

ACRONYMS

ASST	Active and Sustainable School Transportation
ATMS	Advanced Traffic Management System
BIA	Business Improvement Area
Big Data	Unique and specialized data sets that can be purchased at a cost to be used to undertake performance monitoring
DARTS	Disabled & Aged Regional Transportation System
DC	Development Charges
EA	Environmental Assessment
EMME	A travel demand modeling software
ESR	Environmental Study Report
GPS	Global positioning system
GRIDS	Growth Related Integrated Development Strategy (a planning process to identify a broad land use structure, associated infrastructure, economic development strategy and financial implications for the growth options to serve Hamilton for the next 30 years)
GTHA	Greater Toronto Hamilton Area
HIA	Hamilton International Airport
HSR	Hamilton Street Railway
HOT	High-Occupancy Toll
HOV	High-Occupancy Vehicle
LOS	Level of service
LOS D	An acceptable traffic operating level of service, operating between free-flow and congested conditions
LRT	Light Rail Transit
MTO	Ministry of Transportation Ontario
NEC	Niagara Escarpment Commission
PIC	Public Information Centre
TDM	Transportation Demand Management
TMP	Transportation Master Plan
TTS	Transportation Tomorrow Survey

PURPOSE

Board #2 provides an overview of the Transportation Master Plan (TMP) process. This follows the Municipal Class Environmental Assessment (MEA) Process (Approach 1), which is a planning and approval process that ensures that the potential effects of a project are identified and managed prior to implementation.

BACKGROUND

The Municipal Class Environmental Assessment process includes the following:

Transportation Master Plan:

This approach involves the preparation of a Master Plan document at the conclusion of Phases 1 and 2 of the Municipal Class EA process. The Master Plan document would be available for public comment prior to being approved by the municipality.

The Master Plan would therefore become the basis for, and be used in support of, future investigations for the specific Schedule B and C projects identified within it. Schedule B projects would require the filing of the Project file for public review while Schedule C projects would have to fulfil Phases 3 and 4 prior to filing an Environmental Study Report (ESR) for public review.

The completion of Phases 1 and 2 results in the identification of projects that are carried forward to Phases 3 through 5 in the MEA process.

Capital Project Delivery Process:

- Phase 3: Alternative Design Concepts
- Phase 4: Environmental Study Report
- Phase 5: Implementation

Capital Infrastructure Projects generally take five (5) years to implement.

THE PROCESS

The Transportation Master Plan Review and Update was undertaken in four stages and included the following:

Stage 1:

- Review of 2007 TMP policies
- Identify policy issues and opportunities

Stage 2:

- Identify transportation system opportunities
- Develop Complete Livable Better Street policies and implementation process
- Develop street conversion prioritization and evaluation process

Stage 3:

- Identify policy updates

Stage 4:

- Finalize TMP policy and implementation strategies

NEXT STEPS

In order to complete the Transportation Master Plan Review and Update study, the Study Team will work towards:

- Finalizing the TMP document
- Presenting TMP recommendations to Council (anticipated Fall 2016)

PURPOSE

A key element of the Transportation Master Plan (TMP) process is meeting, communicating and engaging in dialogue with the public and stakeholders to identify:

- Existing transportation and accessibility issues
- Opportunities for addressing current deficiencies
- Opportunities for addressing future needs and requirements

THE PROCESS

The Public Consultation and Stakeholder Engagement process included the following:

Public Information Centres (PICs):

The format of each PIC included time for viewing of boards, a presentation, an interactive event (i.e., group discussions for PIC 1, hands-on workshop for PIC 2, town hall polling for PIC 3), ending each meeting with evening highlights.

- PIC 1: March 23-26, 2015
- PIC 2: June 9, 11, 13 and 16, 2015
- PIC 3: December 2, 3, 8 and 9, 2015

City Staff Workshops, City Project Team and Technical Meetings:

Numerous meetings were held throughout the course of the study with representative City Staff from vested City Departments and included (but were not limited to):

- Public Works
- Planning and Economic Development
- Public Health
- Community and Emergency Services

Stakeholder Meetings: (150+)

- Goods Movement Workshop
- BIA Sub-Committee Meeting
- Flamborough Chamber of Commerce

- Senior Advisory Council
- Advisory Committee for Persons with Disabilities
- Cycling Committee

Agency Workshop:

- City of Burlington
- Haldimand County
- Halton Region
- Hamilton Burlington Trails Council
- Metrolinx
- Region of Waterloo

Online Surveys:

- Phase 1 (308 responses)
September to October, 2015
- Phase 2 (245 responses)
October to November, 2015
- Phase 3 (454 responses)
December 2015 to January 2016

Outreach Events (total of 36 locations):

- City staff attended numerous community events for opportunities to speak with the public about transportation issues.

Sample Concurrent Projects:

- Our Future Hamilton
- Centennial Neighbourhoods Secondary Plan and Transportation Master Plan
- LRT Planning (Citizens' Jury on Transit)
- Metrolinx Big Move Update and Review

Backgrounder: A City in Motion (The Last 10 Years)



PURPOSE

To better understand the needs of the transportation system in Hamilton, a review of travel trends and characteristics during the past 10 years will provide a backdrop to the current state of the system and what and where the needs will be.

BACKGROUND

Technical analysis has been supported by the most current GTHA household travel survey (2011 TTS Survey) which is supplemented by local transportation data.

