

Sustainability inSight



An innovative strategy for Ontario's Ministry of Transportation

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An innovative strategy for Ontario's Ministry of Transportation focused on social, environmental and economic sustainability

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Letter from the Deputy Minister

It is with great pleasure that I introduce the Ontario Ministry of Transportation's sustainability strategy, *Sustainability inSight*. Through this strategy, MTO is affirming its commitment to become a more sustainable organization and to increase the sustainability of Ontario's provincial transportation network.

MTO's business lines are diverse and span great distances. Therefore, if we are going to set a course for the ministry, we must first articulate a shared vision of where we are going. That is what *Sustainability inSight* does. It outlines seven strategic goals for a more sustainable future. It establishes a new, ongoing process for pursuing actions that will ensure we are continually improving our performance. It will help us to deliver on one of our top priorities: to integrate sustainability into our programs, policies, and internal business practices.

Created by MTO staff, for MTO staff, this strategy represents the collective insight and passion of many of the people working here. MTO's Sustainable Transportation Policy Office, in the Transportation Policy Branch, worked in partnership with the Sustainability Enabler Network (SEN), which included staff representatives from across the province, and all divisions of the ministry. Harnessing their knowledge, experience and creativity resulted in a strategy that is thoughtful, thorough, and far-sighted. I am confident that by channelling those skills into the implementation phase, we can achieve our goals.

With sustainability in *my* sight, it is my hope that this collaborative approach will characterize not just the work within MTO, but also the interactions we have across government, as well as with our stakeholders, industry, and the public. Together, we can all move towards our common goal of putting sustainability into practice.



A handwritten signature in black ink, appearing to read 'Carol Layton'.

Carol Layton
Deputy Minister



Introduction

The Ontario Ministry of Transportation (MTO) has a long and strong tradition of making significant contributions to the quality of life that we enjoy in Ontario. We want to build on this history in shaping the future of our ministry and our province – a future that is sustainable.



Quick Facts about MTO

MTO is responsible for:

- over 16,500 kilometres of roads
- 2,800 bridges and culverts
- 29 remote airports
- 8 ferry services
- several shortline railways
- over 180 traffic cameras, managing traffic congestion and prompt accident response

In Ontario, there are:

- nearly 55 million passengers using GO Transit each year
- 10.9 million registered vehicles
- approximately 420,000 vehicles driving along the busiest stretch of Highway 401 near Highway 400 on an average weekday

Pocket Guide to Transportation (2009)



Ontario’s transportation network is one of the most complex in North America. It touches every person in the province in some way. It takes individuals and families to stores, medical appointments, recreational activities, family gatherings, work and vacation destinations. It moves products to local, national and international markets.

MTO policies, programs and services keep this transportation network safe and reliable. In addition, we provide financial support for the province’s municipal and regional transit systems. We are also among the largest purchasers in the Ontario government. Our 3,800 employees, working throughout the province, keep all these programs and services running efficiently.

Climate change, a provincial population that is aging, growing traffic congestion and increasing urbanization are all factors that are putting pressure not only on the province’s transportation system but also on the environment. Given the breadth and scope of our mandate, MTO has a unique opportunity to make a positive difference in Ontario’s economic, social and environmental sustainability – helping us to be a good neighbour, provincially, nationally and globally.

Sustainability inSight is our guide to achieve this. It has information on:

- why it is important for MTO to have a sustainability strategy
- what our goals are for more sustainable transportation
- how we intend to achieve our goals



Why a Sustainability Strategy?

The Ministry of Transportation’s vision is to be a world leader in moving people and goods safely, efficiently and sustainably to support a globally competitive economy and a high quality of life. To achieve this vision, our employees, working in all areas of the province, are focusing on delivering five key priorities:

- increasing transit ridership
- promoting a multimodal transportation network to support the efficient movement of people and goods
- promoting road safety in order to remain among the safest jurisdictions in North America
- improving Ontario’s highway, bridge and border infrastructure
- integrating sustainability into all our business areas

While sustainability is itself a priority, it is also essential to ensure that it is a consideration in all of our business areas. This strategy provides a blueprint for advancing ministry priorities in a more sustainable way.

What Is Sustainability?

Sustainability is “development that meets the needs of the present, without compromising the ability of future generations to meet their own needs.”¹ There are three spheres of sustainability: the economy, society and the environment. They have a dynamic relationship, which means that any change to one affects the others. It is the reason why we cannot consider our economy or quality of life separately from the well-being of our natural environment.

Figure 1

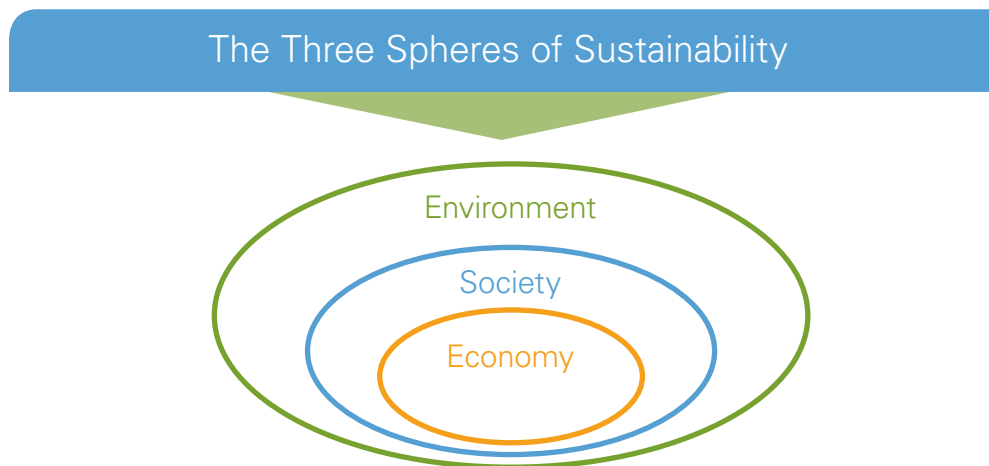


Figure 1 shows the economy and society nested within the environment. This illustrates that everything we do starts and ends with our natural environment. Everything we produce and consume takes from the natural world – water, energy, plants or animals. Ultimately, all the goods, materials and by-products that we create are returned to the natural environment – in our air, water and land.



¹ *Report of the World Commission on Environment and Development: Our Common Future* (1987).




A Closer Look at Climate Change

“Scientists, and most notably, the United Nations Intergovernmental Panel on Climate Change (IPCC) have shown that the earth’s climate is changing dramatically, and human industrial activity and the burning of fossil fuels are largely to blame.

Before the Industrial Revolution, the carbon dioxide (CO₂) concentration in the earth’s atmosphere was about 280 parts per million. We are now at about 380 parts per million. At 380 parts per million, coral reefs are dying, glaciers are melting, seas are rising and an estimated 35,000 people died in the 2003 European heat wave. According to the IPCC, without significant action to reduce emissions, CO₂ concentrations may reach 750 parts per million this century ... [M]olecules of CO₂ remain in the atmosphere for up to 200 years. Which means the CO₂ molecules produced by the first cars, the Wright brothers’ plane and the first coal-fired electricity plants may still be airborne.”

Go Green: Ontario’s Action Plan on Climate Change (2007)



² *Pocket Guide to Transportation* (Ontario Ministry of Transportation, 2008).

³ *Ontario’s Long-Term Report on the Economy* (Ontario Ministry of Finance, 2010).

⁴ *Ontario’s Long-Term Report on the Economy* (Ontario Ministry of Finance, 2010).

⁵ “Making Ontario accessible,” (Ontario Ministry of Community and Social Services, 2010).

Sustainability is not just about recognizing the relationship between the three spheres of economy, society and the environment. It is also about taking a long-term view, knowing that today’s decisions will influence tomorrow’s choices. For this reason, we need to consider not only a decision’s immediate impacts but also its potential longer-term consequences.

Challenges to Sustainable Transportation

Ontario’s transportation network functions as the province’s circulatory system – it keeps people and goods flowing, links different parts of the province to each other and is a key driver of our economic health. This network can be disrupted by events that are outside our control. The sustainability strategy will position MTO to better take advantage of opportunities that arise from emerging challenges.

Key challenges facing Ontario’s transportation system:

Climate change

Climate change is one of the greatest challenges to the future of our planet. Transportation is a major contributor to greenhouse gas (GHG) emissions. In Ontario, the transportation sector is the source of about one-third of the province’s total GHG emissions, with over 80 per cent originating from road-based transportation.² Combating climate change will require less carbon-intensive forms of transportation and strategies that reduce the need to travel.

Demographic change

Demographics influences how, when and where Ontarians travel. Over the next 20 years, population growth is expected to continue in some areas of the province, buoyed increasingly by immigration.³ Urban centres like the Greater Golden Horseshoe will experience much of this growth, adding to the region’s vibrant and diverse communities. Without proper management such growth can lead to issues such as increased congestion, deteriorating air and water quality, and the loss of natural resources. Due to a relatively older population and lower levels of in-migration, it is expected that the population in Northern Ontario will remain relatively stable over the next two decades. Additionally, the number of Ontarians over the age of 65 is expected to more than double by 2030, as baby-boomers age and life expectancy continues to increase.⁴ It is anticipated that by 2025, one in five Ontarians will have a disability.⁵ A growing percentage of the population will be unable to drive or uninterested in driving, increasing the demand for alternative forms of transportation.

Congestion

A reliable transportation network is essential for trade and goods movement within Ontario and to destinations outside our borders. However, according

to a 2009 estimate, congestion in the Toronto region costs Canada \$3.3 billion in lost productivity each year.⁶ Relieving congestion is good for our economic competitiveness. It will also reduce pollution and greenhouse gas emissions from idling vehicles. Pollutants associated with transportation can negatively affect human health, leading to increased heart and lung illness and premature death.

Increasing urbanization

In 2006, more than 85 per cent of Ontarians lived in urban areas.⁷ Migration to urban centres is expected to continue over the next 20 years. The existing transportation system must continually adapt to accommodate this trend. If urbanization takes the form of urban sprawl, it can threaten valuable natural resources and wildlife survival by consuming natural habitat and prime agricultural land. It was predicted in 2000 that if a sprawling pattern of growth continued unabated in the Greater Toronto and Hamilton areas, an agricultural and natural land area twice the size of Toronto would be urbanized by the year 2031.⁸ To provide guidance on a broad range of issues that includes transportation and land-use, the Places to Grow Act was passed. With the population increases expected in the Greater Toronto Area (GTA) over the coming decades, there will be a continuing need for government policy responses to allow communities to flourish through well-managed growth.

