integrating rideshare programs or an Uber-like service into the public transit system could also encourage more people to use the system.

4. Education – More awareness of programs available and education on how to use facilities in Greater Sudbury is necessary. From purchasing tickets to taking bicycles on the bus and how to transfer from one line to the other, education is key in getting residents on the move. More education programs should be available through promotional events.
5. Accessibility – Accessibility was a major concern for those in the stakeholder group. There are many seniors in Greater Sudbury that rely on the transit system for travel and without accessible platforms and service, they are unable to travel. Transit drivers and students should be trained in how to help the elderly or people with disabilities to board a bus, while seniors should be educated on their travel options.
6. Parking – It was suggested that parking measures could be put in place to encourage residents to take more sustainable modes of transportation to work. Having Park and Ride facilities, priority parking for carpoolers, and a carbon tax for those who do drive could deter those who do not have to drive to do so.

Vision and Principles:

The Vision and Principles for the TDM Plan were developed based on feedback received during public and stakeholder consultation. Residents, members of the Sustainable Mobility Advisory Panel, City staff from various Divisions and other community stakeholders including representatives of major employers, local school boards and agencies contributed to the development of this Vision and Principles.

The Vision is what has guided the development of the TDM Plan, and also highlights what may be achieved as a result of implementing the recommendations of the TDM Plan:

Greater Sudbury is a community that embraces sustainable mobility through efficient use of the transportation network and services to ensure that all residents have equal and equitable access to the services they need, the destinations they want to go to and the people they want to see.

The Principles further guide how Greater Sudbury will achieve this vision. By creating a framework that supports the vision, the principles will guide the City's approach for the delivery of TDM measures and programs. These principles are an important part of the TDM Plan and are necessary to support a more mobile Greater Sudbury:

- Safe – The City will provide residents and visitors within the community with sustainable transportation options that will help people feel safe and secure when they are moving around the city.

- Shift Travel Behaviour - The City will create a set of programs and measures that will encourage residents to use sustainable travel modes throughout the year and over the long-term to develop a culture that embraces sustainable travel.
- Integrated – The City will develop a set of policies, programs and measures that will create a seamless sustainable transportation network to encourage the use of sustainable modes. It will also help interested parties to better define their role and assist in the delivery and promotion of sustainable transportation.
- Effective – The programs, policies and measures developed must be reflective of the community and be cost-effective. They must also lead to measurable results indicating that changes in travel behaviour are occurring.
- Inclusive – A set of TDM based programs and sustainable infrastructure which allows all residents and visitors, regardless of age, ability, gender, or socioeconomic background to travel through Greater Sudbury using any sustainable mode they choose.

TDM Plan for Greater Sudbury:

This section presents a high-level overview of what is included in the complete Transportation Demand Management Plan for Greater Sudbury, which forms part of this report, as Attachment 1.

Chapter 1: Introduction to Transportation Demand Management

The introductory chapter of the document lays the groundwork by defining TDM and outlining the vision and principles for the TDM Plan, as well as the benefits it may bring for Greater Sudbury.

Chapter 2: Background and Data

Chapter 2 introduces a community profile of Greater Sudbury and provides a detailed overview of results of the online survey and public consultation activities. This chapter also highlights best practices in delivering TDM measures and programs and presents a policy analysis of select topics.

Chapter 3: Overview of TDM Programs

This chapter introduces a number of proven TDM measures that the City can use to promote and educate residents and visitors on the personal, environmental and community benefits of choosing sustainable modes of transportation. Measures presented here are organized by target audience and whether they are intended for households, workplaces, schools or are identified as other TDM-supportive programs and infrastructure.

Chapter 4: TDM Promotion, Engagement and Development Tool Kit

Chapter 4 presents a tool kit of approaches that the City can use in the promotion of sustainable travel and engaging residents in discussions about TDM in the community.

Chapter 5: Action Plan

The Action Plan details a set of recommended measures and actions that, when taken together, will raise awareness and support Greater Sudbury residents use of sustainable modes of transportation. This chapter also presents an outline for the development of a comprehensive monitoring program.

Appendices:

The Appendices to the TDM Plan provide additional background information and data that was used to inform development of the plan. A summary of public consultation efforts and partnerships is also presented in the Appendices.

Recommendations of the Transportation Demand Management Plan for Greater Sudbury and Action Plan:

The TDM Plan, as prepared by WSP, makes 21 recommendations to assist the City in developing programs and policies for residents and businesses in Greater Sudbury to better manage their travel demand. These recommendations have been organized into broad categories and are presented in Table 1.

Table 1: Recommendations of the Transportation Demand Management Plan for Greater Sudbury

Community Partnerships	
1.	The City should develop a working relationship with community organizations to implement the measures and programs outlined in this plan to provide the support and encouragement needed to residents that will result in long-term changes in travel behaviour.
2.	The City should develop partnerships with local school boards to develop and deliver programs that will support parents, children and staff in making sustainable travel decisions. The City should consider taking part in the Active and Safe Routes to School program and/or the School Travel Planning program in partnership with the school boards and Green Communities Canada. If the City wishes to apply to be a Silver Level Bicycle Friendly Community, it should work with its partners to pilot a School Travel Planning program at a few of the schools within the City in the short term.
3.	The City should continue engaging the community in reducing the use of single occupant vehicles for everyday travel.
4.	Community groups that have invested in sustainable transportation should continue to be supported and be provided with information. These groups, such as the Friends of Sudbury Transit, Rainbow Routes Association and others have invested in providing residents with information, infrastructure and other supportive measures. The City should work with these groups to provide necessary support measures, allowing them to continue in their encouragement of sustainable transportation use.

5.	The City should continue to further develop existing programs and work with the community to develop new initiatives that align with the City's transportation priorities. The Transportation Master Plan should set the stage for identifying program priorities by analyzing existing transportation patterns and the potential for TDM measures and tools to form the basis of new TDM strategies that make better use of existing infrastructure or provide equivalent levels of mobility and accessibility at a lower cost than large scale physical infrastructure.
TDM Working Group	
6.	The City should develop an internal TDM Working Group to, among other things, help integrate TDM and transit into major construction projects. The internal working group can assist in promoting the use of all sustainable transportation options and the linkages between transit and TDM.
7.	Both transit and transportation staff need to work collaboratively in the delivery of TDM programs. This will include promoting and marketing TDM and transit, encouraging the use of sustainable travel options and working with members of the community to shift travel behaviours.
Outreach, Marketing and Education Programs	
8.	The City should evaluate the full list of municipally delivered programs outlined in Chapter 3 against the new objectives of the Transportation Master Plan to establish funding and policy priorities for future outreach, marketing and education programs. This will allow for strategic alignment between the City's Official Plan policy priorities, TMP and TDM objectives.
9.	To promote the use of sustainable modes, a position should be established to market the TDM programs. Sharing this position with transit would be appropriate as the transit system in Greater Sudbury will form the basis of a sustainable transportation network.
10.	The City should establish a promotional and education program as soon as the proposed Marketing and Communications position is filled.
11.	The City should establish ongoing funding for the implementation of the promotion and education campaign as well as for the proposed Marketing and Communications position. This should also be extended to making the Active Transportation Coordinator role permanent.
Wayfinding	
12.	The City should develop a wayfinding program to indicate the routes that are recommended to travel to key destinations. This program should be introduced when a map is created for the community showing active transportation corridors, major transit terminals, key destinations, steep grades and other barriers. This program can significantly increase the level of cycling in the City whether it is for utilitarian or recreational purposes.
TDM Requirements for Development and Official Plan policy	
13.	<p>The City should update the Official Plan to include policies related to the TDM programs and measures. The amendments should include adding to the objectives in Section 11.1, including:</p> <ul style="list-style-type: none"> • 11.1 d. to include reference to compact, mixed-use developments that promote the use of sustainable travel options; • 11.1 e. in addition to promote all travel modes, expand to include incentives, encouragement and education; • 11.1 d. also include long-term shift in travel behaviour; • 11.1 e. add connections to transit via walking and cycling to develop a more comprehensive sustainable travel network.

14.	The City should further add to the new Official Plan policy under 11.2.3 to include: "at the discretion of City staff, TDM programs and measures, as well as supportive infrastructure and services may be required within a traffic study."
15.	The transit policies in section 11.3.2 (6) of the Official Plan be expanded to include bicycle lanes, cycle tracks and pathways to improve access to transit stops.
16.	Programs listed under section 11.9 of the Official Plan should be updated and strengthened to reflect the TDM plan. The Official Plan should include not only promoting the use of sustainable travel modes, but also include educating and encouraging the use of sustainable transportation, developing programs for schools, households and workplaces and developing partnerships with groups who could deliver the programs and measures.
17.	The integration of transit with cycling and walking routes to ensure that the development of a sustainable transportation network is developed that will enable the use of more than one mode to travel to a destination or enable the use of one mode in one direction and then another sustainable mode in the opposite direction due to topography, changes in weather or time of day.
18.	Develop a formalized process for incorporating: <ul style="list-style-type: none"> • TDM soft and hard measures/TDM supportive infrastructure in the existing development applications process as part of a TDM Plan under existing legislation (Planning Act and City by-laws) • TDM Statements, Short and Full TDM Plans into the development process
19.	Lobby the Province for amendments to the Planning Act that would allow municipalities to create enforceable undertakings that would require developers to: <ul style="list-style-type: none"> • Provide several TDM hard measures in accordance with a new policy that would require a certain TDM standard to be met as part of the urban development process • Provide, support and oversee the implementation and monitoring of TDM soft measures beyond the opening day of developments for a defined time-period
Developing a Multi-modal Network	
20.	The City of Greater Sudbury should develop a network of integrated corridors to support and encourage the use of sustainable modes and ensure that there is a multi-modal sustainable transportation network within the City.
21.	Where possible, the City should continue to provide more than one sustainable option along major transportation corridors.
Collaboration with other Northern Communities	
22.	The City of Greater Sudbury should work with other northern communities to share information, ideas, programs and results as they develop and implement TDM programs and measures within the city.
Monitoring	
23.	Greater Sudbury should develop and implement a monitoring program based on the above for TDM measures to ensure that the goals and objectives of this Plan are met and travel behaviours shift toward more sustainable modes.

The TDM Plan proposes an Action Plan to guide the City in the development and delivery of transportation demand management supportive programs and materials. The early phases of the Action Plan, presented in Table 2, highlights 'quick wins' that are

focused on forming partnerships and building confidence in residents and decision-makers that transportation demand management is an effective approach to make efficient use of our infrastructure. It is anticipated that many of these short-term Action Plan items can be delivered with existing resources.

Table 2: Action Plan for implementation of the Transportation Demand Management Plan for Greater Sudbury

Phase 1: Short Term / Quick Wins (Years 1 and 2)	Phase 2: Medium Term (Years 3 to 5)	Phase 3: Long Term (Years 6 to 10)
<ul style="list-style-type: none"> ✓ Identify sustainable, long-term staffing resources to implement TDM programs and measures ✓ Identify potential financial and staff resources for marketing and promotion of TDM measures for active transportation and transit ✓ Develop partnerships internally through the TDM Working Group ✓ Develop partnerships externally to deliver TDM programs ✓ Develop a proposal for a workplace program ✓ Enhance Official Plan policies ✓ Develop a TDM web page and clearinghouse to provide information to the public ✓ Improve the use of social media to promote sustainable transportation within the community ✓ Create TDM collateral targeting to different community groups (i.e. web content, brochures, handouts, bookmarks, etc.). These groups may include seniors, students and families ✓ Continue to develop active transportation infrastructure 	<ul style="list-style-type: none"> ✓ Evaluate short-term projects to assess effectiveness and make improvements ✓ Create a TDM outreach program based on work undertaken in first phase ✓ Work with community groups to encourage long term behaviour changes ✓ Update TIS Guidelines to include TDM-supportive infrastructure ✓ Develop TDM recognition program for new and existing developments ✓ Develop a workplace program that will be delivered to workplaces that have signed up for the program 	<ul style="list-style-type: none"> ✓ Update the TDM strategy and implementation plan to ensure it is up to date with current technology, programs and research ✓ Evaluate change in TDM delivery and incorporate into updated strategy ✓ Update outreach and education programs ✓ Continue to deliver the programs established in earlier phases ✓ Review policies within the Official Plan and the Transportation Master Plan that support TDM programs and measures

Phase 1: Short Term / Quick Wins (Years 1 and 2)	Phase 2: Medium Term (Years 3 to 5)	Phase 3: Long Term (Years 6 to 10)
<ul style="list-style-type: none"> ✓ Promote existing and new Active Transportation facilities as they are being implemented within the City ✓ Develop a pilot project to deliver School Travel Plans within the City in partnership with community organizations, the school boards and/or Public Health Sudbury and Districts 		

Communications Plan:

To promote the completion of the Transportation Demand Management Plan for Greater Sudbury, staff will work with Corporate Communications to ensure the City webpage for TDM is updated with a copy of the Plan and that this information is promoted to the public via our social media channels.

As programs and measures are planned, developed and implemented, staff will continue to work with Corporate Communications to ensure a fulsome communications campaign is executed so that all residents, visitors and businesses have the opportunity to participate in programs being offered by the City and/or its partners.

Next Steps:

Adoption of the TDM Plan for Greater Sudbury does not commit the City of Greater Sudbury to deliver any or all of the recommended measures as described within the Attachment 1. Staff will continue to refine the details and full cost of implementation of measures of the TDM Plan to develop business cases for consideration and discussion during future budget processes. The TDM Plan is designed to be a collaborative document. City divisions and staff will work together with community partners to identify opportunities for synergies and to access funds from other levels of government.

Wherever possible, TDM measures will be delivered as part of existing City events, programs and services to find cost efficiencies and minimize staff time required. Staff will continue to explore opportunities to form partnerships with community agencies to further leverage and extend any municipal funding to be dedicated to transportation demand management. If approved, funding of up to \$25,000 may be used to

implement short-term recommendations to develop promotional and educational materials related to safe cycling and walking, to move forward with partnerships with community agencies and to support the delivery of TDM-specific events.

Staff will monitor the implementation of short-term measures outlined in the TDM Plan and provide an update to Council in 2019 on progress made in shifting the travel behaviour of Greater Sudbury residents towards more sustainable modes of transportation.

Conclusion:

The Transportation Demand Management Plan for the City of Greater Sudbury presents a framework for how the City can move forward with becoming a more sustainable community that promotes a high quality of life for residents and encourages retention of youth and professionals and encourages seniors to relocate to our community, as expressed in Greater Together. Further, the implementation of measures recommended in the TDM Plan will support other corporate strategic objectives such as increasing efficiency of existing infrastructure, reducing greenhouse gas emissions and becoming a more healthy, active and vibrant community.

The City of Greater Sudbury has a unique opportunity to be a leader in the delivery of transportation demand management measures and sustainable transportation infrastructure and services. Residents have expressed interest in pursuing opportunities to integrate sustainable travel modes into their every day commutes, and to capitalize on this interest, infrastructure, incentives, and programs need to be available in a timely manner. Implementing the measures and programs outlined in the TDM Plan and continual monitoring of their success will ultimately lead to more residents choosing to walk, bike, take transit or carpool to access destinations.

Resources Cited:

Transportation Demand Management Plan for Greater Sudbury, Report to Operations Committee, May 15, 2017. Accessed online:
<http://agendasonline.greatersudbury.ca/index.cfm?pg=agenda&action=navigator&lang=en&id=1142&itemid=13159>



Transportation Demand Management Plan for Greater Sudbury



April 2018



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1.0 Introduction to Transportation Demand Management

1.1 Introduction

Greater Sudbury is completing this Transportation Demand Management (TDM) Plan to create a transportation system for the city that fits the goals and objectives of both the Transportation Master Plan (TMP), and the Official Plan (OP). The TDM Plan has been designed to meet the objectives outlined in the TSR.

The Greater Sudbury OP states that a TDM Plan may be required to create a safe, efficient, and convenient transportation system that can support expansion, and is justified by demand. To be sustainable, the system needs to promote all modes of travel and create programs that will promote sustainable transportation throughout the city.

1.2 What is TDM?

Transportation demand management is the application of programs, policies, and services to influence how, why, when, and where people travel. These services are designed to encourage the long-term use of sustainable travel options such as cycling, walking, transit, or carpooling. The focus of TDM services is to get residents out of single-occupancy vehicles and into more sustainable modes of transportation. This will allow residents in Greater Sudbury to better use transportation resources, and create a more even mode share between driving, carpooling, walking, cycling, and using transit.

TDM approaches transportation problems through both people and infrastructure-focused ways. Using programs and measures, residents can be guided towards more mobility options and educated on how to use more sustainable modes of transportation. Through an infrastructure-focused approach, new bike lanes, trails, security, and end-of-trip facilities such as bicycle parking can be provided to encourage commuters to use active and sustainable transportation options for daily travel.

TDM functions at two levels, short-term and long-term. In the short-term, TDM provides education and support for those who are interested in using sustainable modes of transportation, and creates infrastructure for those to travel. In the long-term TDM strategies can be used to encourage better community design, and create a city with mobility options for everyone. Long-term behaviour change is the goal of TDM. This will help to create a community that is more sustainable, connected, and healthier.

1.3 What is a TDM Plan?

A TDM Plan is created for a city to assist in controlling and managing the demand for travel and transportation infrastructure. Planning solely for an increase in car-based road users can be very costly as roads need to be widened, new bridges need to be constructed, and impacts on the environment and community health increase. A TDM Plan is a cost-effective alternative to

increasing road capacity by both working to better manage traffic volumes and transferring road users to different modes of travel. The TDM Plan is made up of strategies and policies that aim to reduce the demand for travel within an area and makes recommendations as to the best solutions for the community. In Greater Sudbury, the public was consulted through to understand the issues that residents have encountered and use this information to determine the best approach to travel management in the community.

A TDM Plan addresses not only transportation issues, but also the effects of increasing travel as well. The Plan for Greater Sudbury considered *why* the community has chosen its modes of travel and how to change years of behaviour and social norms. It is important to look for long-term solutions instead of short-term fixes for these types of problems. TDM Plans aim to change the behaviour of the community to that of a more sustainable one. With initiatives that promote and facilitate the use of alternative or sustainable modes of transportation, a TDM Plan can be a solution for cities that simultaneously addresses public health, environmental issues within the community and the city's general well-being as well. TDM policies link to that of many others and can create a stronger, more vibrant overall community.

1.4 Vision and Principles

Vision

The vision is what guides the development of the plan. It is one that all residents, employees, students, and visitors can be proud of, and which represents the wants and needs of the City. TDM strategies are used to support the vision through policy, city wide programs, and collaborative efforts. The vision is one of a seamless and multi-modal city that accommodates the needs of all, no matter the age or level of mobility.

*Greater Sudbury is a community that embraces **sustainable** mobility through efficient use of the transportation network and services to ensure that all residents have equal and **equitable** access to the services they need, the destinations they want to go to and the people that they want to see.*

Principles

The principles guide how Greater Sudbury will achieve this vision. Creating a framework that supports the vision and can guide the approach for delivery of TDM measures and transportation programs is the purpose of the principles. These are an important part of the TDM Plan, and are necessary to support a mobile Greater Sudbury.

Safe - Greater Sudbury will provide the residents and visitors within the community with sustainable transportation options that will help people feel safe and secure when they are moving around the City.

Shift Travel Behaviour – the City will create a set of programs and measures that will encourage residents to use sustainable travel modes throughout the year and over the long-term to develop a culture that embraces sustainable travel.

Integrated – The City will create a set of policies, programs and measures that will create a seamless sustainable transportation network to encourage the use of sustainable modes. It will also help interested parties to better define their role and assist in the delivery and promotion of sustainable transportation.

Effective – The programs, policies and measures developed must be reflective of the community and cost-effective. They must also lead to measurable results indicating that changes in travel behaviours are occurring.

Inclusive – a set of TDM-based programs and sustainable infrastructure which allows all visitors, residents and workers, regardless of age, gender or socio-economic background to travel throughout Greater Sudbury using any sustainable mode they choose. This will allow for greater access to sustainable travel modes without creating large economic or social barriers to accessing transportation services and infrastructure.

1.5 Why Does Greater Sudbury Need This?

TDM is important for Greater Sudbury as it provides a framework for using the transportation system more efficiently and utilizes scarce municipal transportation resources more effectively. As well, promoting the use of sustainable modes of travel will help to increase physical activity, reduce greenhouse gas emissions and improves quality of life.

Shifting to more sustainable modes of transportation can decrease the potential for environmental harm, increase the amount of time people spend being physically active, and take away the stress of commuting through congestion. Greater Sudbury is a community with transportation patterns that are based predominantly on the ownership and use of a private-vehicle. Although the downtown area boasts a transit terminal in the city centre, safety concerns, weather, and lack of infrastructure often deter people from using sustainable modes of transportation for getting around.

Greater Sudbury has a solid basis for the integration and promotion of sustainable modes of transportation. Almost 50% of the population lives within a 10-km radius of their workplace. This is considered a reasonable distance for commuting by bus, or active transportation with good infrastructure. With TDM measures and programs in place, those who live within that distance have the option to commute without the use of a single occupant vehicle.

A strong TDM plan will create a healthier, more sustainable community that can be proud of their transportation system. Using modes other than driving to work allows for more financial and personal freedom. If congestion can be moderated, then the community can feel safer at home and on the road, whether in a car, on a bike, or walking to their destination.

1.6 What are the Benefits?

There are many benefits to implementing TDM programs, measures, and services as a tool for transportation planning. TDM focuses on reducing the number of cars on the road and the amount of time spent in single occupant vehicles. TDM benefits everyone in the community, including residents, businesses, visitors, and students, regardless of preferred mode of travel.

Individual Benefits

On an individual level, TDM can enhance the quality of life through active and sustainable transportation. Being more social in the community and getting more physical activity can help residents live a healthier lifestyle. With multiple travel options, there can be less time spent driving. This can take stress off an individual as they have more time for family or other activities. Using TDM measures to commute to work can also save individuals money as it costs less to carpool or take active modes for travel purposes.

Community Benefits

At the community level, TDM measures can help to create a stronger, more cohesive community. Reduced greenhouse gas emissions create a healthier community through better air and water quality. With travel modes being more evenly distributed there can be a more efficient and effective use of the transportation network and resources. With a community being planned on a more human scale, the transportation system can adapt to become more vibrant and livable.

What are the Benefits to Greater Sudbury?

Health and Safety

- ▶ Increased health from use of active transportation and improved community cohesion
- ▶ Stress reduction from less time spent driving alone or in congestion

Transportation System

- ▶ Reduced congestion and resulting time savings
- ▶ Multiple travel options
- ▶ More efficient and effective use of the transportation network

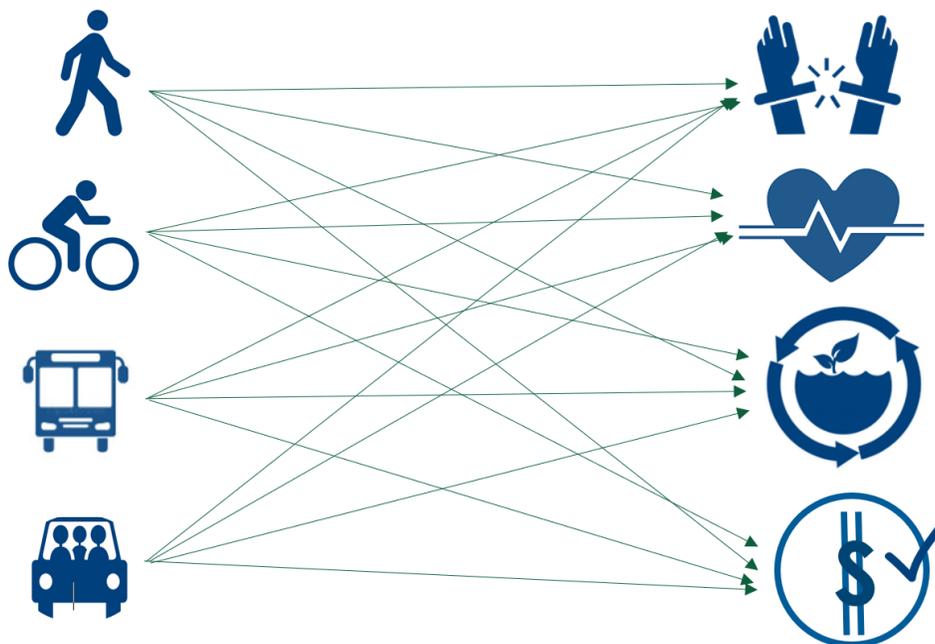
Financial

- ▶ Reduced costs of car ownership and maintenance
- ▶ Better/more efficient use of municipal financial resources

Environmental

- ▶ Improved air and water quality
- ▶ Reduced greenhouse gas emissions

The figure below shows how each form of sustainable transportation can generate a return in terms of greater sustainability, health benefits, more travel freedom, and financial savings.



For Greater Sudbury, the benefits for individuals will be lower travel costs and stress levels associated with getting around. Many people that work in the urban centre commute from the outskirts of the city. The availability of carpools in outer neighbourhoods will save residents money on commuting costs to their place of work. For those residents who use public transit within Greater Sudbury, they can save reduce their commuting costs as well, and have the potential to do other things while traveling to work. Active transportation provides many benefits to the user by providing physical activity, reduced costs and improvement to individual and community health through reduced greenhouse gas emissions.

On a community level, more people using sustainable modes will create a safer environment with more people on the street, decrease the amount of greenhouse gas emissions with less drivers on the road and create a more inclusive society through improved accessibility to transportation.

2.0 Background and Data

2.1 Introduction

A TDM Plan requires an understanding of the community, including demographics, modes of travel, current and proposed urban and rural development patterns and what is important to its residents. Without this information, the plan will not be reflective of the community. The success of a TDM Plan depends on understanding the underlying reasons behind a City's mobility trends, and the challenges residents face when travelling throughout the city.

While Greater Sudbury has many of the same issues, concerns, opportunities and challenges that other cities of a similar size have, the TDM Plan will be unique to Greater Sudbury and reflect its strategic goals, character, demographics and topography. Therefore, the analysis of the background information and data is an important component in the development of a plan that will encourage residents to shift their travel behaviours to more sustainable modes on a long-term basis.

2.2 Community Profile

Community Information

Greater Sudbury is the largest city in Northern Ontario, with a population of 165 000 people (Statistics Canada). It is a single tier municipality which was formed in 2001 after the merging of the unincorporated townships, cities and towns that comprised the former Regional Municipality of Greater Sudbury. Greater Sudbury has been recognized worldwide for its environmental efforts in reclamation since the 1970s, specifically the Region's success in greening and rehabilitating local lakes.

- ▶ Average Age: 42 Years
- ▶ Median Household Income: \$71,687
- ▶ Population Density: 50 people/sq km
- ▶ Average Household Size: 2.3 people
- ▶ 71% English speaking
- ▶ 25% French speaking
- ▶ 61 % live in single detached houses
- ▶ 66 % of population is of working age
- ▶ 18% of population is eligible for retirement
- ▶ 16% of the population is below the age of 15

Community Data Overview

The following provides an overview of the makeup of the population in Greater Sudbury:

Travel Data

Figure 1 shows the mode chosen in relation to the distance traveled within Greater Sudbury. From the data it is evident that the further a person travels, the more likely they will commute by automobile. Due to the high percentage of those driving, the average resident of Greater Sudbury spends more money on transportation than the average Ontarian. Of interest is that there are the same number people driving less than 2 kilometres to work as those walking the

same distance. Also, of note is that there is no one carpooling less than 6 kilometres from origin to destination.

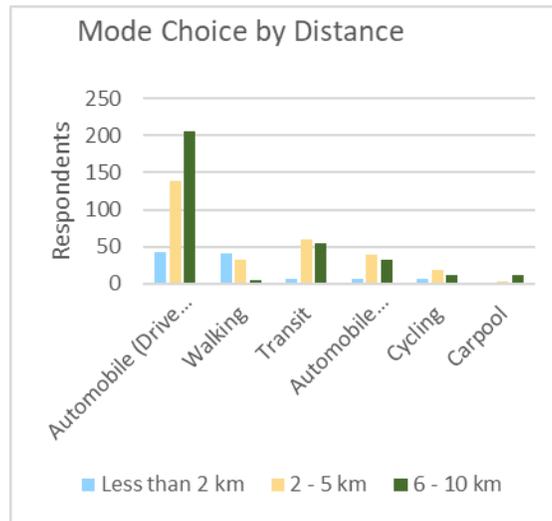


Figure 1: Mode Choice per Distance Travelled

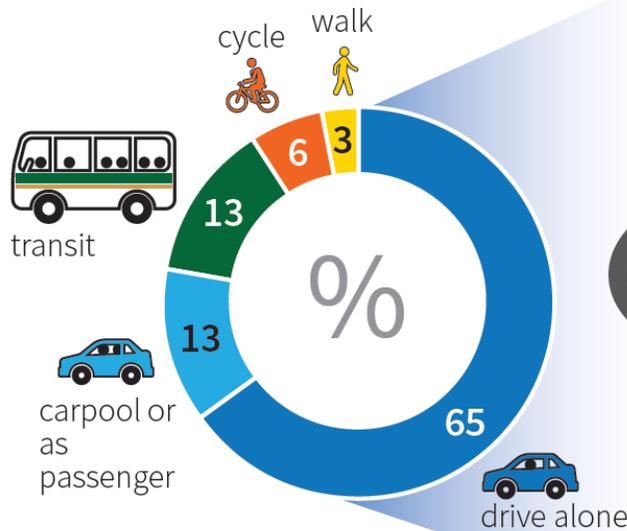
2.3 Survey Analysis

In the spring of 2017 Greater Sudbury residents were invited to complete an online survey to provide the City with information on how, why, and where they travel. This was important for the development of the TDM Plan, as the City was considering new ways to move people, rather than vehicles, throughout Greater Sudbury. The survey was completed by nearly 1500 residents, providing solid data on how residents travel within the community. The response rate for the survey was 0.9% of the total population of the City of Greater Sudbury.

As noted in Figure 2, the results indicated that single occupancy ('drive alone') private motor vehicles are the most common mode (65%) of transportation for residents. However, the survey also provides a positive outlook for sustainable modes: 13% of residents carpool or travel as passengers, 13% take transit, 6% cycle, and 3% noted walking as their primary mode of transportation. Figure 2 also shows the three most common reasons for driving alone: convenience and flexibility, travel time, and lack of other options.

TRAVEL MODE

What vehicle do people use to travel in Greater Sudbury?



Why do most people drive alone?

44%

It's the **only option**

It's the **fastest**

53%

58%

It's the **most convenient and flexible**

Figure 2: Survey Results – Modal Share and Reasons for Driving

Of those who commute for work on a daily basis in Greater Sudbury, almost half live within 10 km of their workplace (Figure 3). This is considered a reasonable distance to commute by transit, and can be an area of opportunity for the City to encourage residents to use transit more often. Along with shorter commute distances, over half of respondents noted that their commute is 15 to 30 minutes.

TRAVEL DISTANCE

How far do people travel in Greater Sudbury?

