



Hamilton

Hamilton Truck Route Master Plan Update

Truck Route Subcommittee Meeting #2



IBI GROUP

In association with GLPi and
David Kriger Consultants
November 29, 2021

Outline

- Study Recap: Overall Scope and Major Activities
- Recommended Truck Route Network
- Recommendations
- Financial Outlook
- Next Steps



Study Recap

Truck Route Master Plan (TRMP) Review Objectives

The objectives of the TRMP Review are to:

- Review Hamilton's **existing truck route network**;
- Identify the **current and projected truck route-related problems**;
- Develop, evaluate, and **recommend practical solutions**; and
- Recommend supporting policies and tools that the City can consider to **mitigate the current problems and manage the potential future challenges**.

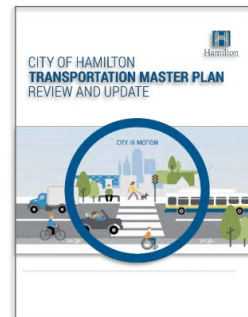
City of Hamilton Transportation Master Plan (2018)

The plan provides a comprehensive and attainable transportation blueprint for Hamilton as a whole that balances all modes of transportation to become a healthier city. The success of the plan is based on specific, measurable, achievable, relevant and programmed results and actions.

The TMP identifies three desired outcomes for the future transportation system:

1. A Sustainable and Balanced Transportation System;
2. Healthy and Safe Communities; and,
3. Economic Prosperity and Growth.

The TRMP Review is a direct action of the Transportation Master Plan, and will support the desired outcomes.



The Vision of the City of Hamilton

The City of Hamilton Strategic Plan: 2016 to 2025

According to the Plan, the Vision means:

“...having an inclusive community, actively engaged in making Hamilton a better place for everyone. It is creating an accessible environment, supporting residents through all of life’s stages, and one that encourages positive development of children as they grow towards becoming healthy adults and seniors.”

City of Hamilton’s Vision

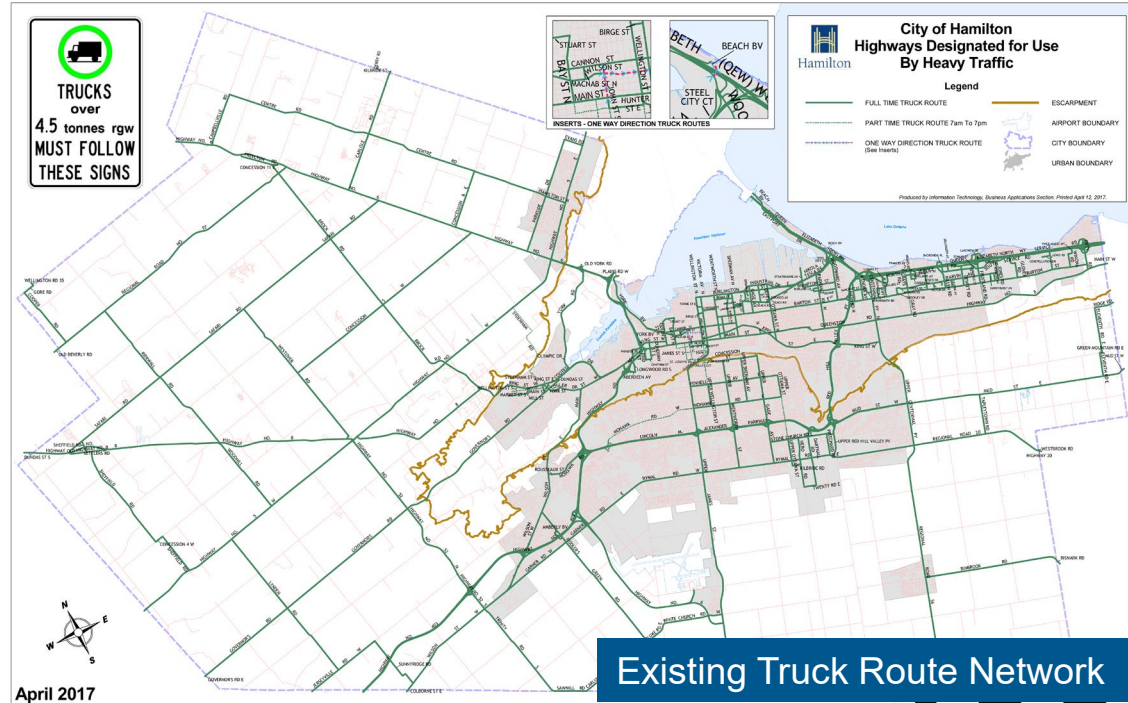
***To be the best
place to raise a
child and age
successfully***

What is a Truck Route Network?

The Truck Route Network defines the roadways that trucks are allowed to use in Hamilton.

Any vehicle or trailer with a registered gross weight of more than 4,500 kg is required to use the truck route network.

Trucks are permitted to travel on roads that are not part of the designated truck route network when making a local delivery. They are required to take the most direct path to/from the truck route network to the destination.



What is a 'Truck'?

According to the City of Hamilton Traffic By-Law, a “truck” (“heavy traffic”) means and includes:

... any vehicle or trailer for which the permit fee under the Highway Traffic Act is based upon a weight of vehicle and load in excess of 4500 kilograms, excepting however buses, fire fighting equipment, public utility vehicles and authorized emergency vehicles

- Traffic By-Law 01-215, Section 56 (m)

All of the vehicles shown to the right are considered “trucks” and must use the truck route network, except when taking the shortest path from the network to make a local delivery.

HEAVY - Tractor Trailer Combinations (typically 5 or more axles)



MEDIUM - Single-Unit Trucks (typically 3-4 axles)



LIGHT - Light Single-Unit Trucks (2 axles, 6 tires)

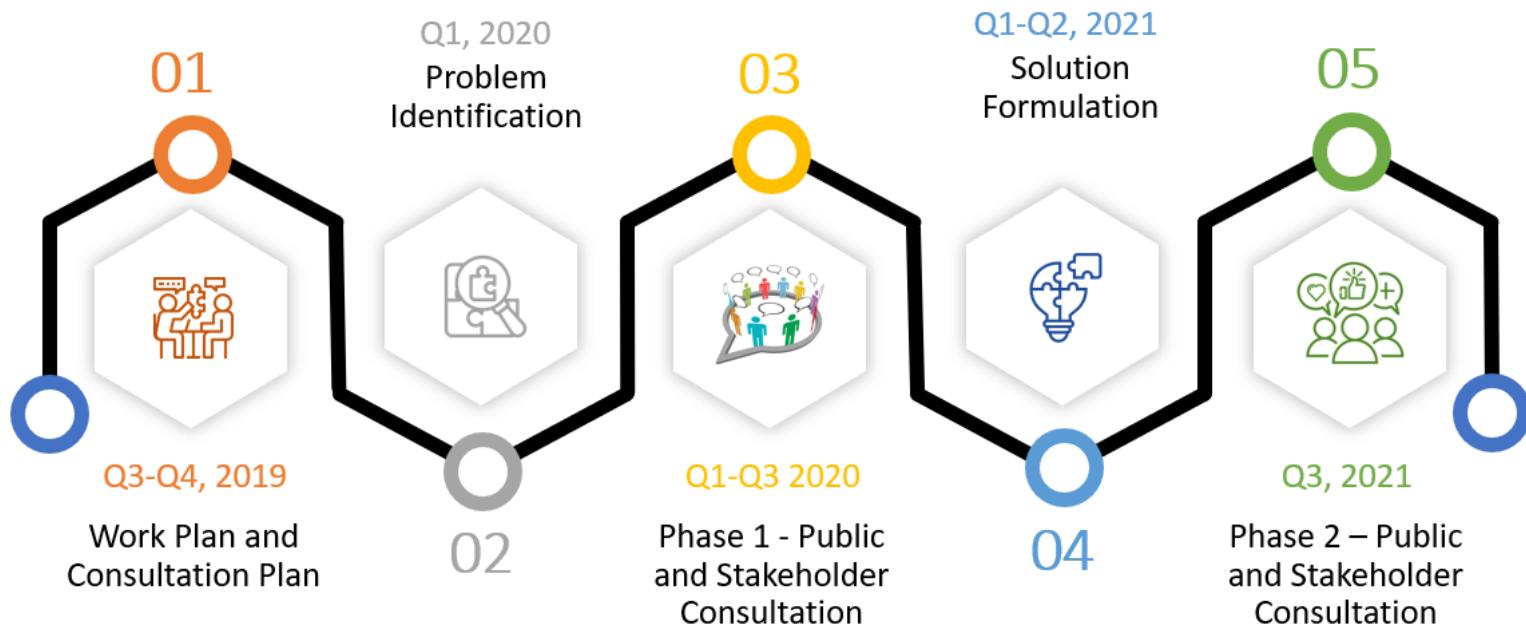


Scope and Approach



Ongoing Stakeholder & Public Consultation

Study Process



Public & Stakeholder Consultation



Phase 1: Let's Talk Trucks

- Truck Route Subcommittee
- Technical Advisory Committee
- Meeting with adjacent municipalities and provincial Agencies
- Business Community (BIAs, Chambers)
- Goods Movement Community
- Community Group Workshop/Focus Group
- Virtual Public Information Centre
- Website with interactive online survey