Creating a green economy

Ontario's transportation network is a key driver of the province's economic success.⁹ The Ontario government believes that we do not have to choose between environmental protection and a healthy economy. Various provincial economic initiatives have emphasized that new opportunities can emerge from protecting Ontario's natural environment and reducing our greenhouse gas emissions. With prudent long-term planning, we can make the transition to a "green economy"—creating enormous opportunities for growth and jobs in new sectors of the economy, while at the same time reducing our impact on Ontario's environment.

Taking the Next Steps

These challenges highlight the interconnections between our economy, society and the environment. We need long-term planning to manage these pressures on the transportation system.

Many MTO employees are already actively addressing these challenges, by making sustainability part of how they do business. Their work provides a solid foundation for MTO to take the next step – a strategic and coordinated response. Focusing on solutions will encourage us to innovate and to find efficiencies within our ministry.



⁶ *OECD Territorial Reviews: Toronto, Canada* (Organization for Economic Co-operation and Development, 2010).

⁷ *2006 Census Highlights: Factsheet 1* (Ontario Ministry of Finance, 2007).

⁸ *Toronto-Related Region Futures Study, Interim Report: Implications of Business-As-Usual Development* (Neptis Foundation, 2002).

⁹ *The Productivity Performance of Canada's Transportation Sector: Market Forces and Governance Matter* (Conference Board of Canada, 2009).

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A Closer Look at Future Demographics in Ontario

By 2031, it is projected that:

- Ontario's population will increase by 28 per cent, a gain of almost 3.7 million people.
- The number of seniors will more than double, increasing from 1.8 million to 3.7 million.
- The population of the Greater Toronto Area (GTA) will increase by almost 38 per cent and will comprise 46.7 per cent of Ontario's total population.
- Northern Ontario's population is projected to grow by 0.8 per cent. It is expected that this growth will be concentrated in the northeast, while the northwest experiences slow population decline.

Ontario's Long-Term Report on the Economy (2010)

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3 Our Approach

Developing the Sustainability Strategy

MTO has been working on making the province's transportation system more sustainable for a number of years, through a variety of activities. These were mainly "one-off" initiatives and ad hoc actions initiated in our branches and regional offices. However, staff throughout the ministry recognized the need to take a more strategic, coordinated and consistent approach to sustainability. In 2008, under the leadership of the newly created Sustainable Transportation Policy Office (STPO) in the Transportation Policy Branch, Policy and Planning Division and with the endorsement of the ministry's Senior Management Team, we began a ministry-wide, collaborative process to develop a sustainability strategy – a strategy created by MTO staff, for MTO staff.

Establishing MTO's Sustainability Enabler Network (SEN) was critical to the sustainability strategy's successful development. With representatives from every MTO region and division, the SEN's members brought a diverse array of skills and expertise and an enormous amount of transportation experience. This collaborative approach will ensure that the sustainability strategy reflects the realities of the work that our ministry does, addresses employees' needs and supports our vision for our ministry and the provincial transportation system.

In addition to the SEN, we consulted extensively with staff across the ministry. We talked with other Ontario government ministries and we looked at how other governments and large organizations have approached sustainability.

The Strategy's Two Purposes

A formal, public sustainability strategy for MTO will help us to systematically integrate sustainability into the work we do – and into the way we do work. The strategy has two purposes:

- to ingrain sustainability into the internal business practices and behaviour of the ministry
- to influence the ministry's policies and programs that affect the external provincial transportation system

Adopting a two-pronged approach is a large, complex, long-term undertaking, but is necessary, given how intertwined MTO's internal operations are with the external transportation system. Behind the many public-facing services the ministry provides are internal standards and formal decision-making

processes to guide the ministry’s work. If we want to encourage Ontarians to make more sustainable transportation choices, MTO must show leadership, starting with our own organization. This sustainability strategy sets out how we propose to do this.

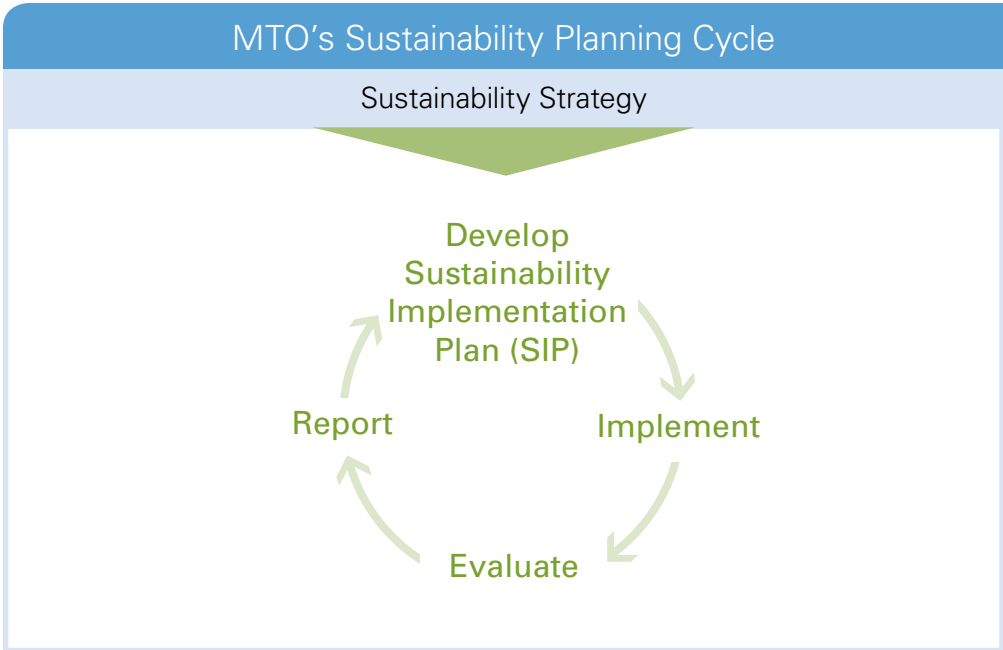
However, stating our intentions in a sustainability strategy will not be enough to make sure that there is lasting, meaningful change. We have also defined a process and will put mechanisms in place to ensure continual progress is made towards our goals (see Figure 2).

In developing the approach to the sustainability strategy, we arrived at four guiding principles. They, in turn, shaped the development of seven strategic goals. The goals will be reached over time by completing specific actions. These actions will be articulated in three-year Sustainability Implementation Plans (SIPs). Each action will have a target completion date and will indicate the area of MTO responsible for delivering on it. Developing the SIPs will be an ongoing process at MTO. We will release a new SIP publicly every three years. Each time a SIP is released, it will introduce new actions, report on earlier actions and indicate our progression towards the seven goals.

Achieving sustainability is a continuous process – one that must evolve in response to new knowledge, technological advances and emerging global trends. It is also designed to be transparent, evolutionary and cumulative. Implementation Plans will include short-, medium- and long-term actions, reflecting our awareness that becoming a more sustainable organization will be an ongoing, collaborative process.



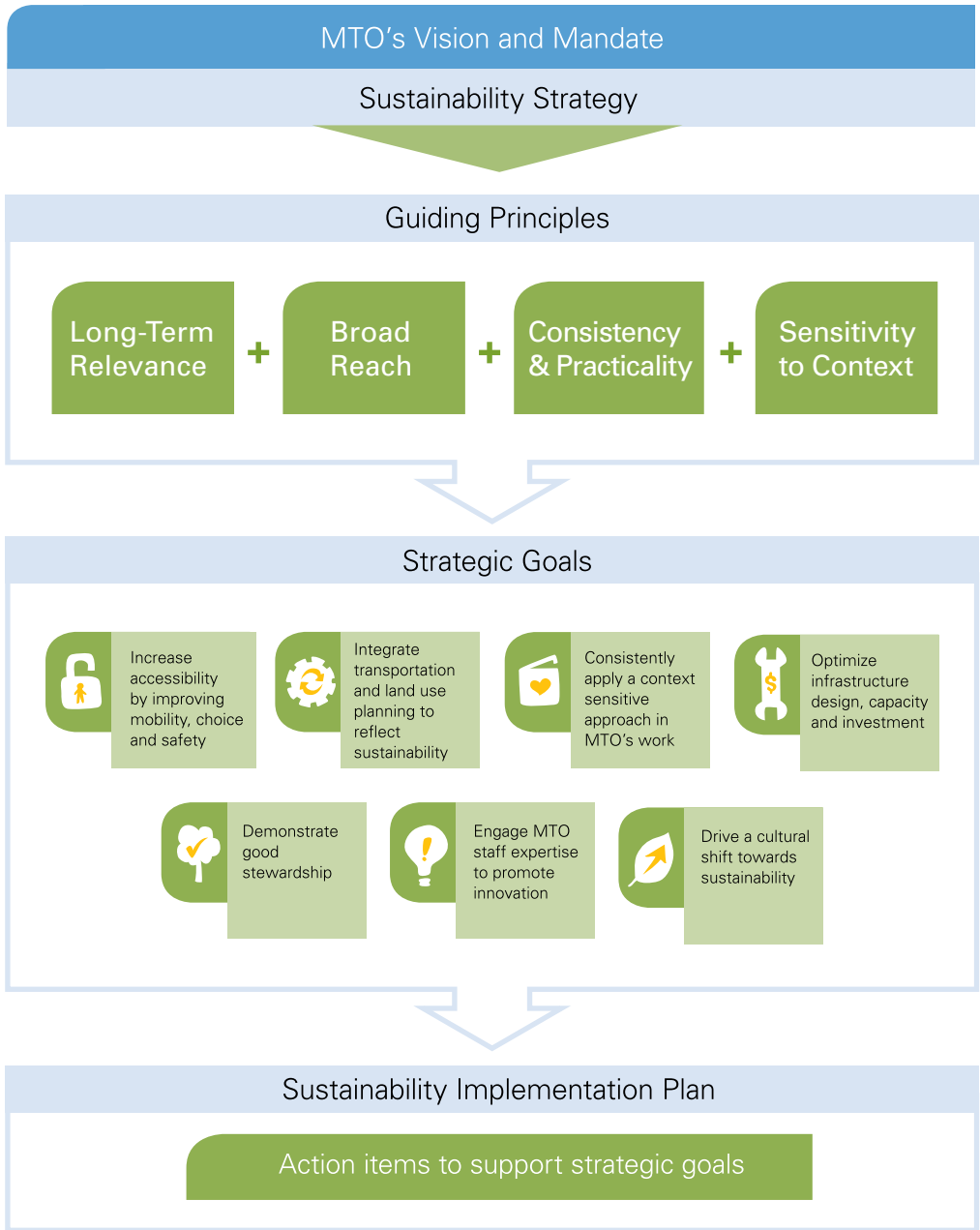
Figure 2



4 Our Framework for Sustainability

To create a cohesive approach to improving sustainability at MTO, it was important to develop a common vision for us to work towards. To do this, SEN members met and, with a set of guiding principles as a starting point, developed the strategic goals that are at the core of our framework for sustainability. The goals, along with the action items that support them, will lead to a more sustainable ministry and transportation sector in Ontario.