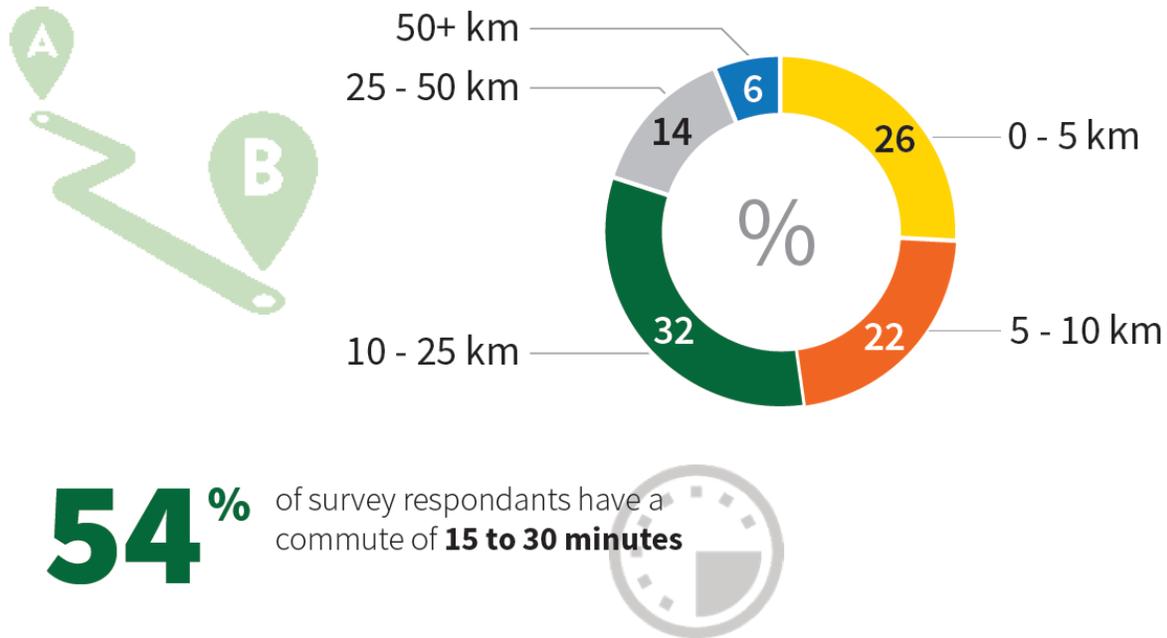


Figure 3: Survey Results – Distance Travelled

When asked specific questions about different modes of transportation, there was a very positive response to **carpooling** within the City. Of those who responded to the survey, **64% did not have access** to a carpooling program at work, but **57%** said they would be willing to carpool with a colleague **if the service was available**. An **expansion of the active transportation** network would increase interest in using active transportation to get to work by **52%**.

At the time the survey was conducted, there was a limited amount of active transportation infrastructure within Greater Sudbury. The survey asked how comfortable residents were with using each mode of active transportation, as shown in Tables 1 and 2 below.

Table 1 – Pedestrian Comfort in Greater Sudbury

	Not at all comfortable	Somewhat uncomfortable	Neutral	Somewhat comfortable	Very comfortable
English	5%	13%	16%	35%	31%
French	5%	13%	14%	31%	38%
Blended	5%	13%	15%	35%	32%

Table 2 – Cyclist Comfort in Greater Sudbury

	Not at all comfortable	Somewhat uncomfortable	Neutral	Somewhat comfortable	Very comfortable
English	50%	29%	9%	10%	3%
French	33%	37%	11%	11%	8%
Blended	47%	30%	9%	10%	4%

Questions about Greater Sudbury’s transit system indicated that 78% of respondents did not use transit at all. These statistics give insight into the current state of Greater Sudbury’s transportation system, and where there are opportunities for improvement. The full survey results are contained within Appendix B.

2.4 Best Practices Review

To create a TDM plan that will be successful in Greater Sudbury, a review of other plans was undertaken to assist in creating this plan. The best practice review considered the TDM Plans within BC, Halifax, Ajax, Waterloo, Whitehorse, Thunder Bay, and Kitchener to provide insight into successful strategies that Greater Sudbury could implement in order to have a more successful and healthier transportation system. Best practices have been identified and discussed in more detail within Appendix A.

Performance Measures

Performance Measures are commonly used to monitor the outcomes of a given TDM program. Halifax is a notable example as its measure of success is simply measured in terms of the number of users associated with each TDM measure. This can provide a simple and transparent way to understand the success of the program and who is participating.

Northern Communities

Northern communities often have different considerations regarding TDM Plans, infrastructure, weather, and lower densities play major roles in how people travel in these communities.

The Thunder Bay TDM Plan discusses the need for efficiency, and opportunity to broaden access to the downtown through the removal of travel barriers. The City is looking to increase mobility for the aging population, increase the availability of active transportation routes, and thus decrease the need and cost of vehicle ownership. The City’s overall focus is to promote a program that will result in a community that is healthy and vibrant, and can create opportunities from the transportation challenges they face today.

The City of Whitehorse created a TDM Plan in 2014 as they noted that maintaining a vehicle-oriented city could need a significant increase in public investment for new infrastructure. The TDM Plan addressed the issues of public health, greenhouse gas emissions, the increased demand for downtown parking, and the aging population as more people retire in the community.

Policy Goals

Some regional municipalities pursue technical transportation network performance objectives while others are focused more on ensuring greater consistency between TDM objectives and existing policy. The Town of Ajax's TDM objectives integrate with other strategic policies and goals. Using simple policy goals allows for the public to understand how the plan works and is measured.

Thunder Bay has also set a precedent in their TDM Plan policies. Focusing on what infrastructure is currently available, the plan set forth to capitalize on what already exists, and promote what is already available to the public. This strategy cuts down on infrastructure costs, and results in more efficient use of current resources. As well, the City has created a program to increase the supply of bicycle parking within the community.

Strategic Development Process

Developing a process to incorporate TDM into the development process can ensure that the use of sustainable transportation is a priority. The Halifax Regional Municipality incorporated TDM policies into the development process as it was *recommended* in the TDM Functional Plan that a developer should work with the municipality to contribute towards TDM programs or infrastructure in return for higher density, extra parking, and so on within the site.

2.5 Policy Analysis

Several federal, provincial, and city policies support the recommendations proposed for Greater Sudbury's new TDM Plan.

The overarching goal of these policies is to create a community that can meet all the needs of the residents regardless of income, culture, or religious beliefs. By creating more travel choices, the City can create an environment that is accessible for everyone, with safe and convenient travel choices. The framework upon which the TDM Plan was written was developed with the support of the City's Official Plan and other supporting policy documents. The detailed policy analysis can be found in Appendix B.

Transit

Policies are included in the Greater Sudbury Official Plan to continue to grow the transit network. Greater Sudbury's focus is on increasing capacity and attractiveness of the system through programs and activities. These policies will help to increase ridership and allow transit to become more accessible.

Community Development

The City of Greater Sudbury will focus intensification within existing urban areas. To support intensification, Sudbury will develop a multimodal transportation system that will increase connectivity and mobility from different communities. The improvement of connectivity between neighbourhoods will enable more people to use the sustainable transportation facilities provided in the city.

Network Connectivity

The Downtown Master Plan focuses on an accessible and connected downtown core that can encourage growth and become a hub for all modes of transportation. The City needs to be accessible to those who need access to vital services. This is especially important for those who cannot drive such as children, students, and seniors.

Sustainability

The *Places to Grow in Northern Ontario Act* suggests that intensification and investment in transportation systems are critical to accommodate a sustainable environment and encourage economic development within the Greater Sudbury Area. A strong transportation system will continue to encourage residents to use sustainable modes to travel rather than single occupant vehicles.

2.6 Consultation

Consultation on the TDM plan took place on Wednesday, September 13 and Thursday September 14, 2017. The purpose of the meetings was to show the public and stakeholders draft concepts that could be incorporated into the TDM Plan and receive feedback on these ideas. The goals of the consultation sessions were: to understand the barriers and issues encountered by the community regarding ease of mobility within the city; to understand why mobility choices are being made; to determine opportunities to increase the use of sustainable modes and to determine the level of support for the encouragement of sustainable travel options. There were three separate meetings: one for stakeholders, one for the Sustainable Mobility Advisory Panel, and one for the public. A detailed report of the consultation process can be found in Appendix C.

Stakeholders

The stakeholder session was held on afternoon of September 14 and consisted of City staff, workplaces and organizations within the community with interests in how people travel and how to shift travel behaviours.

The stakeholders group was given a presentation on current ideas and objectives for the programs and were asked to discuss two questions in smaller groups: (1) Which programs should be recommended for Greater Sudbury, and (2) how their organizations could help implement these programs.

When considering which programs should be available in Greater Sudbury, participants placed focus on transit, active transportation infrastructure, and accessibility, parking, and TDM programs. It was suggested that to promote transit, there should be more incentives to try the service and increasing awareness about the benefit of transit.

Active transportation infrastructure was also an important topic as Greater Sudbury is currently initiating an active transportation network. Stakeholders suggested increased infrastructure such

as bike lanes, more crossings, better connections to destinations, end-of-trip facilities, and bikeshare for those who do not own or cannot own a bike.

Stakeholders also discussed park and ride facilities, carpool parking lots, and priced parking to encourage more people to use sustainable modes rather than drive to destinations alone.

Improving accessibility and developing educational programs were also considered to be important to the TDM Plan by the stakeholder group. With an aging population, it was discussed that a more accessible transportation system would make it easier for seniors and those with mobility challenges to travel within having to drive on their own. The stakeholders also indicated that education programs for students, workers, and residents about the modes of travel available, benefits and incentives should be developed. Programs for work day travel and school age children were thought to be the main groups to focus the education program on.

Sustainable Mobility Advisory Panel (SMAP)

The Sustainable Mobility Advisory Panel is a citizen advisory panel consisting of representatives from local organizations and staff from the City of Greater Sudbury. Their mandate is to “assist staff and council in implementing a vision for a holistic approach to a multi-model transportation system where citizens can walk, cycle, and use public transit efficiently and safely to get to their destinations” (Greater Sudbury Sustainability Mobility Advisory Panel).

During the consultation session, which was held on the evening of September 14, 2017, the organization’s members were given personas which represent different demographic groups and were asked to describe what they believed would be their transportation challenges and needs. This exercise was important to understanding the programs and facilities could best help each demographic group, while still meeting the needs of individuals within the community.

There were many important themes which emerged from the discussion. It was mentioned that more infrastructure is needed to encourage residents to use active transportation options, as these modes are considered affordable for students, young adults and seniors, Secure bike parking and end-of-trip facilities were also discussed to help encourage more cycling in the community. It was also discussed that there needs to be more direct transit routes to destinations, such as the post-secondary institutions, health care and seniors’ facilities, and major commercial and retail areas. It was also mentioned that during festivals there should be increased service to help more people travel there via transit. For those with families it was discussed that time and money was a priority, and having a transportation system that could decrease the time spent travelling would be appealing to those working in Greater Sudbury. However, it was also mentioned that many people live outside of the city core, and thus, most are inclined to drive.

The Public

Thirteen members of the public attended the meeting on the evening of Wednesday September 13, 2017 (Figure 4). Several display boards were available for participants to review which presented draft ideas for Greater Sudbury’s TDM Plan. The members of the public were asked

for feedback on the ideas presented and if there was anything that should be added to the TDM Plan.

The public was also asked for feedback on their vision for TDM in Greater Sudbury, and what they thought could best improve transportation options in the area. Recurring themes were improvements to transit, infrastructure, education, and community partnerships.

The meeting was advertised on the City's website, along with posters throughout the community, and promoted on social media. Where the stakeholder and SMAP meetings were held during the day, the Public Consultation Session was held in the evening to be more accessible to the working population, and was in the downtown core, near City Hall in a central location. Efforts were made to ensure that meeting was made accessible to all, with comment sheets available for those who did not wish to speak at the consultation session, and a project email was made available to those who were unavailable to attend.



Figure 4: Members of the public and stakeholders participate in TDM Plan events

The need for an expanded transit system was apparent as many comments and suggestions indicated that changes and improvements to the transit system would be of great benefit. A widespread network with express buses from outer communities was also suggested as it would encourage more people to use the service to commute directly to the city rather than driving to a park and ride lot to take transit. Expanding the infrastructure for the active transportation network was also considered a priority for those in attendance. An increase in sidewalks, bike lanes, secure bicycle storage, and connections for destination travel would benefit the public as they travel within the city. Also, with an increase in infrastructure the public noted that education on how to use these systems would be important, along with community partnerships to help promote the programs.

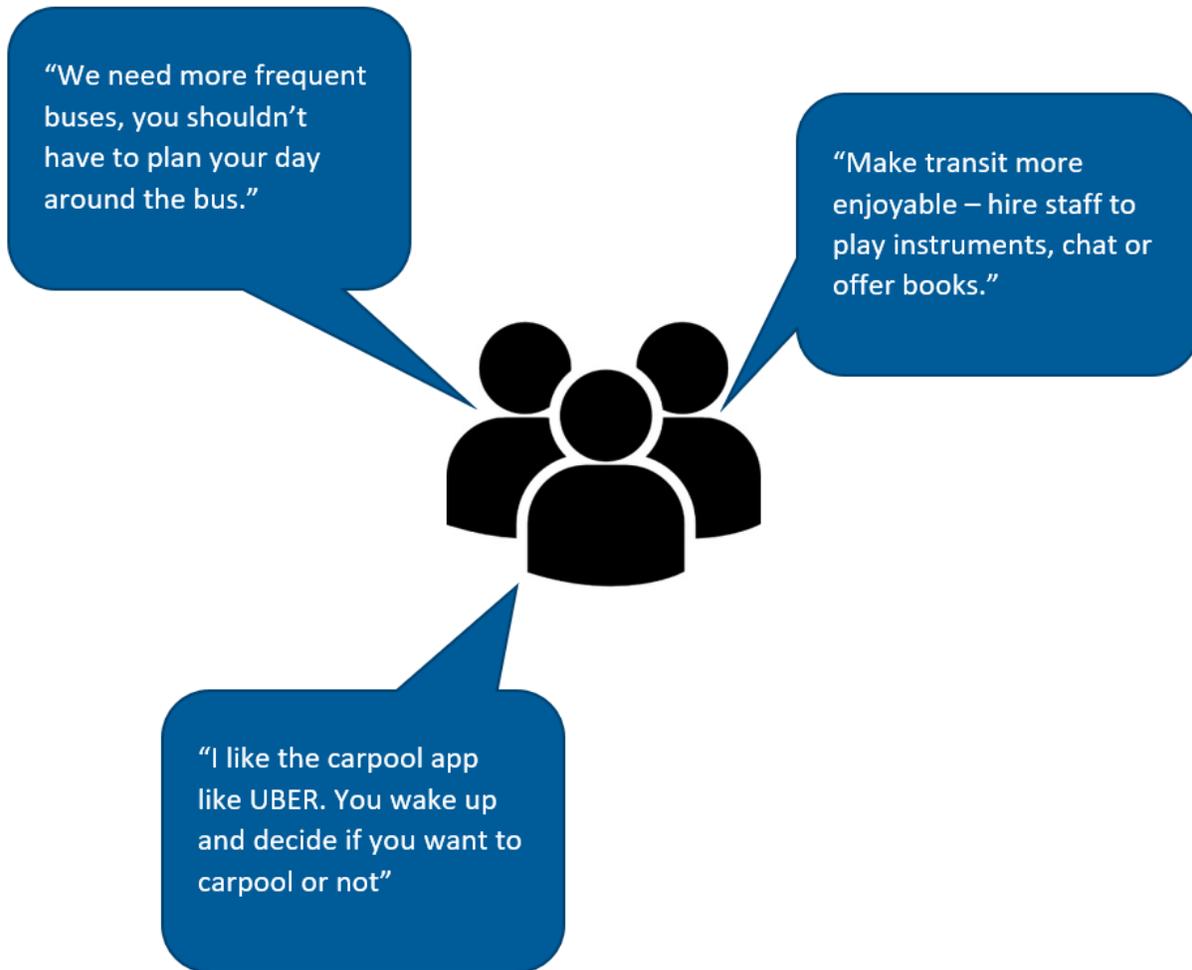


Figure 5: Feedback received from survey respondents

General Themes from Consultation Sessions in September 2017

Transit

The transit system needs to be safe and efficient, with more frequent service. An app with real time updates will encourage more people to take transit as this makes it easier to plan their day.

Infrastructure

There is a need for an increase in active transportation infrastructure in Greater Sudbury. From sidewalks, bike lanes, trails, connections to destinations and end-of-trip facilities, residents believe that investment in more infrastructure will give more people the opportunity to be more active.

Community Partnerships

There is a need in Greater Sudbury to have organizations and the municipality partner in the pursuit of a more sustainable community. Keeping the community up to date with new facilities and trails can act as advertisements for active transportation, integrating rideshare programs or

an uber-like service into the public transit system could also encourage more people to use the system.

Education

More awareness of programs available and education on how to use facilities in Greater Sudbury is necessary. From purchasing tickets to taking bicycles on the bus and how to transfer from one line to the other, education is key in getting residents on the move. More education programs should be available through promotional events.

Accessibility

Accessibility was a major concern for those in the stakeholder group. There are many seniors in Greater Sudbury that rely on the transit system for travel and without accessible platforms and service they are unable to travel. Transit drivers and students should be trained in how to help the elderly or people with disabilities to board a bus, while seniors should be educated on their travel options.

Parking

It was suggested that parking measures could be put in place to encourage residents to take more sustainable modes of transportation to work. Having park and ride facilities, priority parking for carpoolers, and a carbon tax for those who do drive could deter those who do not have to drive to do so.

3.0 Overview of TDM Programs

3.1 What are TDM Programs?

TDM programs are tools that municipalities use to promote sustainable modes of transportation to residents and workers, and educate them on the benefits to themselves, the environment, and their community. These programs will encourage more residents within the City of Greater Sudbury to drive less, and instead take alternative modes of transportation. This will result in less wear on roads and lower congestion levels within the downtown core and in high traffic suburban areas.

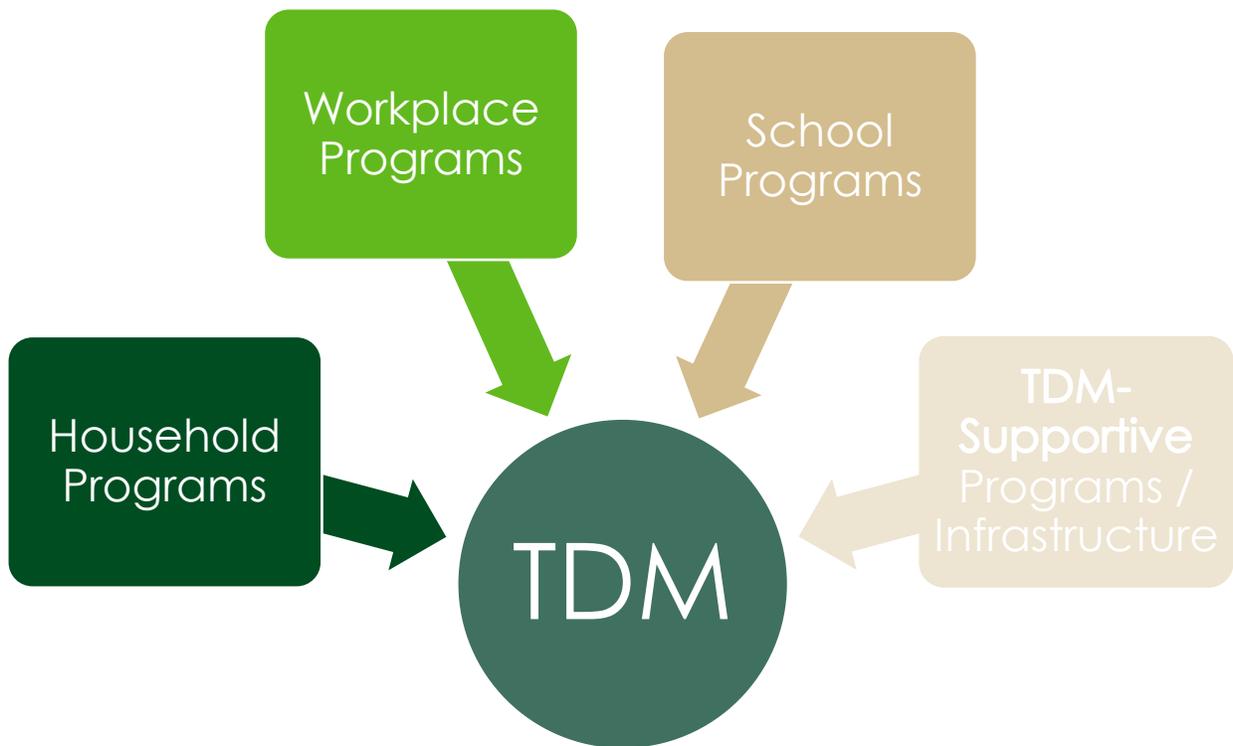


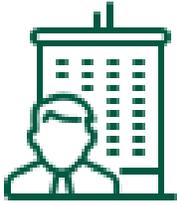
Figure 6: Various TDM Programs

Household



Programs that are directed at households encourage members to use sustainable modes of transportation can decrease travel demand during peak periods. The focus is on taking transit, carpooling, and using active transportation modes. Household travel programs focus on getting the family where they need to go. Using modes other than the car for transportation will encourage children to continue this habit as they grow up.

Workplace



At the business level, TDM benefits both the employer and the employees. Financially, as more people use sustainable modes of transportation to travel, the company will be able to decrease spending on parking infrastructure and support the community through active transportation infrastructure instead. Workplace travel programs focus on encouraging more people to travel to work by other means than the single occupant vehicle (SOV). These programs provide incentives to use carpooling, transit, walking and cycling, and provide disincentives to driving such as higher priced parking spaces.

While many work places have introduced flexibility in the work day, it is not yet universal. Ideally, if workers can meet their obligations and can be more productive with their work day fitting into their life rather than the other way around, it should be studied and explored by human resources departments, business owners and managers to determine the overall benefit to the workplace and the workers. It is acknowledged that not all workplaces or types of jobs can have flexible work hours.

School / Institutional



School travel planning focuses on getting more children to travel to school via sustainable and active modes. A decrease in car traffic around schools will create safer school zones and a healthier environment. Encouraging the use of walking and biking to school over being driven makes school zones safer and less congested. Supplying university students with transit passes will encourage more to take the bus and less to drive.

School-based programs can be provided by several agencies, such as the school boards, non-governmental organizations and local health units, with transportation and sustainable mobility staff acting in a supporting role. The City should be a partner in the development of school travel plans and develop safety initiatives. The support of an Active Transportation Coordinator and other City staff members in the delivery of school-based travel planning programs will help reduce the overall number of trips by motor vehicle and increase the number of sustainable and active trips to and from school. The use of sustainable modes can lead to several benefits including improving the health of children and the community through increased physical activity and reduction in air pollutants; reducing traffic around schools and increased safety so that more children can use active modes.

As has been noted, that the City of Greater Sudbury should increase the level of engagement in schools regarding sustainable transportation options, working with selected partners to increase education about cycling and developing School Travel Plans.

TDM Supportive Programs / Infrastructure

TDM measures cannot be entirely successful in isolation. Not only are complementary measures initiated together, so too are the infrastructure, programs and policies that are needed to achieve modal share targets, increase the health of a community, reduce greenhouse gas

emissions and improve overall quality of life. In fact, the integration of supportive programs, policies and infrastructure with TDM programs is one of the most important components of implementing a TDM plan. For example, if an employer supports their staff in using transit to commute to and from work, the corresponding services and infrastructure are needed at both the origin and the destination. If an employee is unable to access transit services at either end of their trip, then providing a subsidized pass will not increase the use of transit. The same is true for other services such as carpooling. Providing incentives to carpool work best when there is a complementary ridematching program available to employees.

It is important that the partnerships between agencies, employers and other groups develop and grow so that the integration of the various services, infrastructure and programs all come together so that more people can and want to use sustainable travel options more frequently.

Municipally-Delivered Programs

Municipal governments should take a lead role in the delivery of TDM programs. In many cases, the programs are best delivered by municipalities. In Ontario, there is no legislative support for developers to provide any type of TDM program and if they do, municipalities have little ability to follow up and monitor the effectiveness of the program. Therefore, to understand how programs impact travel behaviour and if the behaviour continues for the long-term, the City of Greater Sudbury should undertake some pilot programs, and where appropriate find partners to assist in the delivery and follow-up. Some programs are also most effective when they are included in the implementation of a new transit service, coincide with the opening of an active transportation facility or the introduction of a carshare service. Programs that promote these initiatives are often not provided by private sector employers or property owners and often rely on some level of public sector support, particularly for marketing and awareness purposes.

The measures identified below are best provided by the City. For example, the use of community-based social marketing and individualized travel planning requires that there be services and infrastructure available for people to change their travel behaviours. When a travel planning program is introduced, the appropriate modes need to be promoted. For example, a community that lacks or has limited transit service should be encouraged to use a ridematching system as an alternative to travelling by single occupant vehicles. A second example of a municipal-led program is the promotion of a new bicycle lane, that when it is built, should be promoted to residents with relevant information from the City about the new facility.

3.2 TDM Measures

The programs listed above are the overarching areas in which TDM measures can be delivered. The TDM measures that will be outlined below can be applied to all the programs, or just one. The diagram below provides an overview of the measures that are recommended to be implemented within Greater Sudbury, with greater detail provided in the descriptions of the measures. While most are applicable to the programs outlined above, a few such as active transportation facilities and integration of travel modes will need to be led by the City and supported by complementary TDM measures and programs.

3.3 Tool Kit

The programs and measures that have been identified above are further explained in the Tool Kit that has been developed. The Tool Kit can be found on the following pages, providing an overview of the types of measures that can be implemented in Greater Sudbury. The tables provide direction on how the measures can be delivered, who will be primarily responsible for delivering each measure, why the measure is needed, the benefits and which of the three programs (Household, Workplace and School) each measure falls within. It should be noted that several of the measures form part of at least two of the programs. Figure 7 outlines some of the more common measures that should be considered for implementation by the City of Greater Sudbury.

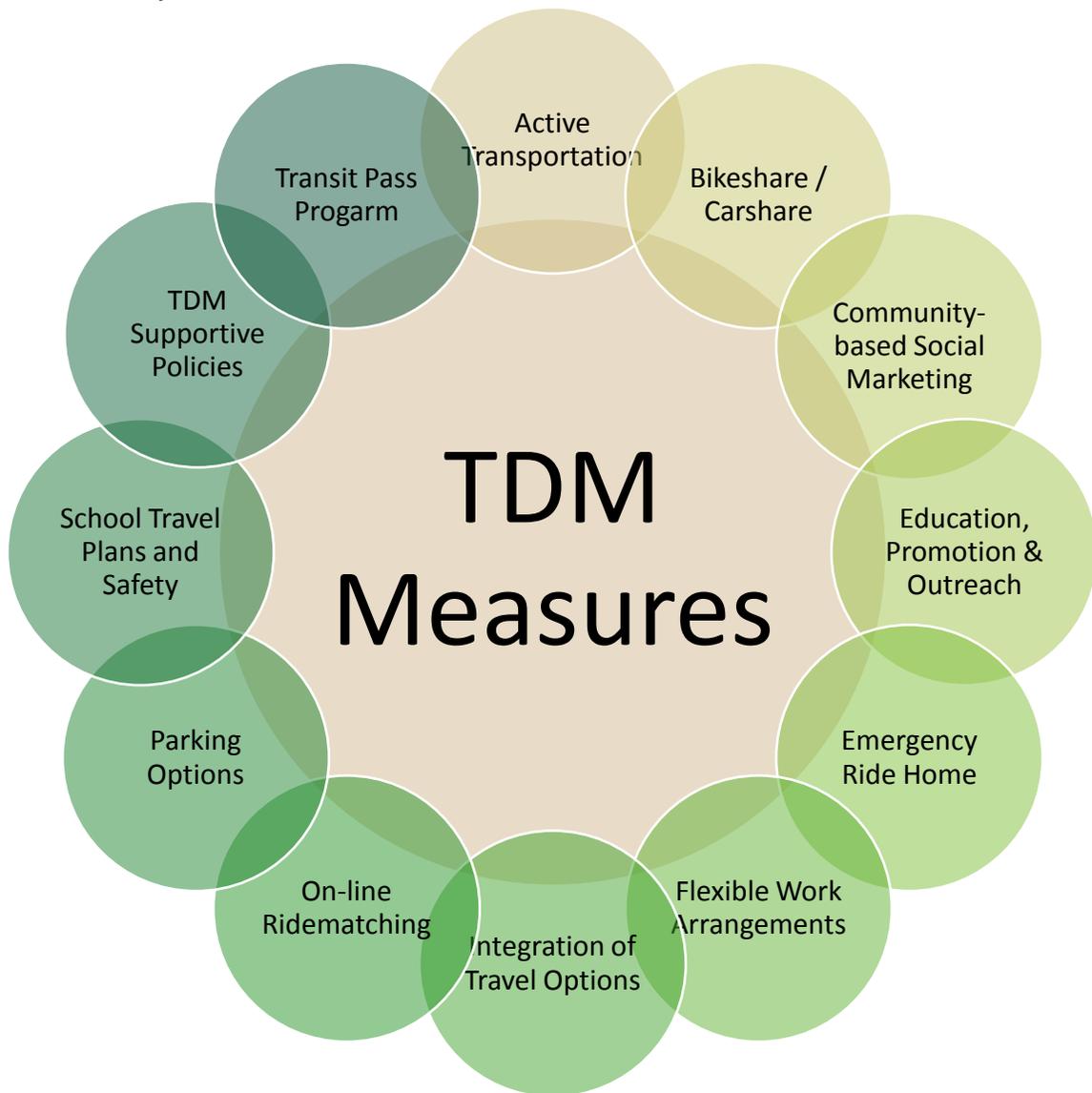


Figure 7: Potential TDM Measures for Greater Sudbury

M.1

Flexible Work Hours



Description:	This program allows workers the option to start and end their work day at different times and travel at off-peak hours.
How will it be delivered?	Organizational policies established within Human Resources and department managers.
Who will deliver it?	Both public and private sector employers.
Why is it needed?	<ul style="list-style-type: none">▶ Flexible work hours allow for a more even spread of peak hour traffic congestion▶ It can reduce the need for additional investment in infrastructure as current systems are frequently exceeding capacity
Benefits / Intent:	<ul style="list-style-type: none">▶ Benefits include supporting employee individual needs and lifestyles which can lead to increased retention and effectiveness▶ Intent is to reduce the peak travel demand and to lessen the impact of parking in a given area

Flexible work hours reduce both peak hour travel demand on the transportation network and lessen the impact of parking in a given area.



Telecommute / Telework



Description: This program allows workers the option to work from home all or part of the time.

How will it be delivered?

- ▶ Organizational policies established within Human Resources and department managers.

- ▶ Support from others who have undertaken the program and seen positive results. A pilot could be undertaken to study if there are any positive results in select workplaces that permit employees to work at home.

Who will deliver it? Both public and private sector employers.

Why is it needed? Telecommuting can be a solution that avoids the need for all employees to commute and thus reduces the number of cars on the road, as well as costs to employers and workers.

Benefits / Intent:

- ▶ Supporting the employees' individual needs and lifestyles which can lead to increased retention, effectiveness and recruitment
- ▶ Office space reduction may also be a consideration
- ▶ Intent includes reducing the demand for travel and lessening parking needs

Telecommute reduces demand for travel and lessens parking needs.



Compressed Work Week



Description: A compressed work week allows an employee to work more hours each day which in turn allows for a day off, or reducing their work hours to either 80% or 90%.

How will it be delivered? Organizational policies established within Human Resources and department managers.

Who will deliver it? Both public and private sector employers.

Why is it needed?

- ▶ Peak loads on the transportation network can frequently exceed capacity.
- ▶ Compressing the work week reduces travel during peak periods and avoids the need to travel on non-work days.
- ▶ Support employee needs.
- ▶ Shift travel away from peak periods.
- ▶ Encourage distribution of travel throughout the day, including boosting the use of transit during non-peak travel times.

Compressed work week reduce travel demand during peak hours.

Benefits / Intent:

- ▶ Supporting the employees' individual needs and lifestyles which can lead to increased retention, effectiveness and recruitment
- ▶ Office space reduction may also be a consideration
- ▶ Intent includes reducing travel demand during peak hours and lessening the need for parking



Ridematching



Description: Ridematching enables people to travel together to a common destination, increases vehicle occupancy and reduces the number of vehicles on the road. Ridematching not only matches carpool partners but also transit, walking and cycling buddies to assist those new to using these modes.

How will it be delivered? Ideally, an online tool should be developed that allows participants to create a profile and find suitable matches. It can be promoted through workplaces, online and through partners or community agencies.

Who will deliver it?

- ▶ Public and private sector employers through an online portal that will be developed by the City and partners.
- ▶ EarthCare Sudbury has in the past provided support for an online carpool program. Their continued interest in ridematching indicates that they could be a good partner to once again provide an online program. The introduction of a new online ridematching program can be a portal to an integrated sustainable travel network in Greater Sudbury.

Why is it needed? Increased vehicular occupancy leads to more efficient use of the transportation system.

Benefits / Intent:

- ▶ Reduces the number of required parking spaces, therefore reducing costs to employers to supply them and reducing all costs associated with commuting.

Ridematching reduces commuting costs and demand for parking spaces.



