



# CITY OF BRAMPTON TRANSPORTATION MASTER PLAN UPDATE

TECHNICAL REPORT #7 - GOODS MOVEMENT

AUGUST 2015



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## 1. INTRODUCTION

Goods Movement is an integral part of the transportation system in the City of Brampton. Efficient and effective goods movement is important to keep retail stores stocked, receive components needed for manufacturing and to deliver finished products to markets. This technical report summarizes the Goods Movement component of the City of Brampton Transportation Master Plan Update (TMPU). The scope of this technical memorandum is to identify the existing goods movement infrastructure in the City and to:

- Identify existing conditions of Goods Movement Infrastructure in Brampton;
- Summarize and refine how the Region of Peel's Strategic Goods Movement Network relates to City roads;
- Identify employment areas and freight hubs, and their accessibility via the Region's Strategic Goods Movement Network and City roads that allow the through movement of heavy goods vehicles;
- Look at rationalizing the City's truck route network; and
- Plan a goods movement network that balances efficiency and safety for all road users.

It should be noted that for the purposes of this study, only the strategic network layout has been considered. Engineering reviews are required to confirm the suitability of any particular road for truck traffic.



## 2. GOODS MOVEMENT OVERVIEW

### 2.1 Characteristics of Freight Movement

Freight is moved by truck, rail, ship and airplane. In the case of Brampton, trucks and rail predominate, as the closest seaport and airport are outside of city boundaries. Heavy trucks transport a variety of goods using the road network. Trucks offer the most geographically-specific freight delivery service from origin to destination and are normally responsible for the end segment of trips in which other freight transport modes are used for line-haul. The trucking mode relies heavily on efficient connections with other freight modes at system facilities such as rail and marine intermodal terminals and airports. Increases in the number and size of trucks within communities and on roads will result in an increase in the possibility of conflict between road users. Avoiding and reducing conflicts between various road users at road and rail crossings, and between transportation facilities and adjacent land uses, continues to be an important part of land use planning.

The rail mode is mainly suited for hauling heavy, bulk commodities and intermodal containers over long distances, normally greater than 650 km. Rail is often used to move bulk shipments and other commodities to industrial facilities at intermodal terminals, port facilities and directly to and from industrial facilities that have rail sidings on site. Freight moved by rail is usually lower in value and is generally not time-sensitive. However, it can sometimes include items such as finished automobiles and auto-parts, which is the case in Brampton due to the presence of the Chrysler assembly plant. Intermodal facilities are currently used to transfer goods between rail and trucking modes.

Goods Movement by aircraft is most ideal for high-value, and/or time-sensitive cargo such as courier shipments and perishables. Efficient connections to the trucking mode at airports are essential for most freight trips by air. Airfreight is traditionally highly concentrated in a few large airports such as Lester B. Pearson International Airport, located just south of Brampton's municipal boundary.

### 2.2 Needs of Freight Movement

Freight transportation systems must now meet higher demands in service level, while maintaining competitive pricing, addressing issues associated with growth and congested road conditions. There is an increased focus on service reliability as the use of rail, intermodal connections, ports, and air trade will continue to grow on a global scale.

New operating conditions imposed by changing economic, environmental and demographic practices have changed production, distribution and logistics requirements. An example of this is just-in-time delivery, where businesses limit the amount of inventory on hand and rely on freight services to deliver the goods that customers want "just-in-time". This practice improves a business's inventory cost by reducing travel times and reducing warehousing costs, while still providing the customer with the desired product.

Due to online ordering, mobile inventories are the normal business model in the freight movement industry. This has resulted in a significant increase in distribution and transportation centres, which are large warehouse structures, designed to accommodate and store high volumes of inventory



with frequent movement of smaller loads. These centres are found in specific locations designed to serve regional markets. These facilities require large tracts of land with easy access to higher order transportation systems and can generate significant amounts of truck traffic depending on the type of goods being stored. Some of these centres could be built on abandoned or underused industrial lands that are within the existing urban fabric. Re-using existing lands can benefit freight industries because of the close-to-market location of these infill sites. These location requirements are resulting in groups of truck activity along highway corridors and in large employment areas in urban areas.

Just-in-time delivery and demand-side inventory management have led to frequent deliveries of goods and services. This has made efficient transfer between modes necessary for Goods Movement.

### 2.3 Impacts of Freight Movement on the Community

Freight planning considerations need to be integrated into land use and transportation planning so that freight movements can occur safely and efficiently without having a significant negative impact on the community. Proper coordination of land use planning with transportation planning in relation to Goods Movement is needed in order to create an efficient, competitive and sustainable community. Transportation facilities provide the connections for people and goods within a community and with neighbouring communities. Planning for freight is an important part of planning for complete communities. Options for multimodal transportation can be improved with an appropriate land use plan that leads to decreasing traffic congestion, reducing trip travel times, lowering transportation infrastructure costs, as well as providing the opportunity for a higher quality-of-life and a healthier environment.