Phase 2: Preliminary Findings

- Technical Advisory Committee
- Community Group Workshop/Focus Group
- Meeting with adjacent municipalities and provincial Agencies
- Business Community (BIAs, Chambers)
- Goods Movement Community
- Virtual Public Information Centre
- **Truck Route Subcommittee**

Stakeholder Engagement

- **Project Webpage:** A separate project page was developed in the Engage Hamilton portal to increase engagement efforts and project visibility.
- **Online Mapping Tool:** An interactive mapping tool was developed to solicit location-specific input from the community.
- **Surveys:** Two on-line surveys were conducted.
- **Virtual Public Information Centres (PIC):** Two virtual PICs were held. A total of 64 individuals attended the first PIC and 240 attended the second PIC.
- **Speaking Engagements:** City staff attended the following eight events to discuss the study objectives, evaluation process and progress
- **Digital Communications:** Social media was used during the TRMP Update as a method to inform the community on upcoming public meetings, engagement and on-line surveys.

Stakeholder Engagement (cont.)

In addition to public engagement, extensive internal engagement was undertaken throughout the TRMP update.

- **Technical Advisory Committee:** An internal multi-departmental project team consisting of staff members from across the City.
- **Truck Advisory Focus Group:** An external advisory group comprised of equity-seeking groups, agriculture and farming community, representatives from the business community, port and airport, public health, and six members of the public representing urban, suburban and rural communities.

Needs and Opportunities

Vision/Opportunity statement:

A truck route network that supports Hamilton and regional *economic prosperity*, coexisting with a *high quality of life for communities* as well as *environmental and public health*.



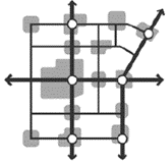
Truck Route Network Pillars and Goals

Economic Prosperity



Economic Aspirations

Develop employment centres, promote freight-friendly land use planning, help ensure direct access to these centres.



Efficient Connectivity

Develop an efficient truck route network that provides direct connections among goods-generating land uses and regionally.



Reliability

Improve travel reliability; design resilience and redundancy into the transportation system in the event of incidents

Truck Route Network Pillars and Goals

Community Liveability



Safety

Apply appropriate design standards and limit conflicts.



Equity

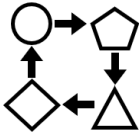
Minimize and distribute impacts of the truck route network away from areas that currently experience societal burdens.

Environment and Public Health



Environmental Sustainability and Public Health

Reduce impacts of truck operations to improve environmental, climate change and public health outcomes.



Adaptability

Anticipate emerging trends and new technologies, provides framework for addressing future issues.

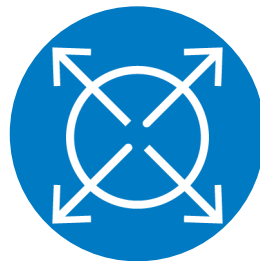
Key Influences and Issues



**Environment &
Climate Emergency**



**Public Health
and Safety**



**Network
Connectivity**



**Rural
Issues**



Social Equity



**Emerging Technologies
and Policies**



**Development in
Employment Areas**



Hot Spots

Policy Review and Development Summary

The following are examples of policies that were identified for consideration:

- Develop a regular commercial vehicle data collection program
- Work with private sector truck generators to encourage strategies to reduce size and number of truck trips
- Integrate commercial vehicle movements into the Complete-Liveable-Better Streets design process
- Provide Police with enforcement tools – by-laws and resources
- Establish framework to review goods movement in the rural road rehabilitation process
- Work with the Ministry of Transportation of Ontario to include the City of Hamilton's truck route network and other municipal truck route networks on provincial platforms and apps such as Ontario511 and route-finding apps

Network Evaluation Framework



Step 1: Select Road Links for Assessment

- Determine the roadway links to be assessed



Step 2: Evaluate Links

- Criterion 1: Efficient Connectivity
- Criterion 2: Reliability
- Criterion 3: Safety
- Criterion 4: Environment and Public Health
- Criterion 5: Equity
- Develop alternatives by varying relative weights of evaluation criteria



Step 3: Form a Draft Truck Route Network

- Carry forward all road segments that score above a threshold value as a basic truck route network
- Apply principles to ensure necessary connections (e.g., connectivity, network spacing and redundancy)



Step 4: Address Specific Issues

- Identify potential issues in the draft network through technical analysis and engagement
- Identify mitigation measures that can reduce truck route network impacts
- Determine whether truck route network revisions may be required

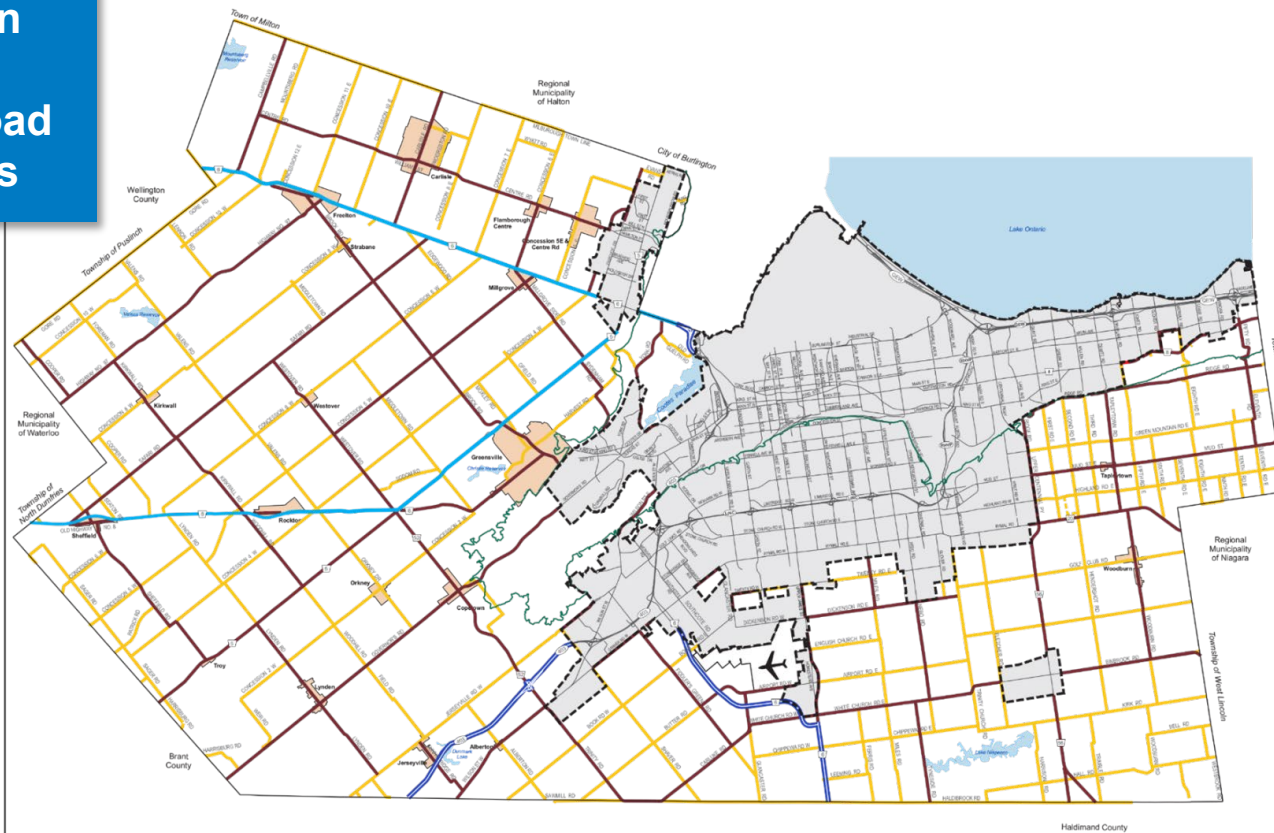


Step 5: Alternative Truck Route Network Configuration

- Identify a recommended near-term truck route network
- Identify a recommended long-term truck route network contingent on mitigation and roadway expansion



Rural Hamilton Official Plan: Functional Road Classifications



Key Map

Note: For Urban Functional Road Classification, refer to Schedule C-1 of the Urban Hamilton Official Plan.