Since 2001, Hamilton's population has increased by approximately 30,000 people or 6%. While the increase has not been astronomical, a further review of the age spectrum has shown that the population is trending towards an aging population. Between 1986 and 2011, the number of seniors has increased by 80%, with seniors contributing to approximately 11% (*Source: TTS*) of the total population in 1986. However, in 2011, this has increased to 14% (*Source: Ontario's Ministry of Finance*) of the total population. Hence, there is a need to ensure that the transportation system will support alternate travel modes to support the independence and mobility requirements associated with an aging society.

To this end, there is a need to change the travel patterns that are prevalent today. 2011 statistics show that the vehicles continue to be the main mode of travel for the majority of trips within a day (24-hour period). Approximately 84% of total daily trips are made in a vehicle, whether as a passenger or as a driver. And while walking and cycling trips do occur (~5% of total daily trips), the tendency is for these trips to occur for shorter distances (less than 5km), while the vehicle remains the favoured mode of transportation for longer trips, with almost 90% of trips with trips lengths between 6km and 10km occurring in the automobile.

In order to encourage behaviour change, alternate modes of travel must be made available to the user. Public transit is one mode in which the City of Hamilton has made investments and the trends show that there is progress. Between 2001 and 2011, the number of people using transit within a 24-hour period has increase by approximately 30%; however, it is still not enough to keep pace with population growth as rides/capita have actually been decreasing. With the proper funding and further improvements to the existing public transit system, the City can maintain its momentum in increasing its daily transit ridership and shifting from a car-centric City to one that supports many alternate modes of transportation that caters to its growing and aging population.

KEY MESSAGES

In order to facilitate behaviour change and provide a healthy and sustainable transportation system, improvements are required that will provide a balance between alternate modes of travel and vehicular travel. This rebalancing of the network should facilitate the trend of increasing transit use while encouraging non-auto modes such as walking and cycling to address the needs of the City.

Background: Hamilton is Changing (The Next 20 Years)



PURPOSE

In order to provide the appropriate direction for the transportation system in Hamilton for the next 20 years, proposed changes to the City in the immediate future to 2031 needs to be better understood as these changes will drive the direction of the transportation system and need to be supported by applicable policies.

BACKGROUND

Hamilton is a changing city. Population and employment forecasts from the City of Hamilton's GRIDS indicate that population and employment will increase by 140,000 and 70,000, respectively, to 660,000 and 300,000 by 2031. These numbers are reflective of ~20% and ~30% increases in population and employment, respectively, since 2011. Forecasts to 2041 show an even bigger increase as population and employment are estimated at 776,000 and 351,000, respectively. However, the allocation of these provincial forecasts have not been Council approved. Based on estimates from Ontario's Minister of Finance, the proportion of seniors that contribute to the overall population will increase from ~14% in 2011 to ~24% in 2031 and ~26% in 2041.

To encourage and facilitate the changing needs of the City's residents, the City is forging ahead with new transit initiatives, intensification and diversification in the Downtown and increasing the use of its intermodal facilities to better support the economic development of the City.

The new transit initiatives will result in increased transit services available to the City. From a local perspective, the Province has provided the funding for the implementation of rapid transit along the Main Street / King Street corridors (i.e., the B-Line LRT). HSR is looking to improve its customer experience, address system inefficiencies, keep up with growth and implement the BLAST network. From an inter-regional perspective, Metrolinx has noted in its longer-term plans the provision of new GO stations at West Harbour and Confederation to be

supported by two-way, all-day service between Hamilton and Downtown Toronto.

Current plans to intensify the residential population and diversify the employment opportunities in the Downtown area will increase active transportation opportunities. In this regard, the City is planning to increase the number of residential dwelling units in the Downtown area by 3,900 units by 2031. An additional 13,080 jobs are also expected by 2031 as a result of new employment sectors such as Information Technology, Creative industries and Life Sciences associations.

Companies are also investing in Hamilton's intermodal hubs. Increased use of the Port of Hamilton and the Airport employment area will result in the provision of goods movement linkages, which is directly related to the economic development of the City as a whole. The Port of Hamilton is known as the busiest port on the Great Lakes. In the last five years, major investments have been made at the Port by agri-businesses, resulting in increased employment opportunities. The agri-business is expected to continue to grow, which in turn will positively influence the City's economy as a whole. At the other major intermodal hub in Hamilton, employment opportunities in the airport employment lands are expected to increase by 80,000 by 2031.

KEY MESSAGES

The City of Hamilton is changing, and in a good way. The transportation network plays a very important role in the success of these changes as it will be imperative that there is transportation infrastructure to support new transit initiatives, intensification and diversification in the Downtown and increased use of the Port Lands and Airport Lands. The TMP Review and Update will identify policies and implementation approaches to support and facilitate its success.

PURPOSE

As the Hamilton Transportation Master Plan Review and Update follows the Municipal Class Environmental Assessment process, one of its requirements is to identify a Problem/Opportunity statement. For the purposes of this TMP Review and Update, this is the Vision statement of the project.

BACKGROUND

In 2007, through the TMP process, the following Vision Statement was identified:

“Key objectives of the Transportation Master Plan include reducing dependence on single-occupant vehicles and promoting improved options for walking, cycling and transit, while maintaining and improving the efficiency of trips related to the movement of goods and servicing of employment areas.”