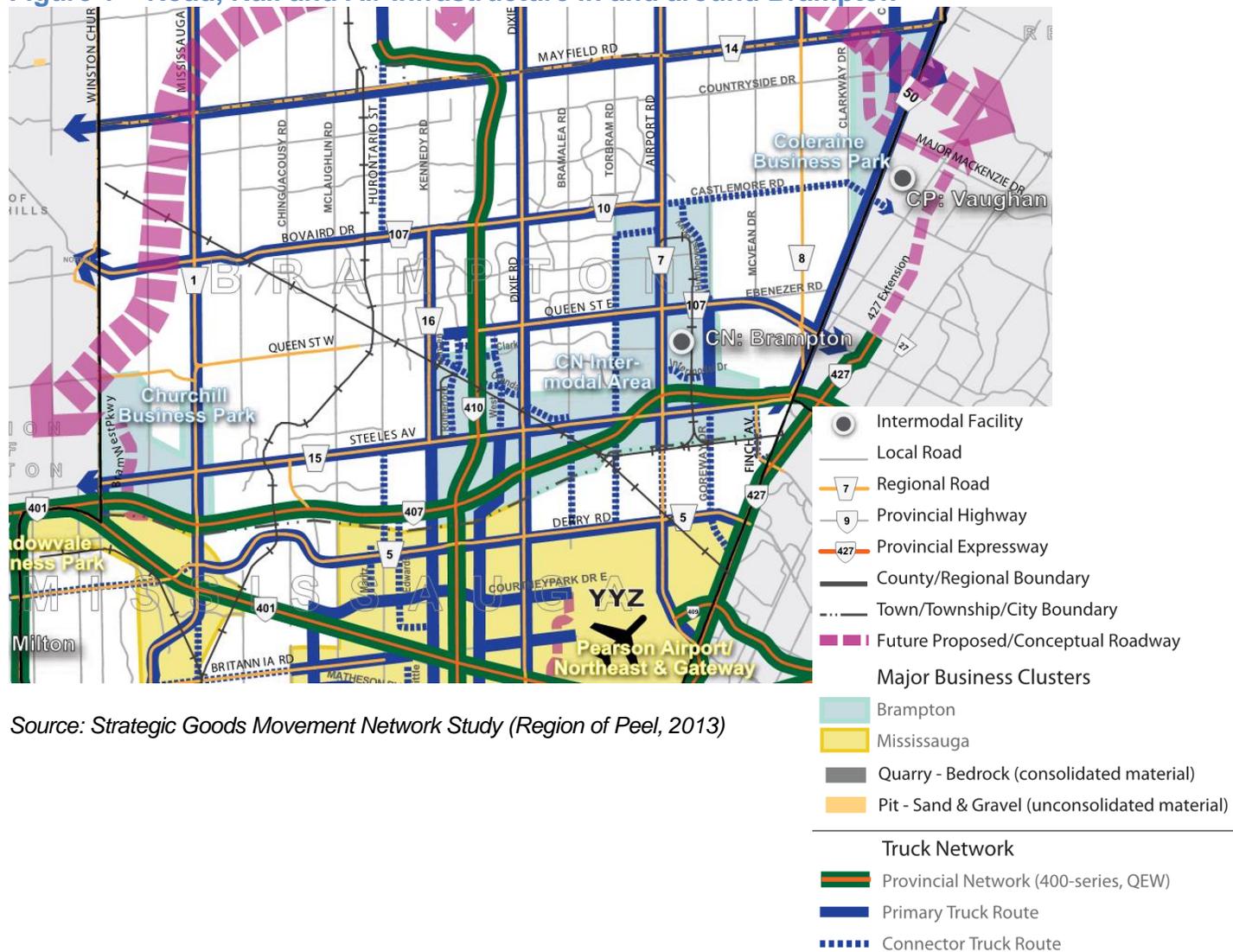


### 3. EXISTING GOODS MOVEMENT INFRASTRUCTURE

The City of Brampton benefits from a multimodal Goods Movement network which includes road, rail and air infrastructure. This is illustrated in **Figure 1** below, which is an excerpt from the Peel Region Strategic Goods Movement Network (SGMN) shown in **Appendix A**.

Development of the SGMN was an action item from the Peel Region Goods Movement Strategic Plan (2012 to 2016), which was formulated by the Peel Region Goods Movement Task Force. The SGMN is also referenced in other policy documents such as the Peel Long Range Transportation Plan (LRTP) Update 2012, which notes that “Peel Region will continue to co-ordinate with area municipalities on municipal and Regional heavy truck restrictions”.

**Figure 1 – Road, Rail and Air Infrastructure in and around Brampton**



Source: Strategic Goods Movement Network Study (Region of Peel, 2013)



### 3.1 Road

At Brampton's southern boundary, bordering with Mississauga, there is a confluence of provincial highways. Highway 410 is oriented in a north-south direction and runs through the geographical centre of Brampton. Along the City's southern boundary runs the toll Highway 407. There is also an extensive network of Regional roads linking Brampton to its neighbouring municipalities of Caledon to the north and Mississauga to the south, as well as Halton Region to the west and York Region to the east.

### 3.2 Rail

The Canadian National (CN) mainline runs in an east-west orientation through Brampton. It meets the boundary with Mississauga at Torbram Road and the Halton Hills boundary just south of Wanless Drive, crossing Brampton in a straight line. There is also a spur that connects the CN Intermodal terminal and joins the mainline where it passes under Highway 407. Connecting with the CN mainline, the Orangeville Brampton Railway is a community-owned short line. Although it remains in use, service is limited and primarily consists of industrial cargo trains.

### 3.3 Air

Canada's largest airport, Pearson International, lies less than 2km from Brampton's southern boundary. The airport has an annual cargo throughput of approximately half a million metric tonnes. Its three cargo aprons measure 2.5 million square feet.



## 4. ROAD INFRASTRUCTURE

Brampton's road network includes provincial highways, regional roads and local roads which are maintained by City of Brampton. The city road hierarchy is illustrated in Schedule B of the City of Brampton's Official Plan, shown in **Figure 2**.

The Region of Peel has undertaken a Strategic Goods Movement Network Study (SGMNS) to develop a hierarchical and systematic truck route network. This focused on the road-based movement of goods in the City of Brampton, as well as Caledon to the north and Mississauga to the south. The Brampton section is shown in **Figure 1**.

### 4.1 City of Brampton Heavy Vehicle Restrictions

The movement of heavy goods vehicles is restricted on some City roads, as shown in **Figure 3** below. City by-law 93-93 prohibits the passage of truck through traffic on particular roads at specific times. Heavy vehicles are exempted from this only if they are "engaged in making delivery to or a collection from premises which cannot be reached except by way of a highway or a portion of highway referred to in the said section or to prohibit the use of such vehicles, for such purposes, provided that, in making such delivery or collection, the said highway or portion of highway is travelled only insofar as is unavoidable in getting to and from such premises."

**Figure 3** was compared with the Peel Region Strategic Goods Movement Network (SGMN) in **Figure 1** and some primary or connector truck routes on the SGMN were found to have City restrictions in place. Only weight limits or outright prohibitions were considered as time limits generally apply overnight only, hence Goods Movement activities can be planned around them. Conflicts are listed below, along with suggested alternative routes between Strategic Goods Movement Network links that are open to all trucks.

Even though they are portions of Peel's SGMN, the City of Brampton prohibits the through movement of heavy vehicles on:

- Torbram Road between Queen Street and North Park Drive. Alternatively, trucks may use Chrysler Drive and Williams Parkway within the CN Intermodal Area; and
- Humberwest Parkway between Castlemore Road and Williams Parkway. This proposed truck connector route may be replaced in the SGMN by the section of Cottrelle Boulevard east of Airport Road.