Legend

- Arterial
- Collector
- Provincial Highway (Controlled Access)
- Provincial Highway

Proposed Roads

- Collector

Other Features

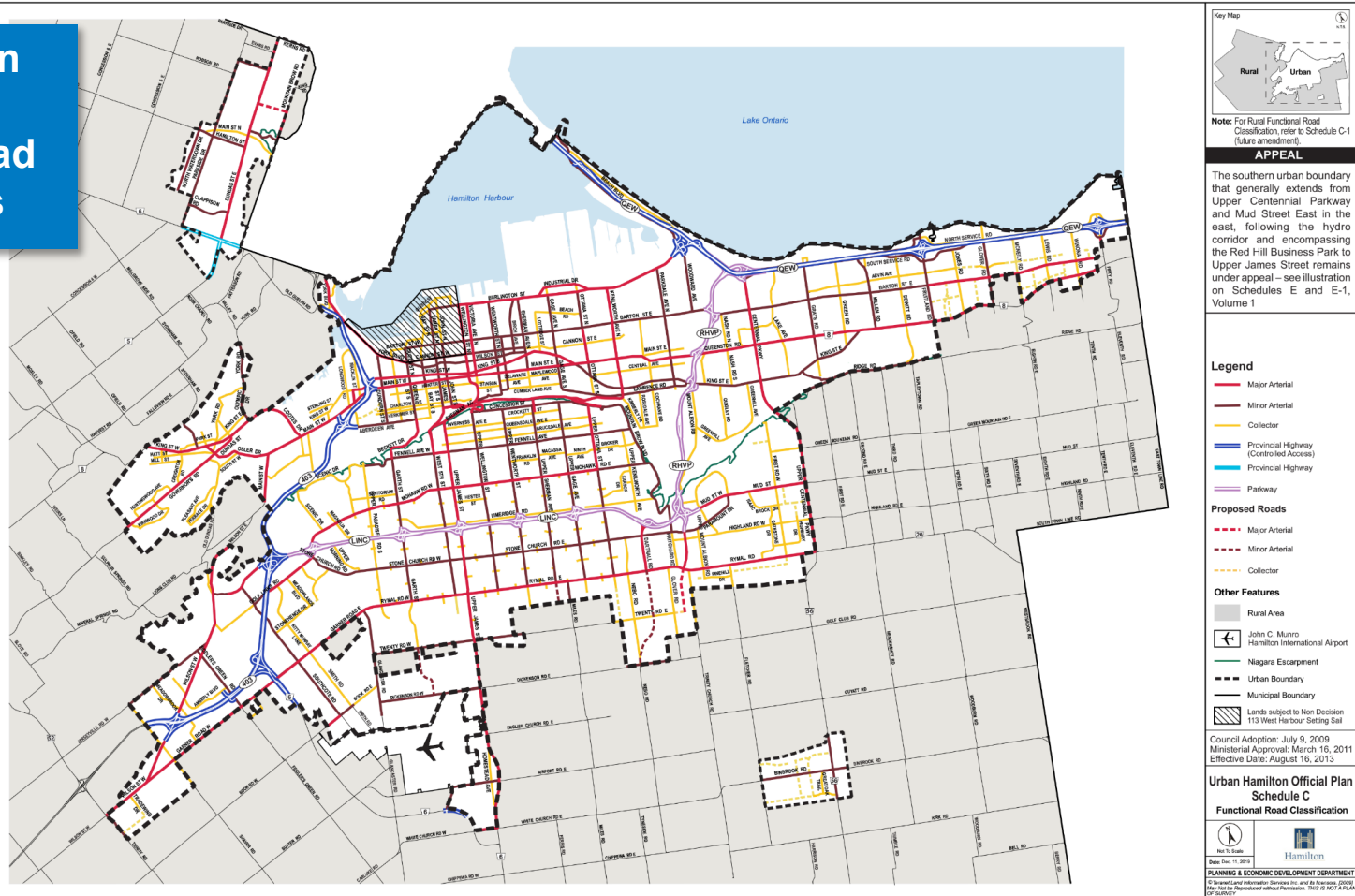
- Rural Settlement Areas
- Urban Area
- John C. Munro Hamilton International Airport
- Municipal Boundary
- Urban Boundary
- Niagara Escarpment

**Hamilton Official Plan
Schedule C
Rural Functional
Road Classification**

Not To Scale
Date: Sept. 2016
PLANNING & ECONOMIC DEVELOPMENT DEPARTMENT
All Plans and Schedules are subject to the Hamilton Official Plan.
Any Plan or Schedule without Permission. This is NOT A PLAN
or Schedule.