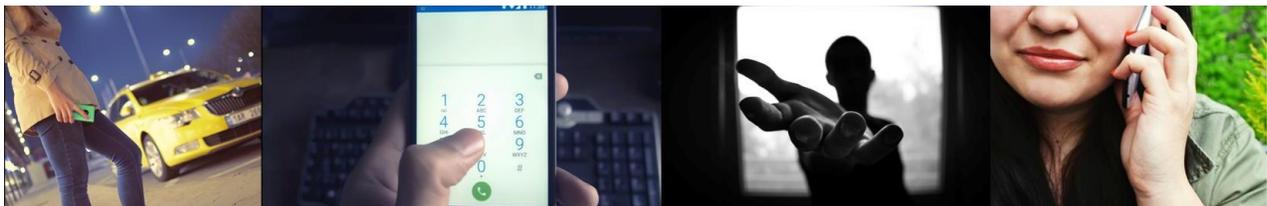
M.5

Guaranteed (or Emergency) Ride Home Program (ERH)



Description:	This is an insurance policy that provides regular users of sustainable transportation the ability to get home in an emergency, when their carpool partner is unavailable, or they have been asked to work unscheduled overtime.
How will it be delivered?	This measure should be delivered through an overall workplace commuter program provided by the employer or mobility management team.
Who will deliver it?	A guaranteed ride home program could be incorporated into the overall ridematching program and be provided by public and private sector employers.
Why is it needed?	<ul style="list-style-type: none">▶ A major barrier to alternative modes of transportation is the uncertainty of getting home in the event of an emergency.▶ ERH programs give these people an ‘insurance policy’ that there will be a guaranteed ride home in case of any emergencies.
Benefits / Intent:	<ul style="list-style-type: none">▶ Increase in sustainable modes of commuters so that they have more transportation security, eliminating the need for a personal vehicle to commute to work▶ Intent is to lessen the peak transportation network load as more people choose alternative methods of travel

ERH provides transportation security, eliminating the need for a vehicle to commute to work.



Transit Subsidy



Description: Transit pass subsidies are often provided by employers or institutions such as universities and colleges to encourage the use of transit through a reduced rate. The difference between the face value of the pass and the cost passed onto the user may be absorbed by the employer or institution.

How will it be delivered? These passes would be delivered by the employer to subsidize employee's passes with assistance through a mobility management program.

- Who will deliver it?**
- ▶ Infrastructure Capital Planning Services and Greater Sudbury Transit staff
 - ▶ Partners including EarthCare Sudbury and other community agencies should also be involved if they assist in the delivery of the passes
 - ▶ They can also be provided by employers who wish to subsidize passes for workers at major employers and institutions

Why is it needed?

- ▶ Discounted transit passes make transit use more attractive, especially compared to driving and the associated cost of gas, parking, insurance and maintenance
- ▶ Support transportation needs of students

Benefits / Intent:

- ▶ Transit pass subsidy increases transit use and ridership and reduces costs associated with commuting.
- ▶ Intent is to have a greater mode shift where sustainable modes already exist.

Transit Pass subsidy increases transit use and ridership, and reduces costs associated with commuting.



Bicycle Parking



Description: Bicycle parking provides secure short term (bicycle racks) or long-term (bicycle rooms, lockers, etc) bicycle storage for residents, workers, students and visitors to encourage cycling.

How will it be delivered? Bicycle parking will be provided as required through the City’s zoning by-law requirements. The City will also be developing bicycle parking guidelines for developments / businesses. A bicycle parking program aimed at providing racks where they are needed such as at City facilities and businesses is also planned.

- Who will deliver it?**
- ▶ Greater Sudbury staff
 - ▶ Racks to be installed by developers to meet zoning requirements in residential areas, commercial and institutional developments
 - ▶ Bicycle parking is a space saving, cost-effective and environmentally friendly alternative to car parking.

Why is it needed?

- ▶ To ensure that there is bicycle parking available at city facilities, workplaces, and within the right-of-way

- Benefits / Intent:**
- ▶ Benefits are safe and secure parking for commuters who cycle to work, or for any other trip purpose
 - ▶ Bike parking can also increase physical activity and reduce the need for motor vehicle parking
 - ▶ Intent is to shift some of the mode share from single occupant vehicles to cycling

Bicycle parking promotes safe and secure parking for commuters who cycle to work, or for any other trip purpose.



Priced Parking



Description:	Priced parking can be used as a catalyst for encouraging people to use sustainable modes particularly when it costs more than transit. The monthly parking rates need to exceed the cost of a monthly transit pass to encourage the use of transit over driving.
How will it be delivered?	Parking policy that is developed by service providers to set rates for parking in off-street lots and structures (for city-owned parking facilities)
Who will deliver it?	<ul style="list-style-type: none"> ▶ Property owners ▶ Greater Sudbury Parking Services ▶ Parking is typically highly subsidized leading to overuse and oversupply
Why is it needed?	<ul style="list-style-type: none"> ▶ This affects urban efficiency, land values and can create environmental issues ▶ Priced parking helps to reflect the true economic and financial costs of providing parking and creates more rational travel choices.
Benefits / Intent:	<ul style="list-style-type: none"> ▶ Benefits include reducing costs to building and employers for parking ▶ Intent is to create a mode shift, and reduce parking demand as paid parking can often shift people to use more sustainable modes of transportation, especially when pricing is coupled with incentives to use other modes

Priced parking aims to create a mode shift, and reduce parking demand as paid parking can shift people to use more sustainable transportation modes.



End of Trip Facilities



Description: These are facilities that provide users of active transportation modes in particular the facilities they require such as showers and change rooms. Other facilities may include benches, water fountains, etc.

How will it be delivered? As required by zoning by-laws and discussions with developers to provide facilities to meet the needs of commercial or residential tenants.

Who will deliver it?

- ▶ Planning Services
- ▶ Infrastructure Capital Planning Services

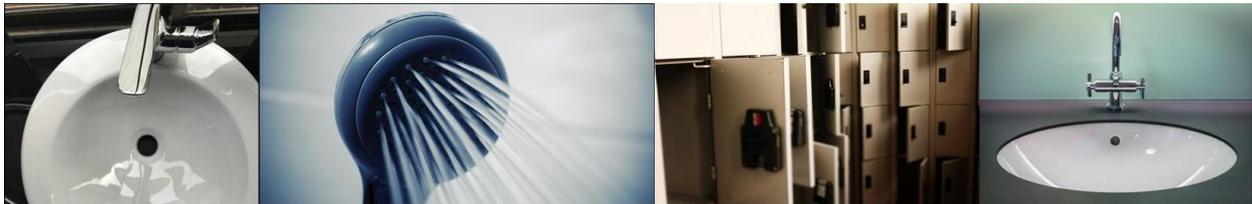
Why is it needed?

- ▶ TDM supportive infrastructure that supports more mode shift to cycling at relatively low cost.

Benefits / Intent:

- ▶ Benefits are that it increases sustainable transportation modes by ensuring that commuters who use active transportation are able to change and clean up before work.
- ▶ Intent is to create a mode shift where reasonable alternatives are available.

End-of-trip facilities increase sustainable transportation modes by ensuring commuters can change and clean up before work.



Park and Ride Facilities



Description:	Parking areas that either provide access to transit services for residents who may not have access to service or areas where people can meet up to share rides into their workplace or other destinations.
How will it be delivered?	As part of Greater Sudbury Transit service plans to optimize and expand the transit network through the Transit Action Plan.
Who will deliver it?	<ul style="list-style-type: none"> ▶ Greater Sudbury Transit Services ▶ Support can be provided by EarthCare Sudbury and other community agencies
Why is it needed?	<ul style="list-style-type: none"> ▶ Intended as a feeder to transit to encourage multimodal travel ▶ Research has shown it is consistently popular but requires a high capital cost per additional ride generated. ▶ There is also an impact on transit oriented development land use and ridership
Benefits / Intent:	<ul style="list-style-type: none"> ▶ Benefits include encouraging more people to use transit if there is a way they can get to these facilities. ▶ Intent is to shift travel from single occupant vehicles to other sustainable alternatives

Park and Ride facilities encourage more people to use transit if there is a convenient and affordable way they can get to these facilities.



M.11

Carpool Parking



Description: Identify parking spaces for carpools that are located in preferential areas (such as near entrances or underground). As well, where there is paid parking, consider discounted parking rates.

How will it be delivered? The City of Greater Sudbury will determine suitable locations and land in neighbouring communities to provide the service.

Who will deliver it? Both public and private sector employers.

Why is it needed? In order to allow those coming from further away, that may not have access to reliable transit or other forms of transportation. They can park in a common area and encourage carpooling amongst coworkers from that area of the community.

Benefits / Intent:

- ▶ Benefits are encouraging more people to carpool together that would normally drive on their own.
- ▶ Intent is shift the mode share of people driving far distance to a larger mode share of carpoolers

Carpool parking encourages more people to carpool together to common locations.



Parking Supply Adjustments



Description: Changing the amount of parking required for new developments or redevelopments can affect the use of sustainable travel options.

How will it be delivered? The changes in how parking is provided will be part of the review of parking in the City and will be incorporated into city policy and by-laws where appropriate.

Who will deliver it? Planning Services

Why is it needed? Reduces the amount of land needed for parking and mitigates traffic from developments. Allowing more on-street parking can enhance safety for pedestrians but may be negative for cyclists, depending upon the road cross section.

- Benefits / Intent:**
- ▶ Reductions in the capital and operating costs of providing parking
 - ▶ Intent is to reduce parking supply and increase a mode shift to sustainable options

Changing the parking supply affects the demand for parking. When implemented simultaneously with other travel options, it can be a powerful tool for changing behaviour.



M.13

Carshare / Bikeshare



Description: Both carshare and bikeshare programs allow residents, workers and visitors to access cars or bicycles on a short-term basis.

How will it be delivered?

- ▶ A pilot can be created through a booking system, travel logs or key distribution
- ▶ It is more convenient for a third party to deliver the program, however the employer can choose which type of program will fit their workplace the best

Who will deliver it?

- ▶ Property managers
- ▶ EarthCare Sudbury / Planning Services
- ▶ Carshare and bikeshare companies

Why is it needed?

- ▶ Single occupant vehicles have a very low utilization rate as they sit in parking lots for long periods of time
- ▶ Using shared vehicles will allow that utilization rate to go up and reduce parking demand

Benefits / Intent:

- ▶ Benefits include reductions in the amount of single occupant vehicle trips which are needed for workday travel (because they can pick up a shared vehicle during work), greenhouse gas emissions which continues the work undertaken by the City to bring back the natural environment surrounding the urban area. This will also reduce travel and parking costs.

Carshare / Bikeshare reduces amount of single occupant vehicle trips which are needed for workday travel. It also reduces travel and parking costs.



Pedestrian Connections and Amenities



Description: Pedestrian facilities are important to encouraging walking and the “first / last mile” connections to transit. Any support for pedestrians such as crosswalks and crossovers, benches, shade, even surfaces, smooth transitions, etc. can be included and will increase the use of active modes.

How will it be delivered? Policies created by the City that request direct, convenient and accessible connections between buildings and a number of destinations including transit will be delivered through the planning approvals process.

Who will deliver it?

- ▶ City of Greater Sudbury
- ▶ Private landowners

Why is it needed? Making facilities such as sidewalks, pathways and walkways accessible to all members of the community increases independence, health, social and employment opportunities and community safety. This will also ensure that AODA compliance is met.

Benefits / Intent:

- ▶ Benefits are having direct and well-thought out connections to destinations, transit and other areas that will increase pedestrian use
- ▶ Intent is to create a modal shift to active modes of transportation

Enhanced pedestrian and cycling connections can help encourage more active living and reduced transportation costs.



M.15

On-Road Active Transportation Infrastructure



Description: This is any infrastructure within the right-of-way that is designated for the users of sustainable travel options. This includes: sidewalks, multi-use trails, bicycle lanes, cycle tracks, etc.

How will it be delivered? The City will identify the locations and types of facilities to be developed to serve the needs of the public.

Who will deliver it? Infrastructure Capital Planning Services
Engineering Services
Planning Services

Why is it needed? Considered a prerequisite for creating safe alternatives to driving especially when considering from the perspective of cyclist user groups.

Benefits / Intent:

- ▶ Benefits are safer areas for pedestrians and cyclists to participate in active travel. Will also increase safety and comfort leading to more users of these facilities.
- ▶ Intent is a modal shift to more active transportation modes.

On-road active transportation infrastructure helps to legitimize cycling as a mainstream mode of transportation.



M.16

Transit Facilities and Routes



Description: Any stop, shelter, station, terminal, route, information booth, etc. that provides the ability to access transit services and information

How will it be delivered? As part of Greater Sudbury Transit service plans to optimize the transit network through the Transit Action Plan.

Who will deliver it? Greater Sudbury Transit Services

Why is it needed? Having more transit infrastructure and facilities will make transit more attractive, easier to use and encourage more people to use the mode for commuter purposes.

Benefits / Intent:

- ▶ With more people taking transit there will be fewer cars on the road and higher mode share for alternative modes of travel.
- ▶ Intent is to encourage those who have other forms of travel to use transit instead, thus raising mode share.

The quality and availability of Transit facilities and routes are key decision factors that are used by residents and visitors to decide how to get around.



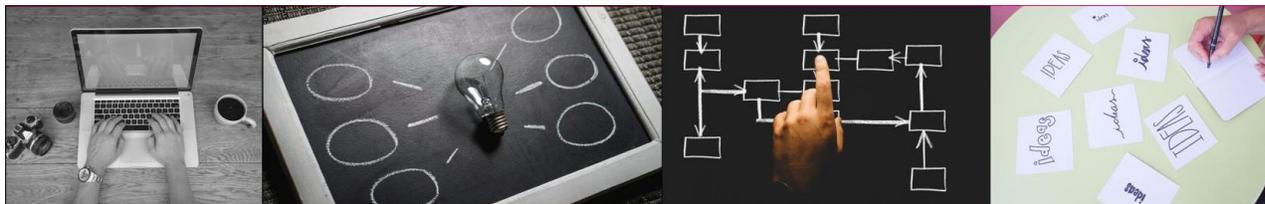
M.17

Individualized / Community-based Social Marketing and Travel Planning Programs



Description:	Community-based social marketing uses a set of “tools” which have been identified as being particularly effective in fostering travel behavior change. The tools are most effective when used together.
How will it be delivered?	Programs are typically provided by the City and partners directly to residents. These programs can be delivered door-to-door, at neighbourhood events where people can talk to someone directly or through social media.
Who will deliver it?	<ul style="list-style-type: none">▶ Infrastructure Capital Planning Services▶ Corporate Communications and Community Engagement▶ This program would be appropriate to be delivered in partnership with another community organization
Why is it needed?	Engagement and education about sustainable transportation options at the household level can lead to a higher probability of long term success.
Benefits / Intent:	<ul style="list-style-type: none">▶ Benefits are more options provided to households and individuals for daily commuting and supports the lifestyle that the individual wants and needs.▶ Intent is to increase individualized information of travel alternatives to the households and change travel behaviour.

Community-based social marketing emphasizes direct contact among community members and the removal of structural barriers, since research suggests that such approaches are often more likely to bring about behavior change.



M.18

Community Events



Description: Any opportunity, such as festivals, farmers' markets, school events, etc. where the information about the use of sustainable travel options can be delivered where residents are already congregating.

How will it be delivered? Staff from the City or community organization can be present at events to provide information about sustainable travel modes and TDM programs. This would reduce the need for specific transportation events to be held which may not have the same response rate.

Who will deliver it?

- ▶ City of Greater Sudbury
- ▶ Community Organizations

Why is it needed? Community events bring TDM to the people and create opportunities to engage directly.

Benefits / Intent:

- ▶ Benefits are providing information in one place which saves time and money for providers and allows individuals to see options.
- ▶ Intent is to increase information of travel alternatives, and create a mode shift from SOV to alternative modes of transportation.

Community events provide unique opportunities to engage both one-on-one with residents as well as communicate to large audiences.



M.19

Community App for Transportation Support



Description:	A smart phone app that can be used to find out any information about sustainable transportation options and provide the information on one site.
How will it be delivered?	The app can be available through developers for the use of sustainable travel such as transit schedules, carpooling, and others
Who will deliver it?	<ul style="list-style-type: none">▶ Corporate Communications and Community Engagement▶ Information Technology Services▶ App Developers
Why is it needed?	Apps create easily accessible ‘in your pocket’ information for travel options. There is also the option to combine with live information such as parking availability, and downtown congestion.
Benefits / Intent:	<ul style="list-style-type: none">▶ Benefits are provisions of information in a platform that is easily accessible and can enable the user to choose the most efficient mode of transportation for themselves.

Community apps provide a virtual ‘one-stop-shop’ community information and services, including transportation.



Education Programs



Description: Any program whether it is in written form, on a website or through hands-on opportunity or presentation that provides information on the use of sustainable travel. These can include how to fix a bicycle, how to ride a bicycle in traffic, how to use transit, the use of on-line programs and so on.

How will it be delivered? Education about active and sustainable modes can be delivered through printed materials (activity books, brochures), hands-on activities such as training courses and bicycle rodeos, and online through interactive websites.

Who will deliver it?

- ▶ City of Greater Sudbury
- ▶ Community Groups
- ▶ Other Levels of Government

Why is it needed? Similar to other information programs, these create awareness of travel options, educate people and reduce barriers to TDM.

Benefits / Intent:

- ▶ Benefits are that education and training can increase confidence using sustainable modes and result in an overall increase in use.
- ▶ Intent is to increase information of travel alternatives and educate about how to use them.

Education programs help to better inform residents about their own travel options and also harness the power of word-of-mouth marketing.



M.21

Promotional and Awareness Programs



Description: Programs in which the users are provided information directly as individuals or part of a larger group to encourage them to use sustainable modes. The programs can include incentives, personalized travel plans and other initiatives that are designed to change travel behaviours over the long term.

How will it be delivered? Programs and materials can be provided through a number of means including many that have been identified such as transportation fairs, or online services such as ridematching.

- Who will deliver it?**
- ▶ City Website
 - ▶ City of Greater Sudbury
 - ▶ Community Organizations

Why is it needed? Similar to other information programs, these create awareness of travel options, educate people and reduce information barriers to TDM.

- Benefits / Intent:**
- ▶ Benefits are an increased awareness of the programs and modes available.
 - ▶ Intent is to increase information and awareness in the community of alternative travel options.

Promotional programs are an ideal forum to provide information about transportation programs to larger groups.



Land Use Planning



Description: Policies that support the use of sustainable modes such as mixed use development, compact communities and higher densities.

How will it be delivered? Amendments and updates to planning policy documents and master plans to reflect the integration of land use and sustainable transportation planning. The increase in a mix of uses, intensification and developing clear policies around transit-oriented developments and pedestrian-focused communities will help integrate TDM into the planning policies of the city.

Who will deliver it? ► Planning Services

Why is it needed? The model that has been used for several decades can no longer be supported and it is therefore necessary to look at other built environment planning options to make the use of the land more efficient and to ensure that our transportation systems are sustainable and effective. Therefore, in order to support the use of sustainable modes, changes are needed that no longer cater to only the automobile.

Benefits / Intent: ► Benefits are communities that are not reliant upon the car and are more focused on people and mobility. Innovative policies can place Sudbury in a leadership role.

'The best transportation plan is a good land use plan.'



School Travel Planning and Support



Description: These are plans that are developed for individual schools and based on the needs specific to the community. They can also come out of larger policies to encourage the use of sustainable travel within a community to schools. These programs are designed to provide information, education and potential limits on access by private vehicles to school properties through developing safe drop off zones, better AT routes, etc.

How will it be delivered? The school travel plans are implemented on a school by school basis using the format established through Green Communities Canada. The support for the plans is provided by other groups such as school boards, city staff and regional staff.

- Who will deliver it?**
- ▶ School Boards
 - ▶ City of Greater Sudbury
 - ▶ Sudbury and District Health Unit
 - ▶ Community organizations

Why is it needed? Schools have peak trip generation (AM and PM peak). Engagement at the school level helps reduce demand for car trips and allows safe alternatives to promote walking and cycling. The City should ensure that they are taking an active role in continuing development of school travel planning programs.

Benefits / Intent: ▶ Benefits are less pollution, increased physical activity, increased levels of safety.

School travel planning helps to reduce car use and keep children fit and healthy.



4.0 TDM Promotion, Engagement and Development Tool Kit

4.1 Promotion and Engagement

Any TDM program involves promoting the use of sustainable travel options that goes beyond just informing the public about a new activity, infrastructure or a new program. Promotion of TDM measures involves using methods that will encourage long-term and sustained behaviour change and includes working with the public to determine what their needs are, what they are willing to try and how often. The sections below outline various techniques which can be used to encourage residents of Greater Sudbury to shift travel behaviour over the long-term.

Promotion and Engagement Tool Kit

A tool kit is a guide, collection of components, and a source of information that can be used to support the implementation of a program or activity, as well as the completion of new sustainable transportation infrastructure or services. To deliver a program which promotes the use of sustainable transportation and the implementation of a TDM program, the tool kit will need to be flexible and designed in such a way that each component can be used on its own or as part of a larger plan that will include many TDM measures. The tool kit can take on many forms and incorporate any number of components which can be used to:

1. Promote new TDM-supportive infrastructure such as bicycle lanes, bicycle parking, pathways and multi-use trails, amenities, etc.;
2. Promote the use of new sustainable transportation services, such as a new transit route;
3. Educate residents about TDM measures, programs and activities; and
4. Work directly with residents to encourage changes in travel behaviour and provide incentives and an understanding of the benefits of sustainable travel modes.

To look for inspiration as to what could be accomplished in Sudbury over time, Denmark provides a great example of how to change travel behaviours in both the city and regional context. The Danes have been successful in shifting travel behaviour from the car to cycling for a range of trip distances and purposes, though this has occurred over several years. As a small country with a small population (5.7 million, much less than half Ontario's population of 13.6 million), it is not unreasonable to look at some of the programs, policies and cultural changes that occurred to encourage walking and cycling. Many of the ideas can be applied to other sustainable modes such as transit and carpooling.

The country has not always been a sustainable transportation haven. In fact, in the 1960s and 1970s, cycling was battling against the growth in automobile traffic. Like Canada, it was a predominately car-based culture, but the 1970s oil crisis and increased interest in environmental causes led to a shift back to cycling as a means of transportation. Today, sustainable transportation is not only popular, it is widely considered the "norm". The Danish experiment to shift travel behaviours is rooted in a three-pronged action plan, accomplished

through the development of infrastructure, promotion of active modes (all sustainable modes can be promoted in a similar way) and a “normalizing” of the use of sustainable modes through legislation. Table 3 outlines a few key components of travel behaviour change used successfully in Denmark. It should be noted that though these programs were directed specifically at cyclists, some of the activities could be applied to other sustainable modes, such as transit as indicated in the first program in the table below.

Table 3 –Denmark’s Promotional Activities

Infrastructure	Normalization	Promotion
Gradual and continuous expansion of separated bicycling facilities (cycle tracks and pedestrian amenities)	Pedestrian and public transports are always given priority. Motorists must always yield to pedestrians, people on bicycles and mopeds.	Umbrella organization that coordinates efforts within public and private sectors; Cycling Embassy of Denmark
Excellent year-round maintenance programs		Several programs have been developed over the years to encourage the use of sustainable modes. A few are outlined below.
High fuel costs		Bike to Work Month: This campaign has been running for over 18 years and has been tremendously successful. It takes place during the entire month of May and is centered on workplaces. A central website teams to view their own page and to see the progress of other teams. Many local municipalities build upon the momentum by offering incentives. The purpose is to motivate more people to cycle and support those already doing so.
Strict rules and laws for pedestrian and cyclists	Pedestrians and cyclists can also be fined for not obeying laws. Typically, fines are 1000-1500 DKK (\$200-300 CAD) for offences not involving collisions.	

While some ideas are not necessarily easily accomplished at the local level in Canada, many ideas from Denmark can provide a solid basis for an action plan to shift travel to more sustainable modes in Greater Sudbury (see Section 5.0).

Why Promote Sustainable Modes?

Sustainable travel modes are an important part of the transportation system, but they are not typically promoted the way we promote and market the automobile at present. The car is marketed as a status symbol, to be free to go where you want to go and as a direct means to travel to a destination.

Except for programs and technology that promotes the use of carpools and transit, little else is done to routinely promote sustainable travel in Canada. As Greater Sudbury begins its TDM journey, it is important to ensure that all sustainable travel options are promoted, marketed and encouraged to all the city's residents. We cannot assume that if we build it or if we provide it, the community will use it. Therefore, we need to be proactive and innovative through exciting and fun programs.

Just like the opening of a new business, the opening of a trail, bike lane or the start of a new transit or carpooling service is an important opportunity to promote sustainable travel options – for all trips. Cars are seen as a status symbol and represent freedom of movement – the question must therefore be asked: why can't sustainable modes be seen this way? Rather than the latest and greatest car, we can market: how cycling and walking can make you healthier without having to pay high annual fees for gym memberships; how taking transit can reduce stress and enable workers to catch up on emails while traveling; how using a car less can provide you with more money that can be put toward a dream vacation; and how pollution can be lowered around schools when more parents choose to walk their children to school. Connecting the benefits of using sustainable travel and the infrastructure that supports it can help encourage their use and lead to the normalizing of sustainable travel behaviours.

4.2 Tool Kit for Promoting and Encouraging the Use of Sustainable Travel Modes

The 2016 Transportation Master Plan emphasized the need for a TDM plan that meets the needs of the community. A 'Tool Kit' that contains a range of TDM measures that the City can choose from to implement over time, is considered an effective approach to TDM for City. The Tool Kit contains two main benefits: one is a broad overview of the wide range of TDM programs and initiatives that are available to the City, along with some commentary on their relevant costs benefits, and the other benefit is a level of flexibility to implement these TDM measures in accordance with the City's own priorities. The Tool Kit includes the following four categories of measures:

1. Promotional information and materials to encourage the use of sustainable travel options

- a. Emphasis on the fun, enjoyable and social aspects of alternatives to single occupant vehicle travel: marketing strategies that make travel options like carpooling and transit exciting.

- b. Tackling attitudes around people feeling safe and independent – show residents and visitors how to move through the community using clearly signposted, direct routes and modes
- c. Avoiding marketing messages that make people feel obliged or guilty – develop messaging / programs with a subtler aim to change behaviours. Design messages in a way that help to overcome taking part in the programs and using sustainable travel modes.
- d. Promote the use of sustainable modes so that people can see themselves using different modes at different times in their lives. Also, include supporting measures and incentives that can make using sustainable travel options more realistic
- e. Hold focus groups to learn what a community needs and determine if the approach being taken by the City is the appropriate one.
- f. Engage members of the community to act as Ambassadors to provide information about cycling, road safety, transit and generally be a “cheerleader” to encourage the use of sustainable travel options.

2. Funding and promotion of new TDM-supportive infrastructure

- a. When new infrastructure is completed and available to the public, it should be promoted and celebrated to allow people in the surrounding neighbourhoods to discover it, use it and determine its value to them. Opening events with municipal staff, elected officials and the public provide the unique opportunity to provide residents with timely and relevant information about the new infrastructure. This can also be used as an opportunity to promote the City’s sustainable transportation goals and educate potential users.
- b. Set up a process to generate stimulating and interesting media releases and harness the City’s existing relationship with media outlets to promote TDM-supportive infrastructure in a cost-effective and informative manner. The news releases can raise the profile of these projects
- c. For larger projects or new developments, use CBSM-based travel planning programs to provide local residents with information and support as to how to best utilize travel options on a long-term basis. Combining CBSM-based travel planning programs with new infrastructure or developments has the potential to increase the use of the sustainable travel option(s) due to direct contact, on-going support. This can increase the likelihood that using active modes can lead to sustained changes in travel behaviour. Developing individual travel plans, providing a direct email / phone line for support and regularly taking part in community events will help to keep sustainable travel options at the forefront.

3. Reprioritizing the City’s long-term transportation and land use objectives to in a set of comprehensive updates to the Official Plan, as well as tracking progress and achievements

- a. As the City implements the TDM plan, progress towards milestones should be tracked and celebrated

- b. The City should also promote upcoming programs to ensure that residents understand the long-term planning for implementing TDM within the City and how they will coordinate with other groups and develop partnerships
- c. Develop an award program for both employers and residents / employees to encourage them to use sustainable options.
- d. Establish a reward program in which local businesses donate rewards for those using sustainable modes.
- e. The Official Plan currently contains the objectives to ‘support the expansion of the transportation network as demand justifies’ as well as ‘promote[ion] of all travel modes’ (see Official Plan, section 11.1). As the TDM Plan gains more prominence and resources are reprioritized, consider a shift to sustainable transportation principles and policies that prioritize making better use of existing infrastructure and deliberately targeting the growth in non-sustainable modes to reduce the environmental footprint of the City over time.

4. Implementation of programs that support TDM

- a. Table 4 below provides an overview of promotional programs that support TDM:
- b. The use and promotion of sustainable modes of travel for special events and entertainment areas.

There have been several communities that have incorporated sustainable travel within the development of a special event space, such as Winnipeg, Ottawa and Moncton. Parking is important to attracting people to a site but it can also lead to issues such as congestion and delays. Not only is this a time issue, it also contributes to air pollution and dominance of motor vehicles in each area and can also lead to stress and frustration.

Special event hosts / venues should include promotion of sustainable travel modes when a show, game or event is scheduled. Simplifying the process by including transit fares, shuttle bus services to off-site parking and valet bicycle parking in the cost of a ticket will encourage people to leave their car at home.

Early discussions about the proposed Kingsway Entertainment District indicated that prioritizing modes other than the car will be part of the plan going forward. This is important to the implementation of the TDM plan. At the time of the writing of this report, the development of the initial plans and early discussions were still ongoing but nonetheless, the inclusion of sustainable transportation options is important. However, it is not possible to promote the use of sustainable modes where there is a considerable amount of parking associated with a site.

An example of the power of land use policies and guidelines that reduced parking and allowed for a mixed-use site is Lansdowne Park (TD Place) in Ottawa. As time goes on, it should be looked at as an example of a successful site with limited parking available for events.