Figure 3



Guiding Principles

Long-Term Relevance

Each strategic goal should be relevant over the long term and reflect at least two of the three spheres of sustainability (economic, social and environmental).

Broad Reach

Achieving sustainability requires thinking that goes beyond the borders of MTO's divisions, branches and offices. Strategic goals should reach broadly across the organization, recognizing that staff from different areas may have common interests and that working together can lead to more robust outcomes.

Consistency and Practicality

Strategic goals must be consistent with and supportive of MTO's mandate and vision and have practical applications for MTO staff.

Sensitivity to Context

Considering the diversity of Ontario's communities, sustainable transportation takes on different meanings in different settings. Therefore, the strategic goals must recognize that no single solution can be developed. Sustainable transportation systems need to be considered in a local context to provide options that are geographically and culturally appropriate.



Seven Goals for More Sustainable Transportation

STRATEGIC GOAL 1



Increase accessibility by improving mobility, choice and safety

Transportation provides access to many things that are essential in the day-to-day lives of Ontarians. Limited transportation options limit access to jobs, education and training, health and social services, goods and services, and recreational activities. Broadening the range of transportation choices, and improving the safety and efficiency of each mode, can increase access to these goods and services. Increased access can also be achieved by finding ways to eliminate the need to travel entirely, such as providing services online. Improving access will help all Ontarians participate in the many activities that this province offers, and will add to our competitiveness.

Areas of focus include:

- identifying ways to eliminate the need for some trips by focusing on moving ideas and services, instead of people and goods
- giving individuals and businesses access to a variety of transportation options, so that they can choose the mode that best meets the needs of a specific trip
- establishing a multimodal transportation network, with effective intermodal connections to reduce the reliance on any one transportation mode for passengers and for freight
- making each transportation mode – for both passengers and freight – as efficient as possible
- encouraging safe and sustainable transportation practices
- improving equity of access for people of different ages, genders, socioeconomic status and abilities



Improving Accessibility

Making transportation more sustainable requires thinking about how trips occur (e.g., by car, by foot) and why they occur (e.g., going to work, doing errands, visiting friends or going for a leisurely walk). Making a commitment to sustainable transportation means thinking about both the reason for a trip and how that particular trip can be made in the most sustainable way possible.

The terms “accessibility” and “mobility” are closely related but they have different meanings. In the context of sustainable transportation, accessibility refers to the ability to reach goods, services, activities and destinations, without presuming the use of any particular mode of transportation. (Please note that this is a transportation sector-specific definition of “accessibility.” While it encompasses the meaning of accessibility as used in the Accessibility for Ontarians with Disabilities Act, 2005, it refers to accessibility in a much broader sense.)

Mobility considers the movement of a particular transportation mode (e.g., automobile, train, bicycle, mobility device or foot). Mobility is only one way to achieve accessibility. Some activities that once depended on transportation can now occur without travelling (e.g., working from remote locations, e-government options, banking online). Technological advances have improved accessibility and reduced the need for mobility. More and more, it is ideas that move, not people or goods. This is beneficial to the individual, because it saves time, and has broader benefits by reducing the number of

vehicles on the road – which is good for reducing congestion and pollution. Cost, convenience, safety and efficiency all influence which travel mode a person picks. In some cases, and for certain groups of people, these considerations can eliminate certain travel options altogether. For example, owning and operating a car may be too expensive. Transit service may be infrequent or non-existent in some communities, or may cost too much for someone who is homeless or marginally housed. We need to be inclusive in our transportation planning so that everyone, regardless of abilities or circumstances, will have a full range of travel choices.

Improving Modal Choice and Efficiency

A sustainable transportation system offers convenient, comfortable, safe, efficient and well-integrated mode choices. New types of vehicles and devices are introduced into the marketplace every day. Reflecting the province's recognition of the importance of market innovations, Ontario recently announced legislation that allows for the use of electric bikes ("e-bikes") and continues to pilot new mobility options, such as Segways and electric low-speed vehicles. These new technologies expand Ontarians' mobility options and provide more environmentally friendly ways to travel. As new transportation options emerge, MTO will need to ensure that policy, legislation and regulations stay current.

Multimodal transportation means combining different transportation modes to reach a destination (e.g., combining cycling and public transit). In the short term, actions such as putting bike racks on buses, ensuring safe and comfortable walking routes to transit stations and putting carpool parking lots in strategic locations will help promote multimodal transportation. Over the long term, changes to the built environment (the structures and spaces that people build to live, work and play in) will reduce our reliance on the automobile as the primary transportation mode. This can include building "mobility hubs" that connect commuter rail, regional and local bus services, offering commuter parking lots for people driving to transit hubs, or providing safe pedestrian access and bike ramps alongside stairs in transit stations, so people can roll their bicycles up the ramps instead of carrying them up the stairs.

Over the next 25 years, there will be a dramatic increase in the number of Ontarians over age 65.¹⁰ Research shows that people over 65 are more likely than other members of the population to develop physical and cognitive disabilities that can limit their mobility.¹¹ This can have a dramatic impact on a person's lifestyle, particularly in communities that were designed for residents travelling mostly in their own vehicles. Communities and transportation services will need to be more pedestrian- and transit-friendly



¹⁰ Ontario's Long-Term Report on the Economy (Ontario Ministry of Finance, 2010).

¹¹ A Profile of Disability in Canada, 2001 (Statistics Canada, 2002).




How MTO Keeps Ontario's Roads Safe

According to the most recent *Ontario Road Safety Annual Report (2006)*, Ontario's roads are among the safest in North America. To keep it that way, MTO:

- tests (via an external provider) approximately 2,800 new drivers on a typical weekday
- sets the beginner driver's education curriculum for ministry-approved schools and publishes the *Official Driver's Handbook*
- in partnership with the Canadian and United States federal governments, develops and implements vehicle standards for safety and performance
- monitors and inspects commercial vehicles on Ontario's highways to ensure compliance with safety standards
- collects and analyzes vehicle collision data to evaluate and monitor Ontario road safety

Ontario Road Safety Annual Report (2006).



in order to offer alternative, safe access to goods, health care, friends and family. This will support aging in place, helping seniors maintain their independence and community connections.

Improving modal choice and intermodal connections is also important for freight transportation (e.g., combining truck and rail to transport goods and materials). Ontario's status both as Canada's leading trading partner with the United States and as Canada's largest provincial economy relies on the efficient movement of goods within the province and across its borders. Achieving sustainable freight transportation is critical to Ontario's economy, health and standard of living. To satisfy the demands of a diverse community of freight transportation providers and users, the province depends on an efficient multimodal network of highways, railways, waterways and air routes.

Improved processes and technology can make freight transportation modes more efficient and more sustainable. For example, mechanical enhancements to vehicles can reduce fuel consumption and air pollution. Operational improvements can increase loading efficiency and therefore reduce trip requirements and costs.

To maximize our economic competitiveness and meet the needs of the 21st-century economy, MTO, together with the federal and Québec ministries of transport, is leading the development of an Ontario-Québec Continental Gateway and Trade Corridor initiative. The goals of this initiative are to plan for key transportation infrastructure investments and to improve policies, regulations and operational practices. One of the Gateway strategy's objectives is the ongoing integration of sustainability into the transportation system, and includes:

- encouraging energy efficiency, reducing emissions, and reducing dependence on non-renewable resources
- minimizing the environmental impacts of transportation infrastructure and operations
- better integrating community needs with transportation infrastructure development
- better integrating transportation into land-use planning, and protecting corridors and facilities to preserve options for future growth

Improving Safety

Safety is an integral part of MTO's culture. MTO policies and practices ensure Ontario's roads are among the safest in North America. Although Ontario is a leader in road safety, motor vehicle collisions continue to have a significant impact on our society, economy and transportation system. More than two people are killed and 10 seriously injured every day on Ontario's roads, which translates to \$9.1 billion in annual social and health care costs.¹² In addition to

¹² *Analysis and Estimation of the Social Cost of Motor Vehicle Collisions in Ontario* (Transport Canada, 2007).

this financial burden on our social and health care sectors, vehicle collisions can lead to traffic congestion, lost job productivity and increased pollution through idling.

There are many different ways that MTO seeks to keep Ontario's roads safe – from engineering design standards and winter maintenance practices, to driver testing and impaired- and distracted-driving laws and programs. But there is much that is still left up to individual drivers that can affect safety of the road system and the environmental and social impacts of driving. For example, while driving aggressively is dangerous to other road users, it also increases emissions, because hard braking, rapid acceleration and speeding increase fuel consumption. In that way, "green" driving practices are also safe driving practices.

STRATEGIC GOAL 2



Integrate transportation and land-use planning to reflect sustainability

Transportation infrastructure has a lasting effect on a region's character. MTO staff and management recognize that integrating transportation and land-use planning is one of the most important ways the ministry can make the transportation system more sustainable. Pursuing this strategic goal will enable the ministry to support the many growth planning initiatives that Ontario already has underway.

Areas of focus include:

- recognizing that land use and transportation have a symbiotic relationship; both have a permanent effect on communities and influence the transportation choices of people and businesses
- encouraging integrated planning that emphasizes communication between ministries, across levels of government and with other organizations to reach common goals (e.g., in reviewing municipal Official Plans or conducting Environmental Assessments)
- bringing a stronger sustainability perspective to the transportation planning process to balance business and passenger transportation needs, manage sprawl and congestion, protect natural and agricultural lands, and promote more active forms of transportation






How MTO Supports Integrated Planning

MTO is currently updating its Transit-Supportive Land Use Planning Guidelines. These guidelines show how all forms of urban development and redevelopment can be made more accessible by public transit through policy and design decisions. The document is a source of ideas and best practices for public and private sector practitioners, including land-use and transportation planners, developers, municipal politicians, engineers, transit operators and others.

In the future, MTO intends to develop Freight-Supportive Land Use Planning Guidelines, outlining best practices to facilitate the movement of freight within and through municipalities.