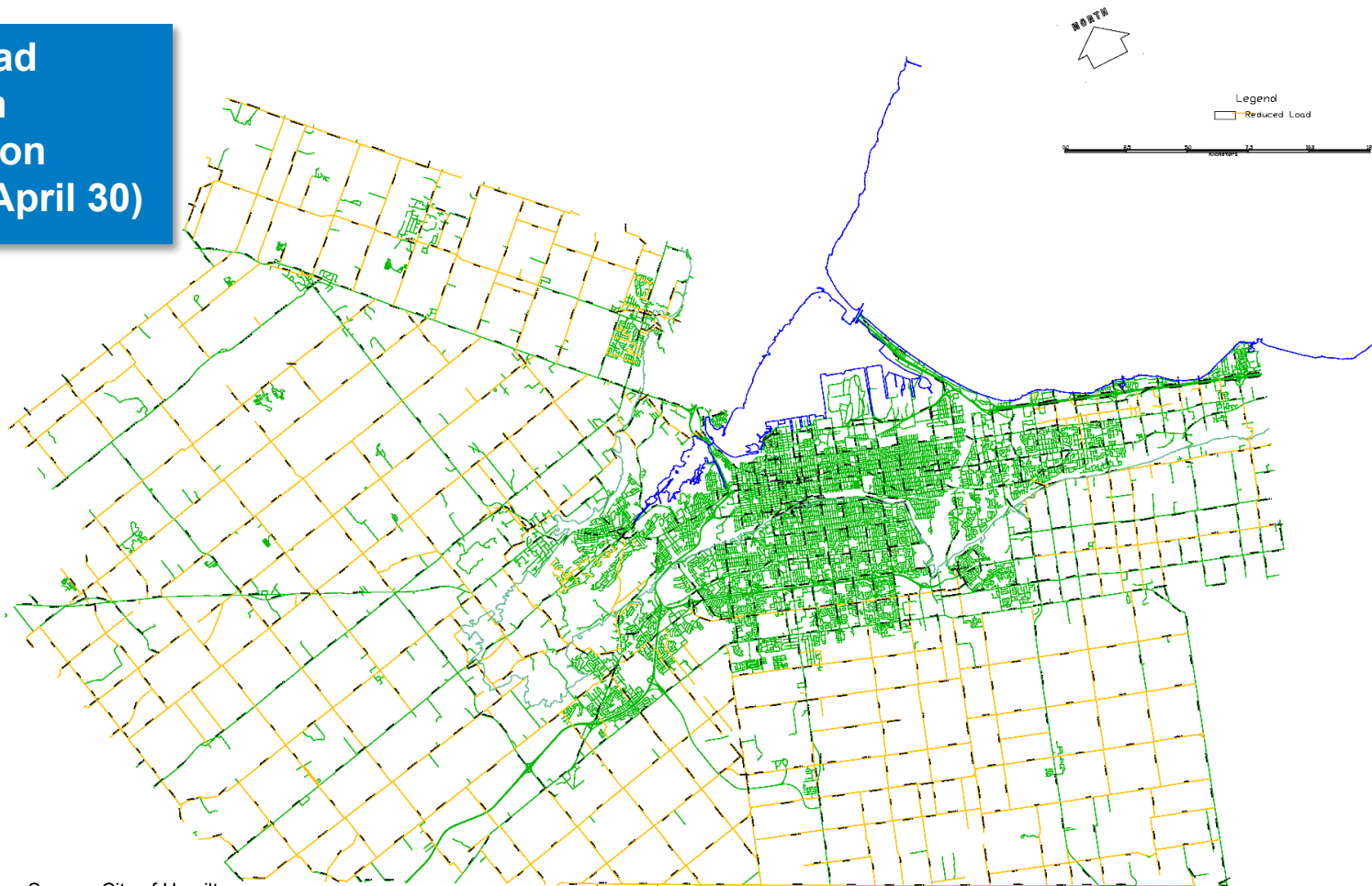
Source: City of Hamilton

Urban Hamilton Official Plan: Functional Road Classifications



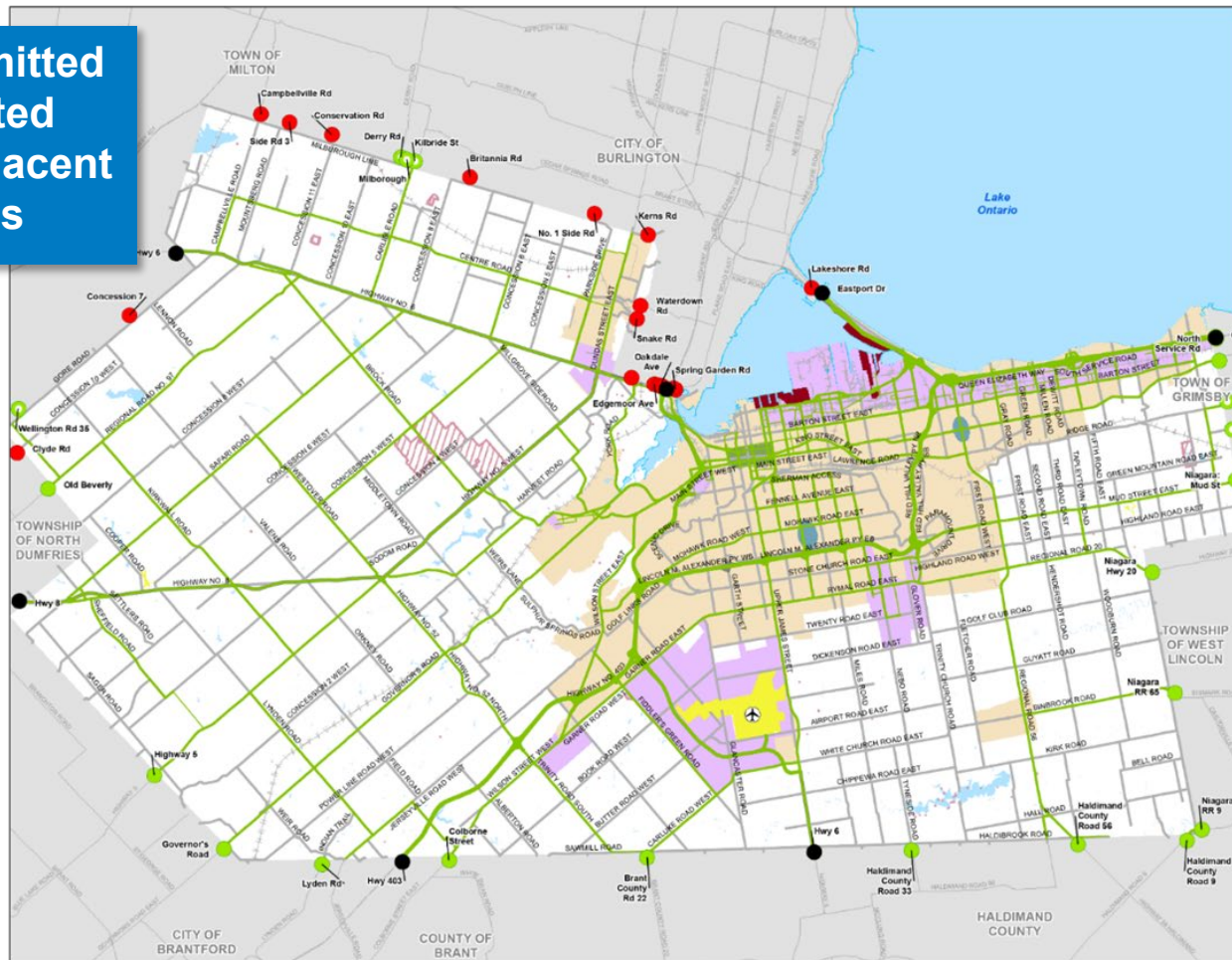
Source: City of Hamilton

Reduced Load Roadways in Rural Hamilton (March 1 to April 30)



Source: City of Hamilton

Map of Permitted and Restricted Links to Adjacent Jurisdictions



HAMILTON TRUCK ROUTE MASTER PLAN

Truck Route Review - Roadway Classifications: Urban & Rural Areas

Truck Route Connections

- Trucks Not Permitted
- Trucks Permitted with Seasonal Restrictions
- Trucks Permitted
- Trucks Permitted All Year - Provincial Road Connection

Truck Routes

- Minor Road
- Major Road
- Parkway / Highway

Truck Generators

- Downtown Urban Growth Centre Node
- Sub-Regional Node
- Port of Hamilton
- Airport
- Mineral Aggregate Extraction Area
- Employment Area / Business Park

Base Information

- Collector Road
- Minor Arterial Road
- Major Arterial Road
- Parkway / Highway
- Rail Line
- Urban Area

Scale: 1:150,000

Scale bar: 0, 3.75, 7.5 km

Hamilton

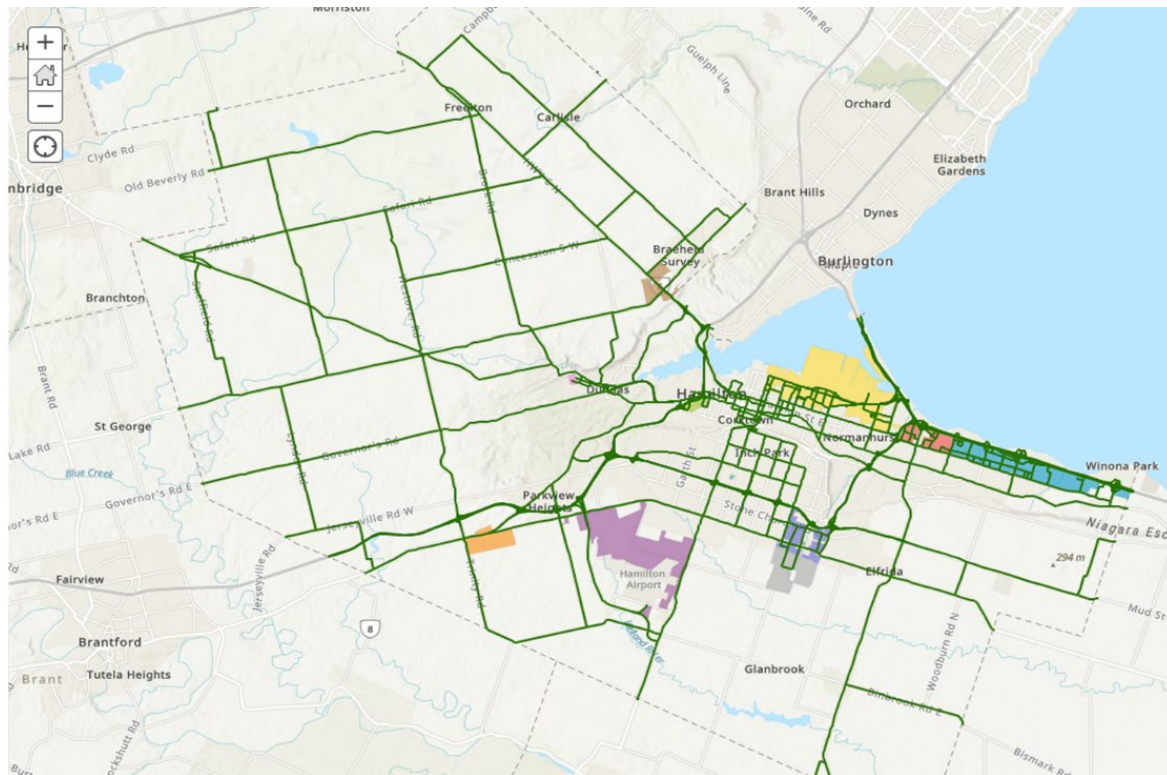
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City of Hamilton Employment Lands Relative Current Truck Route Network