Table 4: Promotion Programs

TDM Promotion Tool	Description	Comments
<p>Community-based social marketing</p>	<p>Community-based social marketing (CBSM) can be applied to assessing and defining the audiences within a community and developing an approach to the delivery of communications and promotional materials. CBSM involves the use of a variety of tools to encourage changes in behaviour through personal contact and individualized programs. It encourages the removal of barriers to a potential “new” behaviour using tools such as prompts, commitments, norms and communications. These tools allow for the:</p> <ul style="list-style-type: none"> ▶ Segmentation of audience to attract those who are willing to change their behaviour; ▶ Identification of the barriers to a behaviour; ▶ Development and piloting of a program to overcome these barriers; ▶ Implementation of the program across a community; and <p>Evaluation of the effectiveness of the program.</p>	<p>It is therefore important to use the principles of CBSM as well as other innovative approaches to the encouragement of behaviour change to achieve the goals set out in the TDM Plan.</p>
<p>Campaigns and Events</p>	<p>Campaigns and events are opportunities to promote, encourage and educate. Campaigns tend to be longer in duration while events may be one-offs, annual or monthly opportunities to promote the use of sustainable travel options. To attract and inform more people, hosting or attending events is important as going to where the residents are is often more</p>	<p>The longer something lasts and the more it is in the public eye, the more likely it will have an impact on the way residents travel. It has been shown that when campaigns last longer or events are repeated on a regular basis, the result is that more people will stick with the sustainable option than if they were shorter or not as frequent.</p>

TDM Promotion Tool	Description	Comments
	<p>productive than when invited to an event.</p> <p>Examples of campaigns and events:</p> <ul style="list-style-type: none"> ▶ Bike month or Bike Season (i.e. Summer months) ▶ Bike lending campaign (like in Denmark – see appendix) ▶ Regular competitions between workplaces ▶ Home shows and other public expos ▶ Walk to School Day ▶ Winter Bike to Work Day ▶ Carpool Week ▶ Telework Week 	<p>Campaigns and events are excellent opportunities to develop partnerships with community organizations.</p>
<p>Interactive Tools and Workshops</p>	<p>Interactive tools allow for residents to take a hands-on approach to understanding and learning about sustainable travel. They also enable those providing a service or program to encourage people to use sustainable travel options for the long-term.</p> <p>Workshops can include learn to ride a bike programs, how to use the bus, increasing confidence for using active modes etc.</p> <p>Interactive tools can include – online ridematching and buddy programs; maps that show routes, distances and times; schedules for public transit and how to find the right mode for a trip (Mobility as a Service – see below).</p>	<p>Interactive tools can provide support, education and encouragement to use sustainable modes. They can be used to provide hands-on learning opportunities as well as encourage a behavioural shift in how people travel.</p>
<p>Website and Clearinghouse</p>	<p>A website provides information about, and links to all sustainable travel options and ensure that when residents, employers, and visitors are</p>	<p>A “one-stop-shop” can provide the necessary information to support the use of sustainable travel options. If there are several sites dedicated to TDM</p>

TDM Promotion Tool	Description	Comments
	<p>looking for sustainable, affordable and convenient modes of travel, it is available on one site.</p> <p>The clearinghouse will provide all related documents in one place to ensure that the information needed is available. If interactive tools are available, the links should also be included on the website.</p>	<p>initiatives, it will make it more difficult and potentially confusing for people to navigate and find the information they are looking for.</p>
Safety	<p>Safety and awareness campaigns should be used to promote visibility of cyclists, safe practices, buddy systems, etc. Any safety program and the related changes to the infrastructure and services will increase use.</p>	<p>Safety can be incorporated into any of the tools outlined in this table, however, it should be noted separately to ensure that it is an important component of the TDM program.</p>
Collateral	<p>Any materials developed to be distributed to the public to promote the use of sustainable travel options.</p>	<p>These can be effective in promoting events and campaigns and letting the public know about new programs, infrastructure and services. They should not be used on their own but as part of a larger program.</p>
Media – Traditional and Social	<p>Media is changing – the focus is moving from print forms to online news services and social media posts on platforms such as Twitter and Facebook.</p> <p>Developing relationships with media can also provide opportunities for “free” advertising and methods of getting information out in a timely manner.</p>	<p>The use of these platforms is now considered essential to getting the message out, providing support, assistance and feedback and reaching the younger generations such as the Millennials.</p>
Individual Travel Planning	<p>This program provides opportunities to work directly with individuals and groups (generally households) to develop specific travel plans to</p>	<p>Working directly with people has proven to be effective in encouraging changes in travel behaviour. This program can be delivered to households,</p>

TDM Promotion Tool	Description	Comments
	meet their daily transportation needs.	workplaces, post-secondary institutions.
Promote Destinations and How to Get There	Promote getting to destinations such as shopping, workplaces, medical offices, schools, and other places that people need to get to daily. As well, showing routes to common destinations will help people travel around more sustainably.	A lot can be done in partnership with businesses and employers to encourage the use of sustainable transportation to their sites.

Emerging Opportunities to Increase Sustainable Mobility Modal Shares

Mobility Management

Mobility Management is often another term used for TDM, but in many ways, it is more comprehensive and can be used to complement the softer transportation measures that make up TDM measures and programs. Building upon the work undertaken in the community-based social marketing programs outlined above, Mobility Management considers the need to understand the users of the transportation system to further depict the reasons why they use a specific mode.

This enables not only the creation of an effective promotional and communications campaign, but provides the types of services and infrastructure needed to make the journey more in line with the needs of individuals, households, workers and visitors. This is not about the transportation infrastructure or services available; it is about the users and understanding their needs, fears, motivations and experiences; about knowing where they go, when they travel and the purpose of the trip; and that transportation can be a facilitator for an individual's lifestyle. When the travel needs of individuals are balanced with strategic objectives and existing infrastructure and services, this results in a win-win opportunity for all.

Therefore, it is important to undertake the development of a program that closely matches and reflects user needs. Looking specifically at individuals can lead to considerable work and little to show for it, however using the idea of personas or user groups can lead to a higher level of success and achieve the goals of this plan and the City.

Mobility as a Service

This is an emerging personalized service approach to transportation that adapts the mobility needs of individuals to a suite of on-demand travel services, usually with the help of technology such as smartphones. Currently, there are few providers with a comprehensive program in place in Canada. Finland is currently leading the way, select US examples exist such as WeDriveU (Texas) and Via real-time ridesharing (Washington DC, Chicago and New York City). The reality is that this will continue to be a field that the City should monitor and learn about and develop systems in which residents, workers and visitors can find the best transportation option

for their travel needs. By promoting the use of such services, the use of sustainable travel is expected to increase over time.

Mobility as a Service (MaaS) is the integration of various forms of transport services into a single mobility service accessible on demand. To meet a customer's request, a MaaS operator facilitates a diverse menu of transport options, be they public transport, ride-, car- or bike-sharing, taxi or car rental/lease, or a combination thereof. For the user, MaaS can offer added value through use of a **single application to provide access to mobility**, with a single payment channel instead of multiple ticketing and payment operations. For its users, MaaS should be the **best value proposition**, by helping them meet their mobility needs and solve the inconvenient parts of individual journeys as well as the entire system of mobility services.

The aim of MaaS is to provide an **alternative to the use of the private car** that may be as convenient, more sustainable, help to reduce congestion and constraints in transport capacity, and can be even cheaper. (From: <https://maas-alliance.eu/homepage/what-is-maas/>)

Transit Master Plan

The TDM Plan is also the ideal opportunity to respond to several suggestions arising from the Greater Sudbury Transit Action Plan, currently underway. Community Action Network and Transit Stakeholder workshop participants in the phase 1 public engagement responded that improvements to amenities and technology would be welcome to improve the customer experience. The TDM Plan is the ideal opportunity to prioritize the installation of more shelters, benches, charging stations for personal electronic mobile devices, music and art to help promote a shift to sustainable modes. The members of SMAP also reported cycling infrastructure improvements such as bicycle parking in proximity to transit would help to increase more multi-modal travel behaviour across the municipality and assist with last mile journeys.

4.3 Partnerships

There is the potential within Greater Sudbury to coordinate the delivery of TDM programs with partner organizations. This not only provides support and increased outreach opportunities; it also ensures that TDM programs are community-based. With only one staff member (the Active Transportation Coordinator) with the mandate to deliver sustainable transportation programs, infrastructure and services, the inclusion of partners in the development and delivery of TDM programs will benefit the community and ensure that the programs are implemented.

Most successful TDM programs are implemented with through the cooperation of both the municipal officials (including EarthCare Sudbury) and other community-based organizations. The assistance of groups such as reThink Green will be needed to deliver the TDM programs to workplaces and households.

The local school boards and the Sudbury and District Health Unit will be important partners to assist in delivering the programs to schools in Sudbury. They have the knowledge of school programs and the needs of the students to deliver the types of educational and informative programs required to encourage students to travel by sustainable modes.

During the stakeholder consultation session, reThink Green suggested that they take the lead on the delivery of a workplace travel program. There are many ideas listed in Chapter 3 that both reThink Green and the City can work on collaboratively to deliver the workplace program. This should be a short to medium term priority for both.

Other partnerships can evolve over time as the TDM program matures and more groups become aware of the benefits of TDM within Greater Sudbury.

4.4 TIS Guidelines

Greater Sudbury is currently updating its Traffic Impact Study Guidelines (TIS). The updated TIS guidelines include non-auto modes, transit, pedestrians and bicycles. They do not however include the provisions to incorporate infrastructure into new developments to increase the use of sustainable travel options.

This section should include the following to reduce the number of auto-based trips to and from a new development:

1. Provision of bicycle racks and lockers on site (new provisions to be incorporated into the zoning bylaw). These facilities should be located near the main entrances of all buildings (site plan) in well-lit and accessible locations (within 10 to 15 metres of the entrances)
2. Provision of walkways and paths to connect building entrances to transit stops and sidewalks within the right-of-way to encourage the use of cycling, walking and transit (also part of the first / last mile connection)
3. Sidewalks, walkways, paths and trails in subdivisions to ensure that there are options for people to use active modes of travel (guidelines will need to be followed to receive all lines of credit)
4. Bicycle infrastructure to improve commuting within the city, particularly to / from and within new developments
5. Priority parking spaces for carpools should be included within parking lots to encourage the use of carpools and online services
6. Add a TDM Plan to *Documentation and Reporting* section and to Appendix B when required for large scale individual site plans and plans of subdivision.

4.5 TDM and Land Use Planning

The link between land use and transportation planning is well documented. To encourage the use of sustainable travel, not only are programs and promotion needed but the built form of our communities needs to support sustainable transportation initiatives as well. Below are the policies from Greater Sudbury's Official Plan. These policies provide a basis from which to grow

and strengthen the link between supportive land use policies and the promotion of sustainable transportation modes.

Policies from Greater Sudbury's Official Plan:

The following sections within the Official Plan **should be updated** to include increased support for TDM programs and opportunities with the goal of increasing the use of sustainable travel options with Greater Sudbury through compatible land use policies.

Section 11.1 Objectives:

Add an objective that states: Develop a robust TDM program that will shift modal shares to sustainable travel options and encourage long-term travel behaviour change.

Section 11.3 Public Transit

Add a policy to include the first / last kilometre in planning for new communities:

Ensure that all new developments incorporate active transportation infrastructure or connections to infrastructure and services to provide the opportunity for increased use of transit and reduce the dependence upon the private automobile.

Is there a policy on equity – we could use a sustainable transportation network where there are good connections via walking and cycling to transit stops and terminals which will increase the ability of lower wage earners to access employment, school, social activities and shopping, etc.

Section 11.9 – change to a TDM Programs and Transportation Sustainability Section – it will help to highlight the TDM Plan and provide policy to support incorporating TDM into developments

5.0 Action Plan

This chapter builds on the key programs, tools and community profile from earlier in the report to develop the action plan that will implement Greater Sudbury's TDM Plan.

As discussed in Chapter 4, the delivery of tools that will meet the needs of the city to shift travel behaviours and make it an intrinsic part of the community will require a systematic yet flexible approach to the delivery of the TDM program. Each action identified within the Plan will include potential partners or providers, timeline for implementation and a monitoring program.

The TDM action plan includes “soft measures” (e.g. education and promotion) to encourage sustainable travel modes, which are designed to support the services, infrastructure and amenities required for the plan to succeed.

Three different implementation timelines are addressed: “quick win” actions in the first two years, followed by medium-term actions (years 3 through 5) and long-term actions (years 6 to 10).

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

5.1 Key Steps

A successful TDM Plan will include several steps that encourage collaboration, innovation and inclusion. The following provides an overview of the steps that should be undertaken.

Establish Partnerships

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

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

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

Community Partnerships

Partnerships are important to the implementation of the City's TDM Plan. Through the City's leadership community organizations, businesses and community groups will have significant roles in the delivery of programs and measures to shift travel behaviours.

Workplaces such as the Sudbury Canada Revenue Agency (CRA) office, Health Sciences North and the City of Greater Sudbury have all shown interest in supporting the implementation of TDM programs and measures. These workplaces, as well as others should be part of a program designed to support workplaces. A workplace program should be created to support, encourage and enable the use of sustainable travel options. Beyond the workplace, partnerships with community groups are vital to provide education, encouragement and support for households and individuals to shift travel to more sustainable modes for daily activities.

Student travel is unique. Children often do not have a choice for how they travel to school. Parents are often the ones who decide if their children will walk, cycle, be driven or take the bus. Travel decisions are often based on household schedules, weather, distance and the desire to ensure that children arrive at school safely. Many parents drive their children to school due to the perception that there are too many cars around schools and the areas are not safe. Partnering with schools and the school boards can help to ensure that parents understand school safety can improve if children can use active and sustainable modes to travel to school.

Recommendations:

- ▶ The City should develop a working relationship with community groups working with community organizations to implement the measures and programs outlined in this plan to provide the support and encouragement needed to residents that will result in long-term changes in travel behaviour.
- ▶ The City should develop partnerships with the school boards within the city limits to develop and deliver programs that will support parents, children and staff in making sustainable travel decisions. The City should consider taking part in the Active and Safe Routes to School program as well as the School Travel Planning program in partnership with the school boards and Green Communities Canada. If the City wishes to apply to be a Silver level Bicycle Friendly Community, it should work with its partners to pilot a School Travel Planning program at a few of the schools within the City in the short-term.
- ▶ The City should continue to work with the community group to engage the community in reducing the use of single occupant vehicles for everyday travel.
- ▶ Community groups that have invested in supported sustainable transportation should continue to be supported and provided with information. These groups, such as the Friend of Sudbury Transit, Rainbow Routes Association and others have invested in providing residents with information, infrastructure and other supportive measures. The City should work with these groups to provide necessary support measures, allowing them to continue in their encouragement of sustainable transportation use.

TDM Working Group

An effective TDM program cannot be managed and delivered by a single individual or staff group. Success will require active support from other city departments and their work programs.

For example, collaboration between transit staff and the City's Active Transportation Coordinator could help improve multimodal "first and last mile" connections to transit hubs.

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

This working group would be complementary to the Sustainable Mobility Advisory Panel.

Recommendations:

- ▶ The City should develop an internal TDM Working Group to, among other things, help integrate TDM and transit into major construction projects. The internal working group can assist in promoting the use of all sustainable transportation options and the linkages between transit and TDM.
- ▶ Both transit and transportation staff need to work collaboratively in the delivery of TDM programs. This will include promoting and marketing TDM and transit, encouraging the use of sustainable travel options and working with members of the community to shift travel behaviours.

Staffing

The implementation of the TDM Plan will require an increase in staffing to allow for the delivery of programs and measures throughout Greater Sudbury. The additional staff will be able to coordinate activities, outreach, and promotion; work with other city departments; and develop partnerships with outside organizations.

For the delivery of the TDM Plan, there are two recommended positions. One is the transition of the Active Transportation Coordinator from a contract to a full-time position. The other position is the addition of a marketing and promotion expert who would be responsible for both transit and TDM. A staff member who specializes in marketing and promotion can provide the necessary materials and activities to encourage the use of sustainable transportation modes, coordinate work between transit and transportation and establish partnerships. These changes can lead to integration of sustainable modes, including the encouragement of more multi-modal transportation options such as the "first mile/last mile" connections between transit and origins or destinations.

Increasing the number of full-time staff as outlined above will help to increase the City's ability to encourage the use of sustainable travel modes, engage with residents and develop slogans and branding which will provide the City with increased modal shares towards sustainable travel. While the addition of staff will increase the operating budget, the ability to promote and encourage the use of sustainable travel options and implement the TDM Plan require this investment.

Create outreach, marketing, and education programs

Social marketing programs and traditional media and communications outlets are important to the success of TDM measures. The success of each TDM measure needs to be supported through education about how and why sustainable transportation options should be part of daily activities. Without a substantial program to increase the awareness of sustainable transportation, the goal of increase mode share will not be reached. Developing a program that incorporates the uniqueness of Greater Sudbury, such as providing incentives to outlining communities. As well, utilizing more than one mode to travel to and from a destination should also be promoted, particularly in areas where the topography impedes travel by active modes. The inclusion of a marketing position will increase the ability of the City to successfully increase the use of sustainable travel options.

There are several ideas that the City could incorporate into a promotion, education and encouragement program. While many are aimed at cyclists, they can be adapted to encourage the use of all sustainable modes. These programs include educational programs that can be aimed at people of all ages, abilities and income. As well, the City and its partners should work on a safe roads campaign that will ensure the more vulnerable of road users feel safer along Greater Sudbury's road network.

Recommendations:

- ▶ The City should evaluate the full list of municipally delivered programs outlined in Chapter 3 against the new objectives of the Transportation Master Plan to establish funding and policy priorities for future outreach, marketing and education programs. This will allow for strategic alignment between the City's Official Plan policy priorities, TMP and TDM objectives.
- ▶ To promote the use of sustainable modes, a position should be established to market the TDM programs. Sharing this position with transit would be appropriate as the transit system in Greater Sudbury will form the basis of a sustainable transportation network.
- ▶ The City should establish a promotional and education program as soon as the proposed Marketing and Communications position is filled.
- ▶ The City should establish ongoing funding for the implementation of the promotion and education campaign as well as for the proposed marketing and communications position. This should also be extended to making the Active Transportation Coordinator role permanent.

Wayfinding

As Greater Sudbury is building its active transportation network, a wayfinding program should be introduced to provide residents, visitors and workers with directions to key destinations along the network. Wayfinding is another means to encourage the use of active modes by taking the "guess work" out of how to get to a destination in a safe and comfortable manner. Signage with direction arrows, distance and destinations will assist users in using the network and shifting to active and sustainable modes.

The wayfinding program should include the following:

- ▶ Consistency in branding
- ▶ Ease of use and accessibility
- ▶ Connected and continual

The images below are from Sydney, Australia. They provide direction and distance to destinations which enables newcomers to the area, tourists, visitors and residents with the ability to travel confidently around the city using active travel options.



As part of the wayfinding program, the City should also create a map showing the active transportation network and recommended routes to travel around the city. This map could show areas where there are steep grades and where it may not be a comfortable ride for those who are less experienced cyclists. The map can also provide more information such as links to organizations and information about using active travel, where to access transit information, key destinations, types of routes and information about signage and safe cycling. Below is an image of part of the cycling map for Halifax (HRM) as an example of the type of map that could be developed by Greater Sudbury. The full map can be found at:

<https://www.halifax.ca/sites/default/files/documents/transportation/cycling-walking/BikeMap2015finalJUNE2017.pdf>

Recommendation:

- ▶ The City of Greater Sudbury should develop a wayfinding program to indicate the routes that are recommended to travel to key destinations. This program should be introduced when a map is created for the community showing active transportation corridors, major transit terminals, key destinations, steep grades and other barriers. This program can significantly increase the level of cycling in the city whether it is for utilitarian or recreational purpose.

Develop TDM Requirements for Developments

An important step for the City will be to integrate TDM more fully into the development application and approval process. Policies within the Official Plan should be enhanced to include support for sustainable transportation and TDM measures. The Official Plan, as it is updated, could also include policies that support mixed-use and more compact development. This type of development could be applied within the urban area as well as in outlying

communities to encourage the use of sustainable travel options and lead to a pedestrian-friendly style of development which supports the use of sustainable transportation.

Recommendations:

- ▶ The City should update the Official Plan to include policies related to the TDM programs and measures.

Add to the objectives in Section 11.1, including:

- 11.1 d. to include reference to compact, mixed-use developments that promote the use of sustainable travel options;
 - 11.1 e. in addition to promote all travel modes, expand to include incentives, encouragement and education;
 - 11.1 d. also include long-term shift in travel behaviour;
 - 11.1 e. add connections to transit via walking and cycling to develop a more comprehensive sustainable travel network.
- ▶ The City should further add to the new policy under 11.2.3 to include: “at the discretion of City staff, TDM programs and measures, as well as supportive infrastructure and services may be required within a traffic study.”
 - ▶ The transit policies in section 11.3.2 (6) be expanded to include bicycle lanes, cycle tracks and pathways to improve access to transit stops...
 - ▶ Programs listed under section 11.9 should be updated and strengthened to reflect the TDM plan. The Official Plan should include not only promoting the use of sustainable travel modes, but also include educating and encouraging the use of sustainable transportation, developing programs for schools, households and workplaces and developing partnerships with groups who could deliver the programs and measures.
 - ▶ The integration of transit with cycling and walking routes to ensure that the development of a sustainable transportation network is developed that will enable the use of more than one mode to travel to a destination or enable the use of one mode in one direction and then another sustainable mode in the opposite direction due to topography, changes in weather or time of day.

The City should work with developers to ensure that all new developments are supportive of sustainable transportation and provide options to meet the goals of reducing pollution from transportation, encouraging more active and healthy communities and improving the quality of life for all residents.

Recommendations:

- ▶ Develop a formalized process for incorporating:
- ▶ TDM soft and hard measures/TDM supportive infrastructure in the existing development applications process as part of a TDM Plan under existing legislation (Planning Act and City by-laws)
- ▶ TDM Statements, Short and Full TDM Plans into the development process

- ▶ Lobby the Province for amendments to the Planning Act that would allow municipalities to create enforceable undertakings that would require developers to:
- ▶ Provide several TDM hard measures in accordance with a new policy that would require a certain TDM standard to be met as part of the urban development process
- ▶ Provide, support and oversee the implementation and monitoring of TDM soft measures beyond the opening day of developments for a defined time-period

Developing a Multi-modal Network

The use and promotion of sustainable transportation options should not be done in isolation. In other words, all sustainable modes should be incorporated into the TDM Plan and, how services and infrastructure can be integrated so that there is a seamless transportation system.

Connections to transit services have and continue to be a primary focus of the development of a seamless network. Active transportation routes that provide direct connections to transit stations, terminals and stops help to increase the use of transit within a community.

Another way to develop a multi-modal network is through providing more than one sustainable option for travel along a specific route. In Greater Sudbury, designated bicycle facilities have been located along major transit corridors. This could provide an option to travel by bicycle or transit along the same route or to split the mode used by taking the bus one way and cycling or walking the other. This can provide more options for people and reduce reliance upon the private automobile. As well, active transportation facilities should be developed that link neighbourhoods to transit.

Recommendations:

- ▶ The City of Greater Sudbury should develop a network of integrated corridors to support and encourage the use of sustainable modes and ensure that there is a multi-modal sustainable transportation network within the City.
- ▶ Where possible, the City should continue to provide more than one sustainable option along major transportation corridors.

Collaboration with other Northern Communities

Canada's northern communities have many challenges that those in the south do not. The weather can be harsher, the topography challenging and in many places, the population is aging. As well, congestion is often not a primary reason for developing a TDM plan. A review of two northern communities with TDM plans has provided support for the development of the TDM Plan for Greater Sudbury, which has similar challenges and opportunities to implement sustainable transportation programs, policies and services.

Both Thunder Bay, ON and Whitehorse, YK have developed TDM Plans. Rather than direct efforts at reducing congestion, both plans have focused on improved mobility for all and in particular for seniors, improving health through the encouragement of active modes of travel, reducing greenhouse gas emissions and overall cost savings for both the community and

individuals. These are the same areas that Greater Sudbury has identified as the primary reasons for the development and implementation of the TDM Plan.

Given that there are few northern communities with TDM plans, Greater Sudbury’s Active Transportation Coordinator may wish to collaborate with counterparts in Whitehorse and Thunder Bay to exchange information, ideas, programs and results as the City continues to move forward with promoting and encouraging the use of sustainable travel options, and shift residents’ travel behaviour.

Recommendation:

- ▶ The City of Greater Sudbury should work with other northern communities to share information, ideas, programs and results as they develop and implement TDM programs and measures within the city.

5.2 Action Plan

During the early stages of the action plan, it is worth focusing on “quick wins” that demonstrate success, attract partners, and build confidence in TDM among decision-makers and the public. As outlined in Table 5 below, the measures that should be implemented in the first few years include increasing the amount of sustainable infrastructure, initiating promotion of active transportation facilities, and initiate the hiring of a marketing and communications person who can promote both TDM programs and transit services.

Beyond year 2 of the plan, the programs and measures that will be promoted have been included in the table, however, as the first phase is implemented, it may be necessary to re-evaluate the recommended actions in the medium and long-terms. This could be due to potential funding opportunities, expressions of interest from partners and others to implement programs, and changes in the strategic directions from the next Council for the City of Greater Sudbury. As this plan is a dynamic document, changes are to be expected.

Table 5: TDM Plan Phasing

Phase 1: Short Term / Quick Wins (Years 1 and 2)	Phase 2: Medium Term (Years 3 to 5)	Phase 3: Long Term (Years 6 to 10)
<ul style="list-style-type: none"> ✓ Identify sustainable, long-term staffing resources to implement TDM programs and measures ✓ Identify potential financial and staff resources for marketing and promotion of TDM measures for active transportation and transit ✓ Develop partnerships internally through the TDM Working Group ✓ Develop partnerships 	<ul style="list-style-type: none"> ✓ Evaluate short-term projects to assess effectiveness and make improvements ✓ Create a TDM outreach program based on work undertaken in first phase ✓ Work with community groups to encourage long term behaviour changes ✓ Update TIS Guidelines to include TDM-supportive infrastructure ✓ Develop TDM recognition 	<ul style="list-style-type: none"> ✓ Update the TDM strategy and implementation plan to ensure it is up to date with current technology, programs and research ✓ Evaluate change in TDM delivery and incorporate into updated strategy ✓ Update outreach and education programs ✓ Continue to deliver the programs established in earlier phases

<p>externally to deliver TDM programs</p> <ul style="list-style-type: none"> ✓ Develop a proposal for a workplace program ✓ Enhance Official Plan policies ✓ Develop a TDM web page and clearinghouse to provide information to the public ✓ Improve the use of social media to promote sustainable transportation within the community ✓ Create TDM collateral targeting to different community groups (i.e. web content, brochures, handouts, bookmarks, etc.). These groups may include seniors, students and families ✓ Continue to develop active transportation infrastructure ✓ Promote existing and new Active Transportation facilities as they are being implemented within the City ✓ Develop a pilot project to deliver School Travel Plans within the City in partnership with community organizations, the school boards and/or Public Health Sudbury and Districts 	<p>program for new and existing developments</p> <ul style="list-style-type: none"> ✓ Develop a workplace program that will be delivered to workplaces that have signed up for the program 	<ul style="list-style-type: none"> ✓ Review policies within the Official Plan and the Transportation Master Plan that support TDM programs and measures
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Recommendation:

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

5.3 Financial Implications

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

The delivery of a TDM program can be very cost-effective compared to other transportation programs. The short, medium and long-term financial resource implications of this TDM Plan have been estimated. The recommended timelines for delivery could be altered due to budgeting constraints, funding opportunities or changes in the direction provided by City Council.

Table 6: Financial Implications

Program	Delivery Agent	Duration	Estimated Cost	Level of Effort
Short-Term				
City workplace promotion for sustainable travel	Active Transportation Coordinator with Community Partner	Ongoing	\$2000.00 (printing and staff time)	Approximately 5 hours per week
Promotional materials and incentive programs	Active Transportation Coordinator	Ongoing	\$1500 - \$3,000 annually (e.g. for printing and staff time)	Approximately 10 hours per month
Community events	Active Transportation Coordinator, community groups, City departments, etc.	As needed	\$5,000 annually for advertising and staff time	Approximately 5 to 10 hours per month
TDM/transit Promotion and Marketing Position	City of Greater Sudbury	Full-time	\$95,000 annually (including benefits)	35 hours per week
Website and Social Media	Active Transportation Coordinator and marketing staff	On-going	\$5000	5 hours per week
Workplace program development	Active Transportation Coordinator and marketing staff	On-going	\$5000	10 hours per month
Partnership development	Marketing staff, Active Transportation Coordinator	On-going	\$2000	5 to 10 hours per month
Policy development	Active Transportation Coordinator and	As required	\$1000	2 to 5 hours per month

Program	Delivery Agent	Duration	Estimated Cost	Level of Effort
	planning staff			
School Travel Plan Pilot Program	Active Transportation Coordinator, School Boards, Community organizations, Sudbury staff, Sudbury and Region Public Health Unit	1 school years (planning to begin in June)	\$5000.00 – for materials, incentives and promotion. Staff time is assumed to be included in regular hours	5 to 10 hours per week (max)
Medium to Long-Term				
TDM–supportive amenities (e.g. bike racks)	Active Transportation Coordinator, marketing staff member community groups, property owners, etc.	Ongoing	\$2,000 to \$10,000 annually	5 to 10 hours per month
Individual travel planning	Active Transportation Coordinator and marketing staff member with community groups and consultants	One-year pilot program plus planning and evaluation periods	\$100,000 to \$300,000 (look for funding from outside sources) to hire consultant and for staff time	10 to 30 hours per month (including consultant and others)
Develop new programs and continue implementation of existing programs	Active Transportation Coordinator and marketing staff with community groups and consultants	On-going	\$5000	5 to 10 hours per week
Monitor and evaluate programs	Active Transportation Coordinator	Annually	\$2000	20 hours
Review and update policies and strategies	Active Transportation Coordinator and Planning Services Division	As required	\$2000	5 to 10 hours
Sustainable, full-time staff	City of Greater Sudbury	Upgrade the Active Transportation	\$105,000 annually (total compensation	35 hours per week

Program	Delivery Agent	Duration	Estimated Cost	Level of Effort
resources		Coordinator to a permanent position	including benefits)	
Update TDM Plan after 5 years	Active transportation Coordinator	Once every five years	\$10,000 (in-house); \$25,000 (consultant)	200 hours total

5.4 Monitoring

Why monitor?

Monitoring the impacts of TDM initiatives is a key to their long-term success. The purpose of monitoring is to identify changes in transportation behaviour and progress over time. It is a continuous process that involves both quantitative and qualitative measurements, and requires baseline data that provides a starting point for measuring change.

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

Figure 8 illustrates the key elements of a monitoring program. It is recommended that the City develop a monitoring program with the following in mind (as shown in Figure 14 below).

A thorough monitoring program would include the following:

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

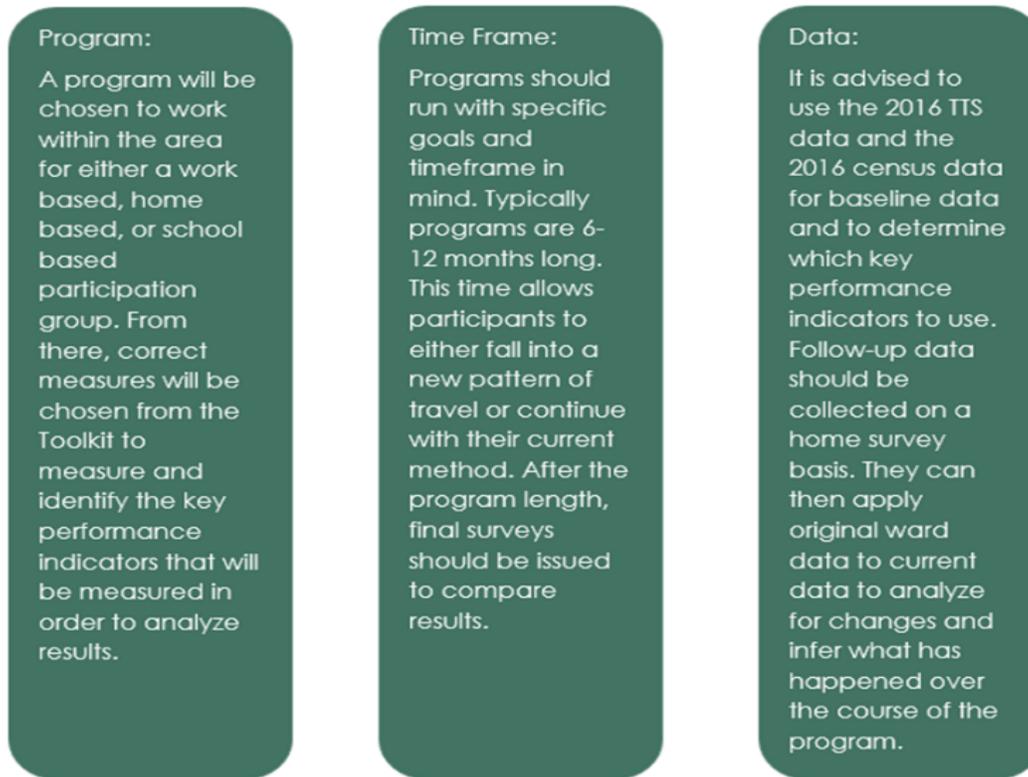


Figure 8: Monitoring Program Components

What to monitor?

To achieve the above properties of a monitoring program there are several things to consider as shown in Figure 9, the data requirements, the methods of reporting and the analysis of the data in comparison to baseline information.