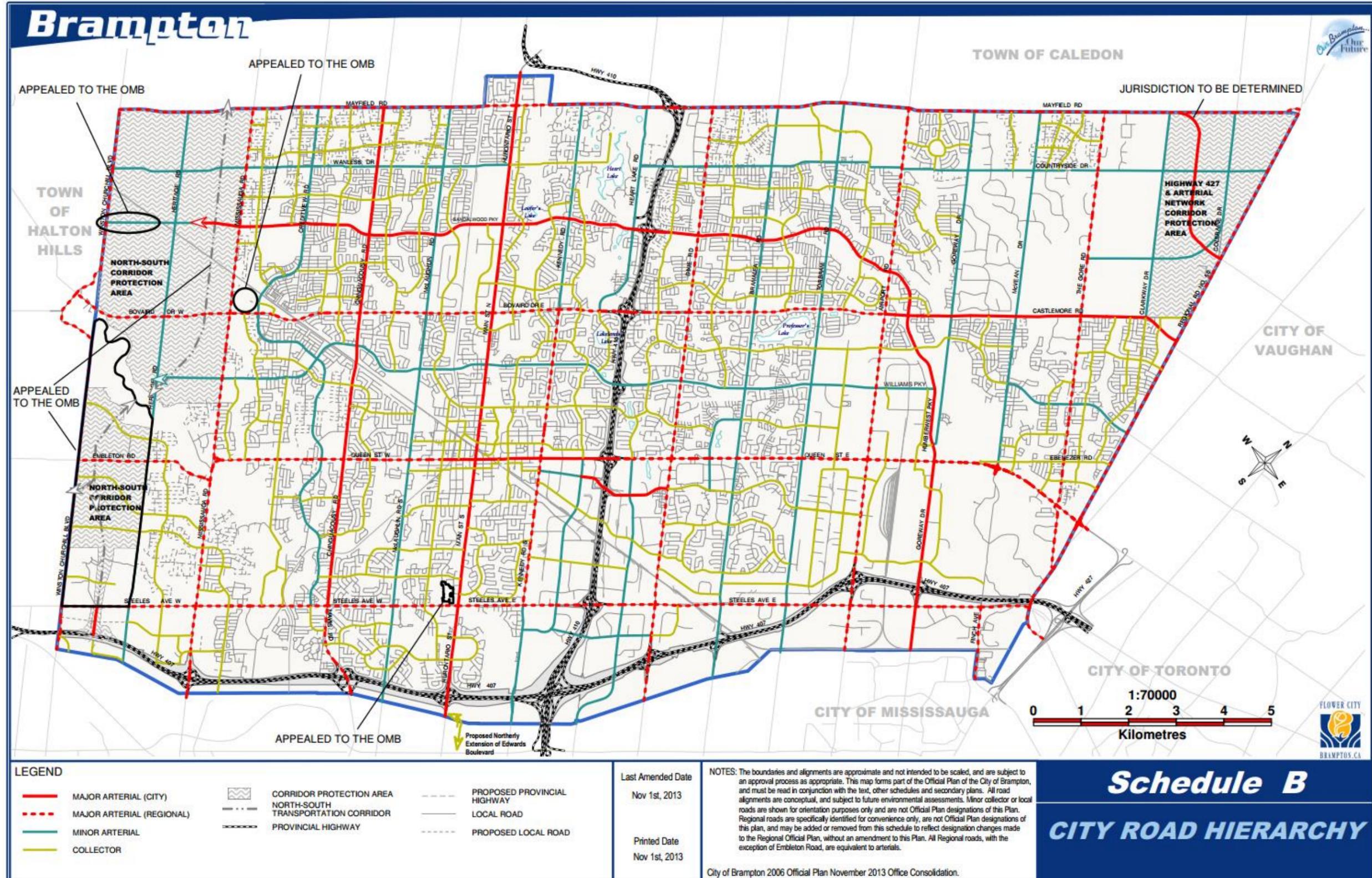
The City should re-examine these two road links to determine if the truck prohibitions remain appropriate. If so, the City should work with Peel Region to remove these links from the SGMN and identify alternative road links for truck movement.

The report from the Region of Peel Arterial Roads Review Ad Hoc Steering Committee meeting held on June 21, 2012 (included in **Appendix B**) identifies two roads that form part of the SGMN for upload to the Region:

- Coleraine Drive between Highway 50 and Brampton's northern boundary, extending into Caledon; and
- Castlemore Road between Airport Road and Brampton's eastern boundary.



Figure 2 – City Road Hierarchy (Schedule B of the City of Brampton’s Official Plan)





Although **Figure 3** shows both as City roads with a 'No Heavy Vehicles Anytime' restriction, **Figure 4** assumes that these are both Regional roads and that the City restriction will therefore no longer apply.

## 4.2 Access to Employment Areas

Employment areas were identified from Schedule 1 of the City of Brampton's Official Plan. All of the employment areas shown are accessible via the Peel Region Strategic Goods Movement Network (shown in **Figure 1**) and roads without City of Brampton heavy trucks restrictions (illustrated in **Figure 3**) with two exceptions:

### 4.2.1 9500 McLaughlin Road, 9446 McLaughlin Road and Holtby Avenue

The area bounded by Williams Parkway to the north, McLaughlin Road to the east and Holtby Avenue to the south is designated as an employment area. It includes 9500 McLaughlin Road, currently occupied by a Gap Inc. distribution centre, and 9446 McLaughlin Road, a plaza containing Quick Fitness and Royal Pioneer Door and Window among others. The CN railway line passes through the area and immediately to the south are a row of industrial properties accessible from Holtby Avenue.

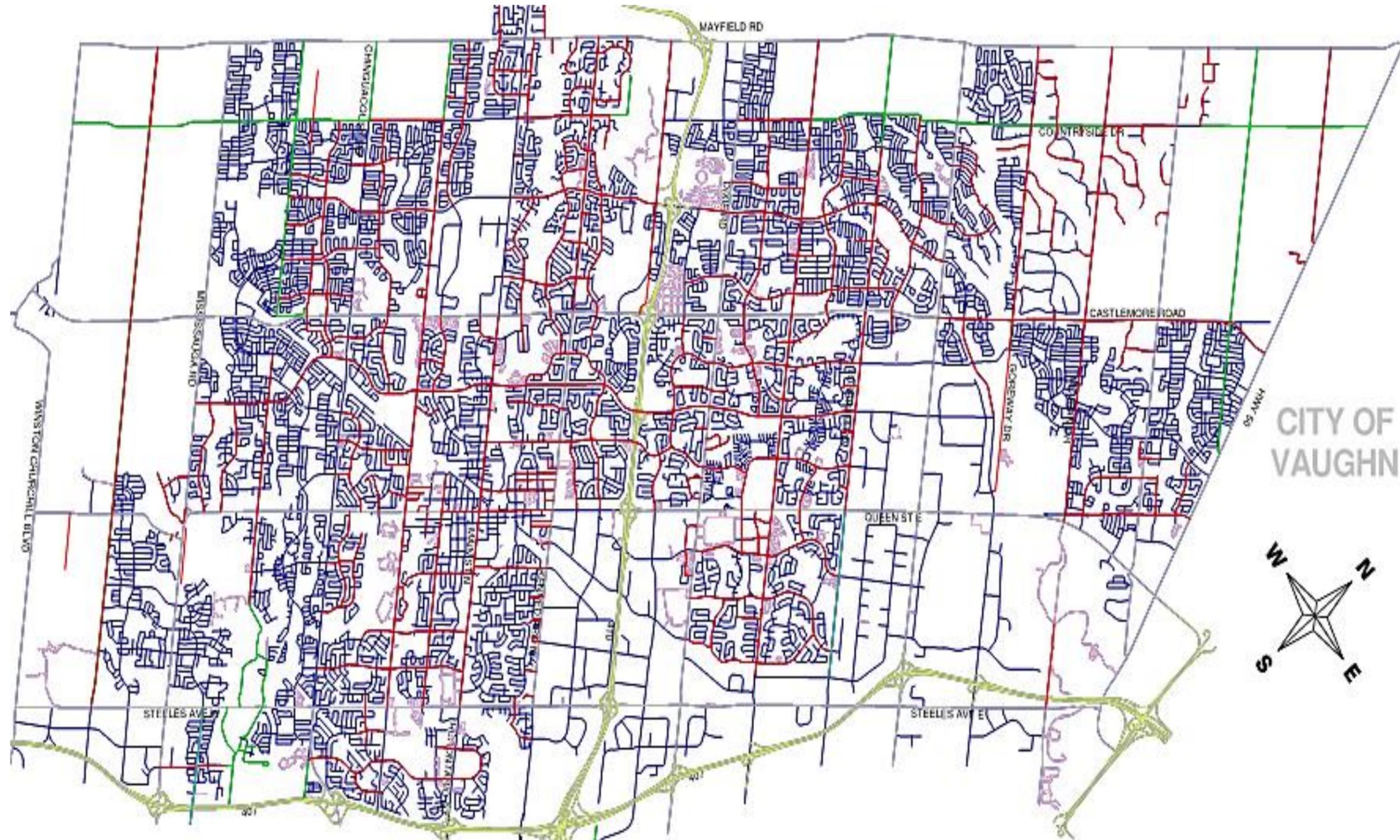
At the southern access to 9446 McLaughlin Road, entry and exit is by right-turn movement only, hence vehicles leaving the site must head south. Although residential properties are located on parallel streets and back onto McLaughlin Road, no properties have direct access. The roadway currently has a four lane cross-section with a boulevard and sidewalk on both sides; the need for sound walls or other mitigating measures should be assessed where appropriate. The physical condition of the roadway, its bridges and culverts should also be confirmed as suitable for heavy trucks. The dimensions of the railway bridge should be checked, with height restrictions applied where appropriate.