Truck_Route_Network

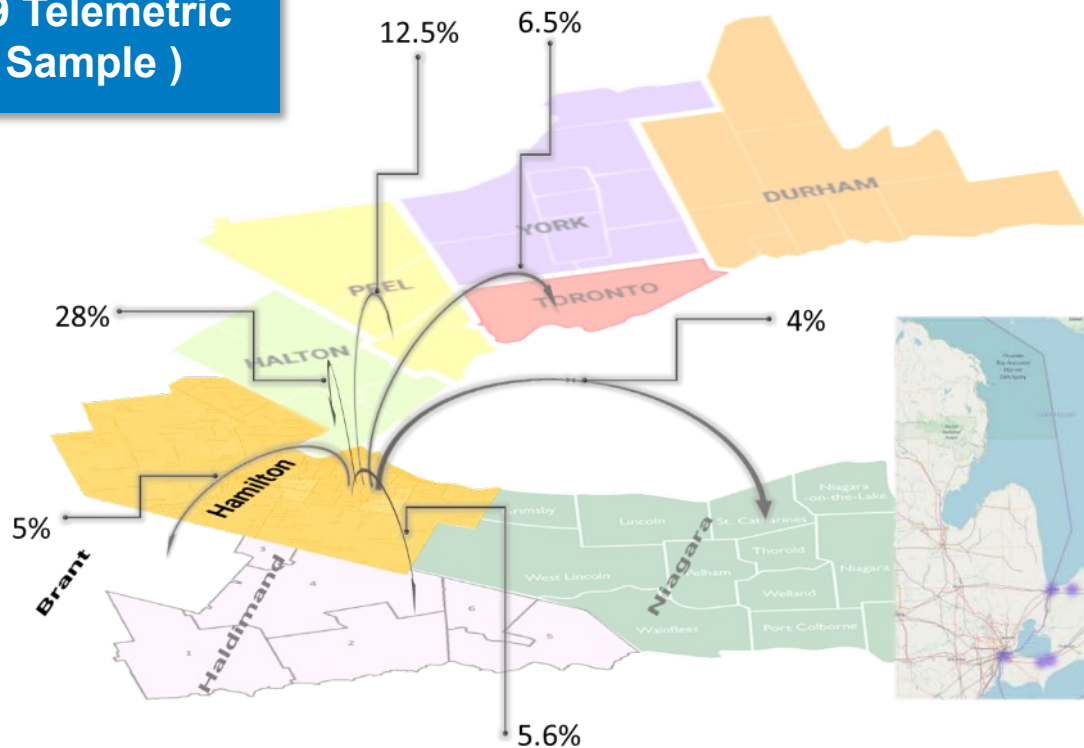
Employment_Lands

- East Hamilton
- Stoney Creek
- West Hamilton
- Innovation District
- Airport Employment Growth District
- Ancaster
- Bayfront
- Dundas
- Flamborough
- Hester
- Red Hill North
- Other



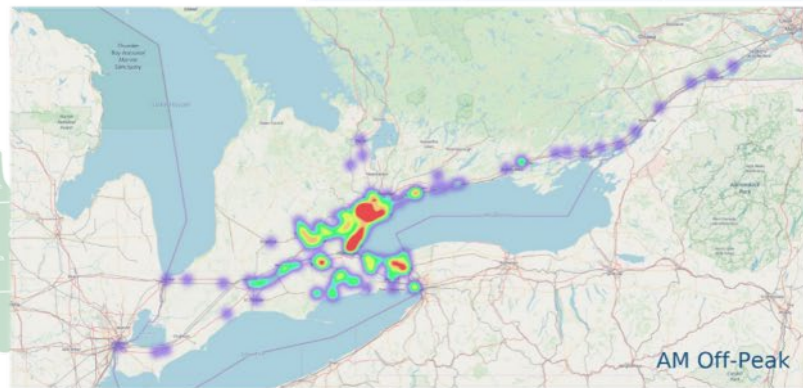
Source: City of Hamilton

Key External Truck Trip Nodes (2019 Telemetric Data Sample)

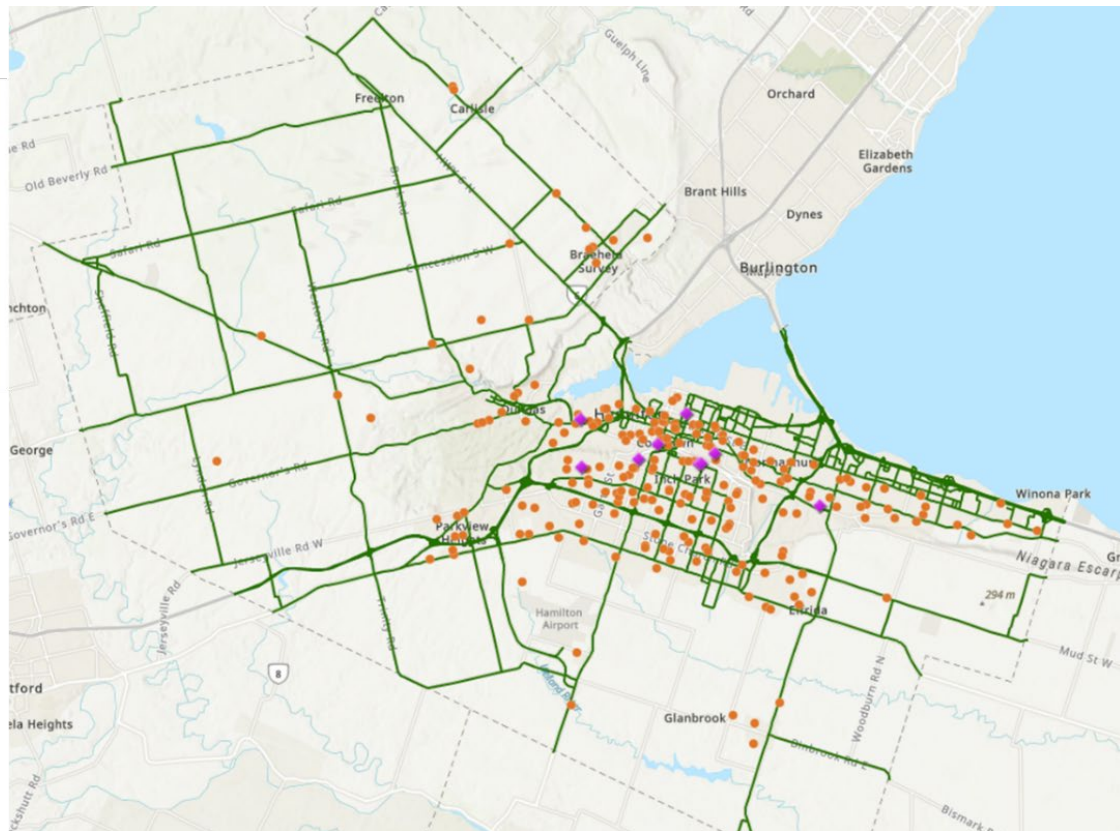
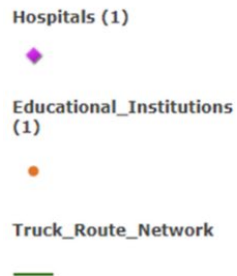


Source: City of Hamilton

External Truck Trips	
Halton Region	28%
Peel Region	12.5%
Toronto	6.5%
Haldimand County	5.6%
Brantford	5%
Niagara Region	4%