THE PROCESS

To ensure that the Vision Statement would be reflective of current transportation trends and objectives and could be used as a guide towards reviewing and updating the 2007 TMP, the Study Team engaged the public at the start of the study. Attendees at the first round of Public Information Centres were provided with an opportunity to discuss and specify revisions to the 2007 vision.

Attendees at these sessions were provided with the following questions for discussion and input:

- Do you agree with the 2007 Transportation Master Plan Opportunity / Vision Statement?
- What is your Vision Statement for the Transportation Master Plan Review and Update?

KEY MESSAGES

The public expressed that that the Vision should:

- Incorporate accessibility
- Be all encompassing

- Include a holistic approach
- Balance all modes of transportation
- Be comprehensible and attainable
- Provide specific, measurable, achievable, relevant and programmed results

Based on public input, key considerations for the 2015 TMP review and update include:

Active Transportation



Pedestrian / Bicycle Opportunities



Road System Opportunities



Complete Livable Better Streets



Transit Service Opportunities



Goods Movement Opportunities



PURPOSE

One of the key components of this study is to review and update the policies presented in the 2007 TMP. This is done to ensure that they are still relevant as they provide important guidance in the overall planning and operations decision making process for the City, as well as to identify and policy gaps.

BACKGROUND

In the 2007 TMP, policies were developed in 23 major subject areas. These subject areas have been grouped into the themes below:



Air Quality, Climate Change & Environment

- Air quality
- Energy use and greenhouse gas emissions
- Noise

Each of these policy areas were reviewed to assess their relevance to the City of Hamilton in 2015 and to identify any new policies that would be beneficial in guiding the current transportation planning processes.

KEY MESSAGES

From the review of the policies in the 2007 TMP, recommendations for the TMP policies were noted as follows:

- As Hamilton has been successful in implementing many of their 2007 TMP recommendations in many areas, updates to the implementation approaches identified in the 2007 TMP are required.
- Existing policies are still relevant and should be maintained; and,
- New policies should be incorporated into this TMP review and update that include the topics of Health, Accessibility, Emerging Technology, Complete Livable Better Streets and Street Conversions.

PURPOSE

To integrate health into the transportation planning process through the continued provision of healthy alternate choices for transportation mobility. Health should be interwoven into the language of transportation policies through the inclusion of health values and goals and involving Health Services earlier on in the planning stages of transportation projects.

BACKGROUND

In June of 2013, the City of Hamilton's Board of Health provided direction to review the City of Toronto's Health and Equity criteria, as identified in Toronto's Board of Health report titled *Transportation Priorities and Investment for a Healthy Toronto*, for consideration in Hamilton's TMP. The main criteria noted in this report were:

- Promote the health of the whole population through tools such as fuel taxes, high occupancy toll lanes, highway tolls, parking levies, vehicle kilometres travelled fees and vehicle registration taxes.
- Promote health equity through the tool of income tax.

Subsequently in May 2014, the Medical Officers of Health in the GTHA prepared a report titled *Improving Health by Design*. The intent of this report was to note that the current priority health issue for the GTHA is transportation, which is a direct impact of expected increases in population, and to identify opportunities to better address this issue. The key opportunities identified in this report were:

- Fund *The Big Move*
- Strengthen provincial policies to support greater active transportation and public use
- Normalize planning for active transportation and public transit use by municipalities.

Recently, the City of Hamilton and the Hamilton-Wentworth (Public and Catholic) District School Boards endorsed the Hamilton Active & Sustainable School Transportation Charter (October 2015). The goal of the charter is to facilitate a measurable shift in travel behaviour towards active and sustainable school transportation (ASST) through policy change, infrastructure improvements, capacity building and education and awareness.

KEY MESSAGES

Health is important to the City of Hamilton as can be seen through:

- Council direction
- ASST Charter
- Continued improvements to the pedestrian network, bicycle network, trails networks, transit network, etc.
- Public's desire to have Complete Communities, Complete Livable Better Streets, transit connectivity, higher-order transit, travel demand management opportunities and active transportation alternatives.

IMPLEMENTATION

The City of Hamilton is pro-actively addressing Council direction to incorporate health into the transportation planning process. New policies (e.g., A Healthier City, Complete Livable Better Streets, Embracing Emerging Technology) and revisions to existing policies (e.g., Improved transit service, accessible and age-friendly non-auto network, balanced transportation system) will ensure that health is at the forefront in the planning, design and implementation of transportation infrastructure, if not already incorporated. City departments are aware that correspondence with Public Health should be initiated during the early stages of projects and that there are partnership opportunities with Public Health to promote and educate the public on healthy transportation alternatives.

Backgrounder: Connecting Upper and Lower Hamilton

PURPOSE

In order to achieve the goals set out in the Revised Problem/Opportunity (Vision) statement, whereby the TMP should promote accessibility and improve options for walking, cycling and transit, one of the main disconnects in the transportation network is the separation between Upper and Lower Hamilton. As there are a limited number of locations in which residents can travel between Upper and Lower Hamilton, it is necessary to define methods to better connect Upper and Lower Hamilton through the consideration and/or provision of alternative transportation infrastructure delivery methods.