The 'No Heavy Vehicles Anytime' described in **Section 4.1** and illustrated in **Figure 3** applies to through traffic and does not prohibit access to the site. However, vehicles must turn off the restricted road at the earliest opportunity, which in this case would be Queen Street. Given that Queen Street is also restricted east of McMurchy Avenue, it is expected that such vehicles will turn right onto Queen Street heading westbound. The most direct route back to the Strategic Goods Movement Network involves turning off Queen Street at the next major intersection, which is Chinguacousy Road: either right toward Bovaird Drive or left toward Steeles Avenue and Highway 407.

For the Holtby Avenue properties, Queen Street is the closest unrestricted road. Vehicles entering and exiting 9500 McLaughlin Road should do so via Bovaird Drive. An engineering assessment should also be carried out on the section of McLaughlin Road between Bovaird Drive and Queens Street, and particularly the CN railway bridge, to confirm its suitability for truck movement.

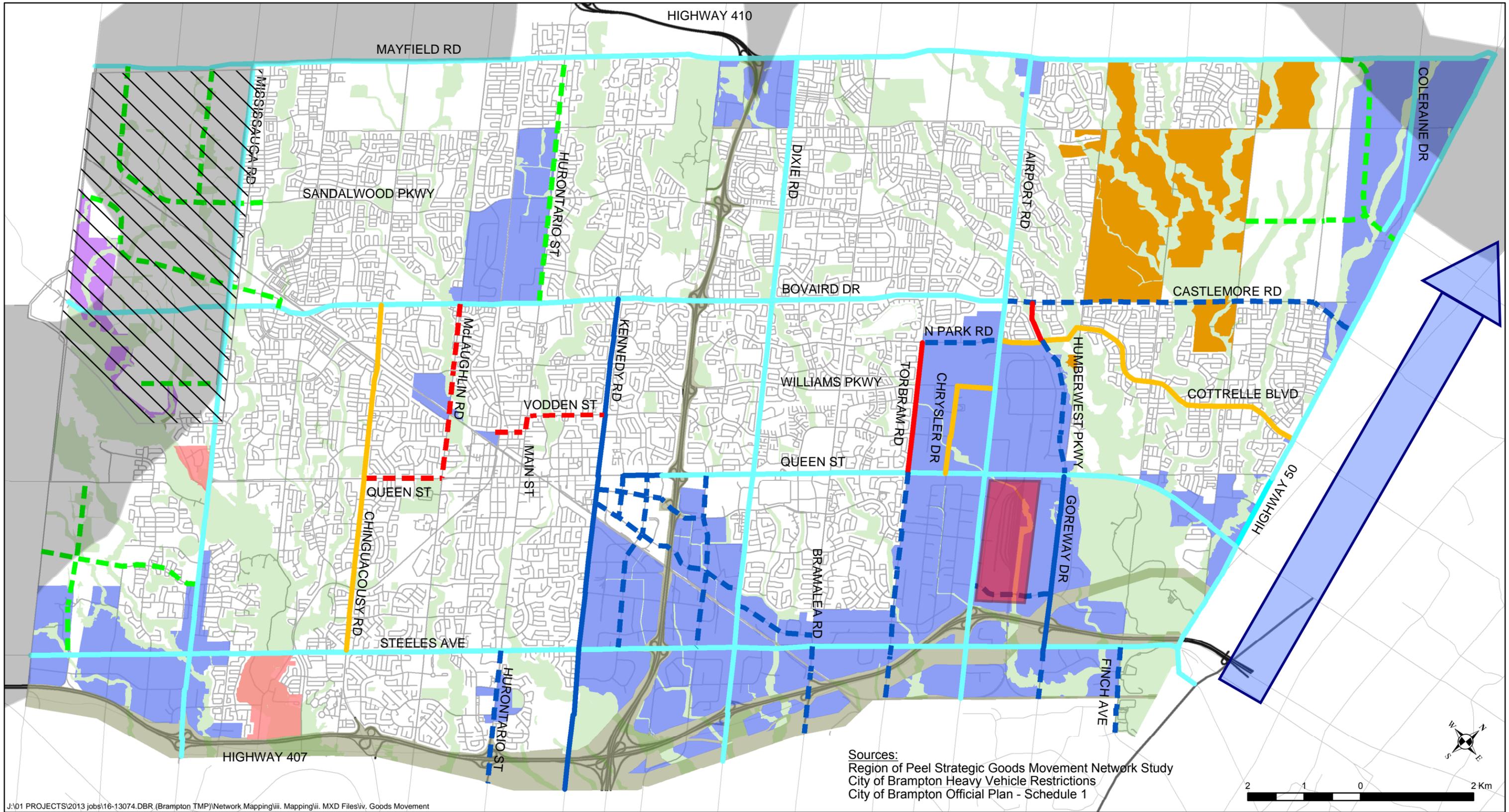


Figure 3 – City of Brampton Heavy Vehicle Restrictions



Legend

- |  |  |  |          |
|--|--|--|----------|
|  | No Heavy Vehicles Anytime                |  | BRAMPTON |
|  | Reduced Vehicle Load - 5 Tonnes Per Axle |  | PEEL     |
|  | Time Restricted                          |  | MTO      |
|  |  |  | PRIVATE  |



Sources:  
 Region of Peel Strategic Goods Movement Network Study  
 City of Brampton Heavy Vehicle Restrictions  
 City of Brampton Official Plan - Schedule 1

J:\01 PROJECTS\2013 jobs\16-13074.DBR (Brampton TMP)\Network Mapping\iii. Mapping\ii. MXD Files\iv. Goods Movement

		<p><b>Legend</b></p>		SGMN Primary Truck Route on Regional road SGMN Primary Truck Route on City road SGMN Connector Truck Route Conceptual Road Network for use in the Development Charges Background Study		Employment Area Estate Residential Village Residential Open Space System Provincial Greenbelt / Protected Countryside Provincial Highway Corridor Brampton CN Rail Yard GTA West Corridor Highway 427 and Extension SGMN Route with City Heavy Vehicle Restriction Access Route to Industrial Area City truck through route Potential City Truck Route		<p><b>Figure 4</b>  <b>Goods Movement Network in Brampton</b></p>



## 4.2.2 Access Storage Centre and Rosedale Industrial Plaza

The other area not directly accessible by Peel's SGMN is bounded by the CN railway to the south and the Orangeville-Brampton railway to the east. It is accessible from Rosedale Avenue to the north and contains an Access Storage centre and the Rosedale Industrial Plaza.

