



Background Report:  
**Goods Movement Review**



CITY OF HAMILTON  
**TRANSPORTATION MASTER PLAN**  
REVIEW AND UPDATE



# City of Hamilton Transportation Master Plan Update

## Goods Movement Review

11 September 2015

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## **1. INTRODUCTION**

### **1.1 Purpose**

This paper documents a review of goods movement issues, conditions and opportunities, conducted to support and inform the Hamilton Transportation Master Plan (TMP) Review and Update. It makes recommendations regarding the TMP policies and other topics described below.

### **1.2 Approach**

The document is based upon a review of available policies and studies from the City of Hamilton and other relevant agencies, as well as selected practices and studies elsewhere, discussions with City staff, and detailed interviews with the City of Hamilton Economic Development Division, the Hamilton Port Authority and the Hamilton International Airport. *Note that additional inputs may be derived from the upcoming Goods Movement Stakeholder Meeting, planned for 19 October 2015.*

### **1.3 Organization of paper**

The paper is organized in seven chapters, as follows:

- Introduction (this chapter).
- Statement of needs and issues, from which three topics (themes) are derived (Chapter 2).
- A review of the relevant City of Hamilton and other policies (Chapter 3).
- Topic 1: Proposed updates to the TMP goods movement and related policies (Chapter 4).
- Topic 2: Review of the truck route network (Chapter 5).
- Topic 3: Integration of goods movement into Complete Streets (Chapter 6).
- Summary of recommendations (Chapter 7).

### **1.4 Sources**

Individual sources are cited in the document. All sources, unless noted otherwise, are available to the public.

### **1.5 Acknowledgements**

Appreciation is extended to the City of Hamilton project team, in particular Steve Molloy and Lorissa Skrypniak, and to Sue Rimac of the City of Hamilton Economic Development Division, Lincoln Garraway of the Hamilton International Airport and Larissa Fenn of the Hamilton Port Authority. All of these individuals contributed their time and ideas to discussing and elaborating goods movement issues and opportunities. Comments were also provided over the course of the Project Team meetings of 25 November 2014 and 23 April 2015. This paper was prepared by David Kriger of David Kriger Consultants Inc. The views expressed in this paper are those of the consultant alone.

## 2. STATEMENT OF NEEDS AND ISSUES

### 2.1 Context

The aforementioned meetings with the City and the three interviews yielded several issues and opportunities for consideration. A synopsis of these issues follows:

- In addition to the review of the 2007 Transportation Master Plan, which is the focus of this study, there is a need to review and consider the need for updating two other goods movement studies: the 2005 Hamilton Goods Movement Study and the 2010 Truck Route Master Plan.
- Economic development aspirations and goods movement policies are tied closely together. While other TMPs in the GTHA and elsewhere have made this connection generally, the linkage is explicit in the TMP, the Official Plans and other policies. Economic development and the supporting need for goods movement feature prominently in statements by senior City staff and by industry leaders.<sup>1</sup>
- Hamilton's location in the Greater Toronto and Hamilton Area (GTHA), along with its intermodal terminals, logistics base, land and housing prices, proximity to the US border and the Greater Toronto Area (GTA), quality of life and supply of skilled labour make it an attractive location for workers and their families. An example was provided of a major food products manufacturer. However, although it is not as pervasive as in the GTA, congestion on the 400-series highways and the Queen Elizabeth Way is becoming a concern as it comes closer to Hamilton.
- The Port of Hamilton (Hamilton Port Authority – HPA) and Hamilton International Airport (HIA) are key intermodal hubs that serve Hamilton and the larger surrounding region. The lands surrounding both sites are seeing employment growth in new economic sectors. In the case of the Port, this represents the addition of diverse economic sectors to its existing industrial base in steel, agriculture and agricultural products. In the case of the Airport, the Airport Employment Growth District ties into the Airport's 24/7 operations that support courier and express delivery services as well as "end-of-runway" businesses that operate from the new integrated cargo facility, all of which positions the Airport to take advantage of the rapid growth in express delivery.<sup>2</sup>
- Both the HPA and the HIA, and other City staff, noted the need for a mid-peninsula connection such as the Niagara – GTA that provides a bypass around Hamilton and provides Hamilton a better connection with its neighbouring regions, south-central Ontario and the US border. Border crossings could be made simpler through the use of common pick-up / drop-off regulations (i.e., Canadian firms crossing the border

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<sup>1</sup> For example, see *Ignore Goods Movement and the Business Will Go Elsewhere: Transportation Panel*, [Bay Observer](#), 19 June 2015, reporting on the main message from a panel of industry, port, goods movement and City executives at the Bay Area Economic Summit.

<sup>2</sup> 'End-of-runway' describes businesses that are located at the airport and which can use courier services – notably Cargojet, which uses HIA as a national hub – to ship goods on very short notice to customers across the country. For example, a medical equipment supplier might receive an order from a customer in Vancouver, and it would be delivered by the next morning. In essence, this is business-to-business e-commerce, on a national scale. The new integrated cargo facility provides a space for and groups businesses that otherwise would be too small to have their own individual facility. Source: Lincoln Garraway, HIA, discussion with David Kriger, 20 August 2015.

can only proceed to or from their US origin/destination; US firms can have interim stops in Canada), and automated border processing procedures are now being tested.<sup>3</sup>

- Landside goods movement access to the Port and the Airport is critical. The HPA reports that of the order of 6,000 railcars moves in and out of the Port each year; however, a significant amount of goods is still shipped by truck. Anecdotally, for example, the two grain terminals at the HPA accept 200-300 trucks per day during the high season (September). Ontario-grown corn, wheat and soybeans feature prominently in agricultural products that are exported by vessel, and fertilizer is a key import.<sup>4</sup> Access to the Airport was improved by the extension of Highway 6 to HIA; however, a key need now is to provide an improved truck access between the Airport and the ORC business park lands to the northeast. In the meantime, an improved truck route network in this area also is needed.
- City staff also identified the need to review Lower City truck routes, especially in light of residential and business concerns regarding the movement of heavy trucks through the downtown and adjoining areas.
- The City has an interest in developing a 'Made in Hamilton' approach to Complete Streets. There is a need to examine goods movement in this context. As well, there is a need to examine how goods movement would function in the planned LRT corridors. The City also is interested in promoting sustainability in all modes, including goods movement.

## 2.2 Implications

The aforementioned issues and opportunities can be distilled into three topics. These are:

- Topic 1: Update to TMP Goods Movement Policy. The City Project Team has noted that this should be an update, not a rewrite. The Team further asked that the 2005 Goods Movement Study be examined in this context as well.
- Topic 2: Review of Truck Route Network. The City Project Team has noted that this is not a full-blown reworking of the existing truck route network; rather, it is a high-level review of gaps and needs, to address specific issues and, possibly, point the City to the need to update its 2010 Truck Route Master Plan.
- Topic 3: Integration of Goods Movement into Complete Streets – for example, examining the factors that must be considered to make this happen, and how this could be applied specifically to a 'Made in Hamilton' approach.

These topics are examined in chapters 4, 5 and 6, respectively. Each chapter contains recommendations, which are summarized together in Chapter 7.

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<sup>3</sup> Discussion with Sue Rimac, Economic Development, 18 August 2015.

<sup>4</sup> Information provided by Larrisa Fenn, HPA, to David Kriger, 1 September 2015.

### 3. POLICY CONTEXT

This chapter reviews and synopsis the key policies, regulations and responsibilities that govern the multi-modal goods movement system and its use in and around the City.

#### 3.1 Rural and Urban Official Plans

The City of Hamilton has two Official Plans (OPs): the Urban Hamilton Official Plan applies to the lands within the urban areas of the City, and the Rural Hamilton Official Plan applies to the lands within the rural area of the City. Council adopted the Rural OP in 2006 and, following approval by the Ministry of Municipal Affairs and Housing (MMAH), it has been in effect since March 2012. The Urban OP was adopted by Council in 2009 and, following approval by the MMAH, it has been in effect since August 2013, except for certain sections that are still under appeal by the Ontario Municipal Board.

##### 3.1.1 Goods Movement Policies and Directions

A review of the “Parent Policies” for the two OPs finds that the goods movement policies, designation and definitions are well defined, and are connected to both land use and economic development aspirations:

- The OPs explicitly recognize the linkage of goods movement with and in support of the City’s economic wellbeing. A defining principle for both OPs is a “balanced” transportation network that, in addition to offering modal choices for the movement of people, recognizes the “importance of goods movement to [the] local economy.” Hamilton’s goods movement network will be “maintained, protected and enhanced to support Hamilton’s economic development strategy.”
- The OPs promote a strong economy for Hamilton. This includes the city’s role as an economic and goods movement gateway. The gateway builds upon Hamilton’s location in south-central Ontario, its economic base and its intermodal facilities. The City will partner with other governments, institutions, community groups and the private sector to promote the gateway, among other initiatives.
- The OPs identify an “integrated” multi-modal transportation network to serve the movement of both people and goods. This includes facilities and services that are under the City’s jurisdiction, such as roads, transit and the active transportation infrastructure, and facilities that are under other jurisdictions – that is, the Provincial highway system, railways, the Port of Hamilton and Hamilton International Airport. The function of the integrated transportation network and an overarching objective of the OPs is to “safely and efficiently move people and goods seamlessly and effectively, and serve as an economic enabler.” The Rural OP also notes the need to facilitate the safe and efficient movement of farm goods, vehicles and equipment. The integrated network also promotes the safe and efficient movement of goods and services between Hamilton and neighbouring municipalities and regions using a variety of modal options. The network also allows for the inclusion of future components, including the potential Niagara to GTA corridor.
- The OPs note that options to reduce automobile dependence also benefit the movement of goods. These options include the provision of attractive transit, walking and cycling alternatives to driving, a continuous grid road network that allows passengers on all modes and goods and services vehicles to move efficiently, and

secondary plans and major transit generators that are designed to promote alternatives to the automobile. New development is to be designed and located so as to facilitate the efficient movement of goods, where feasible.

- The OPs note their intent to promote inter-modal transfer of goods and the development of inter-modal transfer facilities at appropriate locations. The full utilization of the airport and port for the movement of goods is encouraged. To this end, the OPs promote the use of the airport on a 24/7 basis for moving goods; and the City will provide road access and encourage the provision of adequate rail service to the port.
- New significant goods-generating land uses will be directed to designated Employment Areas and to Commercial and Mixed Use areas. Employment Areas will be planned and designed to maximize access to goods movement corridors, which include the highway network, the port and the airport.