BACKGROUND

The City of Hamilton is located on the western shores of Lake Ontario. The City itself is bisected by the Niagara Escarpment. The base of the Escarpment sits approximately 3km inland from Hamilton Harbour, thereby separating the City into the Upper and Lower City. The Niagara Escarpment is a protected area under the Province of Ontario's Niagara Escarpment Planning and Development Act (1973) and the Niagara Escarpment Commission (NEC) works on behalf of the people of Ontario to preserve the Niagara Escarpment as a continuous natural landscape (www.escarpment.org). As a result, access between the Upper and Lower City is generally limited to the existing road, trail and stair networks that connect the Upper City to the Lower City.

OPPORTUNITIES

Due to the mandate of the NEC to preserve the natural landscape of the Niagara Escarpment, it is necessary to identify alternative transportation infrastructure delivery methods by which to improve the accessibility between the Upper and Lower City. Various

opportunities that were brought forward through public information centres or through meetings with City staff include:

- Consideration for the use of gondolas up the Escarpment, which could provide a better way for pedestrian and cyclists to get up the mountain, especially during the winter months when the trails are not maintained. Potential crossing locations were noted at Upper Wentworth, Upper James or St. Lawrence Park to St. Joseph's.
- Consideration should be given for providing cyclists with a free ride up with mountain on bus routes using Escarpment accesses.
- Consideration for a protected bicycle lane on the Claremont Access and/or other Escarpment crossings.
- Consideration for better connection from the Escarpment to the rail trail and further north to the waterfront.
- Provision of bicycle troughs on all Escarpment stairs.

KEY MESSAGES

Connectivity between the Upper and Lower City is an important concern for the citizens of Hamilton. The TMP document should therefore provide direction for the City to assess the feasibility of alternative transportation infrastructure delivery methods to support a better connected multi-modal City.

IMPLEMENTATION

The City of Hamilton will need to continue to evaluate and assess opportunities to provide improved connectivity between the Upper and Lower City for pedestrians and cyclists. The City should be open to assessing public-private partnership opportunities that may be presented in the future.

PURPOSE

To be aware of, embrace and benefit from the opportunities offered by emerging technologies in the planning, delivery and implementation of transportation services.

BACKGROUND

Rapid advances in vehicle and communication technologies are currently impacting our lifestyle and travel decisions including:

- **Electric vehicles** are being produced for the mass market which assist in the reduction of fuel consumption and emissions (e.g., Tesla Model 3, Nissan Leaf, Chevrolet Volt, etc.).
- **Hybrid vehicles** are a proven cost effective technology that is becoming more popular with the car buying public (e.g., Toyota Prius, Honda Civic, Ford Fusion, Hyundai Sonata, etc.).
- **Driverless cars** (autonomous vehicles) are being tested in North America and Europe. These vehicles have the potential to significantly change how we travel through:
 - Reduced congestion and associated congestion costs
 - Increased mobility for young, old and/or disabled individuals
 - Reduced demand for fuel use, road and parking infrastructure
- **Car sharing, ride sharing and bike sharing** are very popular for residents living and working in areas close to the Downtown, resulting in less vehicle trips and a greater emphasis on active transportation (e.g., Uber, liftshare, Zipcar, Side car, SoBI Hamilton, etc.).
- **Communication technologies, social media and Smartphone Apps** increase the opportunity to travel by offering alternative transportation services which provide increased convenience at an affordable price.

- **Telecommuting / Distance-based Learning / Intelligent Office** technologies and applications are becoming more prevalent. This increases the ability and flexibility to interact for business or school at an affordable cost without having to use transportation infrastructure by reducing trip distances or eliminating trips

KEY MESSAGES

- New draft regulations for ride-hailing and separate licensing fees for personal transportation providers was presented to City Council on April 20, 2016 and a bylaw would go to Council for approval in the fall.
- The Ministry of Transportation of Ontario has approved the testing of automated vehicles traveling along Ontario roadways. Similar work is being undertaken in Michigan, California, etc.
- Major companies are investing in Driverless Vehicle technology (e.g., GM, Ford, Google, Apple, Tesla, etc.).
- The City has been investing in advanced traffic management systems (ATMS) to improve incident management and provide commuter information.

IMPLEMENTATION

The City of Hamilton will need to continue to be pro-active in understanding the different technology trends and responding to it in a manner that will benefit the residents of Hamilton. While specific technologies may not be in the City's best interest for implementation today, the City of Hamilton should undertake studies to determine their feasibility and continue to review and assess their applicability to the overall transportation system in the City of Hamilton in order to be current and to continue to be a top-tier city within the Province of Ontario, offering numerous transportation possibilities and opportunities for its residents.

Backgrounder: Complete Livable Better Streets



PURPOSE

To identify and develop a framework to implement Complete Livable Better Streets that recognizes both the transportation and place-making function of our roads.

BACKGROUND

Complete Streets is an approach to street design that is rapidly gaining popularity across North America. It promotes accommodation of all users, regardless of age, ability or mode of transportation.

This shift to Complete Streets addresses some of the negative impacts of traditional street design, including:

- **Public health impacts** due to an over reliance on private automobiles and reduced walking/cycling opportunities;
- **Environmental impacts** associated with urban storm water pollution and heavy use of private automobiles rather than alternative modes of transit; and
- **Safety concerns** related to a poor public realm and lack of space for pedestrians, cyclists and people with disabilities.