The most direct route to connect to the Peel Strategic Goods Movement Network (and hence the one that should be taken according to City by-law 93-93) is via Rosedale Avenue, Main Street and Vodden Street to the SGMN link on Kennedy Road. This route passes by the office of the Central Brampton Family Health Team. The by-law should be enforced to ensure that goods vehicles do not take the longer, alternative route towards the SGMN link on Bovaird Drive via Pleasantview Avenue and Vodden Street, particularly around school drop-off and pick-up times, as this route passes by Our Lady of Fatima School and Glendale Public School.

For the aforementioned routes, a City-wide freight audit should be undertaken to confirm their appropriateness for Goods Movement. See **Section 8** for further details on the freight audit.

## 4.3 Impact on Sensitive Land Uses

A network-level assessment was undertaken to evaluate the potential for truck routes to affect schools, hospitals and residential areas.

### 4.3.1 Schools and Hospitals

The SGMN truck connector route on Torbram Road passes by the Tall Pines School; however, it should be noted that is located in an industrial area. As highlighted in **Section 4.1**, this road has a 'No Heavy Vehicles Anytime' restriction. The only parallel alternative is Bramalea Road; however, that route runs through a residential area and past Bramalea Secondary School and Rowntree Montessori School. As identified in **Section 4.2.2**, there is potential for educational and medical facilities to be affected by Goods Movement and the degree of encroachment should be assessed.

### 4.3.2 Residential Areas

The Peel Strategic Goods Movement Network was compared against Schedule 1 of the City of Brampton's Official Plan to identify any locations where truck corridors overlap with residential land uses.

Between Goreway Drive and McVean Drive, Castlemore Road also passes along the southern edge of lands designated 'Estate Residential' in the Toronto Gore area. The eastern half of the block between McVean Drive and The Gore Road also has such lands to the south. As stated in **Section 4.1**, this road was identified for upload to the Region by the report in **Appendix B**, and **Figure 3** identifies it as a City road subject to a 'No Heavy Vehicles Anytime' restriction.

The alternative route along Cottrelle Boulevard identified in **Section 4.1** has no such conflicts. The new connection between Humberwest Parkway and Goreway Drive completes a continuous 4-lane link between Airport Road and Highway 50. Trucks using the SGMN primary route along Bovaird Drive could connect to the Cottrelle Boulevard connector via the 700m stretch of Airport Road that separates them.



## 5. FREIGHT HUBS

For the purposes of this study, freight hubs are considered to be either intermodal facilities or major business clusters. The Peel Region Goods Movement Strategic Plan presents the Peel Region Strategic Goods Movement Network, as was shown in **Figure 1** of this report.

### 5.1 Intermodal Facilities

The only intermodal facility in Brampton is the CN Intermodal Terminal, although the CP Railway Vaughan Intermodal terminal lies just across the City's eastern boundary and Pearson International Airport lies immediately to the south.

### 5.2 Major Business Clusters

Major business clusters have formed in close proximity to the intermodal facilities.

#### 5.2.1 CN Intermodal Area

Most of the area to the east of Kennedy Road and south of Queen Street East comprises the CN Intermodal Area. This also extends north of the CN Railway Intermodal terminal to Bovaird Drive and Castlemore Road between Torbram Road and Goreway Drive. Facilities include the Chrysler assembly plant. The municipal border with Mississauga forms the southern boundary of the intermodal area, and part of it is contiguous with the Pearson Airport / Northeast & Gateway business cluster.

#### 5.2.2 Coleraine Business Park

The area bounded by Mayfield Drive, Highway 50 and Clarkway Drive is planned to develop into the Coleraine Business Park, taking advantage of the CP Railway Vaughan Intermodal terminal immediately to the east.

#### 5.2.3 Churchill Business Park

This area is approximately bounded by Queen Street, Winston Churchill Boulevard, Highway 407 and Mississauga Road. Offices include the Canadian headquarters of the medical technology company Medtronic.

### 5.3 Goods Movement Access

The intermodal facilities identified in **Section 5.1** all feature direct access by road via the Strategic Goods Movement Network. In addition, they each have either rail or air connections and were pre-existing at the time of the Region's Goods Movement Strategic Plan. The areas occupied by the major business clusters in **Section 5.2** all appear in Schedule 1 of the City of Brampton's Official Plan designated as employment areas. As such, no new freight hubs have been identified in Brampton as part of the Region's Goods Movement Strategic Plan.



## 6. RATIONALIZING THE CITY'S TRUCK ROUTE NETWORK

Although the City of Brampton does not have a defined truck network as such, the heavy vehicle restrictions shown in **Figure 3** severely limit the routes via which truck through traffic can travel. **Figure 4** summarizes the items raised in the previous sections. These links may be rationalized into a formal Goods Movement network taking into account the following:

- Orange links show City truck through routes, i.e. passages through the network between SGMN links on City roads that have no 24-hour restrictions on such movements. These should either be considered de facto City truck routes or the need to impose a City heavy vehicle restriction should be evaluated.
- Solid red lines indicate links that are primary truck routes or connectors on the Peel Region Strategic Goods Movement Network but do not permit any heavy vehicles at any time unless they are making deliveries. Consideration should be given to either reviewing the need for the City restriction or replacing the link in the Strategic Goods Movement Network with the applicable alternative City truck through route.
- The dashed red lines are used by vehicles under the exemption to the heavy vehicle by-law regarding delivery. While this does not require amendments to City restrictions or the SGMN, the use of these corridors for this purpose should be noted.
- The previous TMP recommended higher order Goods Movement corridors in west Brampton to support existing and future employment areas, link to aggregate extraction areas in Halton Hills and to the future GTA West corridor. The proposed links shown in green should be assessed for their ability to meet these objectives and the roads should be constructed so as to meet that purpose.

Across the boundary with the City of Vaughan, Cottrelle Boulevard links to Langstaff Road. This is a four-lane road with marked bike lanes. Alternatively, Goods Movement vehicles may be directed along Highway 50, which is on the SGMN, north towards Rutherford Road or south towards Fogal Road and Highway 427. In the west end of Brampton, the evaluation of the proposed roads for Goods Movement purposes should consider linkages to the proposed GTA West corridor.

Overall, the employment areas located within the City of Brampton appear to be well served by the Peel Region Strategic Goods Movement Network. Consequently, there is no need to formally designate any City roads as forming part of a Brampton goods movement network.



## 7. SAFETY AND EFFICIENCY

Roads that are likely to experience significant volumes of trucks should include design features that mitigate the risk of conflicts with pedestrians, cyclists and transit vehicles.

**Technical Report #5** outlines the Active Transportation strategy for this Transportation Master Plan. It supports the guideline identified by the City of Brampton in the report to Committee of Council (April 2013) entitled “Strategy for Implementing Bicycle Facilities within City of Brampton Road Rights-of-Way” that, for retrofit applications, “bicycle facilities along industrial collector roads will be accommodated off the vehicle traveled portion of the road only (Active Transportation Path).” This recommendation should be extended to all of the links highlighted in **Figure 4**.