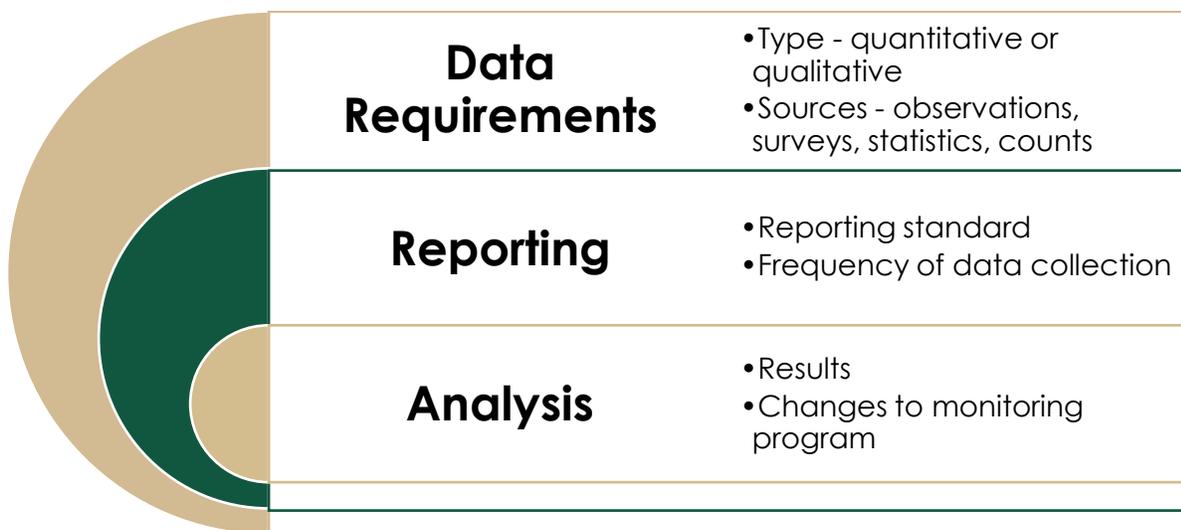


Figure 9: Factors of a Successful Monitoring Program

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

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

- ▶ *Intersection turning movement counts*: to be undertaken at key times and peak periods at both times following the parameters of the City of Greater Sudbury
- ▶ *Vehicle classification and occupancy counts*: to be undertaken at key times and peak periods to determine the changes in vehicle use and occupancy. These counts will need to be conducted manually at key screenlines in the City.
- ▶ *Parking usage* (structured, lots, on-street): turnover rates and parking duration to determine short vs. long-term parking utilization
- ▶ *Use of transit*: to be undertaken in partnership with Greater Sudbury Transit to establish boarding trends
- ▶ *Use of bicycle parking facilities*: mid-morning, mid-day and mid-afternoon counts on pre-determined dates
- ▶ *Annual report*: develop an annual report outlining the monitoring programs and changes over time

The various monitoring activities are outlined in the following table, with details provided in subsequent sections. It is important that at least for the first few years the City follow the Monitoring Plan Activity Framework as outlined below and undertake counts on a regular basis to determine how successful the TDM programs are at shifting travel behaviour as they are being introduced. It should be noted that additional monitoring activities can be added as the programs evolve.

Table 7: Possible Monitoring Activities

Element	Application			
	What	Where	When	Who
Intersection turning movement counts	All turning movements	Intersections along perimeter and within development	March and October (same week each year)	City of Greater Sudbury
Vehicle classification and occupancy counts (all modes)	Classification of all modes and occupancy counts for all modes	At intersections to be determined depending upon the project	March and October (same week each year)	City of Greater Sudbury
Off-street parking usage	Parking occupancy	Parking garage and surface parking	Monthly – weekday, Saturday and Sunday	City of Greater Sudbury

Element	Application			
	What	Where	When	Who
On-street parking usage	Parking occupancy	On all streets within the site with on-street parking	March and October	City of Greater Sudbury
Transit usage (ridership)	Ridership on identified routes for Weekdays, Saturdays and Sundays Transit passengers boarding and alighting	On identified routes	Each booking (APC)	City of Greater Sudbury
Transit service supply	Scheduled trips on specified routes	All stops adjacent to the site	Each booking (APC)	City of Greater Sudbury
Use of on-site bicycle racks	Number of cyclists traveling to a specified location	All surface permanent bicycle racks	Three times per year – May, July and September	City of Greater Sudbury
Survey	Users of a specific service or program	At location where implemented or City-wide	When program implemented and about 6 months later. If a pilot, a survey at the end will be required	Program provider and / Active Transportation Coordinator
Annual Report	Cover all aspects of TDM program	City of Greater Sudbury	Annually	Active Transportation Coordinator

Recommendation:

- ▶ Greater Sudbury should develop and implement a monitoring program based on the above for TDM measures to ensure that the goals and objectives of this Plan are met and travel behaviours shift toward more sustainable modes.

5.5 Conclusions

The TDM Plan for Greater Sudbury will provide opportunities to increase the mobility of the residents, workers and visitors for daily travel and activities. As the city continues to evolve the design of streets to accommodate active modes of transportation; increases awareness of the need to be more physically active; works with partners to encourage the use of transit and

carpooling the result will be an overall shift in behaviour toward more sustainable transportation modes.

The implementation of the TDM Plan will evolve as well. It is not designed to be static and the priorities within the plan will change as the community changes, land use policies evolve and the community embraces sustainable travel options. Therefore, it is important to monitor the programs and measures provided and make changes as necessary to continue to meet the travel needs of the community. Greater Sudbury is a unique community and the plan is also unique. The residents are engaged and will play a role in the delivery of programs.

Finally, the City of Greater Sudbury has a unique opportunity to be a leader in the delivery of TDM and sustainable transportation infrastructure and services. Residents have expressed interest in furthering sustainable transportation opportunities. The survey results indicate that many feel sustainable transportation options may work for them provided incentives; support programs and alternatives are available. Therefore, implementing the programs and measures outlined in this report and, continual monitoring of their success will help lead to a more positive opinion of sustainable travel options and lead to increased utilization.



Appendix A: Background and Data



April 2018

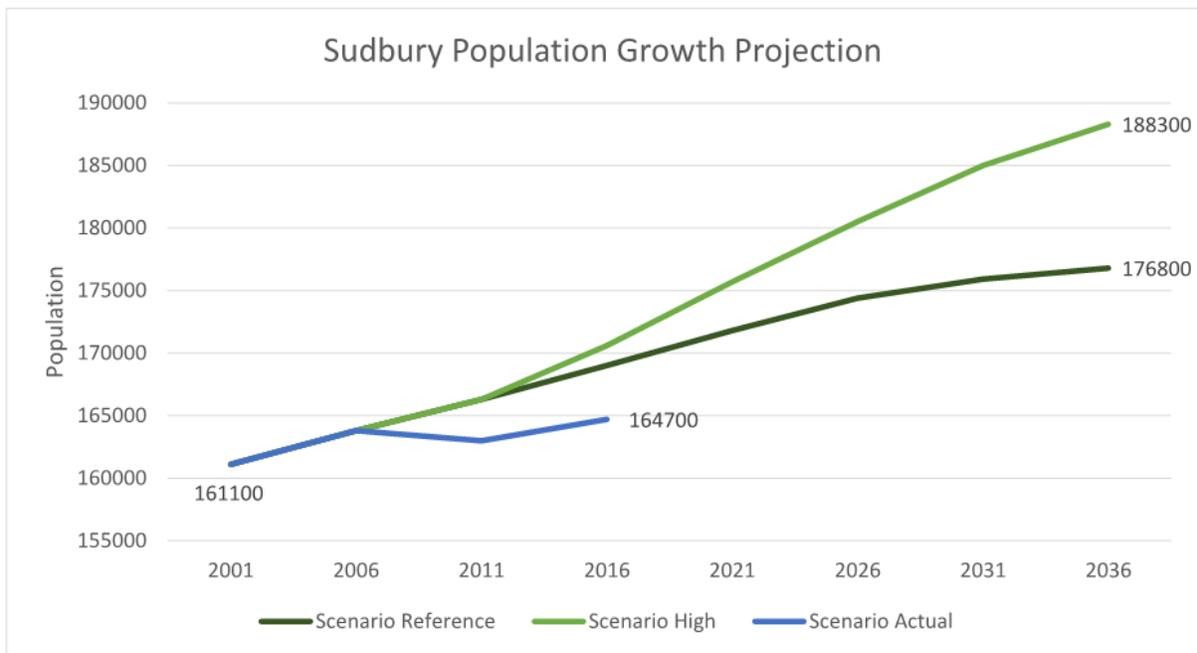


1.0 Community Profile

Understanding the composition of the community and how residents travel provided useful insights into how the TDM Plan should be developed and delivered. This section provides a profile of the community ranging from population and demographic characteristics, to housing and modes of travel.

1.1 Population Growth Scenarios

A population growth study report was undertaken in 2013 by Hemson Consulting. The report outlines positive immigration and economic opportunities which are expected to drive population growth in Greater Sudbury to 2036. Population is expected to grow by 6% over the next 20 years. This is in contrast to the census data which indicates a more modest rate of growth. However, the Places to Grow Plan (provincial) and immigration indicate that Greater Sudbury is due for an increase in its population. The graph below indicates the different growth rates (high and low based on the Hemson report and the actual historical rates based on the census data). In all three scenarios, the population is found to be increasing. This growth will require the development of a TDM Plan to accommodate additional trips and the economic opportunities that are expected to arise over time.

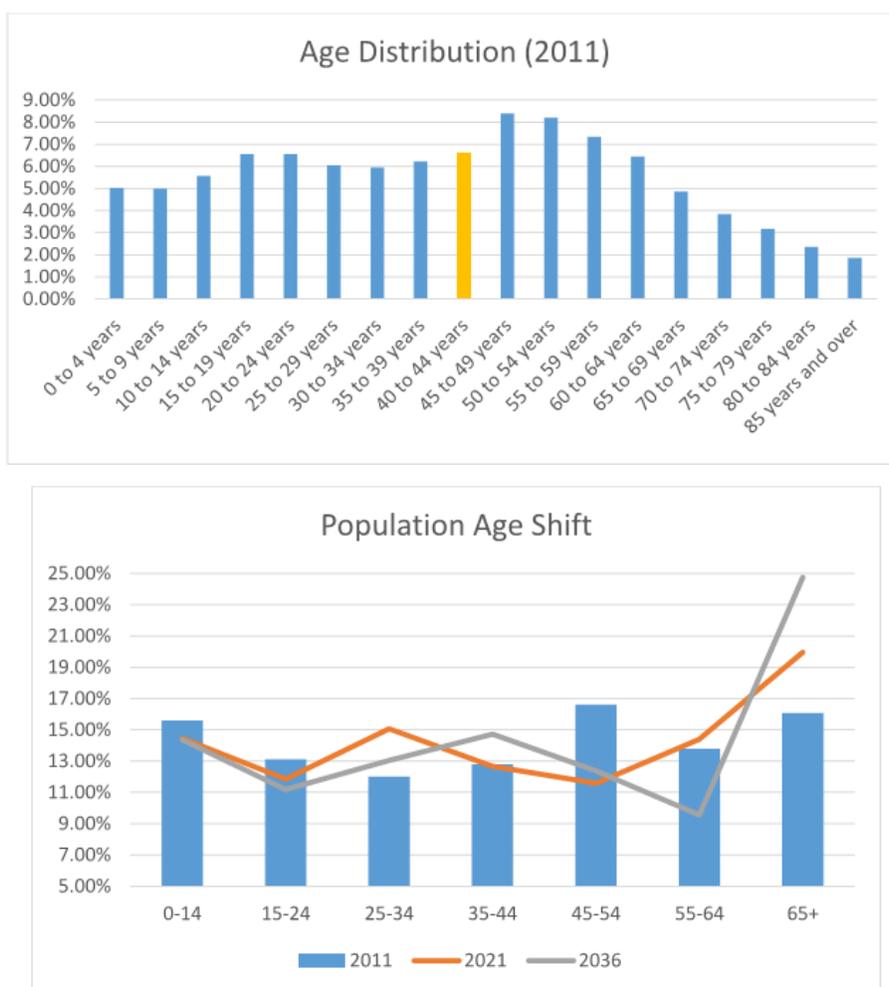


Sources: Reference and High Scenario: Hemson Consulting Ltd – Growth Outlook to 2036, City of Greater Sudbury, Actual: Statistics Canada – 2016 Census Profile

1.2 Greater Sudbury will have an increasing working age and senior populations

The average age of the population of Greater Sudbury was 42.3 years old compared to the Canadian national average of 40.6 years old from the National Household Survey 2011, indicating that Greater Sudbury's population is slightly older than the national average. The existing population distribution peaks at ages 45-54, and is expected to age over time. The Hemson report indicates that the population structure of Greater Sudbury will shift with bi-modal age peaks. There will be an increase in number of younger working age individuals primarily due to immigration and the existing aging population living longer into their senior years.

The current population and future projections indicate the types of activities that will be undertaken and that will impact the number of trips and the modes of transportation used. Below is a chart that outlines the projected age distribution within Greater Sudbury to 2036.



Source: Hemson Consulting Ltd – Growth Outlook to 2036, City of Greater Sudbury, Statistics Canada – 2011 Census Profile

1.3 Single Detached Houses are the primary dwelling type

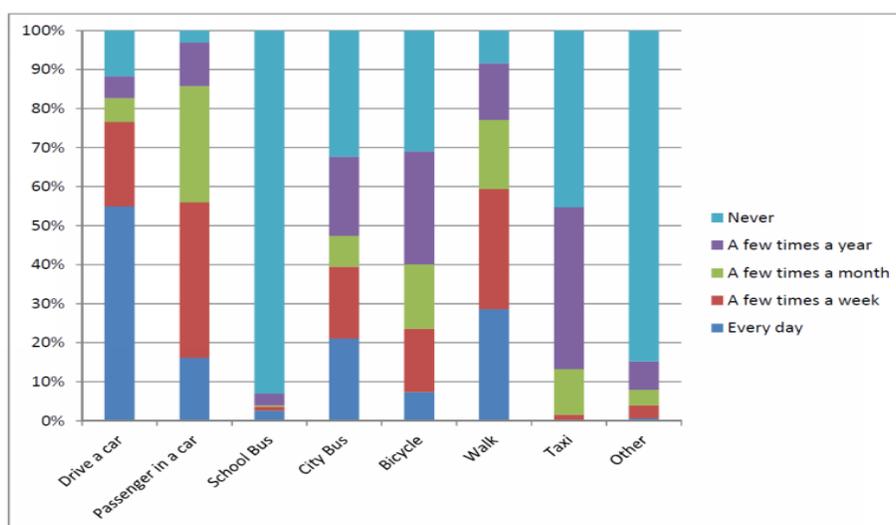
Greater Sudbury’s land use structure is a mix of urban and rural communities and enterprise & industrial use. Residential density is generally low, meaning most households are single detached homes. In fact, 65% of households in Greater Sudbury are comprised of either 1 or 2 people, while larger families are less common. The dwelling preference and average household size of 2.6 can help explain the propensity for single occupancy vehicles as a main mode of transportation. According to Census Canada data, there are 42,215 single-detached residential units in Greater Sudbury, which represents 62.3% of all households in Greater Sudbury (the total number of dwellings are 67,770) Source: Statistics Canada – 2011 Census Profile

1.4 Greater Sudbury is well-educated and linguistically diverse

At least 78% of residents of Greater Sudbury have attained a minimum of high school education. 25% of the population has completed post-secondary education such as University, College or Trades school. 98.7% of residents have knowledge of English, and 65.9% indicated that English is their mother tongue.

1.5 Travel Patterns in Greater Sudbury

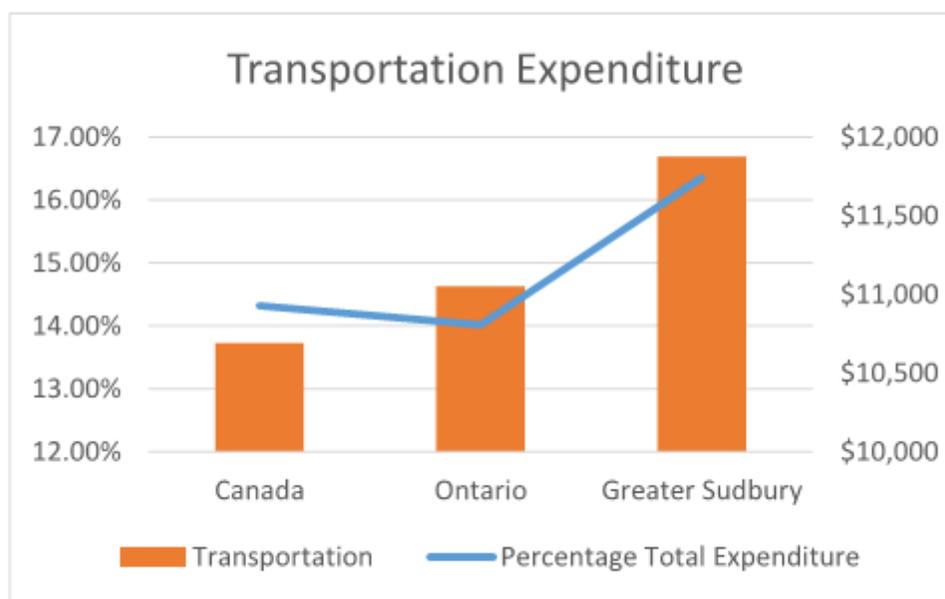
The 2017 Transportation Study Report determined that the typical number of PM peak trips for Greater Sudbury was approximately 27,000 in 2011. Transit ridership in 2013 was estimated at 11,800 trips per day. In 2012 there were 123,689 registered vehicles in Greater Sudbury which equates to a rate of 0.75 vehicles per capita. While transit has seen moderate growth in Greater Sudbury, the automobile remains the main form of transportation. In the Transportation Study Report, a survey was completed regarding modal usage. Unsurprisingly 75% of respondents said they made single occupant trips several times a week. Sustainable modes such as transit and cycling are either not used or used infrequently. There is opportunity to shift this behaviour.



Source: 2017 City of Greater Sudbury Transportation Study Report

1.6 Transportation Expenditures are high relative to Ontario and Canada

The average household in Greater Sudbury spends more money on transportation than the Canadian and Ontario Averages. The expenditure is greater based on an absolute dollar spend, and relative to total household expenditure. This may be due to geography and urban layout of Greater Sudbury resulting in longer commutes to school, residences and employment. An opportunity exists to leverage TDM to reduce transportation costs for individuals and for households in Greater Sudbury. Reduction in travel costs may make TDM programs and initiatives attractive to residents.

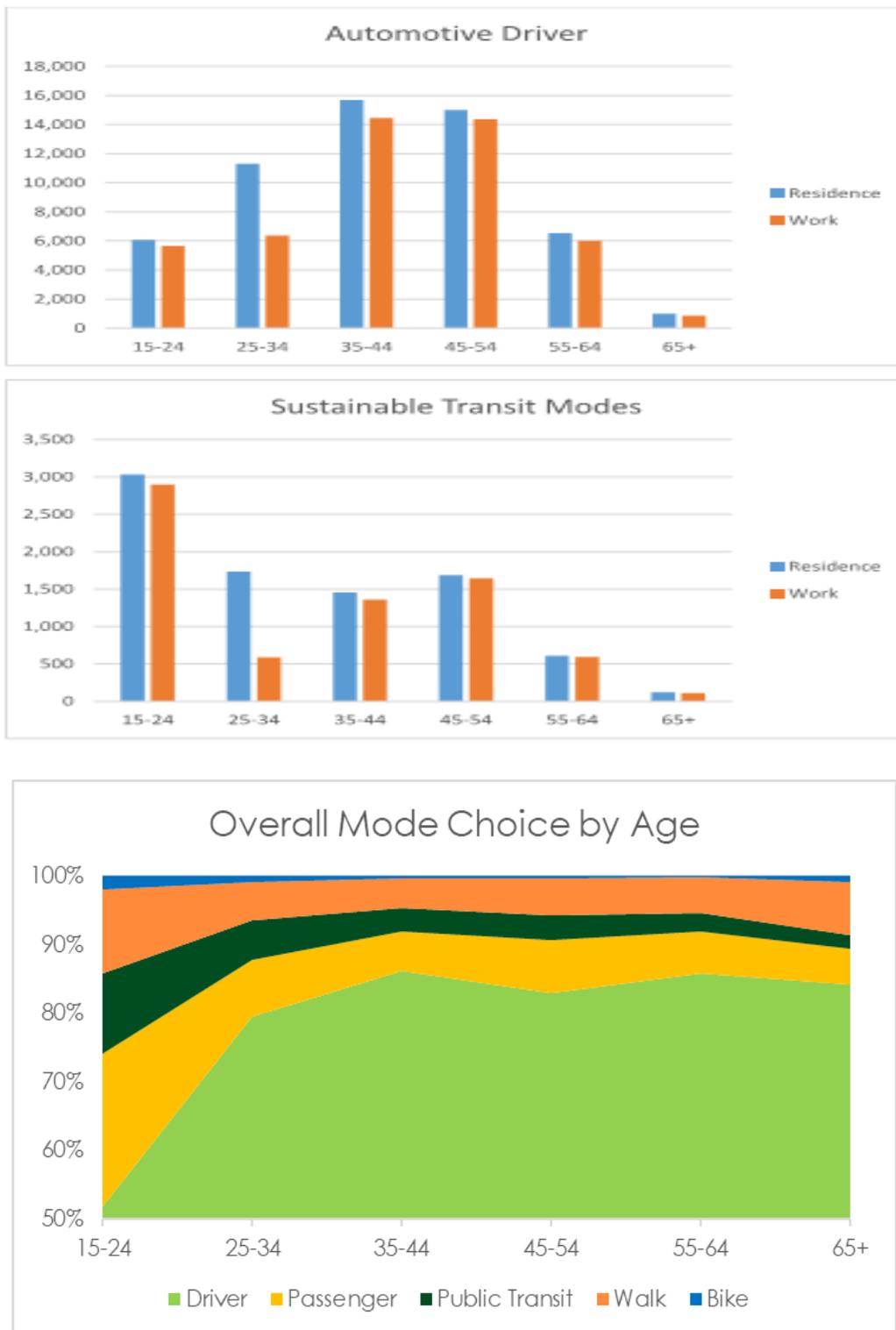


Source: Immigration Greater Sudbury – Greater Sudbury Statistics

1.7 Younger People have a higher tendency to use sustainable modes of transportation

The 2006 Census identified a number of transportation patterns in Canada. As indicated in the Travel Preferences Survey from the 2017 Transportation Study Report, single occupant automobile is the dominant mode. This is consistent with the 2006 Census finding. Throughout all age groups, single occupant vehicle usage had a larger mode share than all sustainable modes combined. The largest user base of sustainable modes of transportation are ages 15-24 with over 25% of the population using sustainable modes of transportation. This may be due to the financial costs of owning and operating an automobile and that age group only starts to enter the work force at that age. After age 25, the mode split is fairly uniform indicating that transportation habits tend to establish themselves during the working years. There may be opportunity to attract the increasing younger generation to try sustainable modes of transportation, and to sustain and extend these travel patterns later into their careers where

alternatives exist. At present, as shown below, the main mode of travel, regardless of age is still as a car driver.



Source: Statistics Canada – 2006 Census

2.0 Policy Review

Transportation Demand Management (TDM) in Greater Sudbury is supported by a wide range of policies at the federal, provincial and regional level. This framework provides the policy direction for the vision, goals and objectives of Greater Sudbury’s TDM Plan. In this section, the most relevant policies at each level of government (and beyond) are reviewed and analyzed with regard for their relevance to the TDM plan.

The Federal Sustainable Development Act is a guiding policy that directs sustainable development and planning across Canada. The Province of Ontario builds on the Federal Sustainable Development Act through the Provincial Policy Statement highlighting land use goals specific to Ontario. Furthermore a specific land use plan for Northern Ontario was developed within Ontario’s Places to Grow program. These documents acts as a broad land use framework from which the TDM plan can draw to ensure the goals and objectives are consistent with these policies.

A number of policy documents have been developed by the City of Greater Sudbury that have an impact on how people travel. The Official Plan outlines the land use policies for the City, and the Corporate Strategic Plan includes values that can be applied to the development of the TDM Plan. The Transportation Study Report highlights specific recommendations for TDM upon which this TDM plan will be built. Associated local policies will be drawn and referenced to ensure TDM is implemented in a way that is consistent with the strategic priorities of Greater Sudbury.

The full list of policies and documents are outlined in **Table 1**. Further detail about each policy and their specific impacts on active transportation policy recommendations are outlined in **Tables 2 - 4**.

Table 1: Policies Relevant to the Greater Sudbury TDM

Jurisdiction	Policy
Government of Canada (Federal policy support)	Federal Sustainable Development Act (2008)
Province of Ontario (Provincial policy support)	Provincial Policy Statement (2014)
	Ministry of Transportation Cycling Strategy (2013)
	Accessibility for Ontarians with Disabilities Act (2005)
	Transit Supportive Guidelines (2012)
	Places to Grow: Growth Plan for Northern Ontario (2011)
The City of Greater Sudbury (Local policy support)	French Language Services Act (1990)
	Official Plan (2014)
	Corporate Strategic Plan (2015)
	Healthy Community Strategic Plan (2010)
	The Greater Sudbury Transportation Study Report (2017)
	Downtown Master Plan (2012)
	Sustainable Mobility Advisory Plan Strategic Plan (2016)
Strategic Parking Plan for the City of Greater Sudbury (2011)	

Table 2: Federal Policy Support

Policy Document	Policy Description	Relevance to the Greater Sudbury TDM
Federal Sustainable Development Act (2008)	<p>The Federal Sustainable Development Act (FSDA) requires the Government of Canada to develop a sustainable development strategy, providing a framework through which to conduct sustainable planning and reporting within the federal public service. Its guiding principles focus on clean air and water, natural protection, and shrinking the environmental footprint of government. The strategy aims to produce:</p> <ul style="list-style-type: none"> • An integrated view of federal actions and results to achieve environmental sustainability. • Effective measurement and monitoring of sustainability progress to Canadians. • Equal footing of environmental with economic and social considerations in federal decision-making. 	<p>While not binding on any other level of government, the FSDA sets a policy precedent at the federal level. It asks provincial and municipal governments to incorporate sustainability into their actions and policy development. The FSDA's guiding principles for upholding environmental integrity and considering the environmental costs of proposed actions will be strongly considered and reflected within Sudbury's TDM Plan.</p>

Table 3: Provincial Policy Support

Policy Document	Policy Description	Relevance to the Greater Sudbury TDM
Provincial Policy Statement (2014)	<p>The Provincial Policy Statement (PPS) lays the foundation for the regulation of land use and development within the province of Ontario. It provides policy support for appropriate and context-sensitive urban and rural development, environmental and resource protection, and social equity in planning matters. An overarching vision for Ontario's land use planning system is</p>	<p>The PPS promotes land use patterns that support "a mix of ... transportation choices that increase the use of active transportation and transit before other modes of travel". Specifically, the PPS requires the following:</p> <ul style="list-style-type: none"> • Design of "healthy, active" communities that support active transportation and existing, planned, or future transit services (1.1.3.2; 1.5.1), and reduce lengths and numbers of vehicle trips (1.6.7.4). • Provision of facilities for people and goods that meet projected needs (1.6.7.1). • Use of transportation-demand management strategies to make efficient use of existing and planned infrastructure (1.6.7.2). • Connectivity within and among systems and

Policy Document	Policy Description	Relevance to the Greater Sudbury TDM
	<p>articulated in the PPS, stating that the “long-term prosperity and social well-being of Ontarians depend on maintaining strong communities, a clean, healthy environment and a strong economy.”</p>	<p>modes (1.6.7.3).</p> <ul style="list-style-type: none"> • Integration of transportation and land use considerations at all stages in the planning process (1.6.7.5) • Long-term corridor planning, and mitigation of their negative impacts (e.g. pollution, noise) (1.6.8). • The PPS provides direction for the development of policies that reflect provincial objectives.
<p>Ministry of Transportation Cycling Strategy (2013)</p>	<p>In September 2013, the Ontario Ministry of Transportation (MTO) published #CycleON, Ontario’s Cycling Strategy. The strategy acknowledges the importance of developing cycling facilities to help reduce greenhouse gas (GHG) emissions, ease gridlock, benefit the economy, increase tourism, and increase the health and quality of life for all Ontarians. Key elements of the Province’s vision include:</p> <ul style="list-style-type: none"> • Development of a safe cycling network that connects the entire province; • Continuing to reduce collision and injury rates and injuries; • Empowering everyone from occasional cyclists to daily commuters to feel safe when they get on a bicycle in Ontario. <p>The strategy is intended as a guide to make sure this vision is achieved.</p>	<p>The Cycling Strategy outlines a 20-year vision for cycling in the province, with proposed cycling infrastructure, educational components, and legislation. This strategy, in concert with other provincial documents, aims to promote and strategically develop sustainable transportation infrastructure province-wide.</p> <p>The key directions of the policy promote active and healthy communities, improving cycling infrastructure and road safety and promoting cycling awareness. The strategic directions inform the active transportation portion of the TDM plan.</p>
<p>Accessibility for Ontarians with Disabilities Act (2005)</p>	<p>The Accessibility for Ontarians with Disabilities Act (AODA) was passed on June 13, 2005, and is a Provincially legislated policy that calls on the business community, public sector, not-for-profit sector and people with disabilities or</p>	<p>The TDM Plan recommendations will comply with the AODA for both hard and soft TDM measures.</p> <p>The “Built Environment” component is relevant towards the planning, design and construction of facilities and infrastructure that support TDM. The “Transportation Standards” section requirement incorporated through the planning and delivery of transportation services.</p>

Policy Document	Policy Description	Relevance to the Greater Sudbury TDM
	<p>their representatives to develop, implement and enforce mandatory standards. This policy is a first of its kind in Canada to apply to both the private and public sectors. These accessibility standards are the rules that local governments, agencies and businesses in Ontario should follow to identify, remove and prevent barriers to accessibility.</p>	<p>Soft TDM measures such as outreach or consultation require actions to meet AODA policies. Due diligence is required to ensure outreach, communication and participation is accessible to all of the public.</p>
<p>Ministry of Transportation Transit-Supportive Guidelines (2012)</p>	<p>The Ministry of Transportation’s Transit Supportive Guidelines encourage transit-friendly planning and design throughout the province. More specifically, the Guidelines provide direction on land-use planning, urban design and operational procedures that enhance connectivity to transit based on current best practices. The document is intended to be a guide for planners, developers, and others involved in developing more sustainable and transit-supportive communities in Ontario.</p>	<p>These Guidelines provide direction on how to integrate all modes of transportation when designing for transit to create more complete streets. The document provides guidelines for the improvement of transit facilities including design recommendations. The guidelines compliment the TDM plan which will incorporate physical measures in the guide with other strategies in Greater Sudbury.</p>
<p>Places to Grow: Growth Plan for Northern Ontario (2011)</p>	<p>This Plan is a strategic framework that will guide decision-making and investment planning in Northern Ontario over the next 25 years.</p> <p>It contains policies to guide decision-making about growth to promote economic prosperity, sound environmental stewardship, and strong, sustainable communities that offer a high quality of life.</p>	<p>Greater Sudbury is identified in the plan as a strategic core area that will attract more investment and urban intensification. Strategic core areas are encouraged to use multi-use land use, accommodate higher densities</p> <p>The strategic framework for Infrastructure (Section 5.3) highlights investment areas that will improve both transportation and municipal systems. The goals for transportation systems can be found in Section 5.3.2 below:</p> <p>Section 5.3.2: Optimize capacity, efficiency and safety of existing transportation systems Meet the needs of existing and emerging priority economic sectors Enhance connectivity among transportation modes Reduce emissions and other environmental impacts associated with transportation</p>

Policy Document	Policy Description	Relevance to the Greater Sudbury TDM
French Language Services Act (1990)	<p>The purpose of the policy is to preserve and protect the rights of Francophones in Ontario.</p> <p>The act ensures that provincial government services are provided in the French. The act guarantees Francophones in 23 designated regional areas to be able to receive services and information in French.</p>	<p>The City of Greater Sudbury is one of the regional areas that guarantee the rights of Francophones.</p> <p>Municipalities may pass a by-law which designate that municipal services shall be offered in both French and English. Greater Sudbury has implemented this policy in By-law 2001-81A.</p>

2.1 Summary of Policy Highlights

TDM builds upon government policies for all levels. Transportation connectivity and effective urban land use planning are key themes that run through all the policies. The TDM Plan is a vital part of creating active and sustainable communities, and will help accommodate the intensification and changing urban landscape of the City of Greater Sudbury.

The Federal Sustainable Development Act (FSDA) asks that environment and sustainability be core considerations. Ontario’s provincial policies build on the FSDA to promote integrated land use planning and improved transportation systems. The Provincial Policy Statement calls for healthy and active communities, better use of existing and planned infrastructure and improved connectivity province wide. These goals are reflected in the Ministry of Transportation’s Cycling Strategy and Transit-Supportive Guidelines. Economic development features prominently in the Places to Grow plan for Northern Ontario. Intensification and investment in transportation systems is critical to accommodate sustainable environmental and economic development.