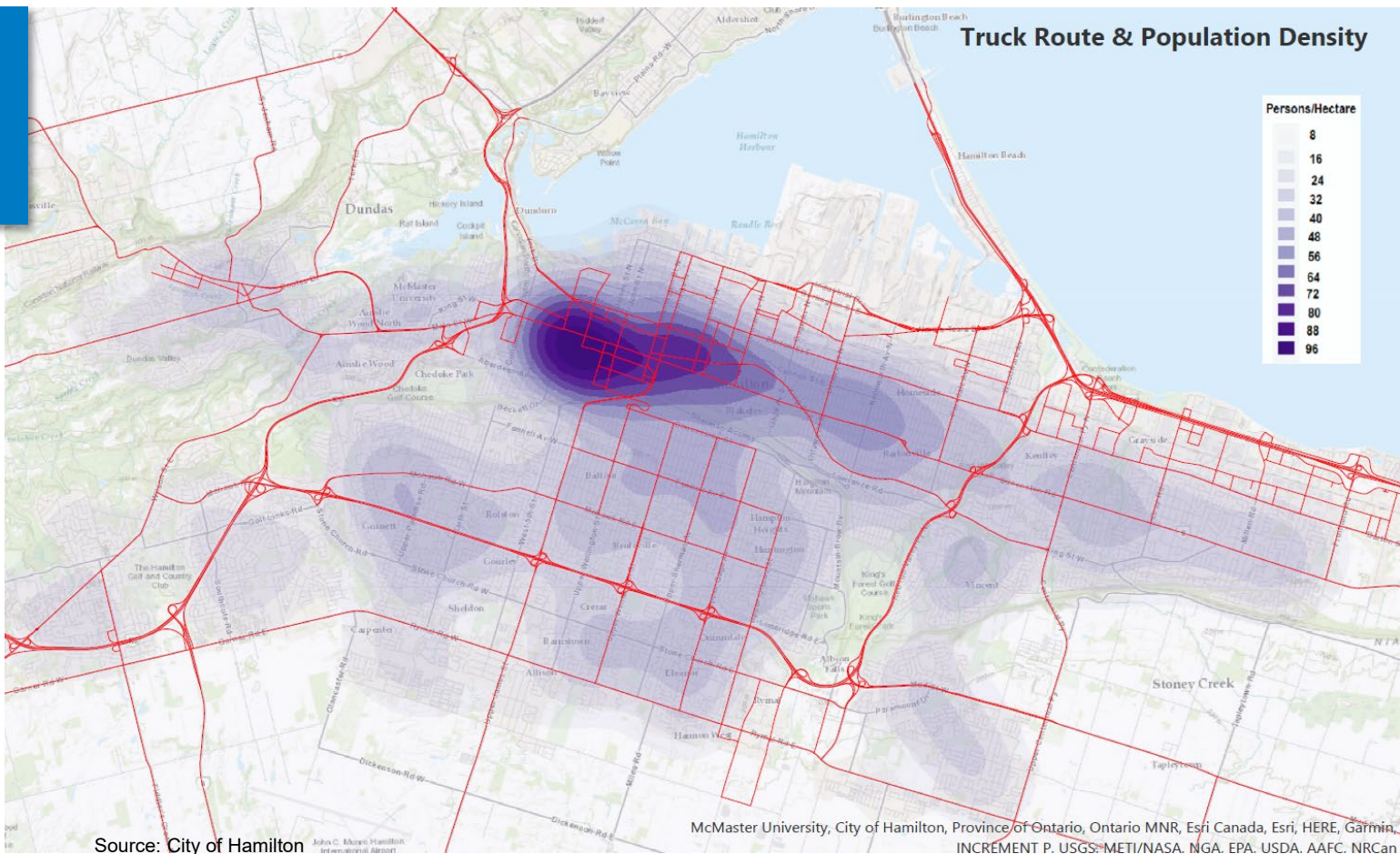


Existing Truck Routes and Selected Sensitive Land Uses



Source: City of Hamilton

Existing Truck Routes and Population Density



Scoring Criteria and Indicators

Criteria	Indicators
1. Efficiently Connected	<ul style="list-style-type: none"> Functional Road Class Truck Volumes
2. Reliability	<ul style="list-style-type: none"> Emergency Detour Route Barrier Crossing Travel Time Index (congested vs. free-flow travel time) Seasonal Reduced Load
3: Safety	<ul style="list-style-type: none"> Safety - Potential for Safety Improvement Road Uses - BLAST Network Shared Road Uses - Cycling Pedestrian Density
4: Equity	<ul style="list-style-type: none"> Low-Income Household Prevalence (%) Vulnerable Age Cohort (<19 and 65+) (%)
5: Public Health	<ul style="list-style-type: none"> Adjacent Residential Zoning (%) Sensitive Land Uses and Community Facilities

Public Health: Sensitive Land Uses

Very Sensitive Land Uses:

- Hospital (adjacent)
- Elementary or school (adjacent)

Sensitive Land Uses:

- Hospital (within 100 m)
- Elementary or secondary school (within 100 m)
- Post-secondary school (adjacent)
- Long-term care (adjacent)

Sensitive Community Facilities:

- Major city park
- Business Improvement Area

Other Community Centres:

- City and non-City recreation and community centres
- Library
- Places of Worship

Network Evaluation Scenarios

- **Five network evaluation criteria** were developed, each with indicators and scoring
- **Four network philosophies** were developed, each with different criteria weightings
- The network of road segments **scoring 50 or greater** for the **Balanced Network** were the starting point for developing the 24-hour truck route network



Public Health-Focused

Goal	Weighting
Efficiently Connected	50%
Reliability	50%
Safety	150%
Equity	100%
Public Health	150%
Total	500%



**Goods Movement
Mobility-Focused**

Goal	Weighting
Efficiently Connected	150%
Reliability	150%
Safety	100%
Equity	50%
Public Health	50%
Total	500%



**Community Resiliency-
Focused**

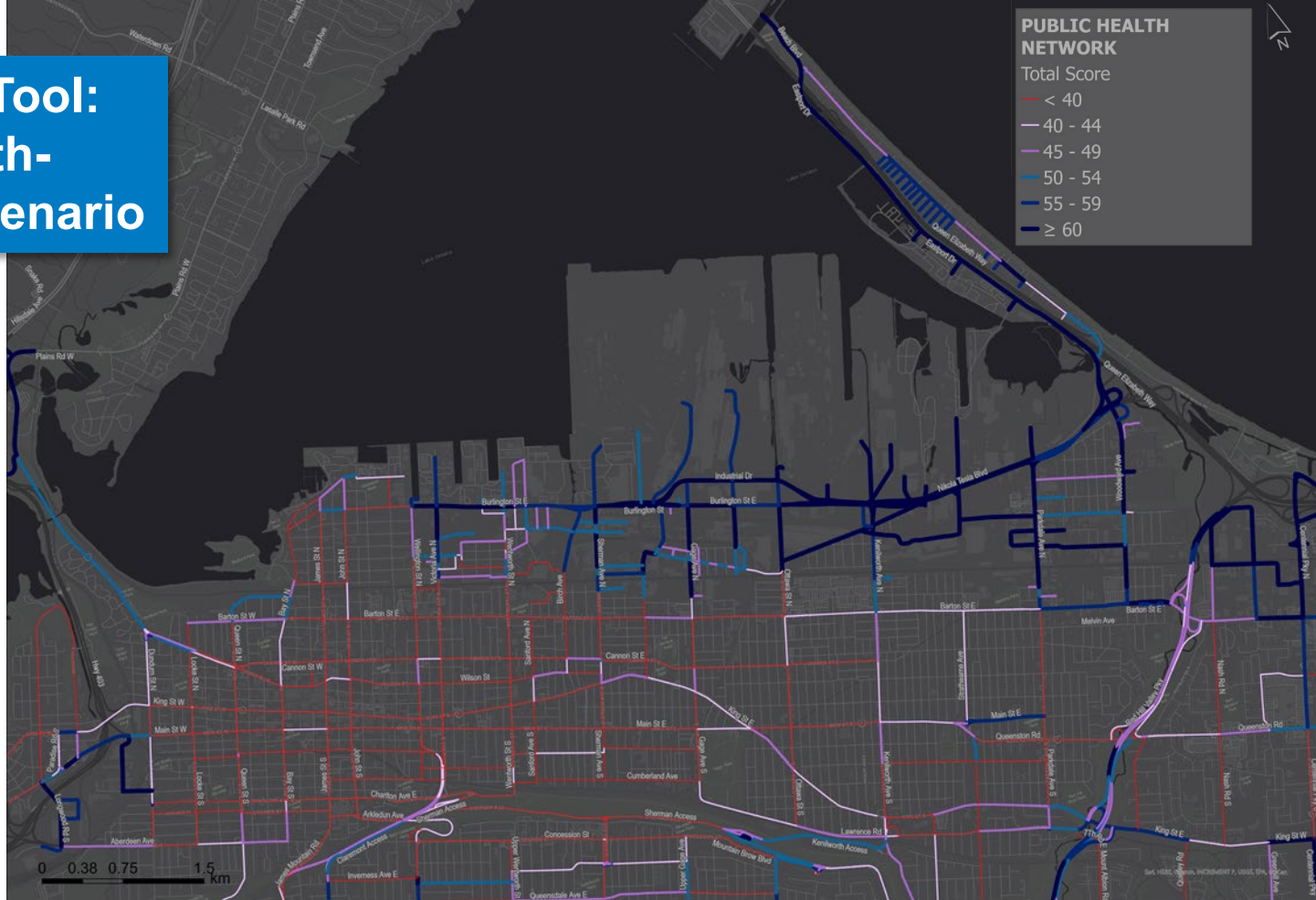
Goal	Weighting
Efficiently Connected	50%
Reliability	50%
Safety	100%
Equity	150%
Public Health	150%
Total	500%