It is recommended that the following measures be implemented for the protection of cyclists:

- Regular maintenance of bike lane markings and signage;
- Provision of centre medians to assist crossing pedestrians and cyclists;
- Incorporation of setbacks between the curb and the sidewalk or Active Transportation Path to give pedestrians an extra sense of protection;
- Review of conflict points and visibility issues at intersections;
- Construction of sidewalks to an adequate width to allow two people to walk side by side. Sidewalk width should be increased if high pedestrian volumes are anticipated.
- Where justified by pedestrian, cyclist or vehicle volumes, install traffic signals and pedestrian crossing signals at accesses to sites that generate regular truck traffic in order to reduce conflicts between pedestrians and vehicular traffic; and
- Installation of road signs alerting cyclists to truck turning movements and drivers to the presence of pedestrian crossing signals at midblock locations away from intersections.

The truck routes identified in **Figure 4** and the ultimate proposed transit network overlap on several roads, particularly Bovaird Drive, Queen Street, Steeles Avenue, Kennedy Road and Airport Road. It is recommended that the following strategies be implemented for managing on-road truck and transit interactions:

- In the case of physically separate transit lanes in the median of a road, left-turn and U-turn lanes should be provided at appropriate spacing to enable trucks to cross the transit lane and access sites;
- Truck loading and parking areas should be located far enough away from transit stops to avoid conflicts between these vehicles and also with passengers boarding and alighting; and
- Travel lanes should be sufficiently wide enough to accommodate trucks. In cases where curbs separate the transit lanes, consider rolled curbs to facilitate manoeuvrability of trucks in the adjacent travel lane.

The efficiency of goods movement in Brampton may be improved by implementing Transportation Demand Management (TDM) measures specific to freight and its interaction with the road network. For example, “Last Mile” solutions may be considered, utilizing smaller vehicles for delivering goods to neighbourhoods and commercial areas. These vans would need to be sufficiently light so that Heavy Vehicle Restrictions on certain City roads do not apply to them. Although this would increase



the total number of vehicles on the City network, they would be dispersed across all roads, relieving pressure on the Strategic Goods Movement Network.

A Trucking Focused Signal Priority Plan would improve operations through the use of CCTV, enhanced signalization and infrastructure changes. The Region of Peel is already considering such measures along Dixie Road, Airport Road, Steeles Avenue and Derry Road.

The aforementioned measures apply specifically to the road network. For more recommendations related to freight and TDM, refer to the Peel Region Freight Transportation Demand Study presented to Regional Council in June 2013. The wider TDM strategy for Brampton is outlined in technical memorandum TR6.



## 8. FREIGHT AUDIT

The truck route rationalization and the mitigation of conflicts with pedestrians, cyclists and transit can be enhanced by the preparation of a freight audit. A freight audit is a planning and economic development tool used to assist municipalities, planners and engineers in making informed decisions to enable the safe and efficient movement of freight. The objectives of a freight audit include identifying locations where freight activities are generated or attracted (currently or in the future), operating constraints and stakeholder dialogue. One recommendation of this report is to conduct a freight audit in order to identify issues affecting local freight movements in Brampton and help establish priorities to support the safe and efficient movement of freight.

A freight audit is a first step that can be taken by a municipality to establish a better understanding about freight movement and the needs of the freight industry. The freight audit can be conducted independently, or as part of a wider transportation study to understand contextual solutions and the needs of all modes of transportation. The freight audit will provide valuable information that will guide policy and decision making to help support the goods movement industry in Brampton.

A freight audit involves the following components:

- Set-up: Problem definition, identification of staff and financial resources, and project planning;
- Data collection and management: Quantitative data collection, intelligence gathering and stakeholder consultation, and site visits;
- Analysis: Infrastructure, applicable policies, regulations and by-laws, and enforcement practices; and
- Communication of the process and outcomes via a freight audit report.

The City of Brampton should undertake a freight audit to provide the City with a firm understanding of its freight-related assets and to help the City leverage these assets by identifying opportunities, constraints and next steps needed to support goods movement. The components of the freight audit are described in more detail in the Ministry of Transportation's *Freight-supportive Guidelines*. The conclusions and recommendations of the freight audit should then be applied to the City's planning and operations processes in order to implement improvements to make Brampton more freight-supportive.

City engineers and planners should use the *Freight-supportive Guidelines* as a supplementary reference for land use and transportation planning decisions, site plan reviews and City road design. The *Freight-supportive Guidelines* consider the global nature of freight transportation, including the use of multiple transportation modes to connect producers and consumers of goods, and will help the City facilitate efficient transport of goods between modes.

An example freight-supportive checklist is presented in **Appendix C**. The Land Use and Transportation portion of the checklist generally is appropriate for use in planning work, such as secondary plans. The Site Design portion of the checklist is appropriate for use in the review of development applications. The Operations portion of the checklist should be used in the design and operations of the City's road network. Upon completion of the freight audit, the checklist should be modified for the Brampton context in order to meet the needs identified in the freight audit.



## 9. RECOMMENDATIONS

Recommendations from this report have been summarized under the headings of road infrastructure, safety and efficiency and the freight audit.

### 9.1 Road Infrastructure Recommendations

- Re-examine the following two road links to determine if the truck prohibitions remain appropriate. If so, work with Peel Region to remove these links from the SGMN and designate alternative road links for truck movement.
  - Torbram Road between Queen Street and North Park Drive; and
  - Humberwest Parkway between Castlemore Road and Williams Parkway.
- Conduct an engineering assessment on the section of McLaughlin Road between Bovaird Drive and Queens Street, and particularly the CN railway bridge, to confirm its suitability for truck movement.
- Conduct an engineering assessment of the appropriateness of the Rosedale Avenue, Main Street and Vodden Street truck connection to the SGMN link on Kennedy Road.

### 9.2 Safety and Efficiency Recommendations

- Ensure that, for retrofit applications, bicycle facilities along industrial collector roads will be accommodated off the vehicle traveled portion of the road only (Active Transportation Path).
- Implement the following measures on City roads to mitigate conflicts between trucks and cyclists or pedestrians:
  - Regular maintenance of bike lane markings and signage;
  - Provision of centre medians to assist crossing pedestrians and cyclists;
  - Incorporation of setbacks between the curb and the sidewalk or Active Transportation Path to give pedestrians an extra sense of protection;
  - Review of conflict points and visibility issues at intersections;
  - Construction of sidewalks to an adequate width to allow two people to walk side by side. Sidewalk width should be increased if high pedestrian volumes are anticipated.
  - Where justified by pedestrian, cyclist or vehicle volumes, install traffic signals and pedestrian crossing signals at accesses to sites that generate regular truck traffic in order to reduce conflicts between pedestrians and vehicular traffic; and
  - Installation of road signs alerting cyclists to truck turning movements and drivers to the presence of pedestrian crossing signals at midblock locations away from intersections.
- Implement the following strategies for managing on-road truck and transit interactions:
  - In the case of physically separate transit lanes in the median of a road, left-turn and U-turn lanes should be provided at appropriate spacing to enable trucks to cross the transit lane and access sites;
  - Truck loading and parking areas should be located far enough away from transit stops to avoid conflicts between these vehicles and also with passengers boarding and alighting; and



- Travel lanes should be sufficiently wide enough to accommodate trucks. In cases where curbs separate the transit lanes, consider rolled curbs to facilitate manoeuvrability of trucks in the adjacent travel lane.
- Identify and implement transportation demand management measures specific to freight movement.
- Prepare a Trucking Focused Signal Priority Plan to improve traffic operations through the use of CCTV, enhanced signalization and infrastructure changes.