Recognizing these challenges, Complete Streets policies and guidelines have been adopted by jurisdictions across Canada including York Region (2013), Ottawa (2013), Edmonton (2013), Ajax (2013), Calgary (2011) and Waterloo (2010 – updated 2013).

Advantages of Complete Streets include:

- A more efficient transportation network focusing on the movement of people and goods rather than private vehicles;
- Appropriately allocating space for all users of the street;
- Improved network resilience;
- An enhanced public realm;

- Boulevard and roadway space allocated for sustainable infrastructure; and
- Improved public health due to a greater emphasis on walking and cycling.

Hamilton's version of Complete Streets is called Complete Livable Better Streets. It recognizes that no one-size fits all approach is appropriate as different streets have different priorities. Complete Better Livable Streets recognizes that the primary function of a road may range from goods movement to local access to higher order rapid transit; however, within all of these contexts a sensitive approach to balancing the needs of multiple users can be taken.

KEY MESSAGES/THEMES

The Transportation Master Plan (TMP) includes a family of Complete Better Livable street typologies, associated preferred cross sections and design elements, and policy to address:

- A Network of Complete Livable Better Streets;
- Planning, Design, Maintenance and Operations;
- Transitions from one type of street to another;
- Access;
- Green Infrastructure;
- Utilities;
- Public Consultation; and
- Implementation.

NEXT STEPS

To implement the TMP recommendations the City of Hamilton should (1) develop detailed design guidelines; (2) realize a new Complete Livable Better Streets decision making process; (3) incorporate TMP policies into other City manuals, rules, regulations and programs; (4) create an advisory council to serve as a resource and collaborative partner for the City; and (5) monitor implementation.

Backgrounder: Two-Way Street Conversions



PURPOSE

To provide a prioritization strategy for the conversion of one-way street operations to two-way operations within Lower Hamilton with the intent of revitalizing the Downtown's prosperity and livability.

BACKGROUND

In the 1940s to 1960s, concerns with traffic operations in the City's Downtown resulted in the conversion of several two-way streets to one-way operations. While vehicular flows through the City's Downtown core may have improved, business owners along these converted streets observed a steep decline in business.

As the City's Downtown has recently been undergoing intensification and diversification and the citizens have noted concerns with the one-way street operations being an encouragement for flow-through traffic, the conversion of the City's complex one-way street network back to two-way traffic operations has been a recent hot topic of discussion with City Council.

In 2008, the Downtown Transportation Master Plan identified eighteen streets to be converted from one-way to two-way, with ten of these conversions already completed. Further discussions between City Staff and City Council have resulted in an additional eighteen potential street conversion opportunities.

Due to the extensive list of conversion locations and the technical analysis that would be required to support any conversion opportunities, City Council approved the recommendation that the TMP would define a process to identify conversion priorities, benefits, impacts and costs related to the conversion of one-way to two-way streets.

KEY MESSAGES

The following considerations for street conversions were identified through Best Practice review and discussion with City staff:

- Local street conversions should be addressed through the community planning process, not the TMP.
- Conversions of streets should ideally occur in pairs.
- A review of the problem should occur (e.g., public request, technical requirement, etc.) prior to initiating the conversion process.
- The assessment of street conversions need to take into consideration policy directives, community considerations and transportation considerations.
- Street conversion decisions need to involve City stakeholders (i.e., traffic, transit, active transportation, utilities, finance, etc.).
- The functionality of the road needs to be maintained.
- The conversion process should include a pre- and post-implementation assessment of the conversion to be used as feedback or input into other similar projects.

IMPLEMENTATION

For the purposes of the TMP, a Street Conversion toolbox will be identified to enable the prioritization process based on key messages noted above.

Due to the impending implementation of the LRT through Downtown Hamilton, a prioritization of street conversions in Hamilton's Lower City will not be available until the Fall of 2016, pending the assessment of LRT impacts.

PURPOSE

To provide a road network system that will contribute to a balanced transportation network by providing alternate mode and route choices and connections for local, intra-municipal and inter-regional travel while achieving an acceptable operating level of service. The intent of the road network is to maximize existing roadway infrastructure to accommodate planned population and employment growth to 2031 and beyond.

BACKGROUND

The 2007 TMP identified a list of road network infrastructure requirements to 2031. These road recommendations were premised on the City's EMME model, a high-level (macroscopic) strategic transportation planning model. In the 2007 TMP, the existing conditions EMME model was representative of the City's 2006 road network and the trip travel patterns were reflective of 2001 population and employment figures from the *Transportation Tomorrow Survey (TTS)*. The future conditions EMME model was developed for 2031; however, it assumed a high decrease (20%) in auto drivers.

OPPORTUNITIES

This review and update of the 2007 TMP provided the opportunity to update the City's EMME model to reflect current travel trends and to develop a more conservative future conditions model. In this regard, one of the key tasks of this study has been to:

- Update the 2007 TMP EMME model to reflect 2011 conditions, which is representative of the most current data available to the City
- Revisit the 2031 EMME model to confirm 2031 road infrastructure requirements noted in the 2007 TMP and to identify any further improvements.