### **3.1.2 Airport Employment Growth District**

The Secondary Plans component of the Urban OP includes a plan for the Airport Employment Growth District (AEGD). This major business park development is intended to be integrated with and complement the existing airport. Planned uses include prestige industrial, light industrial, airport-related business and institutional development. The AEGD is seen as an important component of the City's promotion of itself as an economic and goods movement gateway.

Goods movement connectivity features strongly in the AEGD Secondary Plan. In terms of goods movement, the AEGD's transportation network is to be designed so as to accommodate innovations in goods / people movement, such as changes in truck sizes, while at the same time protecting adjacent residential areas from truck traffic. The secondary plan also calls for the AEGD to have goods movement connections to the Hamilton Port area, provide efficient movement of goods with minimum conflict with other modes of travel, provide convenient arterial road connections to the 400-series highways, provide convenient connections with the airport, and be integrated with future provincial transportation initiatives such as the Niagara to GTA corridor.

## **3.2 2007 Hamilton Transportation Master Plan**

### **3.2.1 Introduction**

The 2007 *Hamilton Transportation Master Plan* (TMP) is the subject of the current TMP Update. This section focuses on two aspects that are related to goods movement, namely, the goods movement and economic development policies.

### **3.2.2 Goods Movement Policies**

The 2007 TMP's sixth objective notes the need for the transportation system to support local businesses and the community's economic development. In achieving this objective, Principle 6a states that "the efficiency of goods movement to, from and within the City should be maximized."<sup>5</sup> The tie between goods movement and the City's economy is further established through a policy that "[promotes] a strong and vibrant economy" through the "[identification] and [protection] of a strategic goods movement network."

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<sup>5</sup> Chapter 2, *Hamilton Transportation Master Plan*, City of Hamilton, May 2007.

Specific recommendations supported the implementation of improvements to the transportation system. First identified in the City's 2005 *Goods Movement Study*, these were:<sup>6</sup>

- Resolve freight bottlenecks through short term measures such as improved signage for truck routes to and from major industrial areas, to and from the Port and to and from the Airport.
- Re-examine specifications for truck routes within the City to ensure that clearances are appropriate for traffic entering and leaving the Port area in particular. This would involve more routine operation of oversized loads from the Port to eastbound and westbound destinations. The City subsequently conducted a truck route study, which is discussed in Chapter 5.
- Establish policies to accommodate 24-hour freight operations in the Port, Airport, and rail freight facilities.
- Support Hamilton Port Authority initiatives concerning establishment of twelve-month (year round) operations, which involves eliminating or minimizing the three-month closure of the Burlington Lift Bridge each winter for maintenance.

The goods movement component also noted three major infrastructure elements of the TMP's Road Network Strategy, namely:

- Initiating Phases 3 and 4 of the environmental assessment process for an east-west link connecting the Highway 6 extension from the Airport to the Red Hill Valley Corridor or east of the City.
- Working with MTO to address congestion on Highway 403, between the Queen Elizabeth Way and Highway 6 North.
- In conjunction with the Province, evaluating the need and justification for a Niagara-to-GTA corridor, including alternatives that would connect Hamilton directly to Highway 401.<sup>7</sup>

Finally, the need for operational improvements to Burlington Street was noted, in order to improve intersection geometrics and, over time, consolidate the number of rail crossings as a means of minimizing disruptions to the flow of traffic.

### 3.2.3 Supporting Policies

A series of policy papers supported the TMP. These were approved in principle by City Council in November 2004. There were four goods movement policies:<sup>8</sup>

1. Improve dialogue with the goods movement industry and other stakeholders to elevate the issue of goods movement in Hamilton. This was to be implemented through a regular forum or communications process among public- and private-sector stakeholders in the goods movement community; ensuring the City's participation in the Provincial Goods Movement Advisory Council; work with the

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<sup>6</sup> Chapter 7, *Hamilton Transportation Master Plan*, City of Hamilton, May 2007. See also Section 3.3 for a discussion of the 2005 *Goods Movement Study*.

<sup>7</sup> See also Sections 3.5.1 and 3.7.1.

<sup>8</sup> *Development of Policy Papers for Phase Two of the Transportation Master Plan for the City of Hamilton, Summary of Proposed Recommended Policies, Final Report*, City of Hamilton, January 2005.

- private sector to gather and share data on goods movement flows and trips; and work with the rail, truck and marine industries to identify opportunities for new intermodal facilities.
2. Maintain, protect and enhance the existing goods movement network in Hamilton to support the City's economic development strategy, by: refining the City's Strategic Goods Movement Network by identifying future infrastructure needs (which are described in the preceding section); investigate ways to improve modal integration; continue to adopt a passive approach to truck designations and consider truck route restrictions on local streets only in special circumstances; review the truck route network to identify missing links and address geometric bottlenecks; ensure that truck needs are taken into account in environmental assessments and area transportation master plans; and refine and expand the City's traffic count program to further detail truck classifications.
  3. Clearly define land uses adjacent to transportation corridors in order to situate goods-generating uses close to the transportation system, so as to minimize intrusion through other uses (such as residential areas). This was to be implemented through the Official Plan, secondary plans and zoning by-laws; identifying employment lands that would allow for the growth of goods-generating businesses; maintain the employment designations in place for the North Glanbrook Industrial and Flamborough business parks; and ensure that goods movement is explicitly accounted for in the planning and design of new developments.
  4. Maximize the efficiency of the existing goods movement network by regulating on-street and off-street loading. This was to be implemented by requiring all new commercial and industrial developments greater than a certain size (450 m<sup>2</sup> non-residential or 30 units residential) to have off-street loading facilities, appropriately sized; and increased enforcement of on-street loading zones to ensure appropriate use.

The four policies in turn resulted from a background policy paper that examined goods movement in Hamilton. The paper reviewed existing City policies, supporting information on goods movement and trends, and practices in other jurisdictions (MTO's Central Ontario Smart Growth Plan and Peel Region's goods movement strategy, both of which had just been completed). The paper examined five types of general issues: communication and coordination, planning, operations, regulations and infrastructure. All of this was used to derive the four policies.<sup>9</sup>

A second paper examined the linkages between economic development and transportation. The importance of goods movement was stated in several ways, notably:<sup>10</sup>

- The need to provide an adequate supply of industrial lands that is close to and well connected to the major transportation network: "[It] is important to note that for Hamilton, highways have become a 'competitive-disadvantage', as highway system inefficiencies and decreasing land supply in the vicinity of highways decreases their attractiveness. Rail also contributes to the attractiveness of industrial and manufacturing areas, as this allows greater flexibility in transportation choices."

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<sup>9</sup> *Development of Policy Papers for Phase Two of the Transportation Master Plan for the City of Hamilton, Goods Movement Policy Paper, Final Report*, City of Hamilton, January 2005.

<sup>10</sup> *Development of Policy Papers for Phase Two of the Transportation Master Plan for the City of Hamilton, Economic Development Policy Paper, Final Report*, City of Hamilton, January 2005.

- Among the recommended economic development policies were the following:
  - Provide transportation access for existing and designated future employment lands (as outlined in the preceding point) and also considering opportunities for increased intermodal goods movement.
  - Promote a locally-grown strategy for the agricultural industry, to minimize the transportation of goods, implemented through an additional study to determine (understand) how agricultural goods move to, from and within the City; possibly establishing a food terminal to serve local and nearby markets; and supporting and enhancing the farmers' market.

### 3.3 2005 Hamilton Goods Movement Study

Hamilton's 2005 goods movement study informed the 2007 TMP. The study noted the strengths of the city's three main economic clusters in manufacturing, agricultural, and port-related industries and businesses. It also noted the need for skilled labour to serve the transportation and logistics industries, and the underlying need for specialized education.

The study established visions for the short-, medium- and long-terms. The visions were developed through stakeholder consultation. They spoke to how economic development aspirations could be achieved through supporting land use and transportation plans and the supply of skilled labour, as described below:<sup>11</sup>

In the short term (1-5 years):

- "All land use planning decisions adequately consider direct and indirect impact on the ability for businesses to move goods and acknowledge the critical importance of supporting and promoting industry as the major generator of employment in Hamilton.
- "An Aerotropolis<sup>12</sup> cluster is established. The port multi-modal logistics cluster land assembly is advanced, and planning for new facilities and services is well into the approvals stage.
- "Programs to prepare the workforce to respond to existing and future job opportunities in goods movement and related fields are being implemented by governments, educators and industry working together."

In the medium term (5-10 years):

- "Industries that rely on just-in-time delivery are moving to Hamilton to take advantage of the availability of 24 hour operations at air, marine and intermodal facilities, placing Hamilton at an advantage compared to its neighbours. Sufficiently large employment lands are assembled, serviced and ready for these new industries comprising a variety of economic clusters.
- "The Aerotropolis cluster has one or two new key establishments; traffic and employment growth outpace the growth of the economy. The port multimodal

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<sup>11</sup> *Hamilton Goods Movement Study, Final Report*, City of Hamilton, June 2005.

<sup>12</sup> 'Aerotropolis' is the generic term for employment clusters that are centered about, and make use of the proximity to, an airport. In some cities, these have become major employment centres. Although it lacks a focus (hence is not - yet - a true Aerotropolis), in the City of Toronto the number of jobs in the vicinity of Toronto's Pearson International Airport is second only to downtown Toronto.

logistics cluster is established and contributing to growth in employment. Other clusters are also evolving in line with the City's economic development strategy.

- "Certification programs are generating graduates to fill new job opportunities and continuing education is also established to keep the work force prepared to meet new challenges."

In the long term (10-15 years):

- "Hamilton is benefiting to full advantage from its transportation network and strategic location which enable goods movement providers, industry and businesses exploit the many cost and time effective transportation modes available while minimizing energy costs and supporting environmental goals.
- "The continuing growth in employment, quality of life and excellence of service make Hamilton a shining example of "best practice" that others attempt to emulate. It enjoys a key role in logistics and distribution of raw materials and finished goods in North America."

The study had four recommendations for the City, working with others:

1. Establish on-going private-public collaboration, through participation in existing venues such as the Southern Ontario Gateway Council and the establishment of a local group. The collaboration also would help in sharing and collecting new data on goods movement, which the study identified as a need.
2. Promote economic development initiatives, through the development of a port multimodal logistics cluster for the east Hamilton location and a specific focus for an Aerotropolis logistics cluster adjacent to Hamilton International Airport. Specific actions were recommended to advance the planning of these sites, through the establishment of zoning, transportation requirements, and so on. Appropriate noise contours were recommended to ensure adequate space for development compatible in the lands near these two locations, as well as at existing rail yards. The port multimodal logistics cluster also could be considered as a preferred location for a potential multi-modal terminal.
3. Carry out transportation improvements. This recommendation and specific actions were carried forward into the 2007 TMP, and are described in Section 3.2.3 above.
4. Develop human resource skills to support industry needs in Hamilton and beyond, by extending transit service to the airport and other key employment centres, so as to increase accessibility for workers; help develop recruitment and training programs for logistics workers; address the immediate shortages of drivers and equipment operators through training and promotion; and, collaborate with industry to develop joint certification programs to meet transportation and logistics needs.