The Federal and Provincial policies have been incorporated into Greater Sudbury’s policies and strategic plans. The City of Greater Sudbury will focus on intensification and densification of urban areas. To support intensification, Greater Sudbury will develop a multimodal transportation system that will increase connectivity and mobility from different communities. This will be achieved through investment in transit and active transit infrastructure and implementation of programs to reduce dependency on automobiles for basic transportation needs. The expected outcomes of the policies are to improve the sustainability of the local and regional economy, increase accessibility and connectivity of transit systems and to improve the health and quality of life for all residents and visitors of Greater Sudbury.

The Accessibility for Ontarians with Disabilities Act (AODA) and French Language Services Act (FLSA) are auxiliary policies that are not directly related to TDM. However, the AODA and FLSA need to be followed in the development and delivery of TDM programs.

3.0 Best Practices Review (Case Studies)

To create a TDM plan that will work for Greater Sudbury, ideas from other plans are required to provide a framework, but they also need to be analyzed in light of the profile established for the community and the policies within which the City operates. Each TDM plan is unique to the community, site, region or city for which it has been created.

3.1 Definitions

Transportation Demand Management, sometimes also known as Travel Demand Management or TDM has a wide variety of definitions. The Institute of Transportation Engineers (ITE 2016) recently reviewed a range of contemporary definitions and identified that there are a number of common themes which exist in TDM:

Strategy Development Process

A review of TDM strategies specifically related to regional cities demonstrated that TDM strategies are not confined to dense urban areas. Canadian mid-size cities and regions including Capital Region of BC, Halifax, Ajax, Waterloo and Kitchener all pursue some form of TDM strategy. Most TDM Strategies pursue the common planning approach of defining goals and objectives and identifying appropriate measures to achieve the goals and objectives. Some TDM plans include performance measures and a monitoring system. The role of the municipality and the individual initiatives differ, however the underlying goals and objective tend to remain the same.

The Capital Regional District of Vancouver Island (population 383,360) for instance noted the following in its Regional TDM Plan:

The Sub-Committee recognized that the role of a Regional District in TDM was, potentially, quite different from the role of a municipality or business. The regional district can support TDM at different scales – from inter-regional network planning, to regional growth and sustainability strategies, to corporate commute programs. The recommendations in this report are arranged in terms of scale – from broad region-wide strategic initiatives to workplace program.'

The BC Capital Region regional strategy identified that there is a need to 'clearly define focus area of application and scale Regional district can support TDM at different scale to city-based municipality'. The Town of Ajax used a gap analysis to gain a better understanding of why people were not adopting sustainable travel to the same extent as elsewhere in the GTHA.

There is an increasing trend to incorporate TDM considerations into the development approvals process. The City of Greater Bendigo in Australia (2016 population 110,562) has recently incorporated its Integrated Transport and Land Use Strategy into its existing land use bylaw and associated development regulations. This includes the requirement to consider the provision a

basic level of TDM infrastructure requirements in areas with greater accessibility in exchange for reduced minimum parking requirements.

In 2016, ITE found the following elements were common to most TDM strategies:

- ▶ Improve transportation options
- ▶ Incentives (policy that ‘pushes’ or ‘pulls’ travellers to alternative options or discourage travel altogether)
- ▶ Land Use Management
- ▶ Implementation Programs

Policy Goals

Policy goals were reviewed to understand how regional municipalities express their TDM objectives in terms of policy goals.

Some regional municipalities pursue technical transportation network performance objectives such as peak load management, presumably as a traffic congestion measure. Others are focused more on ensuring greater consistency between TDM objectives and existing municipal policy.

The Town of Ajax’s TDM policy objectives are remarkable for their simplicity and for combining technical performance criteria with simple to understand concepts:

- ▶ Reduce [need for and impact of travel]
- ▶ Remode [change mode of travel]
- ▶ Re-time [change time of travel]
- ▶ Re-route [change route traveled]

Policy goals are typically overseen by a TDM Coordinator or a Transportation Management Association.

Performance Measurement

Performance measurement uses measures to monitor the outcomes of a given TDM program. A combination of qualitative and quantitative measures is common.

The Regional Municipality of Halifax is a notable example as its measure of success is simply measured in terms of the number of users associated with each TDM measure. Other, more complex performance measures can be defined with the use of census data and other sources.

The City of Greater Bendigo’s Integrated Transport and Land Use Strategy adopts 15 transportation and land use targets around five categories: ‘*Connect, Health, Moving, Engaging, Inspiring*’. The simplicity and compactness of these targets makes them easier to understand, monitor and achieve.

Performance measurement is often dependent on the amount of resources that can be dedicated to collecting data associated with travel behaviour. TDM programs often rely on surveys to measure this.

Application to Greater Sudbury

As noted at the beginning, contemporary TDM has now evolved to be understood as a means to achieve multiple community planning goals including sustainability, resource efficiency, road safety, reductions in vehicle costs to households and public health. The following benefits could be realized by Greater Sudbury upon adoption of a TDM plan:

- ▶ TDM can reduce the need for new roads in Greater Sudbury
- ▶ TDM helps to make personal travel decisions more efficient for residents
- ▶ TDM can maximises return on infrastructure spending and makes the most of existing assets in Greater Sudbury
- ▶ TDM is a versatile and dynamic management tool that can shape future travel in Greater Sudbury
- ▶ TDM initiatives have multimodal benefits for residents and the region
- ▶ TDM can works at scale of individual, but its benefits extend to whole community
- ▶ TDM strategies are relatively low cost and are comparatively cost effective in meeting policy objectives and generate good cost/benefit ratios

Source: Adapted from Black and Schreffler (2010)

The existing demographics, the relative compact nature of the urbanized part of Greater Sudbury demonstrate that TDM has the potential to translate into a more well-connected, healthy, active and prosperous Greater Sudbury for residents and visitors alike.

3.3 Development Review Process and TDM

City of Hamilton, Ontario

In June 2015, Hamilton developed a report outlining how to integrate TDM into development approvals and the Transportation Impact Studies (TIS). The report indicates that TDM is a necessary component of urban development as developers have influence over the urban form and community design over time. This in turn often impacts the modes of transportation chosen by residents and workers. To encourage developers to voluntarily incorporate TDM measures, a number of benefits to the developer are listed, such as by having more TDM measures, there will be a need for less parking and this will save developers money.

The report provided an outline of the types of uses and the TDM measures that should be considered as part of the development approvals process. These lists evolved into a checklist to be used in the evaluation of TDM initiatives for new developments. As well, the measures can be included in the development of TDM reports to be included in the TIS. The City of Hamilton has created three types of reports, which are outlined below:

1. **TDM Memo** – this report is used for developments that generate a low number of additional trips during the peak (between 20 and 50). It is generally about one page in

length and discusses existing “TDM” opportunities nearby as well as what can be provided on the site. It is primarily designed to indicate the services and supporting infrastructure that is and will be available.

2. **Standard TDM Report** – this report is used for developments that will generate at least 50 additional trips during the peak period. This can be a separate plan or a chapter in a TIS document. The applicant is required to provide the projected reductions in trips resulting from the TDM measures that are to be included on the site. It also includes a sample table of contents
3. **Detailed TDM Report** – this report is used for large developments such as new subdivision, shopping malls, and large employment areas. As its name suggests, this plan is much more detailed. It also includes an outline of the initiatives and the projected trip reduction targets and steps that should be included for future monitoring and evaluation of the TDM Plan.

The guidelines also include a tool and where to include information on each measure as well as the type of information needed and why it is required. Finally a checklist that is to be used with all development applications is included in the report.

Town of Ajax, Ontario

The Town released its TDM Plan in 2015 and included an appendix for TDM and Development. This plan is remarkably similar to the Hamilton document discussed above. It provides an outline of the types of programs based on use and also delineates the type of TDM plan based on the number of trips generated. Rather than three options, the Town only has two, which are discussed below:

1. Memo – The memo will be requested for developments that generate less than 50 additional peak period trips. The memo will include listing existing nearby opportunities such as transit service or active transportation infrastructure and available information about them.
2. TDM Plan – This is for developments that will generate more than 50 additional trips during the peak travel period. It will also be used for development in special study areas, ones that could have a noticeable impact on the surrounding community and when a reduction in the amount of parking is requested by the applicant. The plan should include the following on and off site-related measures (which is essentially a check list) where appropriate:
 - a. Consideration of land use (density / compactness of the site, AT routes and parking located at the rear of the buildings);
 - b. Walking and cycling – sidewalks / walkways connect the site to transportation network; bicycle parking and end of trip facilities;
 - c. Transit – connections directly to transit and availability of weather protection
 - d. Parking – opportunities for reduced parking requirements, unbundling parking, paid parking along roadways, carpool parking and shared parking
 - e. Carshare and Bikeshare – accommodate parking for carshare and find opportunities for bikeshare

- f. Wayfinding – this includes the development of signage plans, travel planning tools, integrate with school travel planning
- g. Education, incentives and promotion – this includes providing opportunities in the development, requiring a Smart Commute membership (employers), transit passes, discounted carshare memberships, and so on
- h. Projected trip reduction study
- i. Site plan
- j. Monitoring and evaluation plan

Halifax Regional Municipality (HRM), Nova Scotia

HRM took a different approach to the inclusion of TDM in the development process. The TDM Functional Plan outlined a methodology that involved a more regional approach to the inclusion of TDM in the development process and for it to be delivered in a coordinated and comprehensive manner rather than on an ad-hoc basis. The plan recommends that staff work with developers to augment additional TDM services with regional needs so that the regional municipality is the coordinator rather than individual developers. The developers are eligible to provide HRM with contributions toward a TDM program in return for parking variances, density bonusing, etc. The use of a collaborative approach enables stronger partnerships between HRM staff and the development community as well as addressing the larger issues surrounding transportation and traffic in the municipality.

City of Whitehorse, Yukon

The City of Whitehorse, Yukon created a TDM Plan in 2014 in order to address the future potential for congestion as population continues to grow, and encourage sustainable transportation as a workable and affordable alternative. Whitehorse is unique in that the City has a very large network of trails and active transportation routes that connect the city and its neighbouring communities. The City recognizes that maintaining a vehicle-oriented city will result in significant increase in public investment for roads facilities, private expenditure in vehicles, a loss of opportunities to improve health and will create dependency on those who can drive to transport others.

Whitehorse is instead focused on a creating a city that is highly mobile, where people are well connected through the street network and increasingly choose to walk, bicycle, use transit, and carpool because of safety, convenience, and comfort.

The major issues that the TDM Plan seeks to address are public health and obesity in the City, GHG emissions, the increasing demand for parking in the downtown, the increased cost of vehicle ownership, an aging population as more residents are choosing to retire in Whitehorse, traffic congestion as the population of the City increases, and the increasing cost of infrastructure.

The City already has over 150 km of motorized trails and 700 km of multi-use trails, which is considered a very large network for similar sized northern towns. This provides the City with the unique opportunity to promote the facilities they already have, instead of focusing on building

more. The City is focusing on promotion of TDM options, improving transit, and supplying alternative modes for employees. The goals of the TDM Plan is to have a 50% mode share for single occupant vehicles by 2036.

It is noted throughout the Plan that increasing road facilities for vehicles is a costly option that is to be mitigated through the TDM Plan. With promotion and an increase of travel options within the town, there should be an increase of sustainable modes and decrease in single occupant drivers.

The plan is to be addressed through six strategies.

1. Coordinating TDM implementation and promotion options through hiring a TDM coordinator and creating travel plans for residents within the City.
2. Improving active transportation options within in the City by increasing the amount of current facilities and maintaining what is already there.
3. Improving transit through a long-term transit plan, and expanding service and transit pass programs.
4. Supporting employees to use sustainable modes to travel to and from work through programs such as the guaranteed ride home program, and priority parking.
5. By maximizing existing vehicle infrastructure in order to increase capacity without increasing the need for new infrastructure,
6. Encouraging supportive land use by unbundling parking and having a LEED credit program.

These strategies are to be implemented by the City through a collaborative approach with the City at the forefront of the Plan.

City of Thunder Bay, Ontario

Thunder Bay's TDM Plan focuses on transportation system efficiency and opportunity. The vision sets out that the TDM strategies will create a stronger and more diverse economy through broadening access to the downtown and removing travel barriers. It will create a higher quality of life through an increase in health, and expanding travel options for those who can't drive to meet their daily needs. The City will be cleaner, greener, and more beautiful through limiting the use of green space for roads ways and reducing environmental harm,, and will be a better-run city through being a role model to other communities and maximizing return on investment.

The main goal for Thunder Bay is to maximize efficiency of the current transportation system in order to create more opportunities for all residents. The benefits that the Plan has focused on are the improved mobility for the aging population, increases in health levels through active transportation, reduced pollution, attractiveness through tourism with an expanded AT network, and the reduced costs associated with vehicle ownership.

The City has the opportunity to improve active transportation as more than 50% of the population lives under 5 km from their place of work. This can allow for the city to focus on these shorter trips, and thus justify increasing their transit and active transportation networks in order to promote more sustainable work day travel.

The Plan was developed through input from the City staff and stakeholders and research of best practices in the TDM field. Meetings with stakeholders such as the City's Health Unit, EcoSuperior, and Transit and Planning started the consultation process, with representatives from education, health care, cultural and commercial agencies, and local representatives were considered next in order to ensure the TDM Plan was created for the needs of the community.

TDM will be prompted through four different strategies; leadership, outreach, marketing, and performance measurements. At each step these strategies involve the City, and focus on different aspects of the plan and the community. For the first strategy, the City will become a community leader in integrating TDM supportive concepts into their practices such as encouraging City Staff to use TDM programs provided. The second, the City will partner with those who can motivate residents and work with employees and businesses to encourage other work-place travel programs along with school and community organizations. The City's marketing strategy will focus on providing incentives to overcome barriers, and performance measurements will be used to assess how programs are changing behaviours and collecting results from the initiatives.

The City's overall focus is to promote a program that will result in a stronger community that is healthy and vibrant, and can create opportunities from the transportation challenges they face today.

Application to Greater Sudbury

There are two very different approaches to the integration of TDM measures into new developments. The first two examples, Hamilton and Ajax essentially use check lists for the integration of TDM into the new development process. While this can ensure that a number of measures are incorporated into a plan, there is a good chance that not all measures will be considered. TDM plans cannot be undertaken in a "cookie-cutter" manner. They need originality and thought to ensure that the appropriate program and related services and infrastructure are incorporated into the planning process to ensure that the targets for shifting travel behaviours are realized.

The identification of different types of reports will encourage developers to consider TDM measures as they will not feel they are burdened with having to develop an extensive plan for a small or single use site. However, the types of programs, measures and supportive infrastructure need to be determined through a collaborative approach using a tool kit of measures.

On the other hand, HRM developed a program that would give more control of the delivery of TDM programs and measures to the City. However, the development of supportive infrastructure is to be provided through the developer and included within development applications. HRM does not have a check list nor is it prescriptive in its approach to the requirements for a TDM plan. As stated above, the municipality wants to develop a positive partnership to ensure the overall transportation directions are met.

Based on the review of the above TDM plans, it is recommended that the development of a tool kit to provide information on the descriptions and applicability of TDM measures to sites within Greater Sudbury should be created.

A key disadvantage of a checklist is that it is considered that it will only serve to limit collaboration amongst the various parties and potentially result in TDM plans that do not meet the needs of a site or a larger community. As part of the TIS, the type of TDM plan requested and implement should be commensurate to the anticipated impact that the development will have on the road network and surrounding community. Furthermore, it is seen as the most promising opportunity to build upon the existing infrastructure, services and complement existing measures already available. Therefore, the TDM reports will be developed and scaled using a similar framework to those discussed in the Ajax and Hamilton reports.

Appendix B: Consultation



April 2018

1.0 Introduction

The consultation program for the TDM Plan was divided into two phases. The first was the public survey which was available in May/June 2017 and second was the formal consultation sessions held in mid-September 2017. Both phases of the consultation process were considered very successful as the input received provided support for the development of the TDM Plan, enabling the creation of a Greater Sudbury-focused approach.

Below are summaries of both phases of the consultation program. The first section is a synopsis of the survey results and the second is a summary of the three consultation sessions held in September 2017.

2.0 Survey Analysis

The City of Greater Sudbury issued a survey to understand how residents travel, why they choose the modes they do and what could alter their travel behaviours. The survey was available in both French and English. While most results were the same, there were some differences. Many of the respondents to the French language survey indicated that they were teachers for instance.

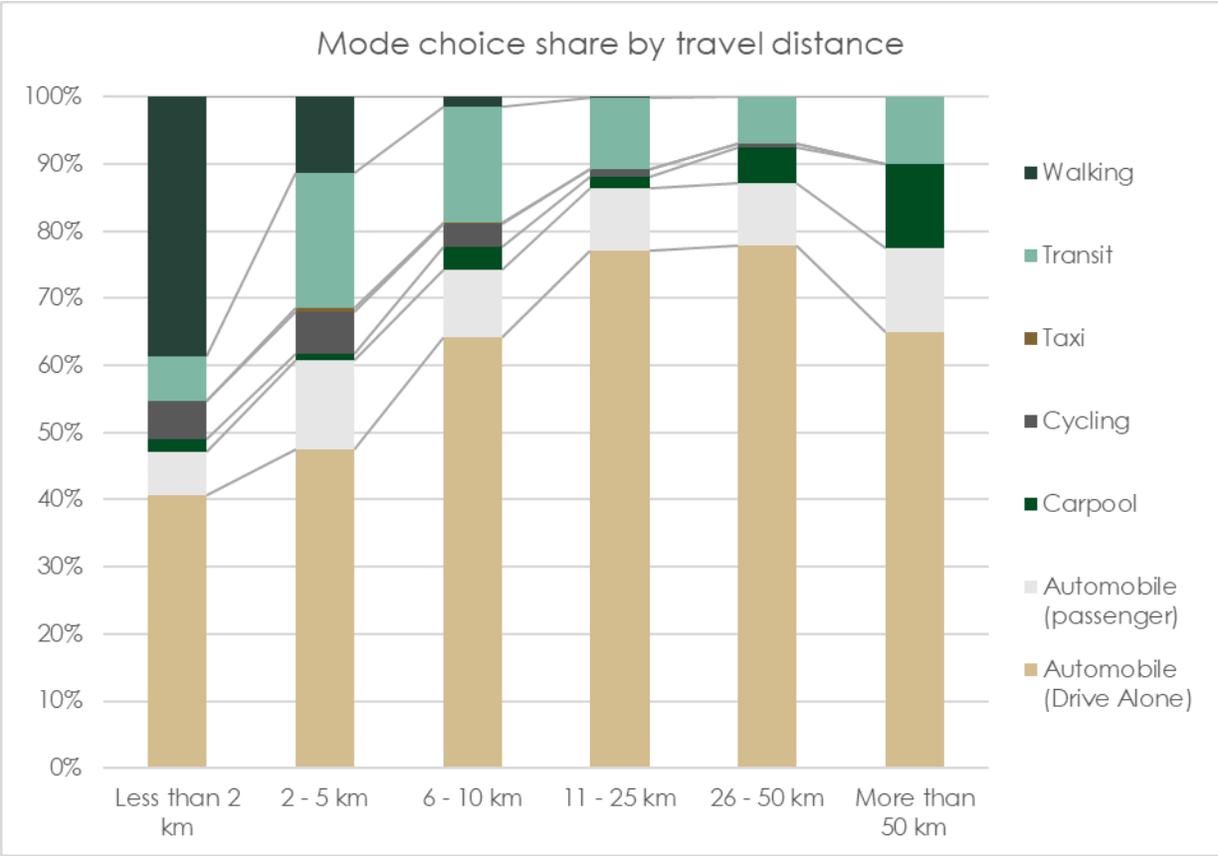
The survey had a total of 1477 respondents, of which 86% responded to the English language survey, and 14% answered the French language survey. The response rate for the survey was 0.9% of the total population of the City of Greater Sudbury, which is considered a high response rate for a TDM survey. However, as the survey was self-selecting, the responses cannot be considered to be statistically significant but they nonetheless do provide an overview of the current travel behaviours in the city. Below are highlights from the survey and an analysis of some of the results. The survey results have been used in the development of the TDM Plan for Greater Sudbury.

2.1 Mode Share and Travel Choice

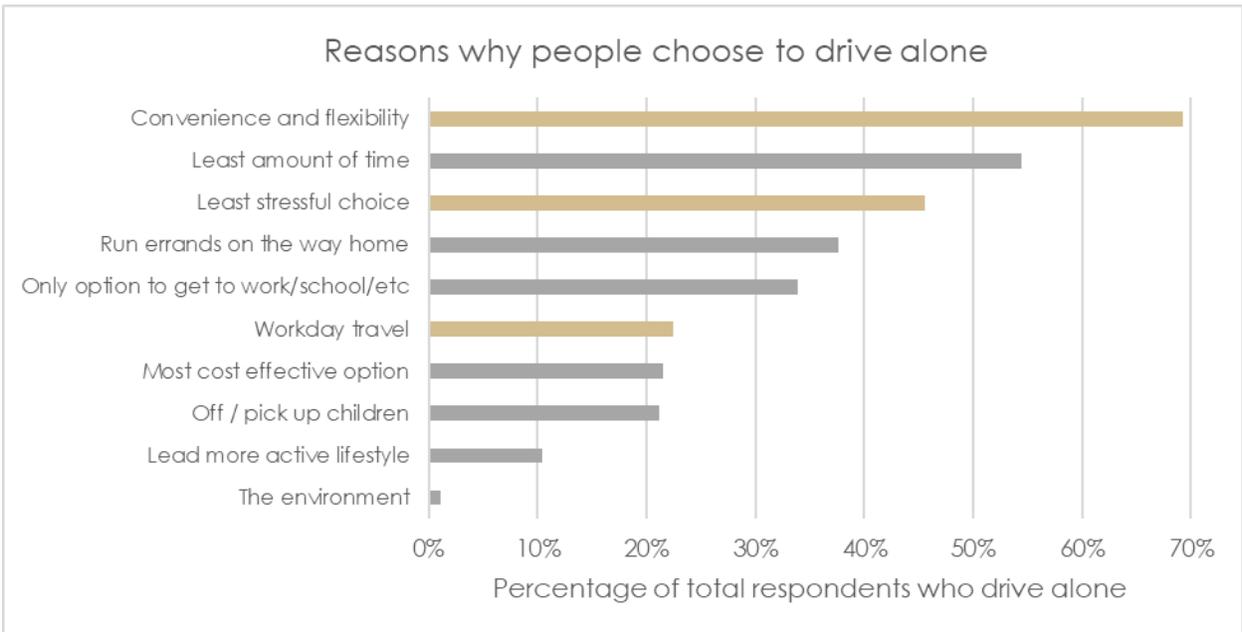
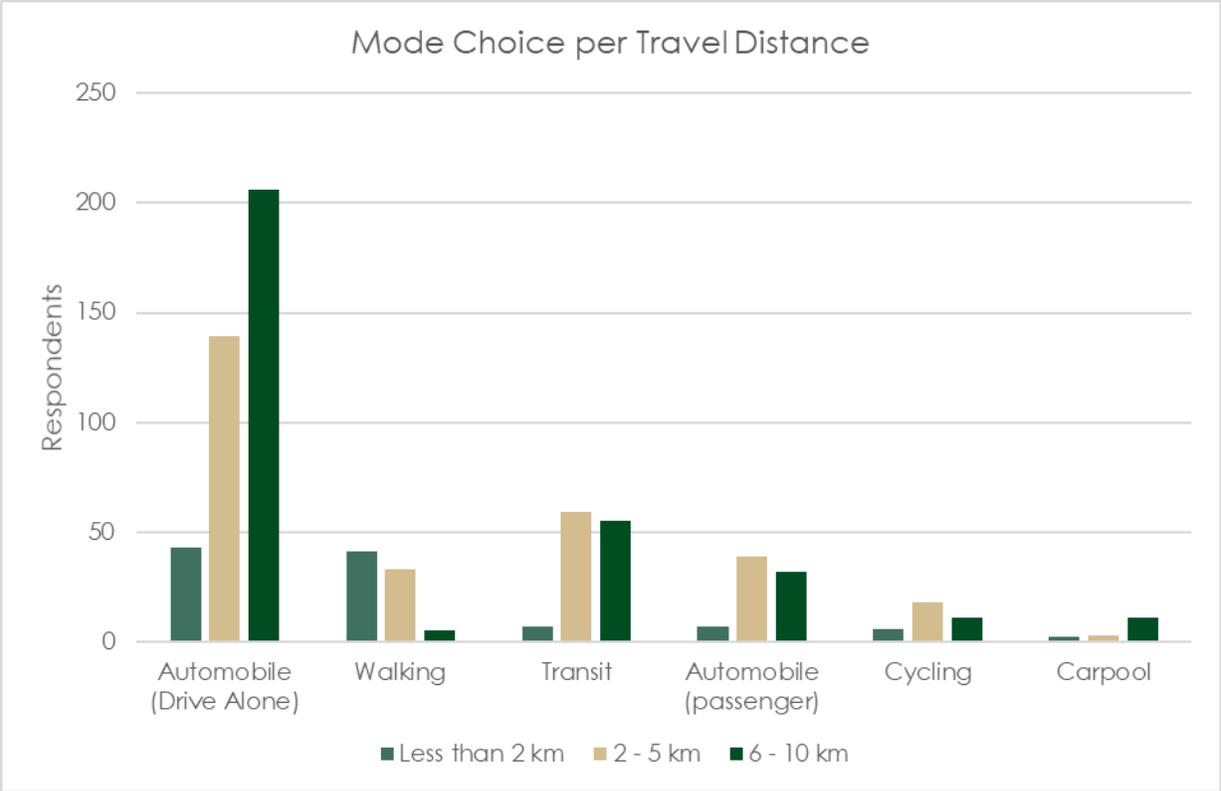
The first questions within the survey asked respondents about their commute, their primary travel choice and why they chose that particular mode. The review of the overall survey results indicated that 61% of respondents chose to drive alone (single occupant vehicle trips [SOV]) as their primary mode of travel. As well, 68% of the survey respondents own at least one vehicle per household, while 58% of households have access to at least one bicycle. The results are shown below:

	English language Survey	French language Survey	Average
Car Ownership	1.7 cars per respondent	2.1 cars per respondent	1.7 cars per respondent
Bicycle Ownership	1.6 bikes per respondent	2.3 bikes per respondent	1.7 bikes per respondent

The graph below indicates that single occupant vehicle trips are the dominant mode choice for residents of Greater Sudbury, except at distances of less than 2km where walking is equal to SOV travel. Single occupant vehicle travel is the largest mode for all distance categories (refer below) for travel in Greater Sudbury. Once travel distances exceed 5km, the SOV mode achieves a mode share of over 50%. At distances of less than 2km, the walking mode is almost equal to the SOV mode. This indicates that Greater Sudbury currently has a reasonable walkability. For medium distances transit maintains a mode share of over 20%.

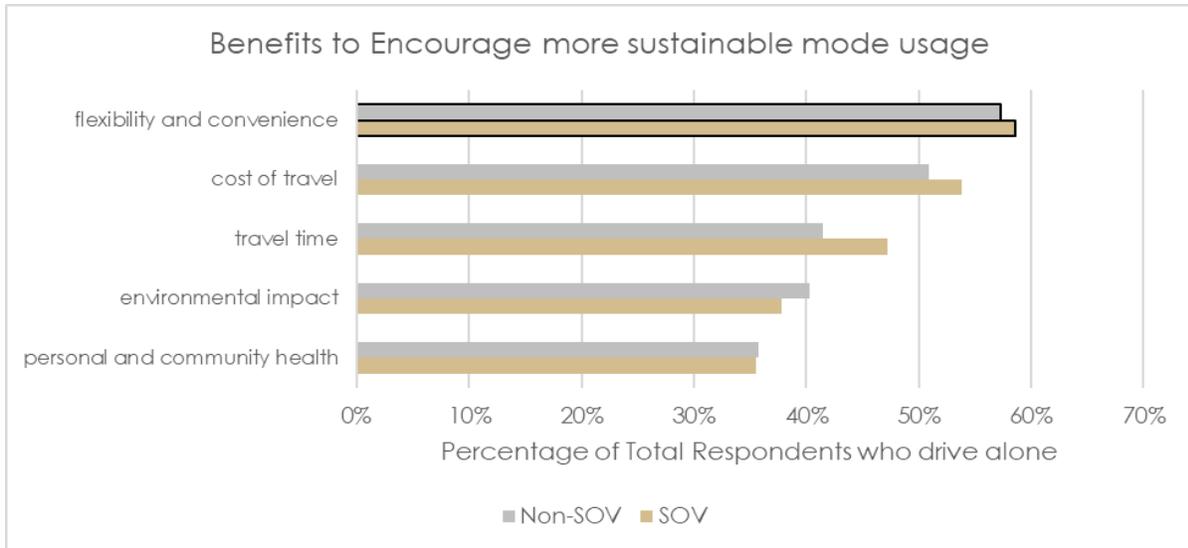


As shown below, the use of single occupant vehicles increases considerably as the distances get longer. There is an opportunity to shift shorter distance trips made by SOVs share to sustainable modes. Distances of less than 2km may be considered walkable, distances less than 5km may be considered as a reasonable cycling distance, and within 10km can potentially be achieved with a multi-modal combination of walking, cycling and transit. Understanding why people drive alone is important to changing travel behaviour. In Greater Sudbury people stated that they chose to drive alone due to time concerns and the flexibility that personal vehicles offer.



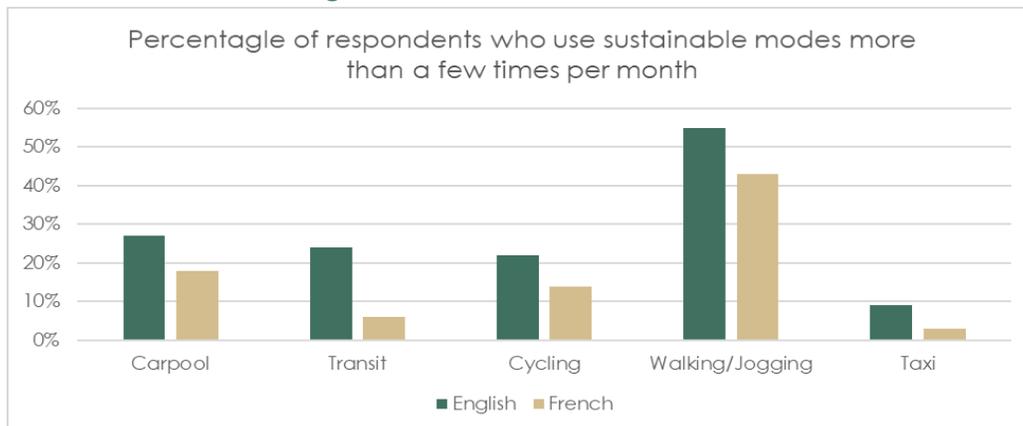
2.2 Encouraging Sustainable Travel Behaviours

Of the respondents who said that they primarily drive alone, most indicated that convenience & flexibility, time and stress were the three most common considerations. Private vehicles appear to offer significant benefit because they may provide freedom and flexibility. However less than 50% of respondents said that they chose to drive to run errands, pick-up or drop off children, or for workday travel. It is possible that the convenience and flexibility of travel may in some part refer to spontaneous or unplanned trips (i.e. run to the coffee shop, or to visit a friend).



The flexibility and convenience of travel is the most important factor to encourage residents to increase the usage of sustainable modes. This indicates that sustainable modes need to be able to provide a comparable level of flexibility and convenience that a car would provide in order to bring about a sizeable transportation shift. It is important to note that environmental impacts and health were seen as being greater benefits to using a sustainable mode over SOV trips.

Respondents indicated that flexibility, and convenience and cost are major factors towards sustainable mode usage.



The overall level of use of sustainable modes in Greater Sudbury is considered low. This is not surprising given the respective mode shares and the 61% of respondents whose primary mode is single occupant vehicle. Walking and jogging is the most prevalent sustainable mode that is used on more than a few times per month, i.e. on a non-incident basis.