KEY MESSAGES

Results from the EMME model indicated the following:

- Under existing conditions, congestion is experienced on the Provincial facilities, West Hamilton and the westerly escarpment crossings.
- Even with the implementation of planned road and transit improvements by 2031, commuter congestion is still observed on the Provincial facilities, Downtown corridors, West Hamilton, westerly escarpment crossings, Municipal freeways and York Boulevard/Plains Road.

These results indicate that there is a need to develop system alternatives to address the ongoing congestion experienced in 2031.

IMPLEMENTATION

In order to provide a balanced transportation network through a road network that provides acceptable operating levels of service, the City will need to ensure that they implement the road infrastructure recommendations identified in the 2007 TMP as well as the additional system alternatives put forth by this review and update. These system alternatives include:

- Widening of Hwy 403
- Localized improvements, including a new link between the RHVP and the airport, and providing multi-mode connectivity between the Upper and Lower City
- Consideration of a High-Occupancy Vehicle (HOV) lane on the LINC and RHVP with future consideration for High-Occupancy Toll (HOT) lanes

The City also needs to have continuing dialogue with their Provincial partners to ensure that the City's needs are met.

Backgrounder: Improved Transit Service and Network



PURPOSE

To efficiently provide safe, customer-focused transit services for all.

BACKGROUND

After the completion of the 2007 TMP, one of its main directives was to focus on active transportation alternatives and transportation demand management prior to making investments in road expansions. Recently, both the Municipal and Provincial governments have provided direction to reduce single-occupancy automobile use complemented with significant improvements to transit service.

The City has been actively pursuing opportunities to improve and expand their transit service and network and identified funding requirements and strategies to implement such improvements. In 2013, Council approved the recommendations put forward in *Rapid Ready – Expanding Mobility Choices in Hamilton*, one of which included a submission to Metrolinx regarding funding for the B-Line LRT.

While the ultimate goal is for Hamilton to become a rapid transit city, there is still an intrinsic need to improve the network and services associated with the existing local system. These strategies were put forward in a *Ten Year (2015 to 2024) Local Transit Strategy* report with the intent of addressing existing system deficiencies.

In May 2015, the Province of Ontario announced that it would provide up to \$1B to cover the capital costs associated with the building of the B-Line.

OPPORTUNITIES

As part of the Ten-Year (2015 to 2024) Local Transit Strategy, the following opportunities were identified to build on the existing transit network and service:

- Continue to refine the customer experience;
- Address current system deficiencies;

- Revise and apply service standards;
- Continue to add capacity until ridership exceeds system capacity; and,
- Develop the rapid transit network (BLAST).

IMPLEMENTATION

To achieve these goals, numerous actions were identified for implementation within the 10-year timeframe and are noted as follows:

Customer Experience:

- Improve customer information, amenities and services
- Terminal development and improvements
- Promote ridership through branding

System Efficiencies:

- Review capacity deficiencies, scheduling issues and under-performing routes
- Acquire additional buses and operators
- Establish a new Maintenance and Storage Facility

Service Standards:

- Use newly approved updated standards to assess service levels, address gaps and grow service

Service Capacity:

- Expand coverage in growth areas
- Expand frequency and span
- Improve connectivity
- Implement transit priority measures

BLAST Network:

- Develop BLAST network
 - The next two priorities are the A-Line and S-Line

PURPOSE

To provide a pedestrian and bicycle network that allows for communities to be well integrated with the larger transportation network and will encourage transition from a car-focussed society to alternate modes of transportation, encourage a healthy lifestyle and increase accessible alternatives for Hamilton's aging society.

BACKGROUND

In the 2007 TMP, a set of guiding principles was established that focused on seven key objectives. One of these objectives was the need to *offer a choice of integrated travel modes, emphasizing active transportation (walking and cycling), public transit and carpooling.*

Subsequent to the approval of the 2007 TMP, the City prepared a new Cycling Master Plan entitled *Shifting Gears*. This document was approved by Council in 2009 and is currently being used to guide the development and operation of cycling infrastructure within Hamilton. The focus of this document was to identify new on-road facilities that would connect to existing and/or planned off-road facilities to be used by commuter, utilitarian and recreational cyclists.

A Pedestrian Mobility Plan was also prepared in response to a recommendation from the 2007 TMP. The Plan was approved by Council in 2013 and focused on *rebalancing pedestrian and vehicular mobility on Hamilton's streets by providing for pedestrian needs, while accommodating vehicular traffic within the streetscape.*

In 2015, the City initiated a review and update of their Recreational Trails Master Plan. *The goal of the Master Plan is to guide the development of a connected, comprehensive, accessible and sustainable multi-use trails network throughout the City of Hamilton and to surrounding communities to improve health and wellness for pedestrians, cyclists and trail users which meets both recreational and commuter needs.* It is the intent that the trails would, if not already, connect

parks, recreational centres, schools, commercial sites, cultural and institutional centres, transit facilities and numerous residential neighbourhoods.

These three documents provide direction towards achieving a well-connected, accessible, age-friendly non-auto network.

OPPORTUNITIES

The City has been pro-active in developing an integrated pedestrian and bicycle network to enhance the user experience and encourage the use of alternate modes for transportation, other than the automobile. This TMP review and update will support each of the above noted plans and any noted policy and network recommendations.