Land-use decisions affect travel choices by influencing the number of trips an individual needs to make, the length of those trips and the choice of transportation mode. Neighbourhoods that have homes, shops and services concentrated closer together (often called “compact neighbourhoods”) are better able to offer alternatives to driving – they are easier to serve by transit, and distances are more suited for walking and cycling. If people choose to travel by car, compact neighbourhoods make it easier to make one, not multiple, trips to do several tasks. This saves energy and cuts fuel costs, making transportation more efficient and sustainable. The compact design of neighbourhoods can also help residents increase their rates of physical activity which can reduce the risk of chronic diseases like cardiovascular disease and diabetes.

The location and type of transportation infrastructure can significantly affect regional competitiveness and a community’s economic development. Reliable, timely transport of goods and materials is essential to maintaining a robust economy in Ontario. Communities with sound transportation infrastructure are more attractive to investors and business owners.¹³ This, in turn, may affect subsequent local zoning and land-use decisions in ways that will make communities attractive to investors.

It can be challenging to balance what seem to be competing interests – on the one hand, the goal of maintaining transportation networks extensive enough to support business and consumer needs and, on the other hand, the desire to manage sprawl, the loss of green space or agricultural lands, and the direct and indirect costs associated with a low-density pattern of development. Ontario has taken steps towards a balanced approach to this issue, by identifying common goals for growth planning as outlined in documents such as: the *Provincial Policy Statement (PPS)*, 2005; *Ontario’s Growth Plan for the Greater Golden Horseshoe*, 2006; the *Proposed Growth Plan for Northern Ontario*, 2009; and the *Metrolinx Regional Transportation Plan*, 2008. These documents are one mechanism that helps coordinate land-use and transportation planning among different levels of government and across provincial ministries. Sound planning requires the involvement of many players and sensitivity to numerous influencing factors. We will need more tools to support these efforts, to ensure that we are all moving in the same direction.

It is clear that transportation infrastructure can have a profound impact on the long-term character of a region. Applying a sustainability perspective to infrastructure planning will reveal creative options to support economic prosperity and encourage sustainable travel patterns.

¹³ *Promoting Economic Development by Improving Transportation Infrastructure for Goods Movement* (US Economic Development Administration, 2009).

STRATEGIC GOAL 3



Consistently apply a context-sensitive approach in MTO's work

Local context dramatically influences transportation system decision-making. Communities in different regions have their own distinct features, needs and priorities. For example, many urban communities in southern Ontario must manage the challenges of growth and congestion. At the same time, the province's diverse northern communities are looking for ways to encourage economic development and link communities across a vast geographic area.

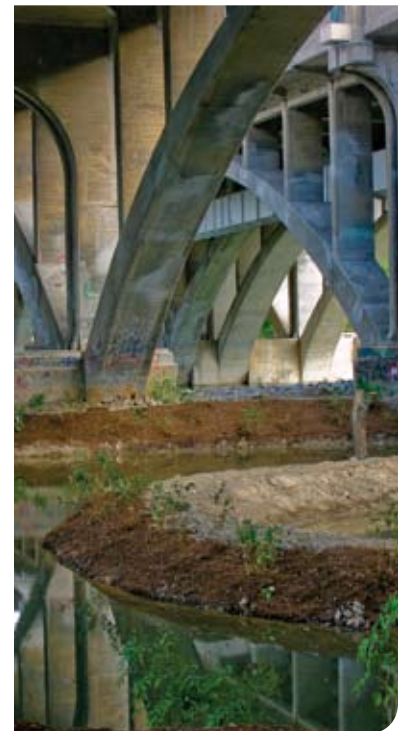
Areas of focus include:

- recognizing that there may be a need for different sustainability solutions in different contexts (e.g., rural versus urban, respecting historical or cultural heritage)
- engaging communities throughout the planning and implementation of a transportation infrastructure project
- making sure that infrastructure provides lasting value to the community by meeting its transportation needs and respecting local values and identities

Engaging Communities

Under Ontario's Environmental Assessment process, MTO must undertake significant public consultation as part of its infrastructure planning. Encouraging the people affected by transportation decisions to participate in the discussion – at many different stages in the process – increases the likelihood that the outcomes will satisfy the needs of users, while minimizing or addressing any adverse impacts. The majority of MTO's transportation infrastructure planning and design projects follow a Class Environmental Assessment (EA)¹⁴ process that requires public consultation. Municipal roads, water and sewer, forest management, highways and transit each have their own EA process.

The consultation process must reflect the concerns expressed by the public, provide timely, convenient opportunities for public input and constructively address the input that the public provides. Public consultation helps to ensure that MTO's planning and design decisions reflect the issues and concerns identified by the people affected.



¹⁴ *Class Environmental Assessment for Provincial Transportation Facilities* (Ontario Ministry of the Environment, 2000).



On several recent projects, MTO has applied innovative community consultation processes that encourage thinking from a sustainability perspective. For example, Community Value Plans (CVPs) are a collaborative, interdisciplinary approach, inviting all stakeholders to participate in the development of a transportation facility. The goal of a CVP is to ensure that infrastructure addresses its users' needs for mobility and safety, while at the same time keeping the scenic, aesthetic, historic and environmental resources of the location.

Value Analysis workshops, another technique sometimes used at MTO, help the ministry understand stakeholder values related to a project. An MTO team works with the stakeholders to find cost-effective ways to reflect those values in the project. Sustainability is a specific performance target in Value Analysis workshops.

Providing a forum for open communication and collaboration helps us to have meaningful conversations about the things that matter to communities and to find creative solutions to transportation challenges. This adds lasting value to the community, the environment and the transportation system.

Working with Aboriginal Communities

Aboriginal communities have a unique and dynamic relationship with government, with rights that may extend beyond those of a typical stakeholder. In addition to constitutional requirements that underscore the duty to consult and accommodate Aboriginal communities, the broader goal of building a relationship based on respect and trust requires sustained communication and engagement.

STRATEGIC GOAL 4



Optimize infrastructure design, capacity and investment

Transportation infrastructure is an essential service in any community, one that brings many benefits. However, building and maintaining infrastructure is expensive. It can have many impacts on its surroundings. Government decisions must be guided by a responsibility to respect public interests and priorities, and to make sure that public funds are spent wisely and sustainably.

Areas of focus include:

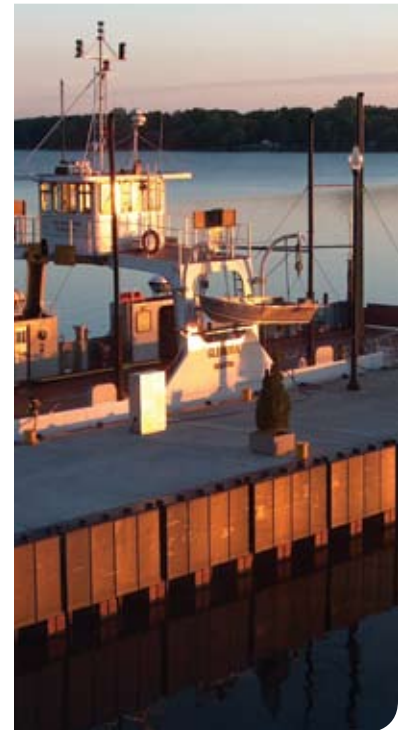
- developing a more inclusive approach to accounting methodology to evaluate long-term social, environmental and economic costs and benefits
- managing transportation demand as well as transportation supply (e.g., reducing the need to travel by offering alternatives, like online services or incentives like faster travel times for more sustainable forms of transportation)
- expanding the use of intelligent transportation systems (ITS) technology to improve the existing transportation system's efficiency
- using resources sustainably throughout the infrastructure lifecycle

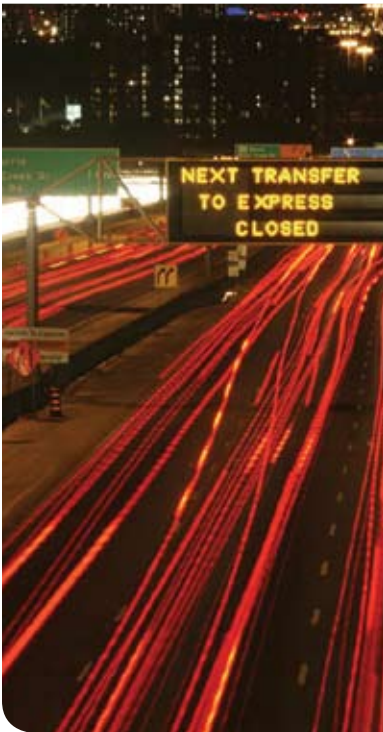
Considering External Costs

It would be easy to assume that every time a roadway becomes congested or a new destination becomes popular, the solution is to add more lanes or build a new highway. However, with the reality of constrained budgets, competing government priorities, and undesirable community and environmental impacts, we need alternatives.

Transportation efficiency means making the right passenger and freight transportation choices for the right purpose. For example, different types of freight have different price and service requirements – whether it's bulk raw material cargo like iron ore that can be stockpiled, or fragile time-sensitive packaged cargo like eggs – that drive transportation decisions. Efficiency also means ensuring the maximum benefit can be gained from transportation investments and maintenance costs that individuals, businesses and governments incur. In both cases, it is important to consider two efficiency measures: internal costs and benefits (i.e., paid by the individual making the service or investment decision) and external costs and benefits (i.e., environmental and social costs to society).

Often, in the application of economic analysis, value is defined very narrowly, ascribing it to some things and not to others. Value is typically assigned only to things that can be sold to perform a specific function. For example, when a pine tree is alive, it provides shelter, absorbs carbon and releases oxygen, removes pollutants from the air, prevents erosion and offers beauty and a home to wildlife. These functions are difficult to quantify and are often not translated into measurable value. However, if that pine tree is cut down and turned into paper or lumber, only then does it have monetary value.





This example shows that things in their natural state are not always seen as having a measurable value. Since only monetary value and cost is generally included in financial analysis, there has often been no full accounting of the real costs of certain actions (such as chopping down a tree). As well, the external costs to society get overlooked, because they are not “charged” to any particular user (e.g., the environmental cost of greenhouse gas emissions, or the social and economic costs of congestion).

A more inclusive type of accounting is necessary to address these issues. To be effective, there needs to be a standardized “triple-bottom-line” methodology to evaluate impacts and opportunities in the three sustainability spheres of environment, economy and society. A more inclusive method of accounting will also consider impacts over the life of an investment, ensuring the best value for money, rather than simply the lowest short-term cost. A triple-bottom-line approach will help create a more holistic analysis of the real costs and benefits of a project over the long term, and not just those in the immediate future.

To achieve more sustainable freight and passenger transportation, both internal and external costs need to be factored into decision-making. Developing the capacity to evaluate the transportation options in these terms is an essential part of encouraging government decision-making that provides the best long-range return on investment.