### 9.3 Freight Audit Recommendation

- Conduct a freight audit to develop a complete picture of freight movement in Brampton and to identify critical next steps to create a freight-supportive city.
- Utilize the *Freight-supportive Guidelines* as a supplementary reference for land use and transportation planning decisions, site plan reviews and City road design.



**CITY OF BRAMPTON**

**TRANSPORTATION MASTER PLAN UPDATE**

TECHNICAL REPORT #7: GOODS MOVEMENT | MARCH 2015



## **APPENDIX A. PEEL STRATEGIC GOODS MOVEMENT NETWORK**



# APPENDIX A: PEEL STRATEGIC GOODS MOVEMENT NETWORK





## APPENDIX B. JURISDICTIONAL CHANGES

4b-1



**REPORT**  
**Meeting Date: June 21, 2012**  
**Arterial Roads Review Ad hoc**  
**Steering Committee**

For Information

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DATE: May 30, 2012

REPORT TITLE: **ARRASC STAFF WORK PLAN - STATUS UPDATE**

FROM: Dan Labrecque, Commissioner of Public Works

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**OBJECTIVE**

To provide the Arterial Roads Review Ad hoc Steering Committee (ARRASC) with a high level update on the status of the implementation of Regional Council endorsed Option 4A – Road Jurisdiction (Phase II), and proposed next steps with respect to Phase III of the broader Arterial Road Review process.

**REPORT HIGHLIGHTS**

- At the Council Meetings of November 2, 2011 and January 13, 2012, the Cities of Mississauga and Brampton respectively endorsed, in principle, Option 4A of the Arterial Road Rationalization Review (Phase II) subject to an agreement on the provision of road maintenance, traffic operational and traffic planning services on all Regional Roads within their municipal boundaries.
- The Town of Caledon endorsed Option 4A of the Arterial Road Rationalization Review (Phase II) at its January 10, 2012 Council meeting.
- Regional and Caledon staff continue working on jurisdictional transfer issues including legal, real estate, and financial matters. The staged transfer process is expected to begin in Fall 2012 and be completed by early 2013.
- Brampton and Mississauga developed a joint proposal for Traffic Signal Management and have submitted it to the Region for consideration. Regional staff has prepared a separate proposal, which will be circulated to staff from Brampton and Mississauga at the June 18, 2012 Staff Steering Committee meeting.
- Regional staff will continue working with Caledon, Brampton and Mississauga on the implementation of Option 4A – Road Jurisdiction (Phase II) and the development of the Arterial Road Rationalization Review (Phase III) work plan.

**DISCUSSION**

**1. Background**

At its meeting held on June 16, 2011 the ARRASC reviewed the Commissioner’s report on the conclusion of Phase II of the project and recommended a number of actions that were subsequently adopted by Regional Council at its July 7, 2011 meeting.

In summary these actions included:

- The recommended jurisdictional shift of arterial roads between the Region and the Cities of Brampton and Mississauga and the Town of Caledon, identified as Option 4A;
- Staff to report back on the implementation details of Option 4A and on a process to review opportunities to streamline specific road and related infrastructure operations;
- The subject report to be forwarded to the area municipalities for their endorsement, and;
- That while Phase II of the review was considered complete, the ARRASC would continue to meet to provide advice and direction to staff as it relates to the optimization of the road network in Peel.

On November 2, 2011, City of Mississauga Council endorsed, in principle, Option 4A of the Regional Arterial Road Rationalization Review (Phase II), subject to an agreement by Mississauga Council on the provision of road maintenance, traffic operational and traffic planning services on all Regional Roads within the City of Mississauga.

On January 13, 2012, the City of Brampton also endorsed, in principle, Option 4A of the Regional Arterial Road Rationalization (Phase II) and that Option 4A be implemented following an agreement with the Region of Peel on the provision of road maintenance, traffic operational and traffic planning services on all Regional roads within the City of Brampton

On January 10, 2012, the Town of Caledon Council endorsed, in principle, Option 4A of the Arterial Roads Rationalization Review, and directed Town staff to work with the Region to review opportunities that streamline road and related infrastructure operations.

Option 4A reflected the following jurisdictional changes:

Arterial Road	Limits	Proposed Jurisdiction	Current Jurisdiction	Length (km)	Length (lane km)
Bolton Arterial Rd	King St to Hwy 50	Region of Peel	N/A	4.3	9.8
Coleraine Dr	Hwy 50 to King St	Region of Peel	City of Brampton / Town of Caledon	9.5	18.4
Castlemore Rd	Airport Rd to Hwy 50	Region of Peel	City of Brampton	6.2	20.8
Winston Churchill Blvd	Dundas St W to Hwy 401	Region of Peel	City of Mississauga	12.5	57.2
Kennedy Rd	Steeles Ave W to Bovaird Dr	City of Brampton	Region of Peel	6.2	25.7
Embleton Rd	Winston Churchill Blvd to Mississauga Rd	City of Brampton	Region of Peel	2.9	5.8
Mavis Rd	Steeles Ave E to Brampton/Mississauga boundary	City of Brampton	Region of Peel	2.0	8.0

**2. Status Update**

**a) Implementation of Option 4A – Road Jurisdiction (Phase II)**

Phase II has received endorsement, in principle, by all three area municipalities. The Town of Caledon has endorsed Option 4A without any conditions, while the Cities of Brampton and Mississauga have endorsed Option 4A subject to the completion of the Arterial Road Characterization Review (Phase III). As a result, the ARRASC has directed Regional staff to implement Phase II in a staged approach to address both instances.

**i. Town of Caledon**

On May 23, 2012, staff from the Region and the Town of Caledon met to discuss the transfer of Coleraine Drive from Mayfield Road to King Street to the Region of Peel. Regional and Town staff are working on various jurisdictional issues related to this shift including the necessary legal, real estate, and financial matters. The staged process of jurisdictional shift is expected to begin in Fall 2012 and is expected to be completed by early 2013. Staff will provide an update on the status of these jurisdictional changes in Fall 2012.

**ii. Cities of Brampton and Mississauga**

Prior to entering into an agreement to transfer the roadways as outlined in Option 4A, Brampton and Mississauga wish to await the outcome of the Arterial Road Rationalization Review (Phase III), particularly as it relates to how the delivery of road maintenance, traffic operational and traffic planning services will be optimized on all regional roads within Brampton and Mississauga.

**b) Arterial Road Rationalization Review (Phase III)**

On July, 2011, the Staff Steering Committee identified the following areas, as key opportunities for discussions and streamlining:

- Traffic Planning
- Road Operations (i.e. sweeping, signage, street lighting, sidewalks)
- Traffic Signals Management

**i. Traffic Planning**

At the August, 2011 Staff Steering Committee meeting it was agreed that traffic planning issues will be more focused on the development issues.