### **3.4 Metrolinx Regional Transportation Plan (*The Big Move*)**

Metrolinx adopted its first regional transportation plan (RTP) for the Greater Toronto and Hamilton Area in November 2008. The RTP is a long-term strategic plan for an integrated, multi-modal regional transportation system across the GTHA. The RTP is built upon nine "Big Moves" or strategies.

The eighth strategy addressed goods movement. It called for the development of a comprehensive strategy to improve goods movement within the GTHA and with adjacent regions. Two factors determined the need:

- The adverse financial impact of congestion on the GTHA's residents as well as on its ability to compete in a global economy, given the real costs that delays impose on the price of consumer products and on business operations.
- The adverse environmental impact of truck-generated greenhouse gas emissions. Trucks are by far the dominant mode used to move goods in the GTHA and, even with improvements in vehicle emissions control technologies, GHGs from heavy trucks are expected to increase significantly as goods movement grows.<sup>13</sup>

The strategy recognized the need for a multi-pronged approach and a strong partnership with shippers (those who generate goods) and carriers (those who move the goods).

To meet this need, Metrolinx prepared the *GTHA Urban Freight Study*, which the Metrolinx Board of Directors approved in February 2011. The study was based on extensive consultations with public agencies and private sector thought leaders. It resulted in five strategic directions and 17 actions that provided a strong basis for addressing urban goods movement challenges in the GTHA. The Action Plan is shown in Figure 1. It comprises a broad range of planning and operational improvements, predicated on increased collaboration and support among and between public and private goods movement stakeholders. An important initial outcome was Metrolinx's establishment of the GTHA Urban Freight Forum (Action 2), which regularly brings together a group of public agencies, private industries, intermodal freight terminals, industry associations and researchers to exchange information, generate action, inspire innovation, and review the delivery of the Action Plan. The City of Hamilton participates in the Urban Freight Forum.

In 2012, the Forum issued a *Status Update*, which showed that much progress has been made on the Action Plan by Metrolinx, regional and municipal governments, senior governments and researchers.

In 2015, Metrolinx began a mandated 10-year review of the RTP, with an updated plan to be released by 2017. Goods movement is being examined as well. A draft background paper on issues and opportunities and a proposed framework for developing a strategic goods movement network were circulated for comment to the GTHA municipalities, including the City of Hamilton, in July 2015. While neither report has any status, based on public and private stakeholder consultation, of relevance to this review the draft background paper established three categories of goods movement issues:

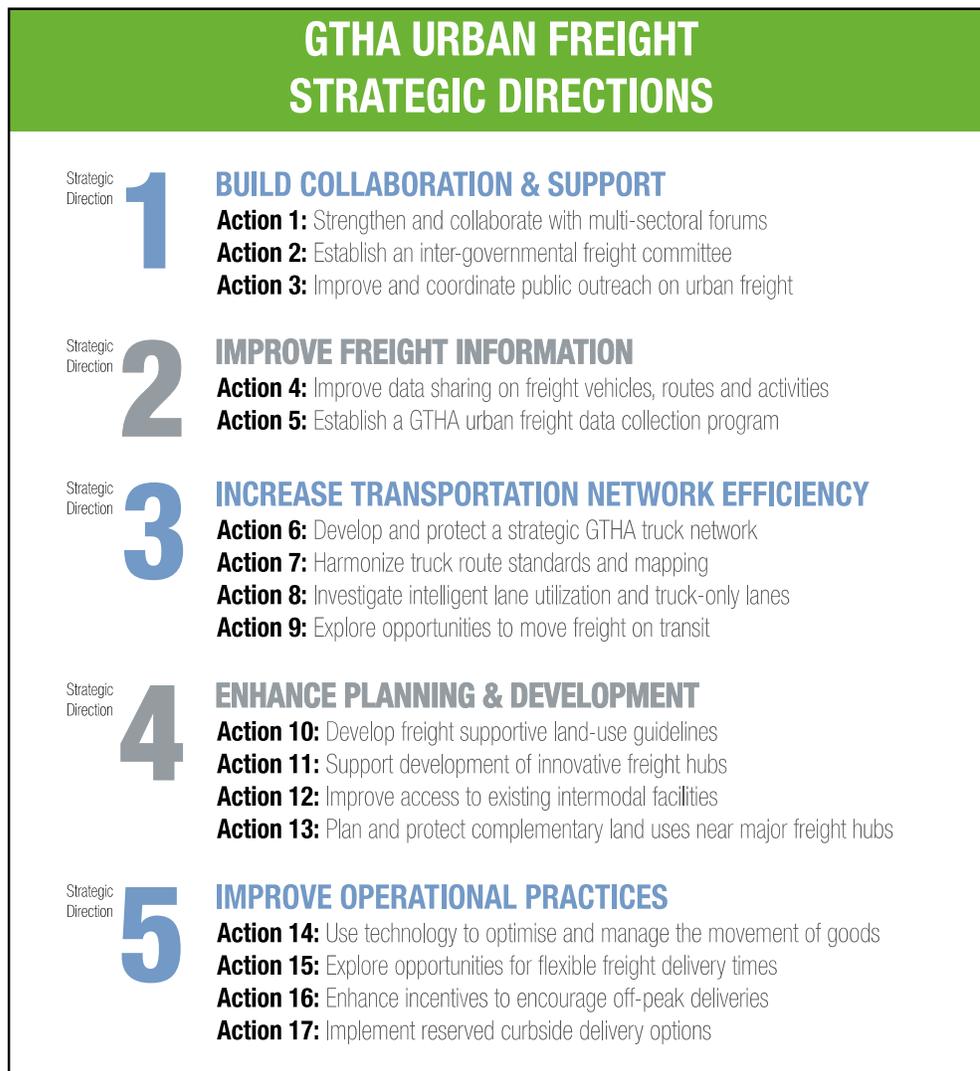
- Reducing congestion, through measures that aim to reduce or better manage the volume of personal vehicles on the road, such as shifting travellers to transit, road pricing and accelerated delivery of planned infrastructure improvements (notably, the Regional Express Rail and to the 400-series highways), and measures that are focused on goods movement, such as off-peak delivery and goods movement priority lanes.
- Land use planning to support goods movement needs through an improved planning process, smart growth for freight, Complete Streets and freight-supportive land use planning.
- Reducing environmental impacts from goods movement, through ways to reduce trucking activity (number of trips and/or trip lengths) such as urban distribution (consolidation) centres that intercept and consolidate truck trips that are going into

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<sup>13</sup> More recently, the City of Toronto has begun to investigate the air pollution impacts of trucking, with a view to considering their impacts on the environment and on human health.

the urban core, technological innovations such as all-electric delivery vehicles, and regulations that aim to reduce the adverse impact of GHGs and air pollutants. As noted, none of these issues and opportunities have any status. However, they reflect common themes in many parts of the GTHA – notably, the need to address congestion – and which generally are relevant to Hamilton.

**Figure 1. Metrolinx Urban Freight Strategic Directions and Actions for the GTHA**



## 3.5 Province of Ontario

### 3.5.1 Growth Plan for the Greater Golden Horseshoe

The 2006 Growth Plan for the Greater Golden Horseshoe provides the policy framework for land use and transportation planning in the Greater Golden Horseshoe (GGH).<sup>14</sup> It forecasts population and jobs by municipality (updated in 2013). It provides policy directions that, among other things, direct population and job growth to built-up areas while providing strict criteria for municipalities to expand the boundaries of settlement areas, in order to control sprawl and protect agricultural areas and natural systems.

The Growth Plan has several infrastructure policies regarding goods movement:

- The first priority of highway investment is to facilitate efficient goods movement among intermodal facilities, international gateways and GGH communities.
- The Province and municipalities will work together with other agencies and transportation service providers to coordinate and optimize goods movement systems, improve transportation corridors, and better integrate multi-modal goods movement and land use plans, including freight-supportive land-use guidelines.
- Plans for highway corridors and land use designations along these corridors must support the Growth Plan.
- Municipalities must provide priority goods movement routes to access important goods-generating employment areas and intermodal facilities. They must also provide alternate routes connecting to the Provincial network.
- On lands with settlement areas that are adjacent or near these facilities and routes, municipalities must plan uses that are compatible with and support their primary goods movement function.

Schedule 6 of the Growth Plan provides “a strategic framework for future goods movement investment decisions.” The schedule shows existing major intermodal goods movement hubs, including Hamilton International Airport and the Port of Hamilton. It also depicts current and proposed conceptual highway corridors, including the proposed GTA-West<sup>15</sup> and Niagara-to-GTA<sup>16</sup> connections.

The Growth Plan, together with the Greenbelt Plan, Oak Ridges Moraine Plan and the Niagara Escarpment Plan, are currently the subject of a coordinated review. Based on public consultation that was conducted earlier this year, the Province expects to release

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<sup>14</sup> *Growth Plan for the Greater Golden Horseshoe, 2006*, Office Consolidation, June 2013. See <https://www.placestogrow.ca/index.php?lang=eng>.

<sup>15</sup> Stage 2 of MTO's GTA West project is actively underway - building on the recommendations from the first stage. As part of Stage 2, route alternatives for a new transportation corridor are being generated within the Route Planning Study Area. The new transportation corridor will feature a 400-series highway, a transitway, and potential goods movement priority features. See <http://www.gta-west.com/>.

<sup>16</sup> Phase 1 of the Niagara to GTA Corridor Planning and Environmental Assessment Study is now complete. The results of this phase are documented in a Transportation Development Strategy. Phase 2 of the study will determine the preferred route for the new highway that connects Highway 406 south of Welland to the QEW near Fort Erie. Phase 2 is not yet scheduled. See <http://www.niagara-gta.com/>.

proposed amendments to the four plans in early 2016, followed by additional public and stakeholder input before the plans are finalized later in 2016.

### 3.5.2 Freight-Supportive Guidelines

MTO developed draft guidelines to help municipalities incorporate goods movement into land use and transportation plans. The draft *Freight-Supportive Guidelines* (dated June 2013) do not have status, and so they are intended only to inform municipalities, although the *Guidelines* are expected to be released in a final form later this year. They describe good practices for incorporating goods movement into policy documents such as OPs and zoning by-laws, as well as site-development needs.<sup>17</sup>

The *Guidelines* are considered in detail in Section 6.2.6, in the context of how they can be help to develop a 'Made in Hamilton' Complete Streets scheme.