Making the Most of Every Infrastructure Investment

Using transportation demand management (TDM) and intelligent transportation systems (ITS) are two ways we can address the challenge of inefficiency and make the most of every investment. Doing so maximizes the use and extends the lifecycle of every asset.

TDM refers to a variety of strategies to improve travel choices, reduce reliance on single-occupant vehicles, decrease the number of trips people have to make, and help manage congestion. TDM works by understanding why people travel and facilitating their choice to travel at a different time or by a more sustainable transportation mode. For example, MTO builds high occupancy vehicle (HOV) lanes that reward people travelling on transit, or driving with two or more occupants, by allowing them to use dedicated lanes that tend to move faster than regular highway traffic. Knowing that they can shave time off their commute provides travellers with a positive incentive to carpool or take the bus instead of driving alone.

Further integrating demand management considerations into transportation planning could reveal new opportunities for the province, municipalities and the private sector to work together to plan infrastructure that supports a more sustainable transportation system.

ITS uses technology to improve the overall function of the transportation system. For instance, monitoring congestion levels makes it possible to take actions to respond, such as rerouting buses or providing information to travellers that will help them to better plan their routes. Traffic management technologies can also be used to balance traffic flow across modes and routes or could provide information for road pricing.

ITS also includes new technologies that can fundamentally change the way we travel. One such innovation is “networked vehicles” that can share information, so that if, for example, one vehicle has to brake suddenly to avoid an ice patch, a message can be sent to warn the vehicles behind it.

Building Sustainable Infrastructure

Making infrastructure sustainable can be accomplished in two ways. The first is to design infrastructure that encourages more sustainable behaviour. Examples of this include incorporating carpool lots at strategic locations along provincial highways, or improving pedestrian and cycling access to GO Transit stations.

Second, when the best option for addressing travel needs is to build new highways or add lanes to existing ones, we must adopt practices that make our planning, design, construction, operations and maintenance more sustainable. These could include using recycled aggregate, sourcing or generating renewable energy, and managing storm water run-off that can carry contaminants. Overall, the focus should be on designing infrastructure that takes into account the community and environmental impacts and seeks to lessen them in the most efficient, cost-effective ways.

Applying a sustainability lens to the decisions that we make will influence what we build and how we build it, so that the overall sustainability of our physical infrastructure, as well as people’s travel habits, will be improved.



How MTO Uses Intelligent Transportation Systems (ITS)

- The COMPASS system monitors traffic conditions on Toronto-area highways, sharing incident and congestion information with drivers.
- The Advanced Road Weather Information System (ARWIS) provides information about pavement and weather conditions. The information helps target road salt application.
- Traveller information services, such as TRIP and 511 (www.mto.gov.on.ca/english/traveller/trip/), can offer the traveller more options as they choose their mode and time of travel — and in the future can even help them select more fuel-efficient routes (e.g., truck drivers avoiding steep hills).



STRATEGIC GOAL 5



Demonstrate good stewardship

The breadth and scope of MTO’s mandate offers many opportunities to practise good stewardship of Ontario’s resources – human, financial and natural. Every time we make a decision, we need to consider how it will affect the surrounding ecosystem and communities. MTO’s transportation activities must include protecting and conserving the province’s resources and dealing with any potentially negative effects of our activities or operations.

Quick Facts about Wildlife and Roads

One in 17 Ontario motor vehicle collisions involves a wild animal. This is both a safety hazard and a threat to species that may already be in danger of extinction. Of Ontario's 95 species at risk, approximately 44 are negatively impacted directly or indirectly by road infrastructure.

MTO has taken several actions to prevent wildlife collisions:

- installing fences along major highways
- adding wildlife "over crossing" (e.g. Hwy 69)
- posting signs to warn drivers
- highway lighting to improve night visibility
- distributing a "Watch for Wildlife" brochure to raise awareness about wildlife collisions
- wildlife detection system in Sault Ste. Marie that monitors the highway right-of-way and alerts drivers if there are large animals

*MTO's Watch for Wildlife
and
Toronto Zoo Ontario Road
Ecology Group*

Areas of focus include:

- recognizing that many natural resources are finite and shared, and making every effort to conserve, reuse and recycle them as much as possible
- minimizing disruptions to the natural environment or to historic or cultural features
- responding to climate change by reducing GHG emissions from the transportation sector and preparing for the potential impacts of climate change
- investigating methodologies to improve our ability to incorporate sustainability in our Environmental Assessment process
- supporting the Ontario Public Service-wide Green Transformation, an initiative that will reduce the environmental footprint of the provincial government and foster a green organizational culture

Transportation can be a resource-intensive industry. Responsible use of energy, water, sand, stone and gravel is essential to ensure that these resources are protected for future generations.

Managing the impacts of MTO's activities has always been part of regular business practice. MTO understands that impacts can extend beyond study-area boundaries, with consequences that can be felt across ecosystems. Because the scientific understanding of the delicate relationships that exist within ecosystems is still evolving, MTO will continue to work closely with other agencies and research institutions, so that our standards and practices reflect current best practices. As these are defined, we will explore opportunities to reference them in contracts, so that those who are delivering projects on behalf of MTO can be held accountable for compliance with requirements.

Accepting our role as steward means acknowledging our responsibility to respond to concerns about climate change. MTO must act on two fronts – to reduce further damage by mitigating the release of greenhouse gases into the atmosphere, and to prepare for the impacts of our changed climate by adapting to emerging realities. The approaches used to reach these goals must be economically, socially and environmentally sound. For example, we need to accommodate increased volumes of precipitation to protect the long-term investments the province makes in our infrastructure, and to make sure that our communities are protected from flooding and property damage.

MTO also understands the importance of supporting new and changing technologies, particularly when they help to preserve non-renewable resources or reduce waste. For instance, Ontario has committed to supporting the consumer adoption of electric vehicles. Beginning July 1, 2010, Ontarians can receive incentives towards the purchase of a plug-in hybrid or battery electric vehicle.

STRATEGIC GOAL 6



Engage MTO staff expertise to promote innovation

As we developed the sustainability strategy, one thing became very clear: MTO staff members already have a great deal of knowledge and experience in sustainability. They are keen to put sustainability into practice in every aspect of their work, and make it part of the MTO culture. This strategic goal recognizes our staff's expertise and our commitment to building a work environment that actively encourages, promotes and rewards responsible and sustainable innovation.

Areas of focus include:

- building MTO's internal sustainability expertise
- sharing knowledge and best practices internally and with our partners, as well as reaching out to new partners, to encourage innovation
- making sure that our standards and protocols can adapt to incorporate new and proven approaches to move sustainability into the mainstream
- promoting, rewarding and celebrating innovation
- empowering our staff to try unconventional approaches, taking into account an appropriate level of risk for a public sector organization

A Culture of Innovation

One part of enriching the culture of innovation within the ministry is exchanging knowledge and best practices both internally and with other partners, including other levels of government, academia and the non-profit sector. Complex relationships exist between a wide range of sectors and stakeholders who influence transportation behaviour, ranging from real estate, to logistics, to telecommunications. Seeking out and establishing relationships with stakeholders not traditionally associated with the transportation sector can help us find innovative solutions to Ontario's transportation issues.

There are many examples of MTO staff taking initiative to try new approaches that have environmental, social and economic benefit. In one case, staff members were concerned about the high cost and the unacceptable carbon footprint of generating electricity with diesel generators at the Summer Beaver Airport in northwestern Ontario. Under an MTO cost-savings program, they got funding to use surplus solar equipment to power the airport. An Ontario government Innovation Fund grant for wind generators made it possible to convert to a solar/wind-powered project.



The result:

- a reduction in environmental risk associated with the long-range transport and handling of petrochemicals in the sensitive northern environment
- annual fuel savings of \$32,000

For MTO to become an even more innovative ministry, we will need to be proactive in sharing information about successful pilot projects and new approaches. Processes should be put in place so that sustainability successes are not exceptions to how we do business, but rather building blocks for doing business in a way that helps make the transportation system more sustainable. Individuals committed to sustainability are essential to the long term success of this strategy.

Promoting a culture of innovation at MTO will help us continue to keep the talented, creative people who already work at the ministry and attract new people who share our vision for a more sustainable transportation system.

Managing Risks

Incorporating sustainable practices will often require innovation and therefore risk. As a steward of public funds and trust, it is important for MTO to recognize and manage these risks. We will continue do this as we move forward. At the same time, incorporating the principle of sustainability into our work is in itself an effective tool for risk management. For example, reducing GHG emissions from the transportation system through sustainable initiatives could help avoid, reduce or delay the potentially significant consequences of climate change and reduce some of the external risks to transportation infrastructure over the long term (e.g., road surface erosion).



STRATEGIC GOAL 7



Drive a cultural shift towards sustainability

Ensuring safety for road users is a priority for MTO and is an ingrained part of our corporate culture. It should be the same for sustainability. To do this, we will look at methods of integrating sustainability considerations into our business planning processes and develop resource materials that go into more detail about the strategic goals and their practical application. As with the strategy, these materials will be prepared using a collaborative approach that builds on the diverse skills and experience of our staff.

Areas of focus include:

- providing staff with the necessary tools to improve the overall sustainability of projects and programs
- raising awareness, on an ongoing basis, about the benefits of sustainable practices
- rewarding successful sustainability initiatives
- using MTO's significant purchasing power to influence the availability of sustainable goods and services
- educating the public about sustainable transportation issues

How MTO Supports Transit

Investments in transit improve service levels in communities with existing transit systems and can help establish new transit systems in places that do not have them. Making transit convenient and reliable will encourage more people to leave their vehicles at home. In support of transit, we are:

- providing \$1.6 billion in Gas Tax funding to Ontario municipalities by October 2010 to improve and expand public transit in the province
- committing \$9 billion for priority transit projects in the GTA and Hamilton
- designating bus bypass shoulders on Highway 403 that allow GO Transit and local transit buses to bypass congested highway sections
- working towards making transit accessible for travellers with disabilities by 2025, under the Accessibility for Ontarians with Disabilities Act, 2005

Using Procurement to Promote Sustainability

As one of the Ontario government's largest purchasers, we can leverage our purchasing power to increase the market demand for, and availability of, more sustainable goods and services. The strategic approach to green procurement should be to ensure the highest economic value, not simply the best price (e.g., taking into account the costs we will avoid by reducing waste, minimizing energy consumption and buying products with better lifecycle value). MTO's aspirations for procurement fit well with a broader OPS green purchasing initiative being led by the Ministry of Government Services.