Other modes such as carpool, transit and cycling are fairly equally infrequently used. The nature of how the communities have developed and the topography of the area were also indicated as reasons for why sustainable modes were not used as frequently as private vehicles.

2.3 Transit

Focusing on high quality navigation, customer service, and information can transform the transit experience:



The chart shows the level of importance that various factors have on the public transit experience. The edges of the diagram are the different factors that survey respondents were asked to rate. Where the blue line approaches the edge (near 5), this indicates that the factor is considered very important. When the line is closer to the middle of the shape, it indicates that respondents did not think that factor was as important.

Improving public transit is considered important to residents. Of those who completed this question, most indicated that changes to scheduling and improvements to the customer experience were needed. Survey respondents also indicated that easy navigation, real time information and quality customer service would help to improve the transit experience. Information, service and maintaining transit facilities could be quick wins that elevate the transit

experience in Greater Sudbury. The most important factor that survey respondents indicated was that they would like to see more direct transit routes. More monitoring initiatives and understanding travel patterns could help Greater Sudbury plan more connected and utilized transit routes.

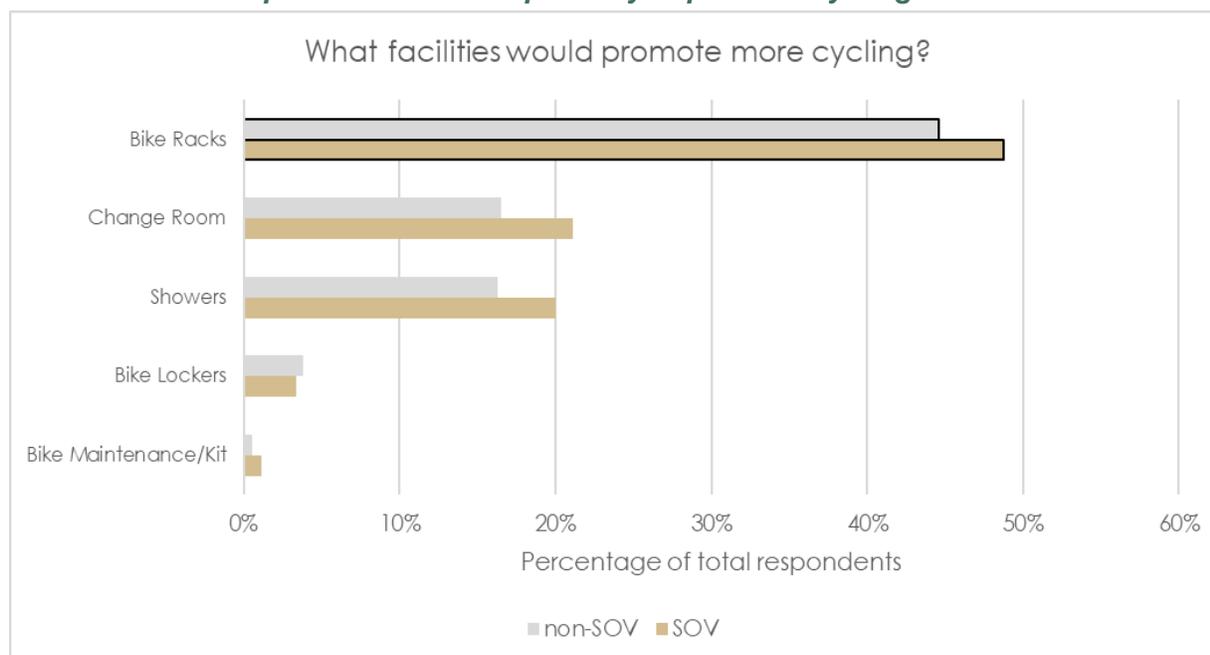
2.4 Cycling

Residents of Greater Sudbury are not comfortable cycling

Cycle Comfort	Not at all	Somewhat uncomfortable	Neutral	Somewhat comfortable	Very comfortable	Score out of 10
English	50%	29%	9%	10%	3%	3.75
French	33%	37%	11%	11%	8%	4.51
Blended	47%	30%	9%	10%	4%	3.86

Respondents indicated that they are not generally comfortable cycling in Greater Sudbury. Only 14% of total respondents indicated that they were somewhat or very comfortable with cycling. This may point to a lack of cycling education and a perception that there is inadequate cycling infrastructure in Greater Sudbury. French language speakers are less likely to use sustainable modes of transportation; however those that do are slightly more comfortable with cycling.

Bike racks are the preferred end of trip facility to promote cycling



The survey reveals that the installation of additional bike racks may be an effective way of encouraging cyclists and that it is a barrier towards cycling at present. Installation of bicycle parking facilities such as bike racks could be considered as part of a TDM Supportive Infrastructure for new developments policy. It should be noted that bike racks are overwhelmingly preferred to bike lockers. Change rooms and showers were rated fairly equally as supportive end of trip facilities.

2.5 Walking

Residents of Greater Sudbury more comfortable walking than cycling

Walking Comfort	Not at all	Somewhat uncomfortable	Neutral	Somewhat comfortable	Very comfortable	Score out of 10
English	5%	13%	16%	35%	31%	7.51
French	5%	13%	14%	31%	38%	7.69
Blended	5%	13%	15%	35%	32%	7.53

Respondents indicated that they are much more comfortable walking in Greater Sudbury compared to cycling. The higher score is not surprising given that more respondents indicated that they walked as a transportation mode than they cycled. This may also indicate that the adequacy of existing active transportation infrastructure and the associated perceptions concerning that infrastructure are different for pedestrians and cyclists.

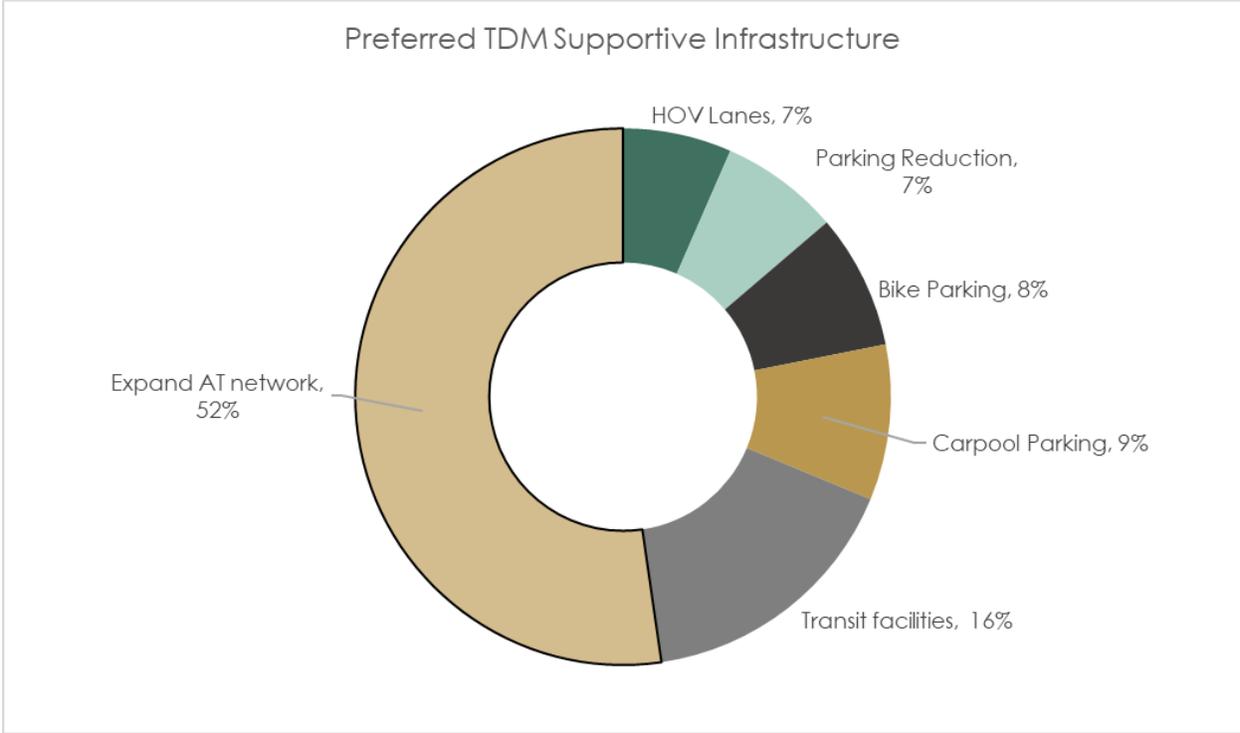
Respondents value facility improvements and increased connectivity to improve walkability in Greater Sudbury



The chart shows the level of importance that various factors have on walkability in Greater Sudbury. The edges of the diagram are the different factors that survey respondents were asked to rate regarding what Greater Sudbury could do to improve the walking experience. Where the blue line approaches the edge (near 5) indicates that the factor is very important. When the line is closer to the middle of the shape, it indicates that respondents did not think that factor was as important.

Facilities and connections are the most important factor that respondents identified to improve the walkability of Greater Sudbury. Facilities and connections refers to more continuous trails and sidewalks that link destinations and attractions. Improved street lighting and crossing conditions will help improve the safety and usability of the pedestrian facilities and Greater Sudbury and further promote walking.

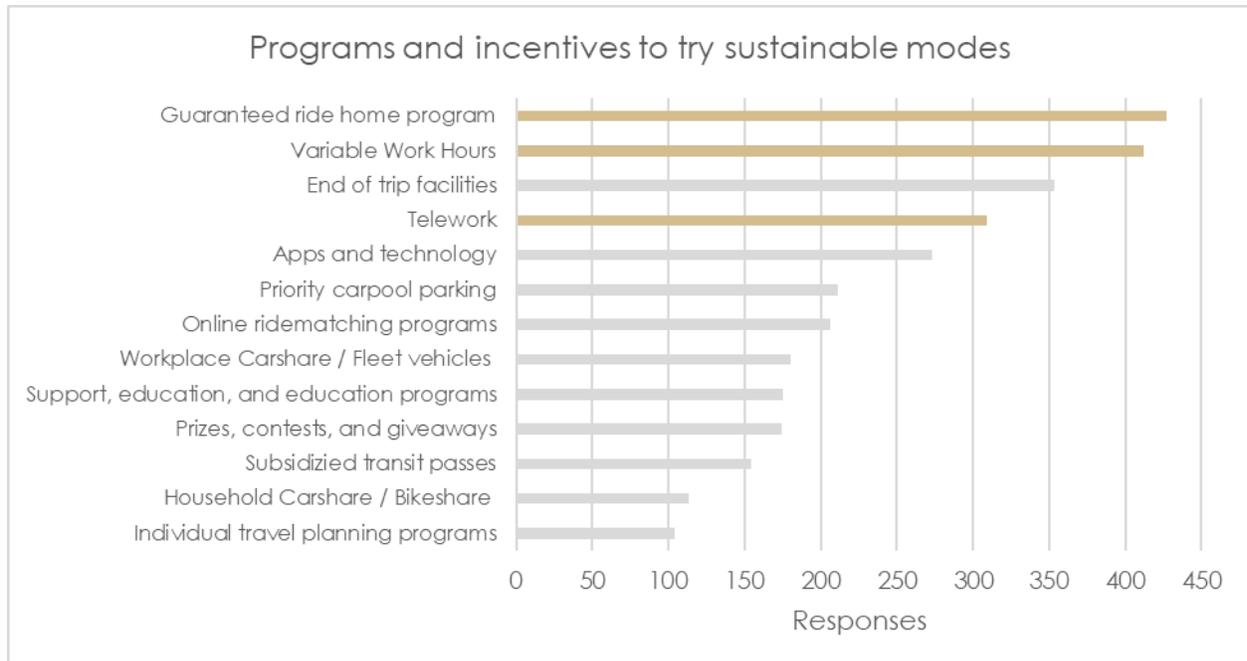
Over 52% of responses indicated that AT network expansion is the most favourable TDM supportive infrastructure



Improvements to the existing active transportation network and related facilities were by far the most preferred TDM supportive infrastructure that respondents indicated would be most likely to increase their usage of sustainable modes. Over three quarters of all respondents indicated that they wanted to see additional measures related active transportation and cycling. As noted earlier, improving the active transportation network may help bolster the walking share and promote cycling, particularly for low to medium distances.

2.6 Workplace Programs

Workplace programs coupled with a guaranteed ride home program may be successful influencing travel choices



The survey respondents indicated that workplace-related programs such as variable/flexible work hours accompanied with a guaranteed ride home program could encourage people to consider using sustainable modes. Carpool matching programs, incentives and bikeshare were considered not as attractive. Despite modest transit ridership and a desire to reduce cost of travel, subsidized travel passes are not considered popular. Improvements to the transit system may need to be made before transit passes become an effective TDM program.

English Survey	Does your workplace have flexible work hours	Does your workplace have a telecommute program	If your employer had telecommute and/or flexible work hours, would you take sustainable modes at least once a week?
Yes	33%	21%	58%
No	67%	79%	42%

French Survey	Does your workplace have flexible work hours	Does your workplace have a telecommute program	If your employer had telecommute and/or flexible work hours, would you take sustainable modes at least once a week?
Yes	10%	9%	48%
No	90%	91%	52%

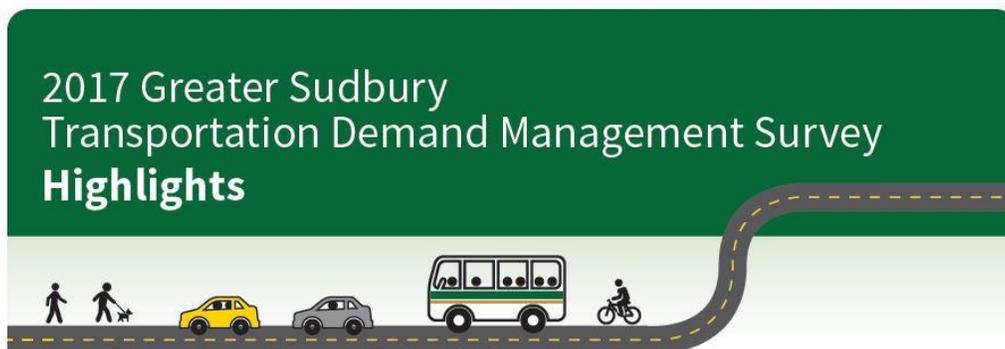
Survey results show that flexible work hours and telecommute programs are not common in Greater Sudbury. French language speakers are less likely to be able to access flex hours and

telecommuting. As shown below, if employers were to introduce a guaranteed ride home program, the results show that over 50% of respondents would be interested in participating.

Guaranteed Ride Home	English	French	Blended
Yes	65%	62%	64%
No	33%	35%	33%

The guaranteed ride home program received an equal level of positive response from English and French surveys. On the whole, the ride home program was received better than telecommute and variable work hours, which is consistent with the TDM programs and incentives that respondents were interested in. Interest may stem from the guaranteed ride home providing the user with additional convenience and flexibility where and when it is needed most.

2.7 Infographics



What is this survey?

This survey was intended to help us understand in detail how Greater Sudbury’s residents move around the community and what is behind their mobility choices.

What is the TDM strategy?

Transportation Demand Management (TDM) is a set of tools that help encourage sustainable travel choices and increase the efficiency of the road network. We are preparing a **TDM Strategy for Greater Sudbury** that will help guide transportation planning for the future.

Who responded?

1475

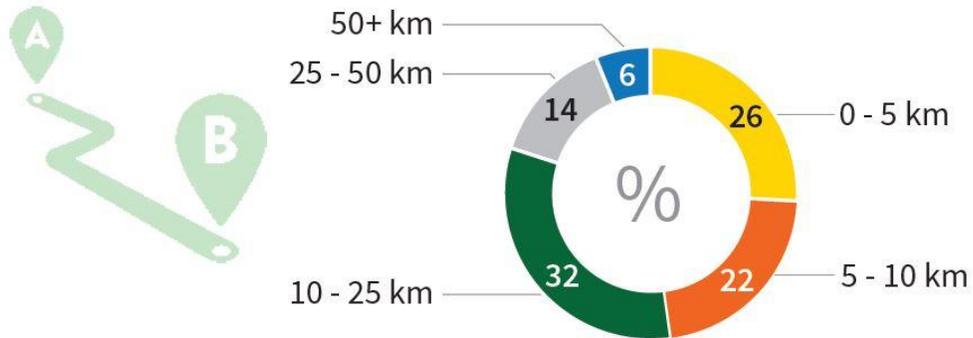
people participated in the survey.
We thank the respondents for their participation.

97%

of survey respondents
live in Greater Sudbury

TRAVEL DISTANCE

How far do people travel in Greater Sudbury?

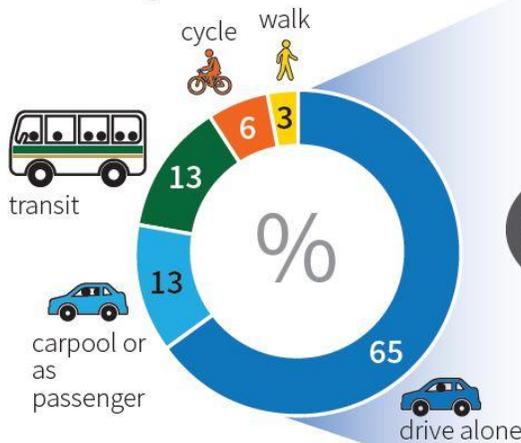


54% of survey respondents have a commute of **15 to 30 minutes**



TRAVEL MODE

What vehicle do people use to travel in Greater Sudbury?



Why do most people drive alone?

44%

It's the only option

It's the fastest

53%

58%

It's the most convenient and flexible

OTHER FINDINGS

49% do not cycle

68% are not comfortable cycling in Greater Sudbury

52% would consider walking and cycling if the active transportation routes were improved and expanded



66% are comfortable walking in Greater Sudbury

78% do not use transit

64% do **not** have access to carpooling at work

57% would be willing to carpool with a colleague

66% would carpool if there was a Guaranteed Ride Home program

3.0 Survey Questions

1. Are you a resident of the City of Greater Sudbury?
2. What is your average one way commute distance?
3. How much time are you willing to spend on your commute?
4. What is your primary mode of transportation?
 - a. Drive alone
 - b. Passenger
 - c. Transit
 - d. Carpool
 - e. Cycling
 - f. Walking
 - g. Taxi
5. Why is this your preferred choice of transportation?
6. How frequently do you use the following sustainable modes of transportation?
7. What benefits would help you consider sustainable modes of transportation?
 - a. Reducing your daily travel time
 - b. Reducing the cost of travel
 - c. Reducing the environmental impact
 - d. Improving your personal and community health
 - e. Improving the flexibility and convenience of transportation
8. Do you have a flexible work schedule?
9. Does your current workplace permit employees to telecommute?
10. If your employer allowed for a flexible work schedule would you consider using an alternative mode of transportation at least one a week?
11. Do you currently take public transit?
12. If you do not currently use or are uncomfortable with public transit, can you explain why?
13. How long does it take to walk to the nearest transit stop from your place of residence?
14. How important are the following for using public transit?
 - a. Transit system is easy to navigate

- b. Transit vehicles are comfortable
 - c. Privacy is important during my commute
 - d. Weather is an important factor in choosing transit
 - e. Buying transit fares is convenient and easy
 - f. The transit facilities are well maintained and include shelters, benches, and other amenities
 - g. Availability of real-time transit information
 - h. Directness and length of the transit routes
 - i. Quality of customer service
15. Do you currently cycle?
16. Why do you cycle?
17. Which of the following end of trip facilities for cycling are available at your workplace or school?
- a. Bike racks
 - b. Bike lockers
 - c. Change room
 - d. Showers
 - e. Bike maintenance/shop/kit
18. Please indicate how comfortable you feel cycling in Sudbury.
19. What would make you consider cycling more often?
- a. Improved and expanded trail network
 - b. Dedicated bike lanes on road
 - c. More amenities
 - d. More parks/open space
 - e. Proximity to destinations
 - f. Improved way finding and signage
 - g. Improved lighting
 - h. Better road crossings
 - i. Cycling advocacy and safety outreach and programs
 - j. Cycling education at workplaces and schools
20. What purpose do you walk for?
- a. Health/fitness
 - b. Commute/school/work
 - c. To run errands
 - d. For recreation
 - e. To reduce environmental impacts
 - f. Other

21. Please indicate how comfortable you feel walking in Sudbury
22. What would make you consider walking more?
- More facilities
 - Better connections
 - More amenities
 - More parks/open space
 - Proximity to destinations
 - Improved way finding and signage
 - Better road crossings
 - Improved road lighting conditions
23. Does your workplace have a carpool matching program and/or carpool parking?
24. Who would you likely carpool with?
25. Carpooling can reduce the number of vehicles on the road, reduce commuting costs and stress. How do you feel about carpooling as an options for the journey to work, thinking of it in the context of the following statements? (Strongly agree - strongly disagree)
- It is convenient for the driver
 - It is convenient for the rider
 - Carpooling would disrupt my schedule
 - It is easy to find a carpool partner
 - Carpooling can reduce transportation costs
 - Carpoolers should receive additional perks
26. Would you consider carpooling if your employer offered a guaranteed ride home program that would provide you with a means to get home in an emergency?
27. What TDM supportive infrastructure would increase your likely hood of using sustainable modes?
- Expanded AT network and neighbourhood connection
 - Bicycle parking facilities
 - High occupancy vehicle lanes
 - Parking reduction
 - Transit facilities such as shelter, benches, lighting
28. What programs and incentives would encourage you to try sustainable modes of transcription such as transit, cycling, walking, carpooling, and variable work arrangements?
29. How should the City of Greater Sudbury deliver outreach for TDM initiatives?

30. Integrating sustainable transportation opportunities into new developments is becoming increasingly more common. What is your opinion about the following and how they can be part of the overall integration of sustainable transportation and land use planning?

31. What are the first three digits of your postal code?

32. What age demographic does your household fall into? (age)

33. How many vehicles does your household own or have access to?

34. How many bicycles does your household own or have access to?

4.0 Public and Stakeholder Consultation Sessions

The Greater Sudbury public and stakeholder consultation sessions took place on September 13 and 14, 2017. The purpose of these meetings was to provide stakeholders and the public with draft concepts for the TDM vision and principles, as well as potential programs and measures. Feedback was requested and various formats were used to assist the study team in gaining insight from participants.

There were three separate meetings: the public session which was a drop in Public Open House, an invited stakeholder meeting, and a meeting with the Sustainable Mobility Advisory Panel (SMAP). The following summary gives detail on the three meetings and discusses the main topics brought to light at each.

Household Programs

What is a Household Program?
Household travel programs focus on getting the family where they need to go. Using modes other than the car for transportation will encourage children to continue this habit as they grow up.

Please comment on the measures below:

Individualized/Community based Marketing & Travel Planning Programs
These programs provide information and incentives to help change travel behaviours within the community. Individualized marketing consists of creating travel plans for each person or family, ensuring that their travel needs can be met through sustainable modes of transportation.

Comments:
- It is hard to make the usual 15 min trip from point A to B.
- More needs to be education to all about using about all road lanes (cyclists could be that only one that have right of way on the road).
- I would be glad if I could have the bike on the bus for the whole trip. Just about every time there is someone trying to take them, it's awkward.
Please Post

Community Events
Community events allow for more personal interactions with the residents to discuss travel options.

Comments:
- "The bus passes the community center - it's a good!"
- **Very PASSES for everyone!**

Noticeable Light at the Streets
Bus passes stop
Noticeable + Bus Passengers!

Noticeable Light at the Streets
Bus Passengers Stop
Noticeable + Bus Passengers!

Noticeable Light at the Streets
Bus Passengers Stop
Noticeable + Bus Passengers!

Noticeable Light at the Streets
Bus Passengers Stop
Noticeable + Bus Passengers!

Community App for Transportation Support
A smart phone application that will provide information about local modes of transportation, and real time information in a format that is user friendly and allows all mobility options to be available in one place.

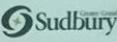
Comments:
- more information, help people plan their route - if what? an opportunity to track learning for certain routes and specific times of day, it would be possible to increase the number of available modes (e.g. 50 bikes).
- The app has to be available in multiple languages and not hard on mobile.

SET OF LIGHTS AT LIGHTS BY THE BUS STOP
BUS STOP LIGHTS BY THE BUS STOP

Anything Else?





4.1 Stakeholder Workshop

An invitation and reminder was sent out to Stakeholder involved in the project to inform them of what the project was and why they were being asked to participate. Those who will be helping to run the program, sustainability groups, and organizations that will advocate for it were invited to participate in the Stakeholder Workshop. The invitations were also highlighted what would be asked at the meeting and provided contact information for any questions.

The reminder sent out to the stakeholders notified them of the meeting and encouraged organizations to send a representative where necessary. Below is the list of stakeholders who were invited to attend:

- ▶ Friends of Sudbury Transit
- ▶ Rainbow Routes Association
- ▶ Sudbury Cyclists Union
- ▶ Sudbury Cycles
- ▶ Sudbury and District Health Unit
- ▶ Greater Sudbury Police Services
- ▶ Sudbury Chapter of CARP (Canadian Association for Retired Persons)
- ▶ EarthCare Sudbury (partnership between Greater Sudbury and 150 community partners)
- ▶ Coalition for a Liveable Sudbury
- ▶ Greater Sudbury Chamber of Commerce
- ▶ Green Sudbury
- ▶ Major Employers
- ▶ Learning for a Sustainable Future
- ▶ Rainbow District School Board
- ▶ Rethink Green – Faith Commuter Challenge (between faith groups)
- ▶ Sudbury and District Health Unit
- ▶ Sudbury Catholic District School Board
- ▶ Conseil scolaire de district catholique du Nouvel-Ontario
- ▶ Downtown Sudbury BIA





Dear Stakeholder

The City of Greater Sudbury is developing a **Transportation Demand Management (TDM) Plan** to encourage the use of sustainable travel options by residents of Greater Sudbury. In April 2017, the City retained WSP Canada Group Limited to work with Greater Sudbury staff and residents to create a plan that supports the use of cycling, walking, transit, carpooling and shifting of work arrangements to reduce stress on the roads and improve the environment and quality of life for all who live, work and visit Sudbury.

A key component of the development of the TDM Plan is a consultation and engagement program to gather input from businesses, stakeholders and residents to ensure a collaborative process is undertaken in the development of the plan.

You have been identified as a **key stakeholder** whose input will help shape the delivery of sustainable transportation programs and services within the community. Staff from the City of Greater Sudbury and WSP would like to extend this invitation to you to participate in a 1.5 hour workshop to:

- Provide an overview of the project and the timelines for completion
- Discuss potential TDM programs and how they can be implemented
- Discuss collaboration and partnerships between you and the City of Greater Sudbury to effectively implement TDM initiatives

The meeting is scheduled to be held on **Thursday September 14, 2017 between 1:30 p.m. and 3:00 p.m.** It will be held at **St. Andrew's Place** (111 Larch Street, Sudbury, ON) in the 111 Lounge, located on the main floor. Please email **Marisa Talarico** (marisa.talarico@greatersudbury.ca), Active Transportation Coordinator by Sept 11, 2017 to confirm your attendance.

If you are unable to attend the Stakeholder Workshop, there are other options for your input into the TDM Plan:

- You can attend the Public Consultation Session on September 13, 2017 between 6:00 and 8:00 pm. This session will be held at St. Andrew's Place, Activity Hall (Second Floor) 111 Larch Street and
- You can contact **Marisa Talarico** or **Roxane MacInnis**, Project Manager, WSP Canada Group Limited via the contact information below:

Marisa Talarico
(Active Transportation Coordinator, City of Greater Sudbury)
1800 Frobisher Street,
P.O. Box 5000, Station A
Sudbury, On P3A 5P3
marisa.talarico@greatersudbury.ca
705-674-4455 Ext. 3646

Roxane MacInnis
(WSP Canada Group Limited Project Manager)
1145 Hunt Club Road,
Ottawa, ON, K1V 0Y3
roxane.macinnis@wsp.com
613-690-1153

Figure 1: Stakeholder Invitation



Stakeholder Workshop THIS Thursday!

Final Reminder!

You have been identified as a key stakeholder whose input will help shape the delivery of programs and services to encourage more people to walk, cycle, take transit or carpool within our community.

If you are unable to attend the session yourself, we strongly encourage you to send a delegate, as your organization's participation in this session is invaluable to the success of this plan.

Join us at the 1.5 hour workshop, where we will:

- Provide an overview of the project and the timelines for completion
- Discuss potential TDM programs and how they can be implemented at your organization
- Discuss collaboration and partnerships between your organization and the City of Greater Sudbury to effectively implement TDM initiatives

What: Transportation Demand Management Plan Stakeholder Workshop

When: 1:30 - 3:00 pm on Thursday, September 14, 2017

Where: St. Andrew's Place, 111 Lounge (Main Floor)
111 Larch Street

If you have not already done so, please email Marisa Talarico (marisa.talarico@greatersudbury.ca), Active Transportation Coordinator to confirm your attendance.

Figure 2: Reminder to Stakeholders

The purpose of the stakeholder workshop was to gain information from different organizations in the community that have an invested interest in the opportunity or may be important to promoting the program throughout the community. Having stakeholders is vital to the program as they have local knowledge and experience in their fields. This helps to grow the knowledge base and ensure that all groups are represented.

Stakeholders were asked two questions after their presentation. (1) Which programs should be recommended for Greater Sudbury and (2) how their organizations could help implement these programs. The following is a summary of the main themes brought up in discussion.

QUESTION ONE

Question one asked which TDM programs recommended would be successful within Greater Sudbury. There were five main themes that came to light. Priorities were placed on: transit, cycling infrastructure, accessibility, parking, and programming.

Theme 1: Transit

Under transit it was suggested that there should be incentives for people to try the bus. There are negative connotations with riding the bus in Greater Sudbury that need to be dealt with before more people will ride the bus. The experience should be enjoyable, not scary.

Comments centered on getting children and students to use the busses more. Putting an emphasis on those who are not able to drive yet. Getting youth to learn how to ride the bus may be able to encourage them as they grow to continue this trend. Giving school-age-children free passes for the month of September and encouraging them to take the bus instead of getting a ride was a common idea. It was also suggested that large employers in the area should either discount or provide free transit passes as it was noted that a transit pass is expensive for the service it provides.

Theme 2: Need for more cycling infrastructure

The need for more cycling infrastructure was a reoccurring theme at the stakeholders meeting. From bike parking to safer routes it has been suggested that Greater Sudbury is currently not very cyclist friendly. Although there are trails, they do not go to destinations and are mostly used for recreation. There was interest for more secure bike parking at destinations, end-of-trip facilities such as showers and change rooms, bike shares available for those who may not own a bike, and the integration of the cycling system with others to become more multi-modal.

Theme 3: Accessibility

Accessibility was of major concern to those in the stakeholder group. There are many seniors that live in Greater Sudbury that can be very isolated without the use of transit. Concerns were focused around seniors having to live further away from services or in an area not serviced by transit due to financial reasons. It was suggested that bus drivers should be expected to give assistance to those who are unable to board the bus by themselves. As well, providing information for those who are elderly or disabled on how to use the bus, where the stops are, and the benefits of taking the service was considered important.

Theme 4: Parking

Parking was seen as an area for improvement to the stakeholders. It was suggested to have park and ride facilities placed at transit lines, and carpool parking lots to encourage more people to take sustainable modes of transportation. It was also suggested that priced parking would be a good alternative in the downtown where parking is abundant. Charging more for parking or requiring a “congestion tax” for those who drive could encourage more people to take transit instead of driving.

Theme 5: Programs

There was positive response to programs suggested in all three categories (work, school, home). Less focus was placed on having the program; instead the emphasis was more on the promotion and awareness of programs. Programs encouraged were flexible work schedules, guaranteed ride home, carpooling initiatives, employee transit passes, car and bike share, and discounted parking. Most of the programs chosen were those in the work-programs section, with a focus on using transit for students to commute to school. Promotion focused on getting awareness out, offering programming and awareness for residents and clients in the area, and educating the residents on how to take transit.

QUESTION TWO

Question two asked how the stakeholders organization could collaborate with the city to implement these TDM initiatives, and what other partnerships they thought were important in the implementation process. Priorities were placed on having a strong partnership with the City, the School Board, and recreational facilities.