## 3.6 Government of Canada

### 3.6.1 Overview

The Government of Canada sets the rules for how certain parts of the transportation system operate through the *Canada Transportation Act* and the *Transportation of Dangerous Goods Act*, and the orders and regulations pursuant to these Acts. Relevant to this review are two aspects: transportation safety and the transportation of dangerous goods.<sup>18</sup>

### 3.6.2 Transportation Safety

Transport Canada develops and enforces safety regulations and standards and tests and promotes safety technologies in air, marine, rail and road transportation. With respect to road transportation relevant to goods movement in Hamilton, the department is limited to the regulating the safety of interprovincial trucking.

Transport Canada is more active in rail safety regulation. Rail safety is regulated by the *Railway Safety Act*. The Government of Canada developed a number of regulations pursuant to the *Railway Safety Act* that have relevance for Hamilton, including regulations requiring notice be provided to municipalities of certain railway engineering work. The department also works actively with the railways to reduce trespassing on railway property.

### 3.6.3 Transportation of Dangerous Goods

The Government of Canada regulates the transportation of dangerous goods through the *Transportation of Dangerous Goods Act* and the regulations and orders made pursuant to this Act. Transport Canada works with its partners to promote public safety in the transportation of dangerous goods, including:

- Establishing safety standards and regulations for the safe transportation of dangerous goods;
- Monitoring compliance of modal shippers, consignors, and importers with the emergency response assistance plan, means of containment standards and facility assessments; and

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<sup>17</sup> See <http://www.mto.gov.on.ca/english/sustainability/>.

<sup>18</sup> This discussion is drawn from a similar discussion in the draft *Halton Goods Movement Strategy*, January 2015, prepared for Halton Region.

- Operating the Canadian Transport Emergency Centre to help emergency response personnel deal with dangerous goods accidents.

### 3.6.4 Freight Fluidity Indicator

Also of note, Transport Canada has developed a Freight Fluidity Indicator, which measures inter-continental transit times (e.g., Shanghai to Toronto via Vancouver, by ship, rail and truck). Although not a policy *per se*, the Indicator was developed to support and promote Canada's international trade. It does by providing metrics to prospective shippers to demonstrate Canada's multi-modal transportation network as an effective and reliable alternate to the US in order to access North American markets. The Indicator includes a generic estimate of truck (road) travel times for the 'last mile' component of the trip between an intermodal terminal and the final destination – e.g., between a marine port and a distribution centre. Although this represents only a small proportion of a typical inter-continental trip (e.g., 1 hour in a multi-day trip), Transport Canada has recently indicated its interest in collecting actual precise data on 'last mile' journey times, in order to provide more localized insights. The department is working with some local governments in the GTHA in order to do this.

## 3.7 Other Initiatives

### 3.7.1 Western Golden Horseshoe Municipal Network

In early 2014, the City of Hamilton joined the Regional Municipalities of Halton, Niagara, Peel and Waterloo in a coalition of municipalities that promotes improved transportation / transit infrastructure and a more efficient and connected network for the movement of goods and people in the Greater Golden Horseshoe.<sup>19</sup>

The Network's ultimate goal is to see an integrated multi-modal transportation network that:

- Addresses existing highway capacity issues.
- Maximizes the potential of air, rail and marine goods movement modes.
- Provides efficient connections to hubs, employment lands, and local and international markets.
- Incorporates an inter-regional multi-modal transit network that uses road and rail based modes and connects communities.
- Provides redundancy to reduce impacts of collisions or maintenance construction work.
- Is planned and implemented in a manner that respects the importance of sensitive natural heritage, prime agricultural, social, cultural and environmental areas.
- Is planned to keep pace with growth and in a cooperative manner, with active participation by municipalities, the province, the federal government and the private sector.

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<sup>19</sup> See <http://sirepub.halton.ca/councildocs/pm/16/Jan%2029%202014%20Planning%20and%20Public%20Works%20LPS1214%20%20Western%20Golden%20Horseshoe%20Municipal%20Netw%20%20LPS1214%20Attachment%20%201pdf%20168938.pdf>

The Network also seeks to be a leader in establishing and using cross-boundary, multi-governmental, multi-disciplinary partnerships to advocate for the infrastructure needed for the area, recognizing benefits of working together and with the private sector.

## 4. TOPIC 1: UPDATE TO TMP GOODS MOVEMENT POLICY

### 4.1 Overview

This chapter builds on the context provided by the preceding review, in order to recommend updates, changes and additions to the existing City of Hamilton TMP policies.

### 4.2 Vision

A 'vision' can be described as a desired future state for a particular system. An explicit vision for goods movement does not exist in the current TMP, although the relevant guiding principle is clear that Hamilton's goods movement system should be sufficient to support the City's economic development aspirations. That explicit linkage, in its own right, is clearly articulated, and it is well beyond the generalized statements found in many TMPs to the effect that the transportation system should support the needs of passenger and goods movement, with little if any elaboration of how goods movement should be addressed. The linkage to economic development signals that the TMP is sensitive to the City's economic aspirations and that the City is listening to the business community. Again, this is not common in many TMPs.

The 2005 *Goods Movement Study* articulates a detailed vision for goods movement over the short-, medium- and long-terms. As noted, the vision speaks to land use, economic development and skills development that are needed to support – and are supported by – an efficient goods movement system. However, the focus for the TMP should be on the goods movement system itself. Moreover, for the TMP, a more concise vision is appropriate.

As part of recent goods movement studies for Halton Region and Metrolinx, the consultant has reviewed several vision statements for TMPs elsewhere in Canada, the USA and overseas. Some of these are quite elaborate and lengthy. However, given that goods movement is one of many important issues that the TMP must address, a concise wording is proposed. It is based on a wording developed for the Halton Region *Goods Movement Strategy* (still in draft) and subsequently proposed for a background paper in support of the Metrolinx review of the Regional Transportation Plan.<sup>20</sup>

The vision for the draft Halton *Goods Movement Strategy* reads:

*The goods movement strategy will support a network that is safe, economical, reliable, efficient, and environmentally sustainable.*

*Within Halton, goods movement is widely recognized as an essential contributor to the economic, social, and environmental well-being of residents and businesses.*

The vision:

- Asserts that goods movement is important to the Region's overall wellbeing.
- Ensures that the *Goods Movement Strategy* is consistent with other Halton Region economic, social and environmental policies, including the Halton Region TMP from which the *Strategy* is derived.
- Speaks to both residents and businesses.

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<sup>20</sup> Both wordings are known to City of Hamilton staff through their participation in workshops and presentations related to both studies. Hence, although the relevant reports are not yet formally approved, the wording can be referenced here.

- Uses five words that are meaningful to goods movement stakeholders; that is, the needs of the private sector are recognized along with those of public policy. These are:
  - Safe, for all users.
  - Economical – that is, economical to build and maintain, and economical to use.
  - Reliable, through the provision of a network that has adequate capacity (including the capacity that is made available by diverting drivers from their autos), as well as providing redundancy through the provision of alternate routes in case one route is blocked. Note that ‘reliability’ is a key concern for the goods movement community.
  - Efficient, through the provision of a network that offers direct and fast connections with and between goods-generating land uses and the major transportation network.
  - Environmentally sustainable, meaning that the movement of goods can use technologies, modes and logistical practices that minimize adverse environmental impacts and reduce the consumption of non-renewable resources.

**Recommendation.** For the Hamilton TMP, a possible adaptation could be:

*The City’s multi-modal transportation network is safe, economical, reliable, efficient, and environmentally sustainable.*

*Within Hamilton, goods movement is widely recognized as an essential contributor to the economic, social, and environmental well-being of residents and workers, and to the promotion of a strong and vibrant economy.*

This wording incorporates the “efficiency” aspect of TMP Principle 6a and to the related policy that promotes a strong and vibrant economy.

### 4.3 Goals

To support the vision, the **recommended** goals (or objectives) could be to achieve policies and objectives that:

- Support the development of a road network that provides direct connections between goods-generating land uses and the major multi-modal transportation system and inter-modal terminals.
- Support the economic aspirations of the City’s key inter-modal hubs – the Port of Hamilton and Hamilton International Airport – through the continued development of these hubs as key employment centres.
- Remove bottlenecks and aims to provide congestion-free journeys for the movement of passengers and goods, maintaining adequate levels of service for all users as the City’s population and employment grows.
- Promote freight-friendly land use planning, consistent with Official Plan goals.
- Work with other municipal and senior governments to ensure that the City is well-connected with other regions in south-central Ontario and into the United States; in particular, to provide the appropriate connections and eliminate bottlenecks beyond the City’s boundaries.

- Ensure that the private sector goods movement community is engaged throughout all planning and policy development processes, so that their needs can be met and so that they also can contribute meaningfully to the development and implementation of solutions, to the common benefit of all.

## 4.4 Policies and Actions

### 4.4.1 Existing TMP Policies

It is **recommended** that the goods movement policies outlined in the 2007 TMP generally should be maintained and, in some cases, restated (see Section 3.2.2):

- Specific infrastructure recommendations must await the results of the other components of the TMP. However, the need continues for:
  - Promoting an east-west connection between the Highway 6 extension from the Airport to the Red Hill Valley Corridor or east of the City.
  - The resolution of bottlenecks across the network.
  - Maintaining Burlington Street as an access to the Port.
  - Working with the Province to address congestion on Highway 403, between the QEW and Highway 6 North. More broadly, there is a continued need to encourage the Province to address congestion issues on the 400-series highway network elsewhere in the GTHA and southern Ontario.

### 4.4.2 Supporting TMP Policies

In terms of the four supporting policies (see Section 3.2.3), the following **recommendations** are made:

- “Improving” dialogue with the goods movement community is always beneficial. However, there are several ways to go about this, including:
  - Continued participation in existing forums, such as the Southern Ontario Gateway Council and Metrolinx’s Urban Freight Forum. This allows for the exchange of ideas and data, and also keeps organizations informed.
  - Continued participation in advocacy groups, such as the Western Golden Horseshoe Municipal Network.
  - Using the City’s Economic Development group as a portal to the business community. This allows the private sector to express any concerns in terms that are meaningful to them, building on the trust that already exists. Should the need for specific consultation arise, Economic Development could serve as a facilitator and conduit. Should ongoing specific issues arise, then the need for a formal goods movement forum, such as the Peel Region Goods Movement Task Force, could be investigated.
  - The Halton Region *Goods Movement Strategy* developed a contact list of private sector goods movement stakeholders, as part of that study’s stakeholder outreach. Halton Region examined the need for an ongoing goods movement forum, and determined that this was not needed. Instead, the contact list will be used to engage stakeholders on an as-needed basis – for example, in order to engage the goods movement community for a specific planned project.