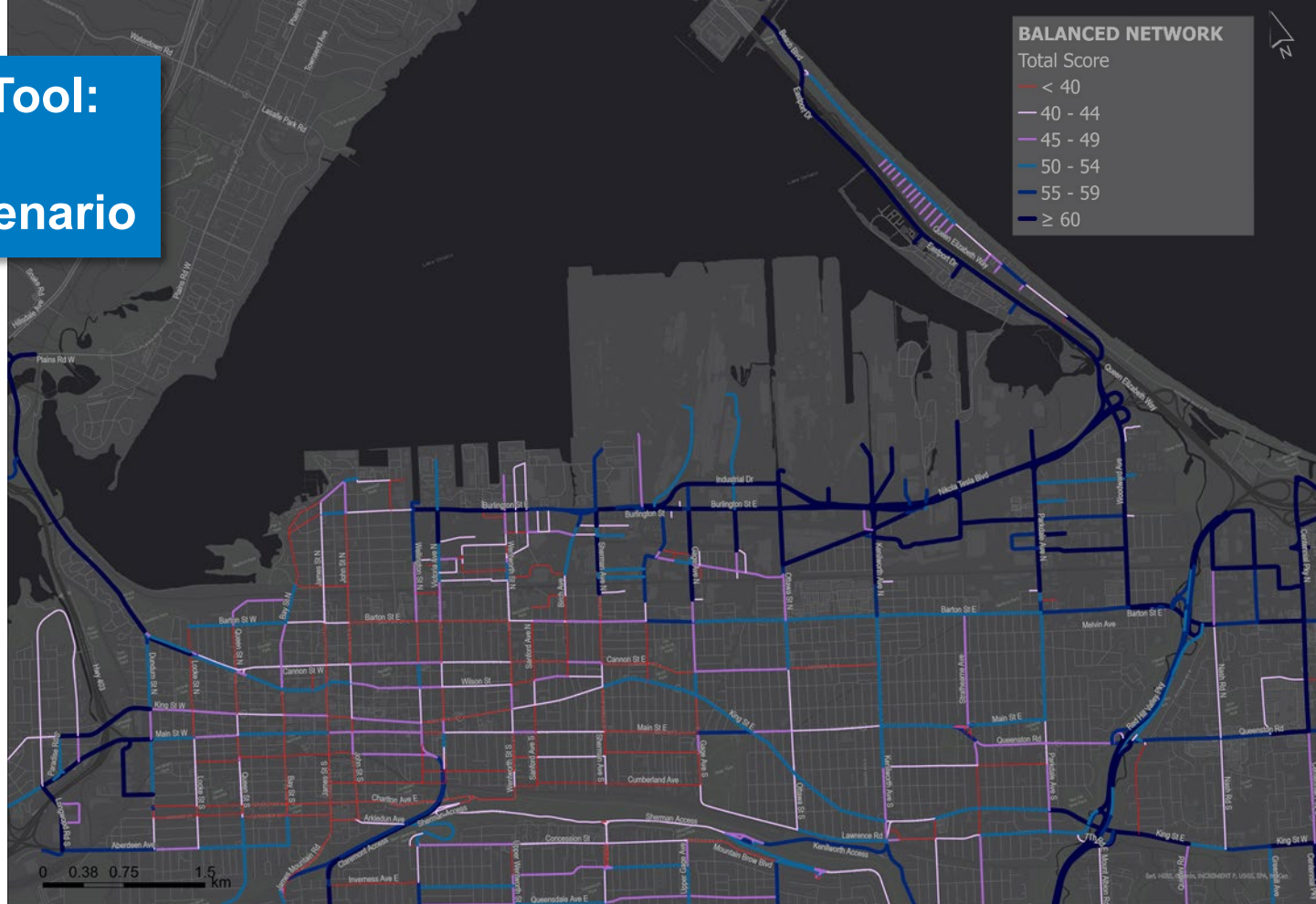
Balanced Network

Goal	Weighting
Efficiently Connected	100%
Reliability	100%
Safety	100%
Equity	100%
Public Health	100%
Total	500%

Evaluation Tool: Public Health- Focused Scenario



Evaluation Tool: Balanced Network Scenario



Principles to Complete the Truck Route Network

1. Provide at least **one full-time truck route connection** between existing or planned **heavy industry** and the provincial highway network.
2. Provide sufficient **connectivity** and truck route network **spacing** to avoid excessive additional truck travel time compared to the shortest travel distances, and to ensure that a feasible **redundant** route is available when part of the truck route becomes temporarily unavailable (e.g. due to traffic incidents or construction).
3. Provide one or more truck route connections (full-time or part-time) at each **provincial highway or municipal parkway interchange**.

Principles to Complete the Truck Route Network (cont'd)

4. Provide at least one full-time truck route connection to each **bordering truck route** in adjacent municipalities.
5. Maintain the **Provincial Emergency Detour Route (EDR)** as part of either the 24-hour or daytime-only truck route.
6. Avoid **truck route “dead ends”** for both the 24-hour network and the daytime-only network (e.g. provide truck route connections and/or turn-around loops).

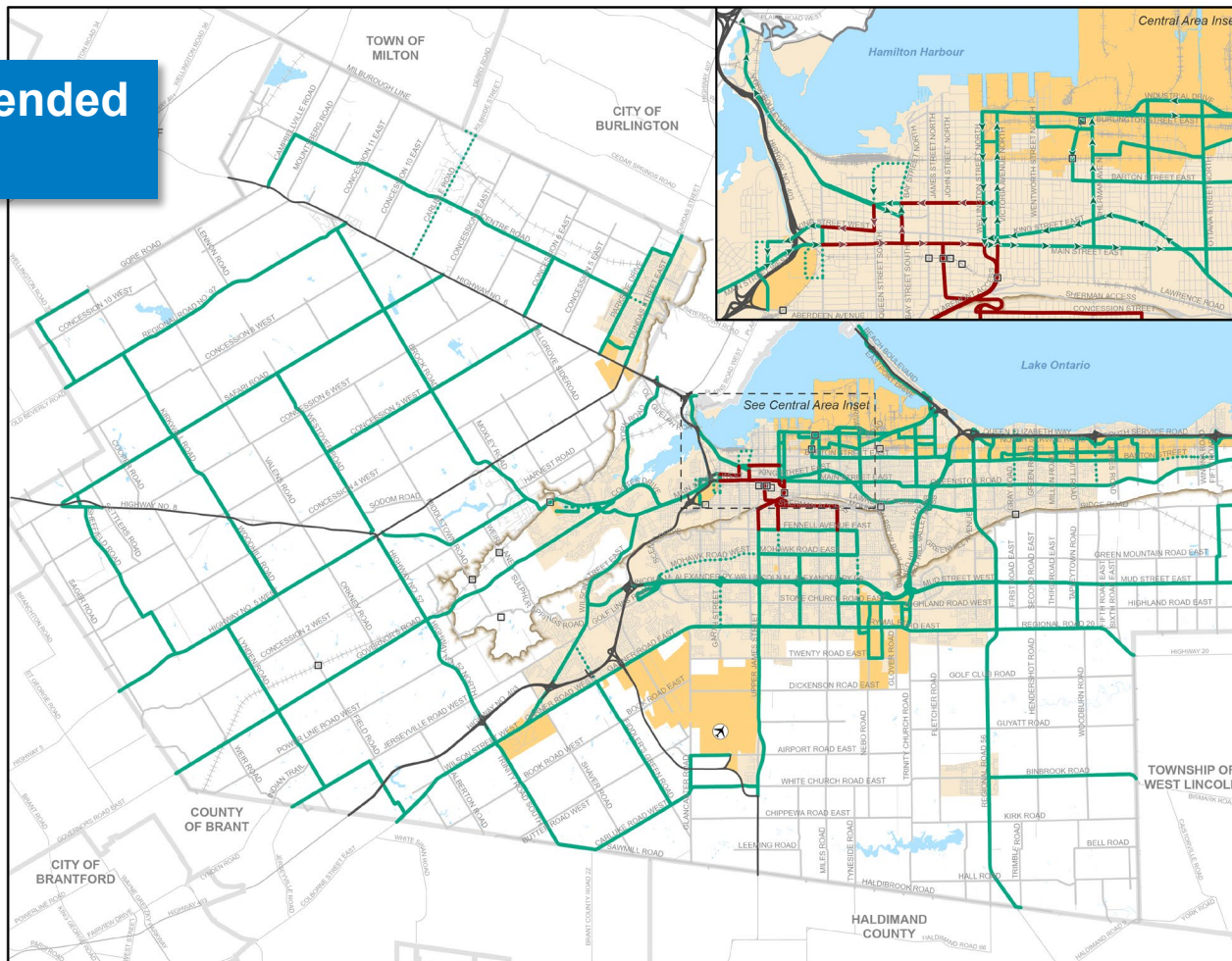
Impact of Public and Stakeholder Engagement

- Development of the Five Criteria
- Identification of Scoring Indicators
- Development of Four Network Philosophies for comparison
- Identification of specific locations with issues