Encouraging Sustainable Transportation Choices

As the issuer of drivers' licences and overseer for beginner driver training, MTO can play a role in educating the public on sustainable transportation issues, such as providing information about eco-driving. Eco-driving refers to driving techniques that reduce fuel consumption, greenhouse gas emissions, noise levels and collision rates. The fuel savings associated with eco-driving techniques amount to 5 to 10 per cent on average.¹⁵

Through the ministry's public website and other avenues, MTO can help Ontarians become aware of sustainable transportation options as well as involving them in the shift towards sustainability. For example, through online voting on the ministry's website, the public helped MTO develop a uniquely branded licence plate for electric vehicles. This green vehicle licence plate will allow drivers of plug-in hybrid and battery electric vehicles to:

- use Ontario's HOV lanes until 2015, even if there is just one person in the vehicle
- access recharging facilities at GO Transit and other provincial government-operated parking lots
- use designated parking spots where available at private companies or institutions (such as university campuses)

¹⁵ "Driving More Efficiently," www.fueleconomy.gov

5

Achieving our Goals



MTO's sustainability strategy sets out strategic goals for MTO. However, we will need to take specific actions if we are going to achieve lasting change. These actions will be identified in each Sustainability Implementation Plan (SIP). Our first round of actions was generated through discussions with staff across the ministry as the strategy was being developed.

The SIPs will translate our goals into actions – while the strategic goals represent our desired destination, the action items will be the path we take to get there.

Reporting Progress

Every SIP will reflect back on prior commitments and identify progress that has been made. Through regular reporting, we will be able to:

- quickly spot and deal with any unexpected challenges, threats or risks and take corrective action
- share, recognize, celebrate and build on our successes

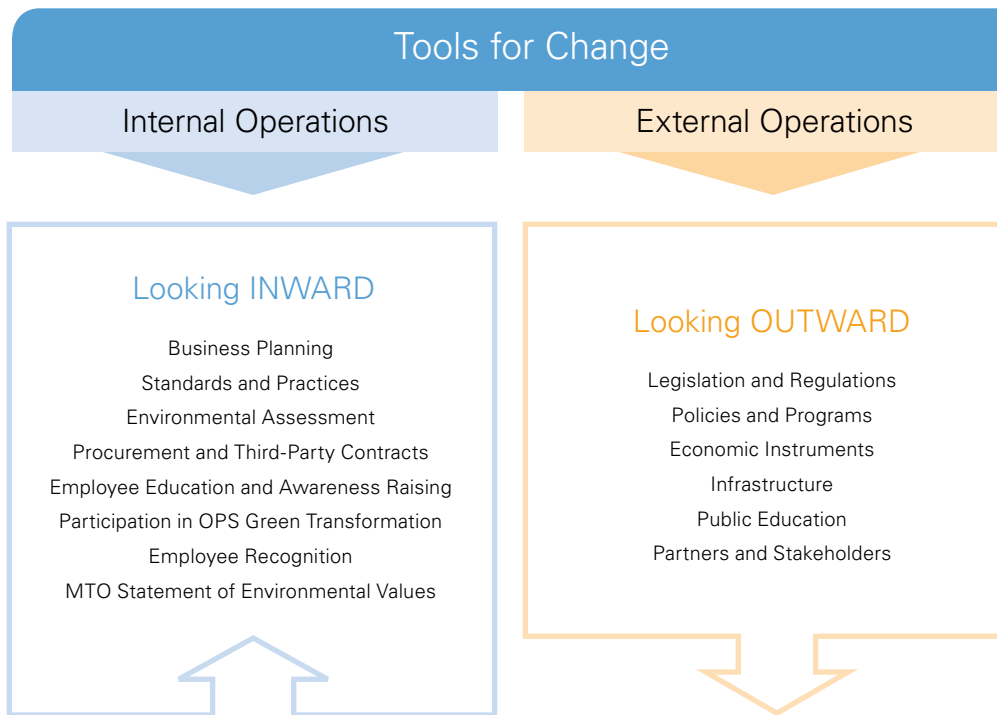
We know that making sustainability a regular part of how the ministry does business will take time. To help make and keep sustainability an everyday part of MTO work, we will:

- integrate the three-year sustainability implementation cycle into the ministry's regular business planning and budgeting cycle
- utilize change management practices to facilitate MTO's transition to a model sustainable organization

Tools for Change: Inside and Out

Meeting our sustainability objectives means that we must look at both our internal and external operations.

Figure 4



Looking Inward: MTO’s Business Practices

Integrating sustainability into MTO business means that we need to take a close look at how we operate and deliver services, focusing on eight business practices:

1 Business Planning

MTO and all other Ontario government ministries use an annual Results-based Planning (RbP) process to set business priorities, funding requirements and performance measures. Applying the principles of sustainability in RbP will ensure that MTO’s programs achieve the desired results and outcomes efficiently and cost-effectively. The three-year SIP reporting cycle will also coincide with this corporate planning process to ensure coordination of resources and activities.

2 Standards and Practices

Standards and practices direct much of MTO’s day-to-day business. For example, Ontario’s road user safety standards ensure that our roads remain among the safest in North America. Many of the standards in use at MTO already have provisions that encourage sustainable practices. For example, pavement design standards make road building more sustainable by maximizing the service life of pavements, and reducing, reusing and recycling materials. These practices allow MTO to use less energy, emit fewer greenhouse gases and consume fewer raw materials as the ministry carries out its operations.

How MTO is Recycling Roads

It is standard MTO practice to reuse and recycle construction materials. Some industrial by-products (e.g., roofing shingles, municipal construction waste) are used in road-building materials, reducing the need for new aggregates and asphalt. One method of pavement recycling used by MTO, called Cold In-Place Recycling (CIR), has a number of benefits. Compared to traditional paving methods, CIR:

- emits 50 per cent fewer GHGs
- consumes 62 per cent fewer aggregates
- costs 40 to 50 per cent less than conventional treatments (per two-lane kilometres of road)

Where there is a need for new aggregate, MTO uses local sources, whenever possible, to use less fuel and reduce other haulage costs.

New standards to make our transportation system more sustainable will be considered on an ongoing basis.

3 Environmental Assessment

All of MTO's infrastructure projects require approval under Ontario's Environmental Assessment (EA) Act, 1990. Most of the projects follow the process detailed in the MTO Class EA for Provincial Transportation Facilities. The Class EA process is a streamlined self-assessment process. It fulfills the requirements of the EA Act without the necessity of submitting an EA report to the Minister of the Environment for each project. Projects covered by the Class EA occur on a frequent basis. Their impacts are generally predictable or well-understood. Applying the Class EA process allows MTO to achieve the required standards of environmental protection, accountability and consultation, using a standard pre-approved process. Recently, Ontario introduced a new, expedited Class EA process for transit projects. It is now possible to complete the necessary approvals in a six-month time-frame.

For projects that are more complex, or have the potential for more significant environmental impacts, an Individual EA process is followed. An Individual EA follows a project-specific Terms of Reference that is approved by the Minister of the Environment.



4 Procurement and Third-Party Contracts

The Ontario government is a significant purchaser. Its purchasing volume has an impact on the Ontario economy, with the potential to influence the price and availability of goods and services in the province. Integrating sustainability evaluation criteria into the procurement process will reduce the ecological footprint of government operations.

Third-party providers implement much of MTO's business. MTO contracts with external service providers present an opportunity to include sustainability requirements in bid documents. Currently, vendors responding to a Request for Proposal for contracts with MTO's Provincial Highways Management Division can add an "innovation proposal" to their submission. They can propose innovative approaches to delivering a service with the assurance that, if MTO decides to pursue a more traditional method, they can still be considered in the bidding process. Inviting innovative proposals in this risk-free way can identify new ways of doing business that are more sustainable, expedient and cost-effective.

5 Employee Education and Awareness Raising

Educating and raising awareness about sustainability among ministry employees is a critical part of the sustainability strategy. Both formal professional development workshops and informal learning forums, such as “lunch and learn” sessions, can help us share our experiences and expertise.

MTO continues to raise awareness of the benefits of sustainability by:

- participating in the annual Clean Air Commute, which encourages MTO employees to reduce the ecological footprint of their daily commute
- educating staff about sustainable office practices to reduce the significant resources (e.g., energy, water and paper) that MTO employees use on a daily basis
- participating in annual Earth Day celebrations at numerous ministry offices throughout Ontario

6 Participation in OPS Green Transformation

In accordance with the corporate Ontario Public Service (OPS) Green Transformation initiative, MTO will develop and implement a ministry green plan. This initiative seeks to reduce the OPS environmental footprint, to pursue environmental sustainability through greener business practices, and to create a green organizational culture. To help achieve this green organizational culture, the SEN will continue to play a role as MTO’s official Green Team.

Through this initiative, OPS ministries will pursue targets for energy conservation, fuel efficiencies, and reduction in consumables like paper and packaging. It will also ensure compliance with OPS-wide green standards that support a coordinated, enterprise-wide, green transformation of our internal office practices.

7 Employee Recognition

MTO employees have already demonstrated that they are willing and able to support the ministry’s efforts to reduce its ecological footprint in creative, cost-effective ways. Recognizing staff efforts to incorporate sustainable business practices will help raise awareness of sustainability and confirm its importance to MTO. Celebrating these achievements will encourage staff to continue to find ways to integrate sustainability into their work.

How MTO is Reducing its Environmental Footprint

In both its internal and external operations, MTO has taken steps to minimize its impact on the environment. For example:

- MTO staff can use the “Catch a Ride Program.” It lets them reserve a seat on the MTO mail shuttles that travel between ministry offices at Queen’s Park, Downsview and St. Catharines during the business day. Ride-sharing is an ideal way to reduce the number of cars on the road and reduce GHG emissions.
- MTO has converted its traffic signals to Light Emitting Diodes (LED). This change has reduced energy consumption by 80 per cent, resulting in energy savings of 12 million kWh annually and an 80 per cent reduction in maintenance.

8 MTO Statement of Environmental Values

A Closer Look at the Windsor-Essex Parkway

The Windsor–Essex Parkway (www.weparkway.ca) is an unprecedented highway project that will link Highway 401 with a new international bridge. It has one-of-a-kind scope, features and benefits to travellers and the community. For the first time in Ontario, a highway project will include tunnelled roadways, providing community connections and restoring natural linkages.

Pedestrians and cyclists will be able to enjoy 20 kilometres of new recreational trails. They will be able to travel the length of the corridor without encountering a motor vehicle. Their use will be safe for the whole family. The Windsor–Essex community will benefit from more than 300 acres of green space and will participate in deciding how these green spaces will be used.

The Windsor–Essex Parkway is the most significant single highway investment the province has made in Ontario’s history. It will provide a major boost to the local and regional economies, creating an expected 12,000 project-related jobs.