- Maintain, protect and enhance the existing goods movement network in Hamilton to support the City's economic development strategy would retain essentially the existing policies and actions: continued development and implementation of the City's Strategic Goods Movement Network, identification of infrastructure needs, maintenance of the City's passive truck route system, identification and addressing of bottlenecks, accounting for truck needs in plans and environmental assessments, and refinement and expansion of the City's traffic counting program to provide more specific information on truck characteristics.
- The policy of defining freight-supportive land use policies also would continue, so as to situate goods-generating employment lands close to and with ready access to the transportation network. The intent is to avoid intrusion through residential and other sensitive areas: this also has the benefit of reducing trucking costs. There is also a need to preserve designated employment lands from reverting to other uses, again with the aim of keeping the goods-generating uses close to the transportation system. In addition, adequate access to existing industrial areas should be maintained, even if these lands eventually are planned to revert to residential or other uses (in other words, existing access needs must be met).
- Maximizing the efficiency of the existing goods movement network also should be continued. However, there is a need to consider requirements beyond the regulation of on- and off-street loading – for example, off-peak delivery, the growing number of e-commerce-generated deliveries to residential neighbourhoods, and courier / express delivery access requirements. These are discussed in detail in the context of Complete Streets, in Chapter 6.

#### 4.4.3 Additional Policies

In addition, other policies could be **considered**, as follows:

- The Port of Hamilton and Hamilton International Airport should continue to be the dominant intermodal hubs, with regional and even national importance. The current policies to support their ongoing development as goods-handling hubs and as significant employment centres should be continued. The two sites should:
  - Be well connected with each other, with the major transportation network and with other goods-generating centres.
  - Have an adequate supply of serviced and appropriately zoned land nearby, with adequate room to allow industries and employment to grow.
  - Be well served by transit and, as appropriate and reasonable, by active transportation and other modes, to ensure that people can get to the jobs.
- The City should consider carefully whether or not additional intermodal terminals are actually needed, in light of developments elsewhere in the GTHA – specifically, CN's proposed development of a new inter-modal rail terminal in Milton. This responds to a common perception that truck activity (and its impacts on traffic volumes, service levels, emissions and so on) could be reduced, if truck cargos could be diverted to other modes, such as rail. Market realities preclude this happening on a large scale, at least with the existing types of industrial activity. A more realistic approach to reducing truck activity would be to focus on developing the two existing hubs, and to ensure that employment lands elsewhere in the City are situated close to the major transportation network.

- The City should work with neighbouring municipalities and senior governments to ensure that it has the appropriate connectivity to support the City's continued growth as a multi-modal logistics hub. This should include:
  - Continuing to advocate for an improved mid-peninsula connection around the Greater Golden Horseshoe, as part of the Western GTA Municipal Network. The TMP should state clearly the City's position on the need for a mid-peninsula connection.
  - Exploring joint opportunities with neighbouring regions and with the Buffalo, New York region (which has significant developable brownfield space and – once a key railway bridge is rebuilt – provides bottleneck-free access to the Class I US rail network). For example, long-combination vehicles cannot be moved across the Niagara Frontier, so perhaps there is an opportunity to promote efficiencies in the cross-border transfer of goods. The point is to explore the potential for broad, cross-border goods-generating initiatives that treat the Hamilton-Niagara-Buffalo region as a single economic entity. This exploits Hamilton's advantages as a relatively uncongested access to the GTA and southern Ontario, with affordable land and housing prices, a high quality of life, skilled labour and the HPA / HIA hubs.
  - Advocating with and supporting senior governments in addressing congestion through, in the case of connections to the GTA, the Province to accelerate planned improvements to the 400-series highways and, in the case of border crossings, the Province and the Federal Government to continue working on operational and procedural improvements to facilitating cross-border goods movement.
- Data on goods movement are critical to informing all levels of planning and investment decisions. However, there is a paucity of data on urban goods movement characteristics in Hamilton and the GTHA generally. The City should participate with Metrolinx, MTO and other GTHA municipalities to standardize and collect data on goods movement activity, including commodity flows, origin-destinations, routings, traffic counts, travel time surveys, costs and other characteristics of goods movement. The City also should be encouraged to participate in 'last mile' data collection with MTO and Transport Canada, in support of the latter's Freight Fluidity Indicator. To these ends, Metrolinx is currently updating a 2013 plan to collect goods movement data across the GTHA, and eventually will be seeking partners to participate in collecting the data.

#### **4.4.4 2005 Goods Movement Strategy**

The 2007 TMP benefited from the availability of a comprehensive goods movement strategy - in fact, as noted, the TMP infrastructure recommendations were taken directly from the 2005 *Goods Movement Strategy*. As part of this review, the consultant was asked to consider whether or not the 2005 strategy should be updated. The answer is affirmative. An updated strategy would address the following:

- Changing economic conditions over the past decade, especially the Great Recession of 2008-2009 and the ensuing economic restructuring in Hamilton and elsewhere.
- Ensure consistency with new plans and policies that have occurred since then – including the Official Plans and the 2007 TMP, but also initiatives by other

governments, such as the Province's Places to Grow and Metrolinx's Regional Transportation Plan (both now being revised).

- Measuring progress towards the achievement of the Strategy's initiatives – e.g., the Airport Employment Lands which, in effect, constitute the Strategy's Aerotropolis.

It is reasonable to conclude that the major themes of the 2005 strategy are still current. However, it can be expected that they would be refined, and new themes might emerge as well.

## 5. TOPIC 2: REVIEW OF TRUCK ROUTE NETWORK

### 5.1 2010 Truck Route Master Plan

The 2010 Truck Route Master Plan (TRMP) updated the City's existing truck route network. An important motivation behind the study was the perceived impact of heavy trucks on residential and business areas. An implied motivation, as in many other cities, was the desire to have a systematic and objective basis for making decisions regarding the designation or removal of individual truck routes, which are often made in response to complaints by residents. As a result, many cities' truck route networks represent a patchwork of connections, and in any event often have not kept up with community and economic growth. Hence the need for a systematic and objective approach, such as was embodied in the TRMP.

The 2010 TRMP aimed to provide components that had a clearly-articulated purpose (e.g., maintain access for truck deliveries, and reduce noise in residential areas), established a hierarchy, had regulatory coordination (i.e., consistency), and could be explained through stakeholder education and enforced. The TRMP was based on extensive consultation with residents and businesses on issues and opportunities. From this consultation, coupled with an analysis of truck traffic volumes and accidents, a series of alternate truck route network scenarios was developed.

A multi-level analysis was used in the 2010 TRMP to define the alternate networks. The starting point was the inclusion of the following road and highway segments:

- Inclusion of all freeways and highways, rural arterial roads and major arterial roads.<sup>21</sup>
- Inclusion of a minor urban arterial road, if it met any of the following qualifications:
  - Direct link to the Provincial freeway system.
  - Link crossing a significant natural barrier, such as the Escarpment (i.e., minimizing the use of other crossings).
  - Direct link to a signed permissive truck route in an adjoining municipality.
  - Link to or within an industrial / commercial employment area.
  - Link to or between the downtown, sub-regional centres and community centres.
  - Direct link to a major institutional generator – i.e., a hospital, college or university.
  - Direct link to Hamilton International Airport, a rail “hub” or Hamilton Port Authority port facilities.
  - Direct link to mineral aggregate resource areas (quarries, etc.).
- Inclusion of an urban collector road that is extension of an urban major or minor arterial road that meets the aforementioned criteria, and is fully located within a recognized industrial/commercial employment area.

The aforementioned functionally-based definition was compared with the existing actual truck route network. Individual segments were then added or excluded.

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<sup>21</sup> Note that these terms (e.g., major and minor arterial roads, or industrial/commercial employment area) correspond to City designations.

Finally, in light of the issues and opportunities identified through the consultation and by City staff, individual sections were added or deleted according to several criteria:

- Maintain connectivity.
- Maximize the efficiency of the system that served commerce and the economy.
- Minimize the impact (intrusion by and exposure to) residential communities, schools and hospitals.
- Minimize the impact of goods movement on safety, comfort and service offered by passenger transportation modes – e.g., avoiding roads that have unsuitable turning geometries, lane widths, and so on.
- Consideration of restrictions where the economic, social and/or environmental ‘capacity’ of the road section would be adversely affected, and where a reasonable alternative existed.
- Consideration of the specific challenges in the downtown core.
- Consideration of a reasonable density within industrial/commercial areas.

From these, alternate networks were evaluated in terms of practical factors, such as grid density, avoidance of sensitive areas, and adherence to existing restrictions.

The TRMP retained the City’s permissive truck route system – that is, using signage to indicate those road sections on which heavy trucks are permitted – as opposed to a restrictive system that designates prohibited road sections. The former is more cost-effective to maintain and reduces the amount of signage required; however, the latter is more effective in terms of enforcement. Note, however, that this approach will be reviewed as part of an update to the 2010 TRMP.

The current heavy truck route system is shown in Figure 2 and Figure 3.

## 5.2 Need for a Future Update

The City has identified several topics that need review. The scale and inter-relationship of these topics indicates that it likely would be more efficient to review all of them in the context of a single update to the TRMP. The identified topics are:

- ORC – HIA truck route. There is a need to identify a truck route in order to connect the ORC Lands along the Nebo Road / Glover Road corridors, which are designated as a business park in Schedule E-1 of the Urban Official Plan, with Hamilton International Airport. The closest existing route, White Church Road, is a truck route for specific users only.
- Rural network gaps. In the context of the ORC – HIA route, there is a broader need to consider additional needs as the two employment centres develop, examining corridors in the general area bounded by Upper James Street in the west Upper Centennial Parkway in the east, Rymal Road in the north and White Church Road in the south.