Revisions to the Access Control By-law are underway, as part of the amendment of the Amendment of the Controlled Access By-law Report to Council. The Road Characterization Study, launched in April 2012 will establish principles for the Control Access By-law associated with new road classifications for all regional roads.

**ii. Road Operations**

Various areas of road operations will be examined for streamlining to bring efficiencies. The intended outcome is to bring efficiencies, remove duplications, if any and utilize Regional/area municipal expertise to provide better services to the residents/businesses.

**c) Traffic Signals Management**

**i. Town of Caledon**

The Town of Caledon staff supported the Region continuing to maintain and operate the signal system for the Town of Caledon.

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**ii. Cities of Brampton and Mississauga**

The Cities of Brampton and Mississauga developed a joint proposal for traffic signal management in Spring of 2012. This proposal was submitted to the Region for consideration in May 2012. Regional staff has started their review and are planning to meet with Brampton and Mississauga staff on June 18, 2012.

**iii. Region of Peel Strategic Direction for Traffic Management**

Regional staff has prepared a proposal looking at the efficient and effective long term traffic management and integration of the traffic systems in the Region. This proposal will be circulated at the June 18, 2012 Staff Steering Committee meeting, for review and consideration.

There are many benefits to the evolution of the traffic management systems to a Region-wide integrated approach. The traffic systems in both Mississauga and Caledon are required to be upgraded and compatibility for one holistic traffic system should be considered. This is a best practice in the Greater Toronto Area including the Regions of York, Durham, Waterloo, Niagara, and the Cities of Hamilton and Toronto.

The Region has prepared traffic system management scenarios based on the holistic traffic management option by using a phased approach. This keeps the option open for one ultimate Traffic Management Centre in the future if desired. As part of this approach each jurisdiction will continue to work together ensuring traffic system compatibility and work through management options collaboratively.

**3. Next Steps**

Regional staff will continue to implement the recommendations of the ARRASC and will continue working closely with Caledon, Brampton and Mississauga on the traffic signals management proposals, the Access Control By-law review and the various jurisdictional shifts. Staff will provide regular updates to the ARRASC Council Committee accordingly.

The ARRASC Staff Steering Committee will continue to meet regularly to discuss issues around service delivery, maintenance, and coordination; and will provide an update report to the ARRASC at its Fall 2012 meeting.





## **APPENDIX C. FREIGHT-SUPPORTIVE CHECKLIST**



## APPENDIX C: FREIGHT-SUPPORTIVE CHECKLIST

Item	Complete			Comments/ Notes
	Y	N	N/A	
<b>Freight Audit</b>				
Has a freight audit been undertaken?				
If so, did it result in identifying major freight movement facilities and networks?				
Have the results and recommendations of the audit been incorporated into planning and transportation policies?				
Have these facilities and networks been communicated with neighbouring municipalities to ensure coordination?				
<b>Land Use and Transportation</b>				
Have the appropriate employment areas in close proximity to freight corridors been protected for future freight industries?				
Have employment areas outside of designated employment areas been considered to encourage redevelopment, reuse and infill?				
<ul style="list-style-type: none"> <li>If these areas are in close proximity to residential areas, have mitigation measures been taken?</li> </ul>				
Have development plans been reviewed to determine impact to existing freight corridors and facilities?				
<ul style="list-style-type: none"> <li>If impacts exist, have appropriate site design and mitigation measures been proposed to avoid conflicts?</li> </ul>				
<ul style="list-style-type: none"> <li>Is the location of the project in close proximity to highways, freight facilities (i.e., logistics centres), intermodal facilities (i.e., marine or airports) or railways to promote freight consolidation?               <ul style="list-style-type: none"> <li>Does the project conform with truck-related requirements and by-laws of the municipality, neighbouring municipalities and upper tier municipalities to ensure seamless freight movement?</li> </ul> </li> </ul>				
Have appropriate freight movement corridors been planned?				
<ul style="list-style-type: none"> <li>Have they been designed to ensure sufficient capacity, turning movement and stability for trucks?</li> </ul>				
<ul style="list-style-type: none"> <li>Does the size of the corridor meet municipal standards, while meeting the needs of the freight industry?</li> </ul>				
<ul style="list-style-type: none"> <li>Have proper signage and pavement markers been provided to ensure wayfinding?</li> </ul>				
<ul style="list-style-type: none"> <li>Have sufficient access points (driveways) been provided?</li> </ul>				
<ul style="list-style-type: none"> <li>Has sufficient mitigation been provided along corridors to protect natural heritage features?</li> </ul>				
<ul style="list-style-type: none"> <li>If by-passes are considered, have they been properly evaluated through the Municipal Class EA Act?               <ul style="list-style-type: none"> <li>Have the potential impacts to traffic, time savings/loss, businesses, development patterns, and costs of developing the by-pass been considered?</li> </ul> </li> </ul>				



**Freight-Supportive Checklist**

Item	Complete			Comments/ Notes
	Y	N	N/A	
<ul style="list-style-type: none"> <li>When selecting a freight movement corridor, has preference been given to:               <ul style="list-style-type: none"> <li>Corridors with dynamic warning systems for downgrading and underpass approaches;</li> <li>Routes with railway crossings where the crossing surface at the railway track is the same plane and distance for one metre outside of the rails;</li> <li>Low-speed corridors with reduced traffic signal cycle times;</li> <li>High-speed corridors with truck priority logic programmed into traffic signals;</li> <li>Minimizing major highways that pass through rural downtowns;</li> <li>Corridors with climbing lanes for long, steep grades;</li> <li>Corridors with emergency escape ramps and downgrade passing lanes; and</li> <li>2+1 roadways that provide buffer between travel directions?</li> </ul> </li> </ul>				
<b>Site Design</b>				
Is the site designed in accordance with design guidelines as set out by the municipality?				
Have CPTED principles been incorporated into the site design of a project?				
Have other users (i.e., pedestrian, cyclists) been considered in the design?				
Has site access been considered, including turning radii, driveway lengths and spaces of access points?				
<ul style="list-style-type: none"> <li>Has a balance been achieved between truck access and access for other site uses?</li> </ul>				
<ul style="list-style-type: none"> <li>Has the fire truck access on site been identified and designed in accordance with the Ontario Building Code?               <ul style="list-style-type: none"> <li>Has the location of truck acceleration and deceleration lanes been considered to enable trucks to safety merge and exit sites without impeding traffic?</li> </ul> </li> </ul>				
Has special site design been considered for those sites adjacent to sensitive land uses?				
<ul style="list-style-type: none"> <li>Have buffers, berms and screening been provided to reduce visual, noise and light impact of loading and delivery areas on adjacent uses?</li> <li>Have garbage/recycling facilities and loading docks/yards been located appropriately ( i.e., centrally) to minimize impacts on adjacent uses and facilitate efficiency and adequate truck movement on site?</li> </ul>				
Has short term drop-off for delivery been provided?				
<b>Operations</b>				
In areas of high truck volumes, have the intersections been adjusted with respect to signal timings?				
If roundabouts are included in the identified freight route, have they been designed to accommodate truck turning movements, specifically, right-turns through extra turning space, right turn aprons or by-pass lanes?				
Does the freight movement corridor utilize intelligent transportation system (ITS) technologies to assist freight audit process by municipality?				