School board

It was noted that working with the school boards is important to get students involved in TDM. With the support of the board there can be more emphasis put on using transit, taking the school bus or active transportation to school instead of having students driven by parents. Having the principals and parents involved in these programs would also be helpful as they are likely the ones to carry out programs and will need support from the board to do so.

Government

Working with the City will be a vital part of implementing these programs as they will be the ones implementing the TDM Plan. It will also be important to partner with other government agencies as well, such as Ministry of Transport Ontario and Health Services in Greater Sudbury. These organizations can continue to support and provide services for the programs with different options and education.

Recreational Facilities

Partnering with recreational facilities in the area will be important as they can advertise for TDM and active transportation as well as providing a destination for people commuting. Having partners such as the YMCA Sudbury included in programs can help to expand advertising and awareness in the community. This could also be the same for local hockey rinks and recreation

centres. Having priority parking for carpoolers at arenas could help to manage parking problems and encourage more people to travel together.

Coalition for a Liveable Sudbury

The Coalition for a Liveable Sudbury (CLS) is an organization consisting of citizens and community groups who share the common vision of Greater Sudbury as a “green, health, and engaged community”. The goal of the coalition is to strive towards a sustainable, livable, and vibrant community through having a voice for citizens who want to help make change in the community. The coalition advocates, researches, raises awareness, and has a network for those who also believe in the principles of a Liveable Greater Sudbury.

The organization submitted feedback on the public meeting through the project email. Their main comments covered the topic of environmental sustainability, the potential to increase service and facilities for sustainable modes, the focus on school and work programs, the need to engage the community, and have measureable goals and priorities.

Within these topics they stressed that transportation should be safe, accessible, and convenient for all ages to use including youth and seniors. Influencing youth to use sustainable modes now will be able to influence their behaviours later in life. CLS stressed that this was another important aspect that should be a focus for school travel planning.

CLS also stressed that implementing a TDM Plan creates an opportunity to increase transit service and create more liable community that can access destinations without the use of the automobile. Having accessible sidewalks, bike lanes, and transit is important for these communities to change their travel habits.

4.2 Sustainable Mobility Advisory Panel (SMAP)

SMAP is a panel that works with council and city staff in order to create and implement a vision for Greater Sudbury that includes having a multi-modal transportation system where any means of transportation can be used safely and efficiently to get to a destination. The primary objectives of the panel are to aid council and community partners in implementing recommendations to active transportation, advocating for pedestrians, cyclists, and transit uses, and other non-motorized modes of transportation, and develop recommendations to encourage sustainable transportation within the City.

As important advocate for sustainable transportation and mobility, SMAP was invited to participate in a workshop to discuss the creation of the new TDM Plan. At the workshop SMAP was given personas of different people who could live in Greater Sudbury and asked to define what their transportation challenges and needs are. The activity was used for the purpose of considering specific people within the transportation network and how their lifestyles can influence their different transportation needs and choices. Participants were asked to consider what the needs are for different types of travelers, and how travel fits into their lifestyles. By identifying the main transportation needs and challenges, this provided the basis to consider how the person can change their behaviour.

The following is a summary of what was suggested for the different types of travelers:

Recent Grad, 22

For recent grads, challenges and needs discussed were that transit schedules should line up with events so it is easier for the public to participate in activities and festivals within the City. It was also discussed that there are many challenges for someone who wants to commute by bike as there is little infrastructure in Greater Sudbury for active transportation. Bike lanes and end-of-trip facilities would allow for more people to commute this way.

Paul, Recent Grad, 22



Background:

- I graduated from university 18 months ago.
- I enjoy going out with friends and taking part in cultural activities.
- I consider myself somewhat of an environmentalist.
- I have recently started working in my field.
- I live a 20 minute bike ride from work.
- Many of my friends have recently purchased cars and brag about how easy it is to travel around.

Every day I must...

- Travel to work.
- Meet up with friends.

Every day I would like to...

- Be sustainable.
- Take part in cultural activities.

What I value in my life...

- Being environmentally responsible.
- Social interaction with friends and others.
- Riding my bicycle around the city.

My main transportation needs and challenges are....

- Infrastructure ^N
- winter maintenance.
- infrastructure ^C

Schedule Cohesion Between Buses & Events
AND
STOP/DROP OFF POINTS

Senior, 68

As a senior in Greater Sudbury, there are many challenges when it comes to mobility. In order to be mobile and participate in the community the transit system is vital. Having discounted transit passes for seniors would allow them to travel more freely and continue to participate in the community. As accessibility is often an issue, there should be for information for how seniors can use the bus safely and conveniently. Winter conditions were discussed as there is often unsafe conditions in the winter. Addressing the issues of cleared sidewalks and roads would improve the quality of life for all those using active transportation for commuting.

Malcolm, senior aged 68



Background:

- I live in Sudbury, in an area with poor access to local services.
- I have very poor health.
- I do not have many friends and family left where I live.
- I have very little personal capital.

My main transportation needs and challenges are....

- Transit Access (handi-transit) - provides social atmosphere/opportunity for connection to other passengers.
- provides access to shopping, healthcare + pharmacy.
- taxi - Uber → low cost door-to-door service → emergencies

Challenges:

- distances; access; cost of transportation → monthly transit pass \$70.00.

Every day I must...

- Shop daily locally
- Access community centre/library
- Take my medication

Every day I would like to...

- Have social interaction and contact with family and friends.

What I value in my life...

- Access to healthcare and pharmacy.
- Support from people in a similar situation.
- Visits from my care worker.
- Technology.

School aged pupil, 16

It was discussed that as a student having a multi-modal system is very important. Using active transportation and transit together can allow for more mobility and easier access to destinations. It was suggested that for students it is likely that the cost of a pass that would be a barrier and then knowledge of how to use the transit system. Schools should take care in supplying students with discounted or free passes and educate students on how to use the trail network and transit.

Peter, school pupil aged 16



Background:

- I live in the middle of town with my family (mom, dad, 2 brothers, a sister and 2 dogs).
- I enjoy sports most nights after school.
- Hockey is my favourite sport.
- I always come home for lunch
- I love technology.

Every day I must...

- Go to school and do my homework
- Use the internet/social media
- Eat

Every day I would like to...

- Hang out with my friends
- Go to Subway at lunch
- Play sports
- Watch TV/play video games and relax

What I value in my life...

- My smart phone
- My family, friends and pets
- Money
- Toronto Maple Leafs

My main transportation needs and challengers are....

Needs: - bike?
Multi-modal integration provides opp. for smartphone play
- transit for sports/hockey
- cycling/walking
↳ home or to subway or to school.

Carpool: to sports.

Challenges - time! Kid wants to do everything!
- cost (ie transit)

Rural commuter, 42 mother with young family

Living in rural Greater Sudbury and working in the City creates many transportation issues. Challenges consist of having to transport kids to activities, and having to spend a significant amount of time commuting. It was suggested to consider teleworking or asking for a flexible schedule if one lives far from work. One could also move close to work/children's school/activities in order to be able to use transit or active transportation to commute instead.

Kate, rural commuter aged 42



Background:

- I live in a rural area west of Sudbury with my husband Rob and our young family.
- I work for a large local employer.
- My husband has a full time job too.
- We both have average incomes and two cars.
- I occasionally have to work weekend shifts.

Every day I must...

- Keep track my children's school/activities
- Travel to and from work (leave on time)
- Have family time
- Share the housework with my husband

Every day I would like to...

- Spend more time with my family
- Find time for leisure activities
- Work more flexibly and have a day off
- Be closer to work

What I value in my life...

- My family and a work/life balance
- Health
- Broadband connection

My main transportation needs and challengers are....

Needs

- Telework/Flexi schedule/CWW
- Cycling with family for recreation
or local errands, health + activity
or hiking/walking/park playtime

Challenges

- need for flexibility; accommodating children's activities
- Consider moving to reduce travel demands overall and gain time.

Young professional, 29

As a young professional one the biggest challenges is finding time for hobbies and socialising. Finding a balance taking transit or active transportation can help to cut down on time spent commuting, and can help to keep you active. Having an efficient transit app can also help people new to the system be more confident using it.

Jill, Young Professional age 29



Background:

- I live with my fiancé in downtown Sudbury.
- I work the Hospital
- I spend a lot of time at work
- I enjoy working out at the gym.
- I rely heavily on my smart phone.
- I don't have much time to socialize with my friends.

My main transportation needs and challengers are....

- bicycle + infrastructure - time
- winter maintenance

Every day I must...

- Travel to work.
- Go to the gym.

Every day I would like to...

- Have the opportunity to see my friends
- Do some fun things outside of work and exercise.

What I value in my life...

- Spending time with fiancé and friends.
- Employment security and a job I really enjoy.
- Technology

Young mother, suburban commuter, 31

There are many challenges that come with being a young mother in Greater Sudbury and transportation can greatly hinder the amount of time to spend with family. Having a flexible work schedule can allow you to commute to work on off-peak hours and avoid congestion. A discounted transit pass could provide a great incentive for those who are looking into other transportation options. Having safe active transportation connections to downtown from suburban neighbourhoods could also help those who would like to spend more time with family as this can provide valuable bonding time and allow children to have exercise at the same time.

Anne, young mother, aged 31



Background:

- I live in the suburbs but work downtown.
- I have to pick up my children by 5:00 at their suburban day care.
- I can work flexible hours with my job.
- I have been driving to work so I can pick up my children on time but the traffic is getting busier.

Every day I must...

- Keep track my children's school/activities
- Travel to and from work (leave on time)
- Have family time

Every day I would like to...

- Spend more time with my family
- Find time for leisure activities
- Work more flexibly and have a day off
- Be closer to work

What I value in my life...

- My family and a work/life balance
- Health

My main transportation needs and challengers are....

- move closer to work - long distances to travel so active transportation - moving many people possible
- CAR POOL NEAR HOME AND COMMUTE OPTIONS BETWEEN HOME AND ~~HOME~~ WORK
- park & ride

Vision and Principles

SMAP was also asked to comment on the Vision and Principles for the TDM Plan. Of the suggestions for Greater Sudbury's Vision, SMAP focused on the Plan being **Sustainable**, **Efficient**, and **Equitable**, along with **Accessible**, **Effective**, and **Affordable**.

The Principles focused on by SMAP were; **Safe**, **Shift Travel Behaviour**, **Integrated**, **Effective**, **Inclusive**, and **Equal Access**. Mobility as a Service, Support, Motivation, Urban Forma, and Promotion were also suggested but at less of a priority.

Vision for Greater Sudbury's Transportation Demand Management Plan

sl
Ror

Vision:

Below are some key words that could be used in the development of a vision for the TDM Plan. The vision will be a forward looking statement that will be positive and be in line with other visions related to transportation and sustainability in Greater Sudbury.

Please choose **three (3)** key words for the Vision.

RESULTS:

7	Sustainable
5	Efficient
5	Equitable
4	Accessible
2	Effective
1	Affordable

Principles:

To further define the vision and set out key guiding direction or principles, **five** of the words listed below (or others that may be added) should be used for the headings for each statement outlining a principle. The principles should reflect the vision statement and provide a framework for the delivery of TDM measures and sustainable transportation programs.

Please choose **five (5)** key words for the Principles.

RESULTS:

6	Safe
6	Shift Travel Behaviour
5	Integrated
5	Effective
4	Inclusive
4	Equal Access
2	Mobility as a Service
2	Support
2	Motivation
1	Urban Form
1	Promotion

4.3 Public Open House

Thirteen (13) members of the public attended the meetings on Wednesday, Sept 13, 2017. The boards were presented with draft ideas for Greater Sudbury's TDM Plan, and attendees were asked for feedback on the ideas: whether they were liked, disliked, or if there was anything the attendees wanted to add. Many comments suggested that people would like to spend less time travelling

The public was asked for feedback on their vision for Greater Sudbury, and what they thought could best improve transportation options in the area. Reoccurring themes were improvements to transit, infrastructure, education, and community partnerships.

The meeting was advertised on the City's website, Facebook page, via email and other venues using the notice shown below (Figure 4) Where the stakeholder and SMAP meetings were held during the day, the Public Consultation Session was held in the evening to have as much participation as possible, and was located in the downtown core, near City Hall, which is accessible by multiple modes of transportation. Efforts were made to ensure that meeting was made accessible to all, with comment sheets available for those who did not wish to speak at the consultation session, and a project email available to those who were unavailable to attend.



The City of Greater Sudbury is developing a **Transportation Demand Management (TDM) Plan** to encourage the use of sustainable travel options by residents of Greater Sudbury. In April 2017, the City retained WSP Canada Group Limited to work with Greater Sudbury staff and residents to create a plan that supports the use of cycling, walking, transit, carpooling and shifting of work arrangements to reduce stress on the roads and improve the environment and quality of life for all who live, work and visit Sudbury.

A key component of the development of the TDM Plan is a consultation and engagement program to gather input from stakeholders and residents to ensure a collaborative process is undertaken in the development of the plan.

Staff from Greater Sudbury and WSP will be hosting a **Public Consultation Session** to receive feedback on the proposed vision and programs for the TDM Plan. The session will begin at 6:00 and continue to 8:00 and **will be set up for drop in and casual discussions** with project team staff during that time.

The Public Consultation Session will be held at:

St. Andrew's Place
Activity Hall (Second Floor)
111 Larch Street
Wednesday September 13, 2017
6:00 to 8:00 p.m.

If you are unable to attend the Public Consultation Session, please feel free to contact the following project team members for further information:

Marisa Talarico
(Active Transportation Coordinator, City of Greater Sudbury)
1800 Frobisher Street,
P.O. Box 5000, Station A
Sudbury, On P3A 5P3
marisa.talarico@greatersudbury.ca

Roxane MacInnis
(WSP Canada Group Limited Project Manager)
1145 Hunt Club Road,
Ottawa, ON, K1V 0Y3
roxane.macinnis@wsp.com
613-690-1153

Figure 4: Public Notice

Below are the general themes that emerged from the comments provided by those who attended the Public Consultation Session. As indicated, the public was most concerned about transit, infrastructure, education on the programs, and community partnerships.

Transit

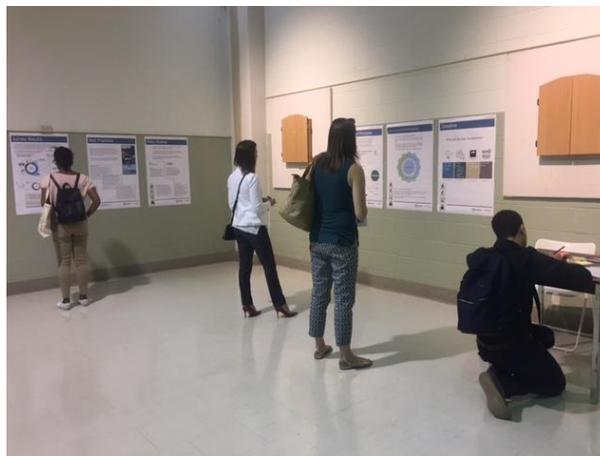
The public had a vision for Greater Sudbury's transit system that included an efficient, safe system with frequent service. A more widespread network with express busses would make it easier for people to get to work on time and commute longer distances via transit. Having a safer system with help button at bus stops and more security at transit stations would increase feelings of safety with using the system. A transit app or portal with real time updates would allow riders to see if their bus is late and plan accordingly instead of being late for work or activities.

Infrastructure

There is an obvious need for more sustainable transportation infrastructure in Greater Sudbury. It has been mentioned many times that there is a desire for an increase in sidewalks, bike lanes, streetlights, urban furniture, and bike storage. There is also a need for end-of-trip facilities so that those wanting to commute via active transportation can do so with ease. Currently many people do not feel safe biking or walking within Greater Sudbury and an increase in infrastructure and a more connected network could encourage more residence to get out and get on the move.

Education

More education on how to use other modes of transportation could help increase the mode share for sustainable modes of transportation. Educating all road users on the rules of the road will make roads safer for cyclist and pedestrians. It was suggested that having programs on how to cycle on city streets could encourage more people to do so, particularly for those who are unsure about the rules of the road. A better digital platform for all modes of transportation could not only encourage those who are unaware of the facilities but also provide the ability to try a new mode of commuting.



Community partnerships

Having more community partnerships can encourage more locally driven campaigns in neighbourhoods and create a more inclusive environment where residents want to use sustainable modes of transportation. Keeping the community up to date with new facilities and trails can act as advertisements for active transportation as residents will want to try out new facilities. Integrating rideshare program or uber into the public transit system could also help to encourage more people to use the system.

Feedback

Seen below are the Public Consultation Session Boards, which were used interactively to show the public the direction the project is headed and initial ideas. The public was encouraged to comment directly on the boards, and to add any additional information they believed would be helpful. Examples of this are seen below in Figures 5, and 6. The complete sets of consultation boards are included at the end of Appendix B.

4.4 Other Input

Input received from individuals through the project email was mostly from seniors concerned with accessibility for those in wheelchairs. This includes having bus stops cleared during the winter and having audio visual messages on the busses to indicate stops. Having more service and a senior discounted or free day was also mentioned.

The vision and principles will guide the development of the TDM Plan.
 The vision is one that all residents, employees, students, and visitors can be proud of, and which represents the wants and needs of the City.
 Below are terms that could be used within the vision and as guiding principles. Please provide your comments or add other terms for the vision and / or principles if you wish.

What Does TDM in Greater Sudbury Look Like to you?

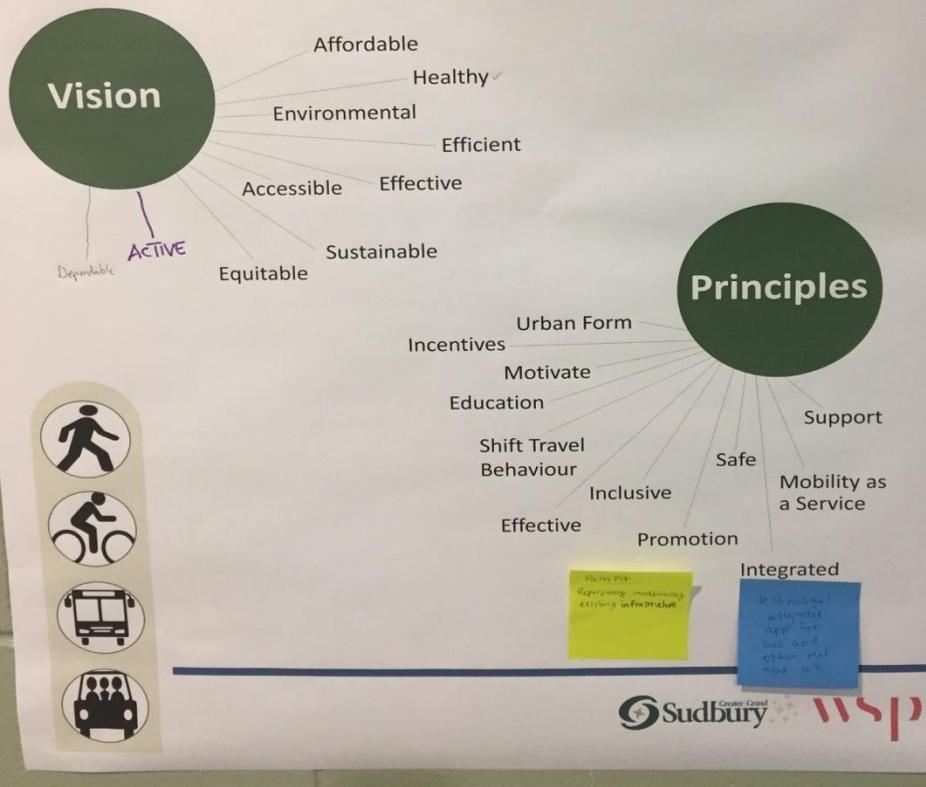


Figure 3: Feedback on Vision and Principles - Public Consultation Session

Household Programs

What is a Household Program?

Household travel programs focus on getting the family where they need to go. Using modes other than the car for transportation will encourage children to continue this habit as they grow up.



Please comment on the measures below:

Individualized/Community based Marketing & Travel Planning Programs

These programs provide information and incentives to help change travel behaviours within the community. Individualized marketing consists of creating travel plans for each person or family, ensuring that their travel needs can be met through sustainable modes of transportation.

Comments:

- Yes it is hard for some to read it from a sign from point A to B.
- There needs to be education to all road users about all road users (cyclists can't be the only one that know cyclist rules of the road).
- It would be great if I could take my kids on the bus for free with me. Can't leave them home alone - it becomes expensive to take them to grandma.

Community Events

Community events allow for more personal interactions with the residents to discuss travel options.

Comments:

- I like the idea of a community event - is it a bus?
- YEARLY PASSES FOR EVERYONE!

NOTICEABLE LIGHTS AT BUS STOP
BUS STOPPER JUST DRIVES BY NOT NOTICING A BUS PASSENGER!

MICKIN AREA AND SETS OF BUS ROUTE NEEDS SOME WHAT SUDBURY BUS SERVICE THESE SET WITH THE WEST SIDE OF THE ROAD TO BRING BUS TO THINGS RECENT DO SO, WEST END ONCE AT THE STREET TO WEST TOWARDS (ORR)

EVENT COME IN EARLY AND FEELING THE SUDS BUS SERVICES FOR A HELP TO GET TO THE BUS STOP

Community App for Transportation Support

A smart phone application that will provide information about local modes of transportation, and real time information in a format that is user friendly and allows all mobility options to be available in one place.

Comments:

- Real-time information will help people plan their route - if there's an opportunity to take demand for certain routes at specific times of day, it may be possible to increase or decrease available at specific times (e.g. 4-5 pm).
- Real-time has to be real-time, a weather app and not just on mobile.

A SET OF LIGHTS AT BUS STOP WITH REAL TIME INFO SO YOU CAN SEE THE BUS BEFORE IT GETS TO YOU

Anything Else?

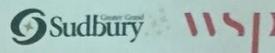


Figure 4: Comments on Household Programs and Measures

Appendix C: Partnerships



April 2018

1.0 Introduction

There are many opportunities for the City of Greater Sudbury to partner with organizations and different groups within the community in order to produce a successful TDM Plan. Without the support of the community, TDM is likely not to be successful, which makes it a vital part of developing the Plan.

In this appendix, five main organizations are discussed for their potential partnerships with the City. The organizations all have the overarching goal for environmental sustainability through a prosperous and vibrant community. In order to achieve this, many of these organizations have already implemented programs that are TDM focused and support the current plan to encourage more people to take sustainable modes of transportation.

There is a potential for the City to begin to take a role in the leadership of these programs and help promote and better coordinate what has already been established. There are some Workplace, Community, and School based programs that have been developed throughout the community organizations but they are not consistent and therefore not maximizing a full level of participation. Having the City's backing on these programs would help to increase the rate of participation and the level of funding that can be provided.

2.0 Rethink Green

Rethink Green is an organization that brings together ideas, partners and resources to build a more sustainable community in Greater Sudbury. With the vision for the community to continue striving towards sustainability through their well-being of the global and local environment, and health and happiness of the residents, the organization aims to empower members through capacity building events, resources, knowledge, collaboration, and community education opportunities.

As a registered non-profit, the organization is sustained through public and private grants, along with revenue from its social enterprise business incubator, The Forge. Bringing together the grass-roots community, non-profits, business, and the government to partner for a more sustainable Greater Sudbury. Rethink Green focuses on education workshops, engagement, and network working to create a dialogue on local and global environmental issues.

ReThink Green has developed a Strategic Plan that considers has a future plan called “Green is the new normal”. The Plan intends to normalize sustainability goals for businesses and organizations within Greater Sudbury over the next 5 years. Through the development process, ReThink Green established a large network of partners and resources that will be a valuable asset to the City’s TDM Plan as well. Partner networks include The CoLab Network, the Coalitional for a Liveable Sudbury, Green Communities Canada, and local NGO’s.

RETHINK GREEN BRINGS TOGETHER IDEAS, PARTNERS, AND RESOURCES TO BUILD A MORE SUSTAINABLE COMMUNITY.

1.1 Programs

ReThink Green has many programs through which they engage with the community to promote sustainable choices. This is a great opportunity for the city as there is already a network established in the community through the group. Programs offered by the organisation are; Green Economy North, Engagement Organizing, Commuter Challenge, The Forge, Shared Platforms, Green Connect.

Commuter Challenge

Within the Commuter Challenge reThink Green puts on three programs throughout the month of June to promote sustainable commuting. There is a Workplace Commuter Challenges (workplace program), Faith Commuter Challenge (community based program) and Walk and Wheel to School Challenge (school based program).



Workplace:

The City could get more involved in encouraging staff and community members to participate in the commuter challenge during this week in June. RTG already takes most responsibility in signing up work places and providing education for those who need it. They also collect the data in order to assess how the City's traveling trends have changed from year to year. This is a great opportunity for the City as the program is already running. The City should consider partnering with the program to encourage more businesses to participate including city staff and clients.

Community-based:

The Faith Commuter Challenge encourages faith groups to participate in sustainable transportation for a week in June. It encourages friendly competition among member of the various groups to see who can travel the most with sustainable modes. Having community based programs such as this is an opportunity for the City to encourage sustainable modes as local and day to day travel on top of workplace travel. Many people don't consider how easy it is to walk to the nearby church and tend to drive instead. This program should be considered as an investment for the City and a future partner in TDM.



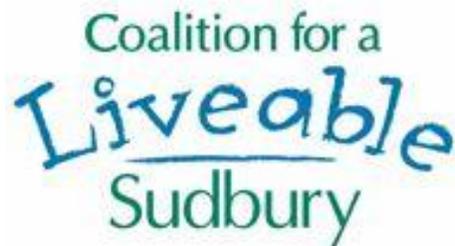
School-based:

The Walk and Wheel to School Challenge encourages children across Greater Sudbury to take sustainable modes to school each day during the week of the program. Health Kids Greater Sudbury adds up the kilometres traveled to see improvements from year to year and continue to encourage the children to use these modes. Incentives are provided for this program. This is another opportunity for the City to partner with already established programs to continue the promotion and education of sustainable modes and TDM already in Greater Sudbury.



3.0 Coalition for a Liveable Sudbury (CLS)

The Coalition for a Liveable Sudbury is an organization consisting of citizens and community groups who share the common vision of Greater Sudbury as a “green, healthy, and engaged community”. The goal of the coalition is to strive towards a sustainable, livable, and vibrant community through having a voice for citizens who want to help make change in the community. The coalition advocates, researches, raises awareness, and has a network for those who also believe in the principles of a Liveable Greater Sudbury.



The organization currently has over 650 members that are involved in different stages and programs throughout the organization, with 41 member associations. Groups that are part of the CLS include that of the Canadian Citizen Climate Lobby, Eat Local Sudbury, Minnow Lake Restoration Group, and the Ontario River alliance, to name a few. The CLS is also a member of 6 other groups: EarchCare Sudbury, Green Infrastructure Ontario Coalition, Ontario Environmental Network, Ontario Healthy Community Coalition, ReThink Green, and the Water Guardians Network.

CLS runs a program called Earth Crew, which consists of volunteers who want to make a difference in the community. The program involves monthly activities such as tree planting, trail clean ups, and community garden workshops. They are also a large supporter of transportation demand management.

There is an opportunity here to involve the city with the programs run by CLS. Having the Earth Crew help in creating new trails and green spaces could provide a cost effective way for the city to create more active transportation infrastructure. The coalition is part of many different organizations. It is considered a good way to spread the promotion of TDM throughout the community, having the coalition promote and education its members of the benefits and current programs that it can provide to help individuals continue to participate in the City’s programs.

Being a large advocate for transportation demand management, this is a good source for the City to use in the engagement process to ensure that the plan covers what residents of Greater Sudbury are looking for in their travel modes. Having a partner that is involved in the City and has the same goals in mind will increase the success of the TDM Plan and any programs that

come from it. The City should consider using The Coalition for a Livable Sudbury as a resource and partner in their pursuit of a more sustainable community.

4.0 EarthCare Sudbury

1 EarthCare Sudbury

The EarthCare community partnership is an umbrella organization that has been forging local environmental action on behalf of the entire Greater Sudbury community since 2003. The partnership is a formal commitment to being more sustainable; the commitment and strategic plan was created by the member organizations and represents their commitment to making Greater Sudbury more sustainable. The three goals of the Plan are to enhance the environmental health of Greater Sudbury, encourage members of the community to take environmental responsibility, and to share the knowledge and experience that the organization can provide to its citizens.

The organization is focused on a comprehensive and integrated approach through monitoring and community engagement in order to promote more citizen participation in becoming sustainable. Focusing on its four strategic pillars: active living, the natural environment, civic engagement, and economic growth, EarthCare is a valuable partner to the City in creating and implementing a TDM Plan that can be both successful and beneficial to the community.

The Strategic Plan covers many aspects of creating a healthy environment including air quality, the use of energy, food, green buildings, land use planning, the natural environment, and youth and the environment. The Plan discusses the objective and actions for each aspect, and how the community and individuals can help to achieve it.

This comprehensive plan is an important piece of policy when considering Greater Sudbury's environment, and how the community can get involved. The organization hosts many different programs, one of them being a carpooling program for the City.

Carpooling Program

EarthCare's Carpooling Program focuses on finding carpool partners for those commuting from out of town, or further away from their destinations. The aim of the program is to reduce greenhouse gas emissions and traffic congestion in the City. There are also a number of designated park-and-Ride parking lots throughout the City, for those who are carpooling to or from work. This program is valuable to the City and creates the opportunity to promote more carpooling in Greater Sudbury.



5.0 Nickel District Conservation Authority

Greater Sudbury's conservation organization is a watershed stewardship agency with the main goal of ensuring healthy interaction between watershed, the natural environment, and the local economy. The Nickel District Conservation Authority provides services for 9150 sq km of watershed area within Greater Sudbury.

With climate change impacting the natural environment in Greater Sudbury, conservation areas are becoming more focused on areas of preserving the natural environment, partnering with other expertise, and moving towards a more "Green" Greater Sudbury. Although the conservation authorities are mainly concerned with issues that pertain to water, the Nickel District is committed to ensuring the community continues to be resilient and sustainable as well.



Conservation areas are often important contributors to community engagement programs and educate the residents on how important the environment really is. This creates an area of opportunity for the City to partner with these areas in order to raise awareness with more people about how transportation can affect the environment. The Friends of Lake Laurentian is a volunteer based initiative that supports environmental programs within the conservation area. Partnering with organizations that have a large volunteer base like the Nickel Districted Conservation Area can generate a large engagement base for the City, and involve more people with different views on the subject.

6.0 Rainbow Routes Association

The Rainbow Routes Association is dedicated towards the advancement and promotion of non-motorized trails and routes within the City. The purpose is to create a more vibrant city where people can live healthy, active lives, with affordable recreation and transportation opportunities.

Their 2020 Strategic Plan is focused on infrastructure development, promotion of routes, partnerships, and operations with a stronger volunteer network. They have three main TDM initiatives; the Commuter Challenge, Bike Valet and Walk Sudbury.

Any organization that already has TDM programs in place is an opportunity for the City to partner with when implementing the TDM Plan. Pre-established programs can increase in popularity with backing from the city and increase the success rate.



7.0 Future Partnerships

Future partnerships are imperative towards the development of a TDM program. It can often be difficult to engage smaller partners at the beginning of the program, but as it grows and becomes a part of the city other organizations will begin to reach out and support the Plan. These smaller organizations such as youth and seniors groups, student associations, and recreation facilities, are part of the urban fabric of a city and can be an important piece to encouraging and promoting new programs within the city. They are more likely to reach people from all demographics and backgrounds, and together, can have a meaningful impact on the community.

Smaller partnerships are often a way to have more one-on-one communication with residents about new programs available to them. While larger organizations can provide funding, promotion, and education for the program, smaller, more intimate organizations often have more of an impact on the lives of individuals, and can create the support that families and individuals need when starting and throughout the duration of a TDM program.

Future partnerships include that of:

- ▶ Youth Groups
- ▶ Seniors Groups
- ▶ Faith Groups
- ▶ Recreational facilities (YMCA)
- ▶ University Student Societies

It is important for the city to involve these groups in the future as the project continues to grow and needs more support from within the community. Involving different demographics in TDM programs is vital for the program to continue in the future and to ensure that as children grow they take these skills and lessons with them. This ensures that Greater Sudbury can grow their base in TDM and keep the community participating.