KEY MESSAGES

Discussions with the general public and City Staff have indicated the following:

- Pedestrian network connectivity is hindered by the lack of sidewalks on both sides of the street in industrial parks and school zones.
- Streets need to be (re)developed following the Complete Livable Better Street concept and "Routine Accommodation".
- Continue to enhance the connectivity of the cycling network by eliminating the gaps and addressing areas of concern, such as the escarpment crossings.

IMPLEMENTATION

The TMP Review and Update will support the policies and recommendations from each of the noted plans in order to ensure that the built environment is supportive of increased mobility options for citizens of all ages and abilities.

PURPOSE

To provide a goods movement network that will allow for the efficient movement of goods, whether by roads, highways, air, rail, marine and pipeline, etc., within the City or to/from inter-regional destinations in order to facilitate the economic success of the City as a whole.

BACKGROUND

Economic development and goods movements are intrinsically linked together. The economic success of a city is dependent on its ability to move goods efficiently within and through the city. As a result, the effectiveness of the goods movement network in providing connectivity between origins and destinations within the City and providing direct connections between inter-regional travel corridors and the City's inter-modal terminals is important.

In 2005, the City of Hamilton prepared a Goods Movement Study that led to three major recommendations: to establish on-going private-public collaboration, to promote economic development initiatives and to carry out transportation improvements. The noted transportation improvements were carried forward as input into the development of the 2007 TMP.

In the 2007 TMP, one of its objectives was noted to be the *support of local businesses and the community's economic development*. To this end, the 2007 TMP incorporated specific recommendations from the Goods Movement Study associated with improvements to the transportation system that included: resolving freight bottlenecks, re-examining truck routes within the City, establishing policies to accommodate 24-hour freight operations at inter-modal terminals and supporting year-round operations proposed by the Hamilton Port Authority.

To address one of the recommendations from the 2007 TMP, a Truck Route Master Plan was

prepared in 2010 that maintained the City's permissive truck route system.

OPPORTUNITIES

This review and update of the 2007 TMP provided the opportunity to identify policy revisions for the goods movement network to ensure the efficient transport of goods through and around the City and to enhance the trucking experience for other road users.

KEY MESSAGES

Through the review and update of the TMP, the intent is:

- To maintain the existing comprehensive permissive goods movement network in support of the City's prosperity and sustainable economy;
- To highlight truck network issues and gaps to be addressed in subsequent studies;
- To maintain and upkeep the City's existing intermodal hubs; and,
- To maintain ongoing dialogue between the City, residential and commercial communities, other Municipalities, senior governments and goods movement stakeholders to ensure that their needs and concerns of all parties have been taken into consideration.

IMPLEMENTATION

- Update the 2005 Goods Movement Strategy
- Update the 2010 Truck Route Master Plan
- Obtain GPS truck data, if possible
- Ensure that goods movement vehicles are provided with alternate routes when implementing a restriction on a road (e.g., LRT implementation, Complete Livable Better Street design, residential areas, etc.) and for redundancy purposes
- Support Provincial initiatives

PURPOSE

The success of the TMP Review and Update is premised on its ability to meet the goals identified as part of the Problem/Opportunity (Vision) statement in the early stages of the study. The ability to achieve a balanced transportation system lies in the policies developed for each mode of transportation, their compatibility and support for each other and the associated implementation strategy.

BACKGROUND

Through the TMP process, the following revised Problem/Opportunity (Vision) statement was identified for the TMP review and update.

“The key objective of the Transportation Master Plan is to provide a comprehensive and attainable transportation blueprint for Hamilton as a whole that balances all modes of transportation to become a healthier city. The success of the Plan will be based on specific, measurable, achievable, relevant and programmed results.”

In order to meet the objective of the Problem/Opportunity (Vision) statement, the goals that the TMP Review and Update would hope to meet were noted as follows:

- Reduce dependence on single occupant vehicles;
- Promote accessibility;
- Improve options for walking, cycling and transit; and,
- Maintain and improve the efficiency of goods movement.

OPPORTUNITIES

The 2007 TMP prepared 23 policy papers that covered many aspects of the transportation system and was approved by Council. The

success of the TMP Review and Update would result from the use of these policy papers as a base while identifying new policies that would address the current trends/shifts in transportation planning and transportation infrastructure and improving/revising the implementation approach for existing policies to meet the requirements of the revised problem / opportunity statement.

KEY MESSAGES

A balanced transportation system is one where all modes of travel are taken into consideration and each of their priorities are implemented in a way that best supports the system. While the ideal situation is one where all modes can achieve their goals, one must be aware that there are more than 20 travel modes that affect the daily lives of citizens. As a result, it must be understood that a balanced transportation system, where all modes are equally considered and addressed in the planning and implementation of transportation infrastructure, is actually a system that understands that there are numerous modes of travel that are occurring and that the recommendation being put forward best supports the main functionality of the transportation infrastructure being reviewed and meets the goals for some but not all of the modes of travel.

IMPLEMENTATION

With any transportation-related project, the City will take into consideration the transportation system as a whole and identify a solution that best meets the guiding policies prepared as part of the TMP Review and Update to the best of its ability.

PURPOSE

In response to the direction provided by the revised Problem/Opportunity (Vision) statement and the new and revised policies being recommended as part of the TMP review and update, the implementation strategy identifies key action items to achieve the goals laid out in the policies.