Figure 2. City of Hamilton Heavy Truck Route Network

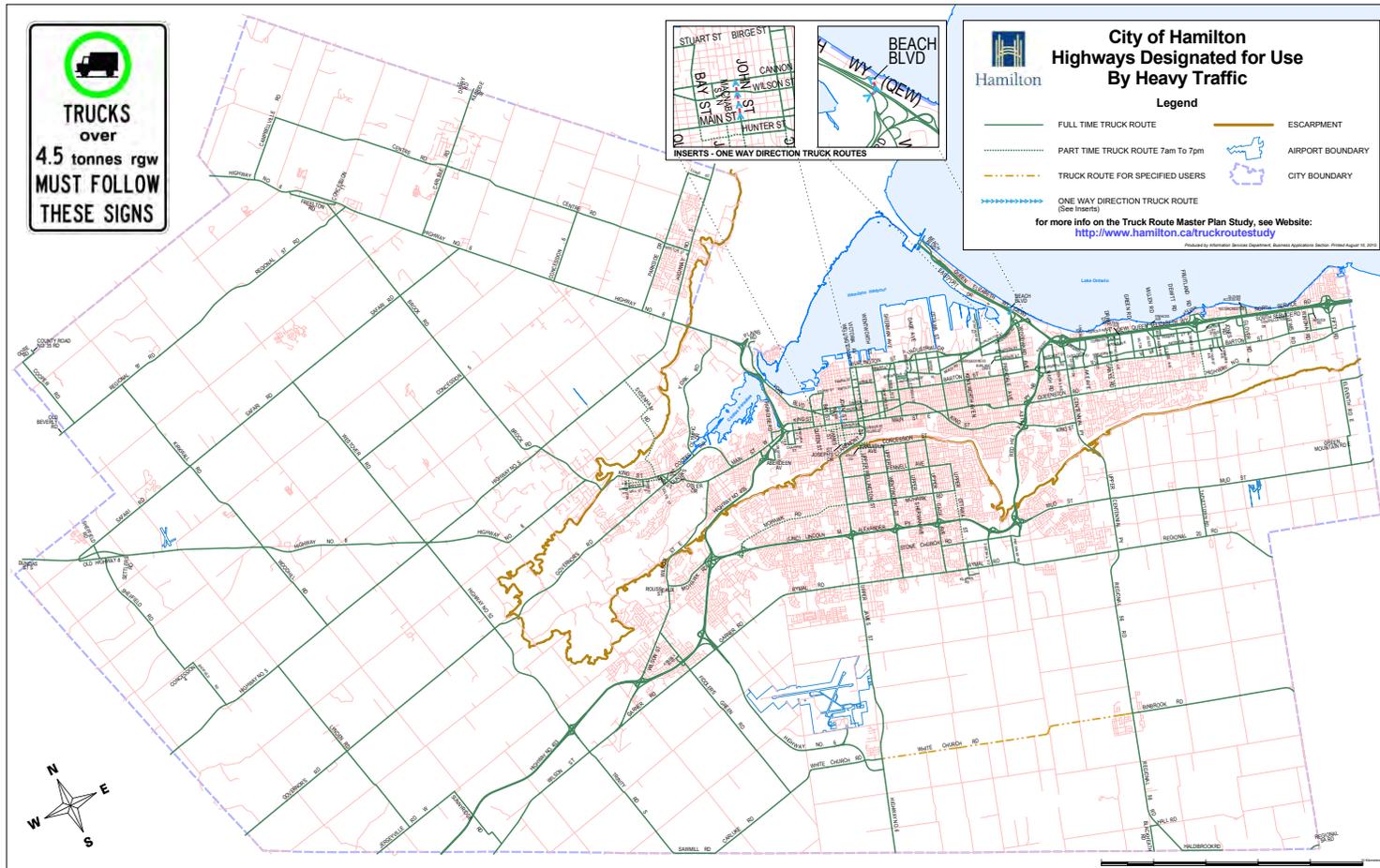


Figure 3. City of Hamilton Heavy Truck Route Network – Downtown Core



- Truck routes through Lower City. There is a “constant tension” between the businesses / industries that must be served by these east-west routes, and the residential neighbourhoods through which these routes pass. (See Figure 3.) Only two corridors traverse the entire Lower City and connect to the highways. These are:
  - Main Street – Queenston Road.
  - King Street – Main Street – King Street (reverts to Main Street between Queen Street and Wellington Street, i.e., the use of King Street as a truck route is prohibited in the CBD).

There are some partial east-west routes but these also stop at the CBD:

- Barton Street east of Wellington Street.
- Burlington Street connects to the QEW, but stops at Wellington Street.

The City has also identified the need to consider north-south routes in the downtown core.

- Port-to-Rail connections / transitioning of Port. In the context of Lower City truck routes, there is a need to consider how best to serve the former Stelco industrial lands at the Port of Hamilton, north of Industry Drive / Burlington Street. Existing heavy industrial activities as well as new types of employment must be served. Also, on the west side of the Port, there are several at-grade rail crossings in the vicinity of Burlington Street – with the new types of employment envisioned for these lands, how will traffic flows (goods and passenger) be handled best?

Note that there remains important industrial activity that uses the Port. Sixty percent of the movements through the Port are agricultural (no longer steel) – for example, grains, corn oil (one of the largest producers; corn oil is exported) and mustard seed.

- Truck routes in anticipation of the construction of an eventual Niagara to GTA (or similar) link.

Beyond this update, more generally the need for a subsequent update would be triggered by one or more of the following factors:

- Changes in land use, the economy and projected demographic/job growth, which in turn result in new or different types of truck trip generators or activity levels.
- New industry or regulatory developments – e.g., the deployment of long-combination vehicles.
- New or improved roads and highways implemented by MTO or by neighbouring municipalities.
- The level of concerns from businesses and the community.

### **5.3 Use of GPS Traces – “Myth versus Reality”**

The 2010 TRMP used traffic counts and collision rates to help provide a quantitative assessment. However, while this analysis speaks well to the volumes of traffic, detailed data on the origins and destinations served by trucks and the paths (routes) they use to travel between these points, have been unavailable. This is unfortunate, because a common question arises in truck route studies as to where the vehicles are going.

An emerging new source is the use of commercial GPS traces. These are data collected by commercial fleet management systems, which use in-vehicle GPS units to trace truck itineraries. These data were used to advantage in the 2013 *Peel Region Strategic Goods Movement Network Study*, in order to address the aforementioned question and address,

with hard data, perceptions regarding truck compliance to the existing truck route networks, and the size and location of the major truck origins and destinations.<sup>22</sup>

Figure 4 shows the usage of different routes by trucks. In addition to showing which routes are most important (most heavily used by trucks), the data also provide a means of visually examining compliance to the existing truck route system: over 95% of the trips were found to be compliant, with a significant proportion of the remaining 5% likely representing first/last mile trips. Figure 5 profiles truck trips according to three types of trips: intra-regional (origin and destination entirely within Peel), inter-regional (between Peel and regions in the GTHA and beyond), and through (neither starting nor stopping in Peel).

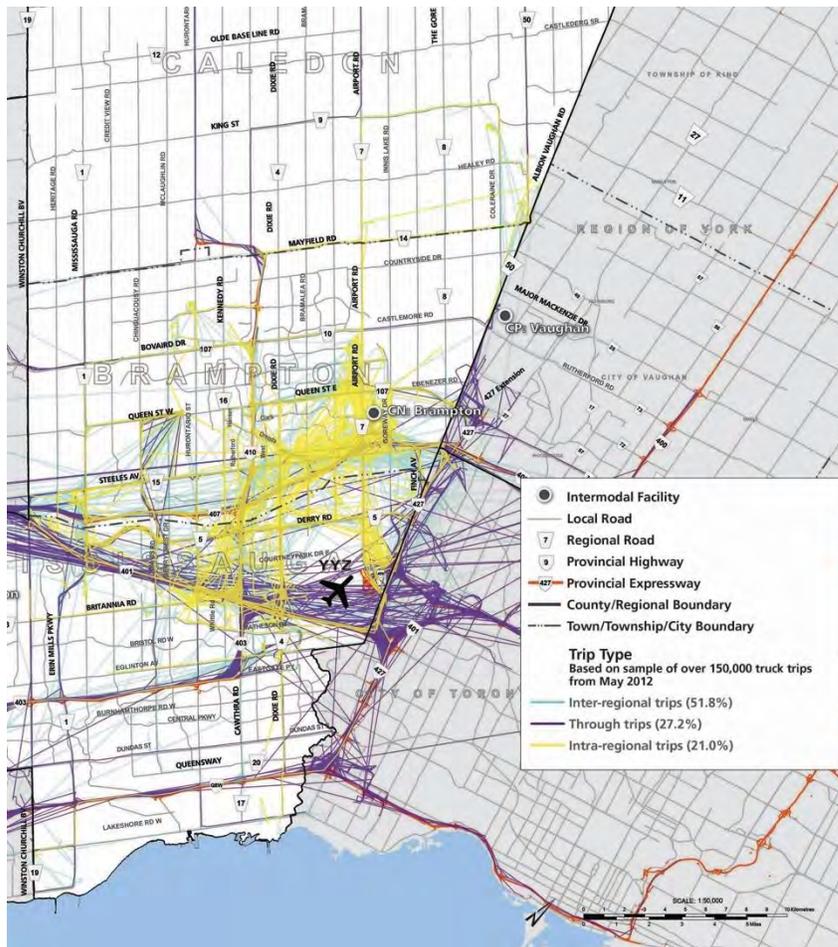
**Figure 4. Exampe of Route Volumes (intensity) based on GPS Traces in Peel Region**



Source: DKCI et al., *Strategic Goods Movement Network Study, Technical Report*, Peel Region, Brampton, 2013.

<sup>22</sup> Note that the data are anonymized and, as appropriate, spatially aggregated so as to maintain confidentiality of the establishment and of the vehicle.

**Figure 5. Example Truck Trips by Type of Origin and Destination from Peel Region**



Source: DKCI et al., *Strategic Goods Movement Network Study, Technical Report*, Peel Region, Brampton, 2013.

The data are limited by the fact that they generally are for heavy trucks (very few observations from other types of vehicles), are drawn from fleets that are large enough to subscribe to a GPS management service (meaning smaller owner/operator trucks tend not be included), and tend to have limited coverage of multi-stop urban activity. The data also provide 24/7/365 coverage, which allows for variations over time to be examined (although, because stops are inferred, the data do not represent a true origin-destination survey). However, in sum, they provide a powerful means of portraying truck flows, origins, destinations, routings and intensities. They would go far in identifying, for example, candidate truck route corridors to fill gaps in the rural network.

#### 5.4 Rapid Transit and Truck Routes

A key goods movement issue is the need to maintain access for trucks, allowing for truck turns, etc along the B-Line and other rapid transit routes. The nature and extent of these issues inevitably will become apparent only during the detailed planning and design phase for the rapid transit corridors, and it is reasonable to anticipate that some restrictions on vehicle size, turning movements and so on will result. This issue arose in the *Peel Region*

*Strategic Goods Movement Network Study*, regarding the proposed LRT on Hurontario Street. The key was to ensure that nearby alternate parallel routes were provided, so that access to key downtown Mississauga generators could be maintained, unencumbered by operational or design restrictions imposed by the LRT. As with other aspects in updating the TRMP, it is essential that consultation occurs with industry. Section 6.2.5 considers goods movement in the context of Complete Streets.