As one of the 14 Ontario government ministries covered by the Environmental Bill of Rights, 1993, MTO has a Statement of Environmental Values (SEV). The SEV is the framework that MTO uses when making decisions that may affect the environment. It reflects the environmental issues and considerations specific to our mandate and explains how MTO will consider environmental impacts when making decisions. It also explains how we will integrate those impacts with economic and social considerations. Among other considerations, the ministry’s decision-making should take into account:

- the importance of environmental protection in the ministry’s approach to the planning, design, maintenance and construction of transportation infrastructure
- the need to encourage other modes of transportation as alternatives to the single-occupant vehicle and to integrate land-use and transportation planning
- the value of public and Aboriginal community consultation in environmental decisions

The sustainability strategy reinforces MTO’s Statement of Environmental Values by evaluating and reducing our environmental impacts, internally and within Ontario’s transportation system.

Looking Outward: Ontario’s Transportation System

MTO has several mechanisms through which it can integrate sustainability into the provincial transportation system:

1 Legislation and Regulations

MTO can use legislation and regulations to encourage sustainable activities and discourage activities that do not support a more sustainable transportation system. For example, Ontario is responsible for trucking industry regulation. MTO recently passed legislation to mandate the use of speed limiters for transport trucks that keep them from going over 105 kilometres per hour. Benefits include reduced GHG emissions, increased safety and improved fuel economy. The measures in the Highway Traffic Act, 1990 which ban off-road vehicle operation that disrupts or destroys the natural environment (e.g., fish habitats) are another example.

2 Policies and Programs

MTO’s policies are “made-in-advance” decisions. Policies guide ministry staff in identifying actions that will help achieve government priorities and

commitments. For example, under the Metrolinx Act, 2006, the Minister of Transportation has the authority to issue a transportation planning policy statement (TPPS) for the Greater Toronto and Hamilton Area (GTHA). Since municipal transportation planning must conform to the TPPS, the statement provides guidance and a common policy direction for municipalities in the GTHA.

Programs implement policy objectives in specific ways. In the summer of 2009, MTO began a pilot program to allow a limited number of commercial trucking operators to pull two full-sized trailers – referred to as long-combination vehicles (LCVs) – on designated Ontario highways. Allowing LCVs on designated highways has both economic and environmental benefits: retailers and manufacturers can move goods at lower cost, and the reduction in fuel use cuts GHG emissions by approximately one-third. At the same time, this program continues to support Ontario’s commitment to road safety: studies show that LCVs have fewer collisions than conventional tractor-trailers.

3 Economic Instruments

MTO funding to municipalities, transit authorities, non-governmental organizations and other entities plays a significant role in determining how the transportation system takes shape. Other economic instruments, like grant programs directed towards the public or businesses, also influence transportation choices.

The Green Commercial Vehicle Program (GCVP), launched in 2008, is an example of a grant program that promoted the purchase of alternative fuel vehicles and anti-idling technologies for trucks. Programs like this support economic development. The GCVP helped Ontario businesses to modernize their fleets and reduce operating costs by investing in new vehicle technologies. The technologies supported by the grant also benefit the environment, improving the fuel efficiency of Ontario’s commercial-fleet vehicles.

4 Infrastructure

Building, maintaining and operating physical infrastructure is a significant part of the ministry’s business. The choices we make about the kind of infrastructure that we build – and how and where we build it – have long-lasting impacts. There are many opportunities to increase the sustainability of our infrastructure. For instance, to help manage congestion in Southern Ontario, MTO has developed a plan to add over 450 kilometres of new HOV lanes on 400-series highways in the GTHA over the next 25 years. HOV lanes make better use of our highways by moving people more efficiently in fewer vehicles.



5 Public Education

Providing high quality information is a key component of changing behaviour. People need to know about and understand the transportation options that are available to them. Making the choice to take an unfamiliar route or mode of transportation is made much easier by the availability of relevant information.

Currently, both the *Official Driver's Handbook* and the beginner driver education curriculum include information about “eco-driving” behaviour as part of the education of new drivers. In 2009, MTO prepared, and distributed to Ontario schools, resource materials to help educators incorporate road safety education into their lessons. These materials are aimed at developing life skills related to using sustainable transportation modes and being safe passengers and drivers. In addition, through local safety events, the ministry works with stakeholders to promote safe cycling among young and adult riders. MTO also publishes and distributes the *Young Cyclist's Guide* and *Cycling Skills: Ontario's Guide to Safe Cycling*.

Raising awareness among stakeholders is also important. In May 2007, MTO hosted the Sustainable Transportation Forum, a two-day conference that brought together local and international policy makers, academics, environmentalists, non-governmental organizations, industry and others to share ideas for a more sustainable and better-integrated transportation system. The TransForum allowed people from different sectors to connect and learn from each other. The dialogue that started there continues to inform our understanding of the possibilities for transportation improvements. Presentations and a summary of the conference are available as resources from MTO's website.

6 Partners and Stakeholders

MTO has a well-established network of stakeholders and partners who are instrumental in raising and resolving issues. Working closely with stakeholders provides the ministry with insight into the perspective of the users of our transportation system. Our partners and stakeholders can also help us reach people in ways that MTO could not achieve alone. Programs that are developed in partnership with people outside government can effectively address underlying issues or business needs. Such collaboration allows MTO to build on the knowledge and experiences of others.

How MTO Supports TDM Projects

In 2009, MTO provided grants to 21 municipal governments to implement TDM projects, through the TDM Municipal Grant Program. In the first two years of the program, over \$750,000 in grants have been awarded to support 34 municipal TDM projects.

The 34 projects selected over the first and second years of the program include a wide range of TDM initiatives, some quite innovative for Ontario. They include community-wide bicycle safety and commuter challenge promotions; walk-to-school programs; new bicycle parking and bike path signage; comprehensive TDM and active transportation plans for neighbourhoods and entire regions; and transit promotion campaigns targeted to school children, riders with disabilities and rural residents.

6

Conclusion: Building on our Momentum

MTO has a long and strong tradition of making significant contributions to the quality of life that we enjoy in Ontario. Making Ontario's transportation system more sustainable is one more area where MTO can make a meaningful contribution. This strategy will help us do that.

This strategy is a living document – one that will keep evolving as we implement it. As we gain experience in confronting challenges to our province's sustainability, we will adapt our implementation plans to our changing needs.

The strategy was developed through considerable ministry-wide collaboration, which provides a solid foundation for driving a cultural shift towards sustainability within MTO. In every part of MTO, in every region and division, we want to keep sustainability in our sights. Ministry staff are clear in their commitment to enhancing sustainability in all that we do. We are confident that the diverse talents, skills and experience of MTO staff members will result in many creative solutions to sustainability challenges.

Roles and Responsibilities

All of us at MTO – regardless of position – have a role to play in promoting sustainability, so that it becomes deeply rooted in the way we do business. Every level of our organization must demonstrate this commitment.

MTO's senior management team will be the strategy's *champions*. Our directors will be *sponsors*, responsible and accountable for delivering individual sustainability action items. The members of the Sustainability Enablers Network will be *ambassadors* – continuing to advise on the implementation of the strategy, and helping to increase awareness of sustainability within the ministry. In addition, enablers will transition to a new role as MTO's Green Team that will support the OPS Green Transformation, focused on greening the OPS' internal operations.



We will establish working groups and project teams to support the development and implementation of action items. The Sustainable Transportation Policy Office team will be the *facilitators* – leading the implementation of the sustainability strategy, supporting MTO working groups and project teams, and tracking and reporting on progress. Everyone working at MTO will be *practitioners* of the strategy, using it as a tool in problem-solving and decision-making.

We know that we will not be able to transform the transportation system on our own. We have identified what we can do as a ministry to think and behave in a more sustainable manner, but we will need to work with members of the public, the private sector, academia, non-governmental organizations, other provincial ministries and other levels of government to fully realize the potential of a sustainable transportation system in Ontario. As we implement the strategy, we welcome suggestions for strengthening it.

MTO's sustainability strategy was created by our staff, for our staff, to make the ministry more sustainable and to make a positive difference in the lives of all Ontarians. We look forward to sharing our successes within the ministry and with our stakeholders, partners and the public.

Acknowledgements

The sustainability strategy initiative was developed and led by staff in the Sustainable Transportation Policy Office of the Transportation Policy Branch. Work on the project spanned over two years and involved numerous people. Some contributions were brief but valuable; others, like those of Louise Smith and Meghan MacMillan, were inspirational and constant. All however, were important.

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| Andrew Davidson, RUS | Dan McKnight, P&P |
| Jennifer Edwards, P&P | Bryan Moncion, Audit |
| Kevin English, PHM – West | Wes Mound, PHM – Northwestern |
| Stephen Erwin, PHM – Head Office | Michael Nadeau, PHM – Northeastern |
| Mandeep Flora, RUS | Karen Nicol, PHM – Eastern |
| Ian Freeman, CSD | Jay Nuttall, P&P |
| Susan Gallimore, P&P | Natasha Persaud, P&P |
| Bill Gibson, CSD | Jason Ranger, PHM – Northeastern |
| Heather Glass, PHM – Central | Mary Louise Robertson, ETC |
| Sasha Gollish, PHM | Mary Rollinson-Lorimer, P&P |
| Karl Groskopf, RUS | Susan Sieradzki, PHM – Central |
| Mark Hachey, ETC | Mandip Kaur Singh, ETC |
| Jalees Hafeez, CSD | Shawn Smith, PHM – Central |
| Steve Holmes, PHM | Simon So, P&P |
| Brenda Johnston, PHM – Eastern | Glenn Speirs, PHM – Northwestern |
| Shaf Khan, CSD | Ron Turcotte, PHM – Northeastern |
| Faisal Khan, PHM – Central | John Van Voorst, PHM – Central |
| Debbie Kontos, RUS | John Ward, PHM – Eastern |
| Brian Kope, PHM – West | Darren Waters, PHM – Eastern |
| Louisa Lam, ETC | Lija Anne Whittaker, PHM – Central |
| Becca Lane, PHM – Central | Jennifer Wittig, P&P |
| Jamie Lauzon, PHM – Central | |

Photo Credits



PHOTO COURTESY of PHM – Geomatics Office, Eastern Region
LOCATION: Prince Edward County
DESCRIPTION: MTO's first roundabout was constructed in Picton, Prince Edward County in 2008.



PHOTOGRAPHER: Nicole S. Young



PHOTOGRAPHER: John Small, PHM – West Region
LOCATION: Bell's Creek, near Mount Forest, ON
DESCRIPTION: When a section of the bank of Bell's Creek failed, MTO engineers decided to use willow stakes for stabilization. Willows will grow just about anywhere and have large root mass. As they grow, they will shade the water, keeping it cool and insects falling from the trees will feed the fish below. The willows will be monitored to see if this unconventional approach is successful.