IMPLEMENTATION

Eight pre-dominant themes identified in the TMP and their associated implementation strategies are further described as follows:

Changing Communities by Design:

- Support the development of Complete Communities that include a road network that connects the community, maximizes active transportation and supports local transit service.
- Support Complete Livable Better Street design for new roads and road reconstruction projects.

Moving TDM to the Next Level:

- Increase the TDM mandate and provide adequate staffing to embrace shared community trends, pilot projects to reduce auto use and emerging technologies.

Active Transportation and Healthy Communities:

- Assign a high priority to resolving missing links and gaps within the pedestrian and cycling networks.
- Incorporate Public Health into the transportation planning process and consider joint pilot projects to promote healthy living and travel.

Transit Planning to Transit Implementation:

- Implementation of the 10-Year Local Transit Strategy.

- Active participation in the planning, design and construction of the LRT.
- Partnering with Metrolinx to address road and traffic flow issues resulting from the LRT in the Lower City.

Accessible and Age-Friendly Transportation Alternatives:

- Support alternative means of travel between Upper and Lower Hamilton.
- Support the provision of wider sidewalks in the Downtown area, where possible, to promote safety and accessibility.
- Support emerging technologies that provide alternative modes of travel.

Be Bold with Provincial and Regional Partners:

- Engage the Ministry of Transportation and Regional stakeholders to address Provincial transportation issues that have an impact on existing and future travel within and through the City of Hamilton and to neighbouring areas.

Sustainable Economy:

- Develop the Port of Hamilton and the Hamilton International Airport as dominant intermodal hubs.
- Update the 2005 Goods Movement Strategy and the 2010 Truck Route Master Plan.
- Ensure that truck routes are key considerations as part of Complete Livable Better Street designs.

Healthy Levels of Service:

- Prioritize and implement transportation infrastructure projects that will provide a healthy level of service for all users.
- Identify longer-term transportation infrastructure improvements in order to initiate the land acquisition process.
- Upkeep and maintain the City's EMME model to ensure it is reflective of current and future City initiatives.

PURPOSE

As the transportation systems serving the Greater Toronto Hamilton Area (GTHA) become more integrated with regional transit, rapid transit, emerging technologies and communications, it is important to establish a monitoring program that provides technical and administrative support for measuring the success and providing accountability for planning initiatives, decision-making and implementation strategies.

BACKGROUND

A transportation monitoring program needs to focus on actions, outcomes and impacts of influencing factors, including:

Actions:

- Implementation of plans and policies
- Transportation services provided
- Building of transportation infrastructure
- Assessing pilot projects and special/major events
- Undertaking before and after studies

Outcomes:

- Transit ridership
- Bike share use, recreational trail use, traffic volumes
- Congestion levels and resulting environmental issues (i.e., emissions, air quality, etc.)
- Improving reliability of travel for motorists and goods movement
- Reducing impacts on the environment
- Contributing to increased overall quality of life in Hamilton

Influencing Factors:

- Changes to economic growth
- Land use planning
- Demographics
- Public attitudes
- Funding
- Legislation
- Emerging technologies

OPPORTUNITIES

Take advantage of Big Data that is more dynamic which can contribute to creating smarter cities.

KEY MESSAGE / IMPLEMENTATION

A successful monitoring plan requires both staff and resources to undertake the necessary Data Collection and Surveys as well as preparing the annual monitoring reports that track both the development growth and transportation service and capital infrastructure requirements.

PURPOSE

A Program Funding strategy provides the basis for implementing the planned transportation capital infrastructure requirements to address the future growth and transportation expansion within the City of Hamilton.

BACKGROUND

The City has a thorough understanding of the existing transportation infrastructure assets as well as Program Funding Strategy to implement the future transportation projects in a timely manner. The current Program Funding Strategy is based on the transportation infrastructure needs identified in the Transportation Master Plan (2007) and supporting Secondary Plans that have been completed subsequently and are addressed through:

- Capital/Operating Budget process
- Development Charges

KEY MESSAGES/ IMPLEMENTATION

In addition to following the City Budget process and the 2014 Development Charges program, it is recommended that the City continue to focus on:

- Exploring methods to reduce transportation infrastructure and service costs by **maximizing the existing system capacity**.
- Considering partnerships with the private sector for **the implementation of alternative modes**.
- Provide a more equitable balance between taxes and user fees such as **High Occupancy Toll lanes (HOT lanes)**.

- Developing new funding opportunities from Federal and Provincial governments through opportunities such as **Transportation Subsidy Programs, Infrastructure Transfers, etc.**

CITY GROWTH-RELATED TRANSPORTATION COST ESTIMATES (TO 2031):

Growth-related capital cost investments for transportation infrastructure improvements to 2031 are upwards of \$1B. The road costs and annual transit expansion programs have been approved by Council.

Road Investment (\$728M):

- New roads
- Road widenings
- Road utilizations
- Intersections/structures/interchanges
- Sidewalks
- Bicycle lanes
- Road furniture
- Landscaping

Transit Investment (\$335M):

- 10-year transit strategy improvements (unfunded)
- Annual transit expansion programs
 - Shelter expansion
 - Enhanced bus stops and shelters
 - Transit priority measures

Recreational Trails (\$4.8M)

PROVINCIALY FUNDED TRANSIT INITIATIVES:

The Province is also investing \$1.0B in the City of Hamilton to fund the LRT Project from McMaster University to the Queenston Traffic Circle.