## 6. TOPIC 3: INTEGRATION OF GOODS MOVEMENT INTO COMPLETE STREETS

### 6.1 Issues and Opportunities

The concept of a Complete Street is described in other background reports, and so it is not repeated here except to note that, in practice, several recent plans and guidelines have very little to say about how goods vehicles actually can be accommodated. By definition, Complete Streets initiatives have focused on integrating safe and convenient paths for non-motorized users and transit into urban road rights-of-way, with less said on the accommodation of goods movement vehicles, except in industrial areas. For example, Chicago's 2013 Complete Streets guide adopts a four-level "pedestrian-first modal hierarchy," with pedestrians at the top of the hierarchy, followed by transit, bicycles and autos. Goods movement is not listed explicitly in the hierarchy "because it is cross-modal – trucks (auto), bike trailer (bicycle), and delivery person (pedestrian)." The concept of a "design vehicle," based on a 23' delivery vehicle, is incorporated into residential street design (but not other goods vehicles). The need to accommodate snow removal vehicles, truck routes and industrial areas is noted, suggesting the possibility of "a more auto-oriented [i.e., truck-oriented] hierarchy" on certain streets thus designated.<sup>23</sup> The 2014 *Complete Streets Catalogue* describes several GGH Complete Street case studies; however, only one example (Simcoe Street in downtown Toronto) refers to goods movement, and this is only to note that loading was accommodated within an improved active transportation corridor.<sup>24</sup>

As a result, although Complete Streets by definition must accommodate all users, less attention has been given to accommodating trucks and delivery vehicles than it has to other modes.<sup>25</sup> For example:

- Curb extensions, despite their other benefits, can block site access for a truck.
- Roundabouts, despite their pedestrian- and cyclist-friendly designs, can be difficult for trucks to manoeuvre.
- Many Complete Streets initiatives place a bicycle lane next to the curb, which must be crossed by drivers making deliveries, even if they are parked in designated loading areas.

The need for flexibility and creativity is cited as a way forward in order to balance the competing needs. For example, one common source of conflict is the use of large corner radii to accommodate trucks turning from the right lane into the right lane. Some guides accommodate the turning of large vehicles onto smaller streets with curb extensions by

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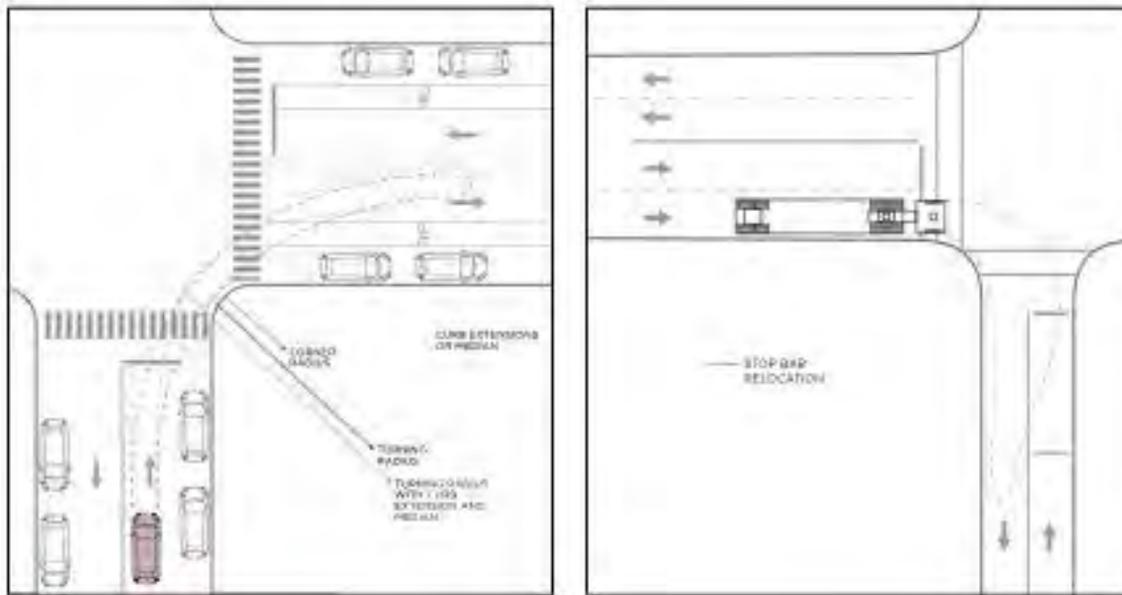
<sup>23</sup> *Complete Streets Chicago, Design Guidelines*, City of Chicago Department of Transportation, Chicago, 2013.

<sup>24</sup> *The Complete Streets Catalogue: Understanding Complete Streets in the Greater Golden Horseshoe Region*, Toronto Centre for Active Transportation, Toronto, 19 November 2014. Cannon Street in Hamilton is one of the case studies. A reduction in truck traffic that occurred as the area transitions from an industrial economic base to more diverse uses is cited as a key factor in the conversion of the street (between Ottawa and Sherman streets) to a Complete Street.

<sup>25</sup> J. Green, *Complete Streets vs. Trucks*, *The Dirt*, online newsletter of the American Society of Landscape Architects, 21 January 2015. Accessed 28 August 2015 at <http://dirt.asla.org/2015/01/21/complete-streets-vs-trucks/>.

crossing over the centre line of the smaller street, which requires the stop bar to be moved back (see the right illustration in Figure 6). The left illustration shows that a curb extension at the intersection provides a larger turning radius, which, in combination with a centre median or allowing the vehicle to cross the centre line, could accommodate the turning vehicle without overriding the curb extension.<sup>26</sup>

**Figure 6. Corner Design Concepts**



Source: *Complete Streets Chicago*, Figure 30.

The 2014 Los Angeles guide accounts for “overlays” that, in the case of truck routes and other roads that are “designated” for goods movement (e.g., industrial collectors), allow designs and dimensioning that include wider travel lanes and larger turning radii in order to accommodate trucks.<sup>27</sup>

## 6.2 Recommendations

Several **recommendations** arise from the preceding discussion regarding the development of a ‘Made in Hamilton’ Complete Streets policy.

### 6.2.1 Allow for a Broad Designation of ‘Major Truck Streets’

Many Complete Street guides accept that, in industrial areas, vehicular traffic will have priority. However, The City of Seattle provides some insight into a broader accommodation of trucks in a Complete Streets context: “Mobility” is noted as the policy’s second priority, after safety. Consistent with these two priorities, on streets that have been designated as

<sup>26</sup> Note that these examples are provided here only to illustrate the concept: a detailed design guide would be required before any actual application.

<sup>27</sup> *Complete Streets Design Guide: Great Streets for Los Angeles* (draft), City of Los Angeles Department of City Planning, Los Angeles, November 2014.

“Major Truck Streets,” the policy requires that design and operational improvements “support” all modes, and “are consistent with freight mobility.” A Major Truck Street is:

“an arterial street that accommodates significant freight movement through the city, and to and from major freight traffic generators. The street is typically a designated principal arterial ... Major Truck Streets generally carry heavier loads and higher truck volumes than other streets in the City. [The Department of Transportation] uses the designation of Major Truck Street on an on-going basis as an important criterion for street design, traffic management decisions and pavement design and repair.”<sup>28</sup>

In other words, a Major Truck Street does not have to be within an industrial area; instead, it can include arterials anywhere in the city that are “significant” to freight activity. This broader consideration of freight resulted from a “major debate” that took place during the development of the City’s Complete Streets ordinance. The debate concerned the treatment of freight. As a result, the final policy reads:

“Because freight is important to the basic economy of the City and has unique right-of-way needs to support that role, freight will be the major priority on streets classified as Major Truck Streets. Complete Street improvements that are consistent with freight mobility but also support other modes may be considered on these streets.”

Pedestrian and bicycle advocates were not happy with the clause, but the City determined that the inclusion of this wording was necessary to gain the support of the freight community.<sup>29</sup>

Note that the wording of Seattle’s overall Complete Streets policy is sensitive to the needs of freight: for example, the policy notes that reducing the number of lanes “usually” means lanes can be slightly wider, thereby improving circulation for buses and “freight.”<sup>30</sup>

### 6.2.2 Develop Guidelines for Designating ‘Major Truck Streets’

The Seattle experience illustrates the importance of having guidelines or criteria that could be used to identify candidate corridors for designation as Major Truck Streets. Although the Seattle policy considers load type and truck volumes, fixed thresholds or values are not specified. This allows for flexibility and judgement in the designation, rather than relying solely on a numerical threshold to trigger (or not) the designation. A systematic approach is provided by a 2013 study that developed a strategic goods movement network for Peel Region. The strategic goods movement network is a hierarchy of roads that promotes direct connectivity among major goods movement activity centres and with the major highway network, while minimizing intrusion through residential neighbourhoods and environmentally sensitive areas. The hierarchy allows the Region to incorporate goods movement needs explicitly into setting priorities for road improvements. The network takes into account truck volumes and land use, and is designed for updates every five years as conditions change.

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<sup>28</sup> *Truck Classification Legend Definitions*, City of Seattle, no date. Accessed 10 September 2015 at <http://www.seattle.gov/transportation/streetclassmaps/trucklegend.pdf>.

<sup>29</sup> B. McCann and Rynne, S., editors, *Complete Streets: Best Policy and Implementation Practices*, Planning Advisory Service Report Number 559, American Planning Association, Chicago, March 2010. Seattle’s ordinance was approved by City Council in 2007.

<sup>30</sup> *Designing Safer Streets*, City of Seattle, 27 February 2014. Accessed 28 August 2015 at <http://www.seattle.gov/transportation/saferstreetsforall.htm>.