PHOTO COURTESY of GO Transit
LOCATION: Greater Toronto Area
DESCRIPTION: Accessible GO trains make travel easier for all Ontarians.



PHOTOGRAPHER: Phil Pawliuk, PHM – Eastern Region
LOCATION: Ottawa
DESCRIPTION: Ottawa's Transitway is a dedicated busway planned in partnership between the City of Ottawa and MTO that forms the backbone of the city's commuter network.



PHOTOGRAPHER: Rick Moore, RUS
LOCATION: Callander (south of North Bay on Hwy 11)
DESCRIPTION: Colourful wildflowers grow alongside Highway 11, in front of the Wasi South Truck Inspection Station.



PHOTOGRAPHER: Shawn Smith, PHM – Central Region
LOCATION: Toronto
DESCRIPTION: Cyclist



PHOTOGRAPHER: Fraser Strachan, PHM – Northeastern Region
LOCATION: Highway 11 west of Hearst



PHOTOGRAPHER: Shawn Smith, PHM – Central Region
LOCATION: Toronto
DESCRIPTION: The view looking west from Keele Street on Highway 401.



PHOTOGRAPHER: Tim Bilton, CSD
LOCATION: Sarnia
DESCRIPTION: The new Sarnia truck inspection station has a combined windmill/solar application. The 5 KW system supplements MTO's power needs, and when not needed, the power is fed into the provincial grid.



PHOTO COURTESY of GO Transit
LOCATION: Greater Toronto Area
DESCRIPTION: Accessible GO trains make travel easier for all Ontarians.



PHOTOGRAPHER: Michael Bagnulo, PHM – Head Office
LOCATION: Niagara Falls
DESCRIPTION: Railway tracks under the QEW in Niagara Falls.



PHOTO COURTESY of GO Transit
LOCATION: Greater Toronto Area
DESCRIPTION: By providing bike racks on its buses, GO Transit is facilitating multi-modal connections between transit and active transportation.



PHOTO COURTESY of Cabinet Office



PHOTOGRAPHER: Shawn Smith, PHM – Central Region
LOCATION: Henley Bridge, St. Catharines
DESCRIPTION: This wetland compensation area was designed to provide additional habitat to fish, birds and mammals. The Henley Bridge is a historic concrete arch bridge. The arches were duplicated during the widening.



PHOTO COURTESY of PHM Planning and Environmental Office – Central Region
LOCATION: Highway 10, Caledon
DESCRIPTION: Caledon's historic Town Hall was relocated for the widening of Highway 10. The heritage building was preserved and is now in use as a community theatre.



Photo Credits



PHOTOGRAPHER: Capt. Paul Papps, PHM – Eastern Division
LOCATION: Prince Edward County
DESCRIPTION: A ferry docked at the Glenora Ferry Service terminal. The Glenora to Adolphstown crossing is serviced by one ferry during the winter months, and two during the peak May-October season.



PHOTOGRAPHER: Shawn Smith, PHM – Central Region
LOCATION: Toronto
DESCRIPTION: The view of Highway 401 looking west from Keele Street. This changeable message sign is part of MTO's Advance Traffic Management System.



PHOTOGRAPHER: Glenn Speirs, PHM – Northwestern Region
LOCATION: Nibinamik First Nation
DESCRIPTION: Solar and wind generation at the remote Summer Beaver airport replaces GHG-emitting diesel generators.



PHOTO COURTESY of PHM – Northeastern Region
LOCATION: Highway 17, just north of Sault Ste. Marie
DESCRIPTION: A wildlife detection system continuously monitors the highway right of way. It detects the presence of large animals and automatically triggers a warning device to alert the travelling public.



PHOTO COURTESY of PHM – Materials Engineering and Research Office
LOCATION: Hwy 401 and Guelph Line
DESCRIPTION: MTO constructed its first Pervious Concrete Pavement in a commuter parking lot at Highway 401 and Guelph Line in October 2007. The potential benefits of this new technology include a reduction/elimination of surface runoff, reduced stormwater management requirements, a reduction in warm and polluted water entering streams, improved groundwater recharge, reduced flooding and standing water, lower heat island effect, and increased surface illumination.



PHOTO COURTESY of RUS – Regional Operations Branch West
LOCATION: Windsor
DESCRIPTION: Starting in 2002, MTO completed a Value Engineering (VE) study to update the design of its Commercial Vehicle Inspection Facilities (CVIFs). The design concepts resulting from this collaborative approach are more cost-effective, flexible and efficient than existing CVIFs. The new design concepts include improvements to assist selection of high risk carriers along with enhanced safety measures for the protection of staff and stakeholders.



PHOTOGRAPHER: Greg Coughlin, Sunbury
DESCRIPTION: An example of a long-combination vehicle.



PHOTOGRAPHER: Suzanne Adamkowski, PRESTO
LOCATION: Haliburton Highlands, near Halls Lake
DESCRIPTION: A red trillium.



PHOTO COURTESY of PHM – Windsor Border Initiatives Implementation Group
LOCATION: Windsor
DESCRIPTION: In order to improve safety for pedestrians crossing Huron Church Road, a new overhead pedestrian bridge was constructed across the roadway. To enhance the appearance of the Windsor Gateway, a number of aesthetic and landscaping features were incorporated into the design of this bridge.



PHOTOGRAPHER: Shawn Smith, PHM – Central Region
LOCATION: Union Station, Toronto



PHOTOGRAPHER: Paul Sosney, PHM – Central Region
LOCATION: Mississauga
DESCRIPTION: Storm tunnel crossing the 401/410 interchange.



PHOTOGRAPHER: Rick Moore, RUS
LOCATION: North Bay
DESCRIPTION: Looking south at Highway 11 from the Wasi North Truck Inspection Station.



PHOTOGRAPHER: Josée Vallée, PHM – Northeastern Region
LOCATION: Highway 17, Sudbury
DESCRIPTION: A cyclist/pedestrian tunnel and pathway, constructed by MTO in 2008, on Highway 17 in Sudbury. The tunnel connects a residential neighbourhood on one side of the highway to a beach on the other. Without this culvert, bicycles and pedestrians would need to follow a much longer route or risk crossing a high-speed intersection.



PHOTOGRAPHER: Glenn Speirs, PHM – Northwestern Region
LOCATION: Nibinamik First Nation
DESCRIPTION: Solar panels at Summer Beaver airport.



Words and Terms

Below are definitions for some words and terms related to sustainability that appear in this document:

511 is an information system that advises travellers of border wait times, road conditions, construction activities, transit schedules, and queues end warning systems.

Accessibility (related to the transportation sector) refers to the ability to reach goods, services, activities and destinations.

Advanced Road Weather Information System (ARWIS) is a system that provides information about pavement and weather conditions in Ontario.

Aging in Place is the ability to live in one's own home—wherever that might be – for as long as confidently and comfortably possible.

Climate Change is the change in average weather over time and over a region, including temperature, wind pattern and precipitation changes.

COMPASS is a high-tech freeway management system that MTO developed to respond to traffic congestion problems on urban freeways. COMPASS uses a network of communications equipment to detect and respond to highway incidents or slowdowns.

Eco-driving makes use of driving practices that reduce fuel consumption, release fewer greenhouse gasses and result in lower accident rates. These practices typically include maintaining a steady speed, decelerating smoothly, checking tire pressure and driving a well-maintained vehicle, among other practices.

Environmental Assessments (EAs) are conducted under the Environmental Assessment Act, 1990 to promote good environmental planning. They assess the potential effects of infrastructure projects before construction begins. The act applies to most public and some private projects, including roads, landfills, water and sewer undertakings and electricity projects.

Fossil Fuels are natural gas, petroleum, coal and any form of solid, liquid or gaseous fuel derived from such materials that are used to generate heat or combustion.

Greenhouse Gases (GHG) trap heat reflected from the surface of the planet in the lower atmosphere. Carbon dioxide (CO₂) is the primary GHG. It is believed that GHGs contribute to about two-thirds of climate change.

High Occupancy Vehicle (HOV) Lanes are dedicated highway lanes that may be used only by vehicles with more than one occupant (single-occupant electric vehicles will also be permitted in Ontario's HOV lanes until 2015). HOV lanes offer users a faster, more reliable, commute, easing congestion in regular lanes and moving more people in fewer vehicles.

Intelligent Transportation Systems (ITS) use technology to improve the overall function of the transportation system (e.g., monitoring congestion levels and taking actions to respond, like rerouting buses, and providing information to travellers that will help them plan their routes).

Multimodal Transportation refers to combining more than one transportation mode to reach a destination (e.g., cycling, using public transit and walking).

Speed Limiters are devices that are installed on vehicles to keep them from exceeding a set number of kilometres per hour.

Sustainability refers to development that meets the needs of the present, without compromising the ability of future generations to meet their own needs.

Road Pricing is direct charging for the use of roads. Some road pricing mechanisms include flat tolls, fees for vehicle miles traveled, and congestion pricing.

Transportation Demand Management (TDM) refers to a variety of strategies to improve travel choices, reduce reliance on single-occupant vehicles and help manage rush hour congestion.

Traveller's Road Information Portal (TRIP) is a web site that provides 24/7/365 access to the Ministry of Transportation's (MTO) road information on provincially maintained highways.

Resources

The following resources are referenced within this document and may be helpful in learning more about sustainability issues and Ontario's transportation system.

- Go Green: Ontario's Action Plan on Climate Change:
www.ene.gov.on.ca/publications/6445e.pdf
- World Commission on Environment and Development report,
Our Common Future: www.un-documents.net/wced-ocf.htm
- Ontario's Long-Term Report on the Economy, 2010:
www.fin.gov.on.ca/en/economy/ltr/2010/
- Ontario Road Safety Annual Report:
www.mto.gov.on.ca/english/safety/orsar/
- Transit-Supportive Land Use Planning Guidelines:
<http://www.mah.gov.on.ca/Page168.aspx>
- Provincial Policy Statement, 2005: <http://www.mah.gov.on.ca/Page215.aspx>
- Growth Plan for the Greater Golden Horseshoe and the Proposed Northern Growth Plan: www.placestogrow.ca
- Metrolinx Regional Transportation Plan: www.metrolinx.com
- Ontario's Environmental Bill of Rights, including MTO's Statement of Environmental Values: www.ebr.gov.on.ca
- Environmental Commissioner of Ontario, including annual reports to the Ontario Legislature: www.eco.on.ca
- Ontario Ministry of Transportation and its programs: www.mto.gov.on.ca



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