Six principles guided the development of the strategic goods movement network, and these are equally useful in determining the significance for goods movement of a candidate Complete Street:

- Build upon existing networks in planning and design future goods movement network. In other words, consider existing activity and usage of the street.
- Incorporate economic activity into the network definition. Account for the commercial and industrial activity along the street in question, and also for its role in connecting goods-generating activity centres.
- Incorporate land use plans into the network definition. Consider both current and planned future conditions.
- Make use of available data on the movement of goods – i.e., use an evidence-based approach to determine the goods movement “significance” of a street.
- Ensure that truck-specific needs are incorporated into design and operational requirements.
- Ensure that the network ultimately can support the required pavement and infrastructure capacities – in other words, ensure that the right-of-way physically can accommodate trucks, if it is to be a Major Truck Street.<sup>31</sup>

### 6.2.3 Accommodate Curbside and Other Operational Improvements

A Complete Streets guideline should be capable of accommodating operational improvements, in addition to design consideration. A key example is an ongoing initiative by MTO and several municipalities that piloted off-peak delivery (OPD) programs in the GTHA. These aim at allowing night time deliveries in designated areas in order to reduce congestion in dense urban areas during the day time. OPD programs have been incorporated elsewhere, most notably in New York City in combination with other measures that aim to improve the flow of traffic on key corridors during commuter peak periods. Some cities have adopted measures that improve deliveries in dense urban areas: for example, Philadelphia allows pre-approved trucks to stop in no-parking zones.<sup>32</sup>

A demonstration project in Brooklyn, New York, examined ways to accommodate bicycle lanes and on-street loading. The project converted a two-way street with bicycle lanes on each side of the street (which experienced intrusions of trucks for unloading), to a one-way street, with the bicycle lanes paired on one side of the street, and the other side converted to a curbside loading lane. Another treatment moved the loading lane beside the curbside bicycle lanes, meaning that trucks could park adjacent to, but not block, the bicycle lanes. At night, curbside delivery is permitted on the bicycle lane to a 24-hour pharmacy. Evaluations of the initiatives, including interviews with truck drivers, were conducted, although the findings have not yet been made available.<sup>33</sup>

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<sup>31</sup> Adapted from David Kriger Consultants Inc. et al., *Strategic Goods Movement Network Study, Technical Report*, Peel Region, Brampton, April 2013.

<sup>32</sup> J. Green, *Complete Streets vs. Trucks, The Dirt*, online newsletter of the American Society of Landscape Architects, 21 January 2015.

<sup>33</sup> A. Conway, Faivre, G. and Conway, M., *Accommodating Freight on Mixed-Use Urban Streets*, presentation to the METRANS International Urban Freight Conference, Long Beach, California, 9 October 2013.

Another approach was applied in Boston in the Downtown Crossing Area, a section of the downtown with a high level of business and commercial activity. The city's curbside management policy prohibits commercial vehicles from using certain streets between 11:00 am and 6:00 pm. This helps reduce congestion during the afternoon commuter peak period. Exceptions are made for trucks with time-sensitive cargo, including courier trucks and postal vehicles.<sup>34</sup>

The City of Toronto is currently conducting a curbside management study, in which truck loading and unloading is an important issue.

#### **6.2.4 Ensure Urban Design Accounts for Couriers / Express Delivery**

Couriers have different site access requirements than more traditional loading and unloading tasks. Couriers and express delivery services must be able to access the front desk of a business (and, increasingly, a residence), as opposed to the back-door loading dock; and they must be able to get in and out quickly. However, many downtown buildings are not appropriately designed to accommodate this growing activity. One result is that couriers park illegally, with impacts on the circulation of traffic (including transit buses, which must navigate around the vehicles) and on the costs of doing business (due, for example, to the traffic fines that result). A 2009 report examined ways to improve this access: for example, through designated parking bays similar to the ones provided for buses in downtown areas and the provision of dedicated courier parking spaces close to building entrances.<sup>35</sup>

#### **6.2.5 Develop Guidelines for LRT Corridors**

There will be a need to develop design guidelines that accommodate trucks on the proposed LRT corridors. The treatment must be linked to the actual design of the corridor, as well as to the current and expected needs for truck access, loading and unloading. Section 5.4 discussed the treatment of truck routes in this context.

#### **6.2.6 Incorporate Freight-Friendly Practices in Land Use Plan Development**

'Freight-friendly' land use planning techniques ensure that freight transportation needs are incorporated in planning activities at all scales. Although not specific to Complete Streets, the incorporation of 'freight-friendly' land use planning in the City's policies would provide a broader context for a Complete Street guideline that actively considers goods movement. There are several examples of guidelines. In Ontario, the Ministry of Transportation's *Freight-Supportive Guidelines* provide a comprehensive guide on incorporating goods movement considerations into land use plans, in three main ways:

- Land use and transportation planning, with strategies for incorporating goods movement considerations into the municipal planning process in balance with other objectives. The strategy also describes the "freight audit," which is a technique to inform planning decisions to enable the safe and efficient movement of goods.

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<sup>34</sup> *Tools and Practices for Land Use Integration, Urban Freight Design Guidelines and Intermodal Centers*, Federal Highway Administration, [http://www.fhwa.dot.gov/planning/processes/land\\_use/land\\_use\\_tools/page04.cfm#toc380582807](http://www.fhwa.dot.gov/planning/processes/land_use/land_use_tools/page04.cfm#toc380582807)

<sup>35</sup> Ryerson Institute of Housing & Mobility, *Challenges Facing Express Delivery Services in Canada's Urban Centres*, prepared for the Canadian Courier & Logistics Association, Toronto, 2009.

- Site design, with a range of general measures that can be applied to site plans and specific initiatives that are tailored to different land uses. The approach addresses how site design for goods movement can be coordinated with the design for active transportation and transit.
- Road design and operations, which incorporates goods movement into the design and operation of municipal roads.

The guidelines do not have status, and so they are intended only to inform municipalities.<sup>36</sup>

Other reports provide similar guidance, such as a 2014 Australian guide that focuses on industrial areas. Among other considerations, this guide noted the need to account for changing vehicle sizes in the development of access plans (for example, the growing use of longer-combination vehicles), the use of consistent access standards for both local and arterial sites, and the need to examine both road access and on-site access.<sup>37</sup>

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<sup>36</sup> *Freight-Supportive Guidelines*, Ministry of Transportation of Ontario, Toronto, June 2013. See <http://www.mto.gov.on.ca/english/sustainability/Freight-Supportive-Guideline-EN.pdf>.

<sup>37</sup> *Guidelines for Planning and Assessment of Road Freight Access in Industrial Areas*, Research Report AP-R470-14, Austroads, Sydney, Australia, 2014.

## **7. SUMMARY OF RECOMMENDATIONS**

### **7.1 Updates to TMP Goods Movement Policy**

The following recommendations are made regarding the consideration of goods movement in the TMP.

#### **7.1.1 Vision**

Enhance vision for goods movement, stating:

*The City's multi-modal transportation network is safe, economical, reliable, efficient, and environmentally sustainable.*

*Within Hamilton, goods movement is widely recognized as an essential contributor to the economic, social, and environmental well-being of residents and workers, and to the promotion of a strong and vibrant economy.*

#### **7.1.2 Goals**

Express goals (or objectives) that:

- Support the development of a road network that provides direct connections between goods-generating land uses and the major multi-modal transportation system and inter-modal terminals.
- Support the economic aspirations of the City's key inter-modal hubs – the Port of Hamilton and Hamilton International Airport – through the continued development of these hubs as key employment centres.
- Remove bottlenecks and aims to provide congestion-free journeys for the movement of passengers and goods, maintaining adequate levels of service for all users as the City's population and employment grows.
- Promote freight-friendly land use planning, consistent with Official Plan goals.
- Work with other municipal and senior governments to ensure that the City is well-connected with other regions in south-central Ontario and into the United States; in particular, to provide the appropriate connections and eliminate bottlenecks beyond the City's boundaries.
- Ensure that the private sector goods movement community is engaged throughout all planning and policy development processes, so that their needs can be met and so that they also can contribute meaningfully to the development and implementation of solutions, to the common benefit of all.

#### **7.1.3 Policies and Actions**

The goods movement policies outlined in the 2007 TMP generally should be maintained and, in some cases, restated. Other specific infrastructure recommendations must await the results of the other components of the TMP. Notable among the continuing needs are the promotion of an east-west connection between the Highway 6 extension from the Airport to the Red Hill Valley Corridor or east of the City; the resolution of bottlenecks across the network; maintenance of Burlington Street as an access to the Port; working with the Province to address congestion on Highway 403 and, more generally, encouraging the

Province to address congestion issues on the 400-series highways in the GTHA and across southern Ontario.

The four supporting policies should be retained:

- Improving dialogue with the goods movement community, by participating in existing forums and maintaining contact with the private sector goods movement community through established conduits.
- Maintain, protect and enhance the existing goods movement network in Hamilton.
- Defining freight-supportive land use policies, so as to situate goods-generating employment lands close to and with ready access to the transportation network.
- Maximizing the efficiency of the existing goods movement network through operational and regulatory means.

Finally, additional policies are proposed:

- Focus on the continued development of the Port of Hamilton and Hamilton International Airport as the dominant intermodal hubs.
- Consider carefully whether or not additional intermodal terminals actually are warranted.
- Work with neighbouring municipalities and senior governments to ensure that the City has the appropriate connectivity to support the City's continued growth as a multi-modal logistics hub.
- Work with Metrolinx and other agencies to collect data on goods movement characteristics.

#### **7.1.4 2005 Goods Movement Strategy**

The 2007 TMP benefitted from the availability of a comprehensive goods movement strategy to inform it. However, the strategy is now 10 years old. Accordingly, an update is warranted, in order to address changing economic conditions (especially the ongoing post-recession economic restructuring), ensure consistency with other plans and policies that have been adopted since then, and measure progress towards the achievement of its initiatives.

## **7.2 Truck Route Network**

It is recommended that the 2010 Truck Route Master Plan (TRMP) be retained. However, it must be updated to address several topics that require a broad, integrated treatment. These topics are:

- ORC – Hamilton International Airport truck route.
- Rural network gaps in the vicinity of the ORC – HIA corridor.
- Truck routes through Lower City.
- Port to rail connections and the changing needs of the Port as it transitions to a mix of existing and new types of land uses.
- Truck routes in anticipation of a future Niagara to GTA (or similar) corridor.

Other recommendations are:

- Deployment of commercial GPS heavy truck traces to explain actual usage of the truck route system, in support of any TRMP or other planning initiatives.
- Plan for adequate truck route coverage to serve the future rapid transit corridors.

### 7.3 Goods Movement and Complete Streets

It is recommended that the development of a “Made in Hamilton” Complete Streets process:

- Account for streets that are “significant” connectors for trucks, even if they are outside industrial areas.
- Develop and apply guidelines to determine the “significance” of the truck component of users. The guidelines must be flexible, as opposed to hard-and-fast numerical thresholds. The City of Seattle’s “Major Truck Street” designation is a good example of how to go about doing this.
- To make it work, put the goods movement aspect of Complete Streets into the big picture, by accounting for:
  - Operations and not just design; e.g., off-peak delivery, fitting bike lanes and loading spaces into the right-of-way, accounting for the specific access needs of courier / express delivery services, etc.
  - The specific goods movement requirements of the proposed LRT corridors. These requirements will be linked to the eventual corridor design.
  - Freight-friendly land use planning – e.g., MTO’s draft *Freight-Supportive Guidelines*.