Recommended Network

Recommended Network



HAMILTON TRUCK ROUTE MASTER PLAN

Recommended Truck Route Network

Truck Routes

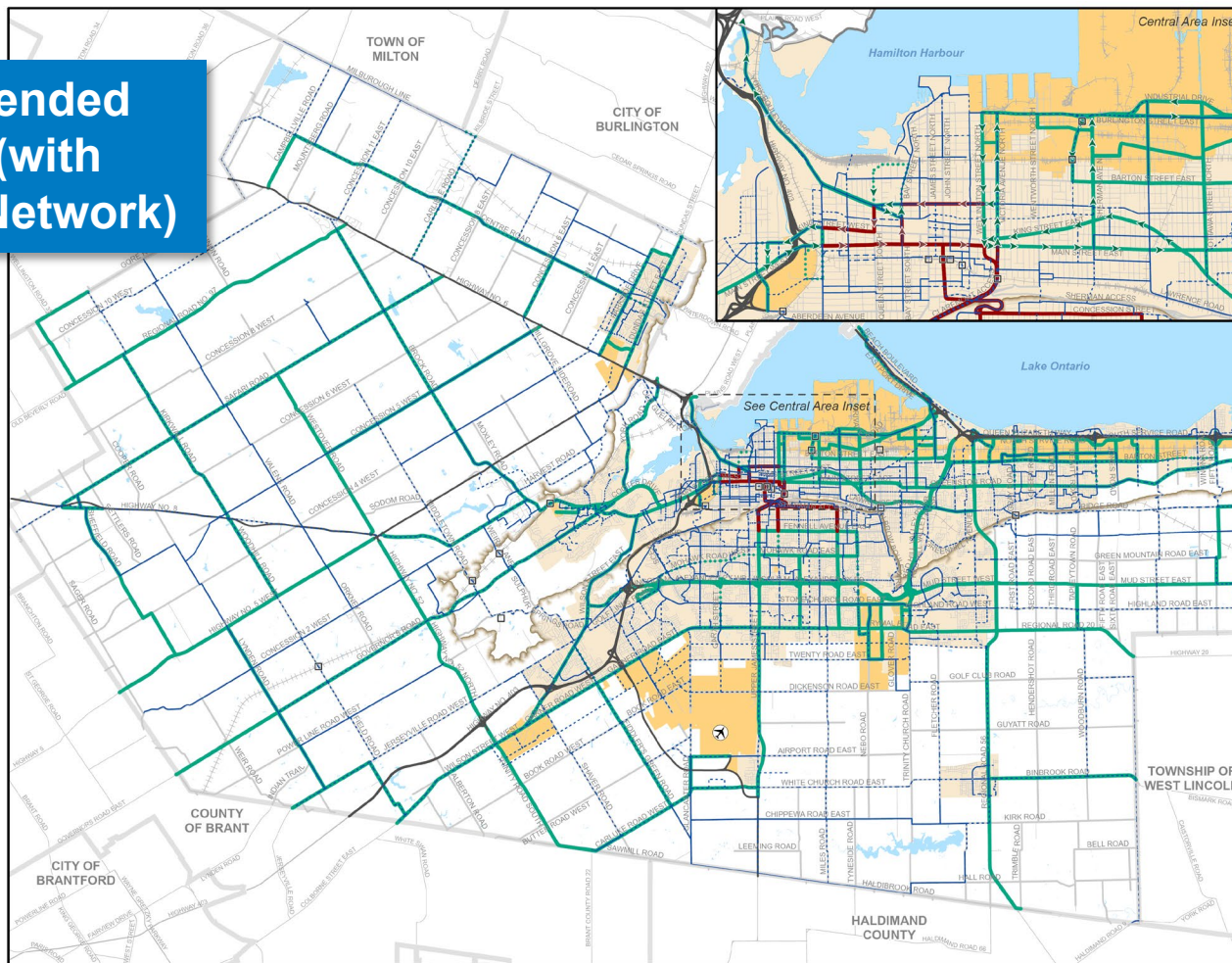
- Full-Time (Provincial Highway)
- Full-Time
- Daytime Only (7am - 7pm)
- Max 5 Axles
- Low Clearance Bridge
- Employment / Business Area

Base Information

- Major Arterial Road
- Minor Arterial Road
- Collector Road
- Local Road
- Escarpment
- Urban Area



Recommended Network (with Cycling Network)



The cycling network shown includes existing and planned cycling infrastructure as approved in the Hamilton Cycling Master Plan

HAMILTON TRUCK ROUTE MASTER PLAN

Recommended Truck Route Network with Cycling Network

Truck Routes

- Full-Time (Provincial Highway)
- Full-Time
- ... Daytime Only (7am - 7pm)
- Max 5 Axles

Cycling Infrastructure

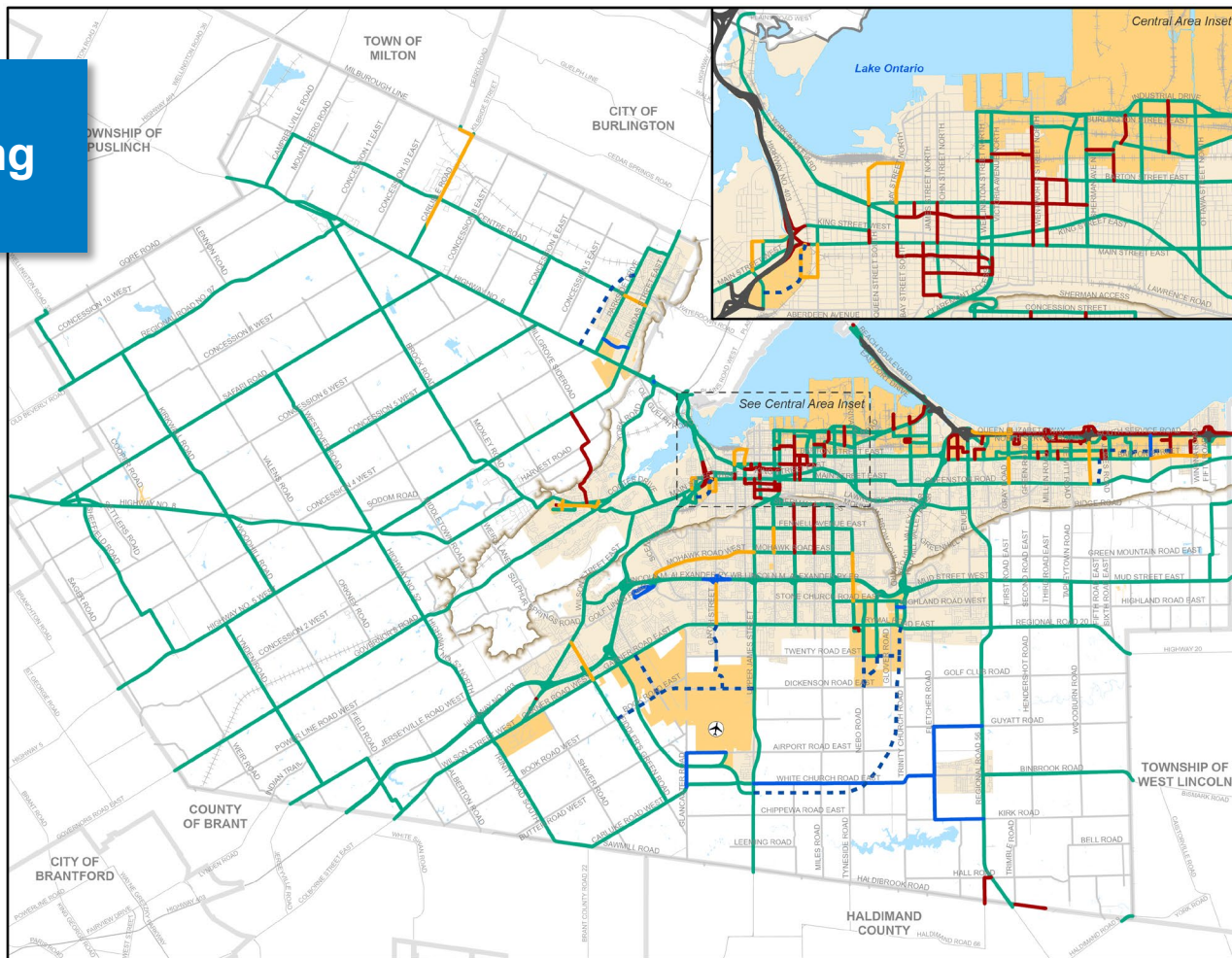
- Existing
- ... Planned
- Low Clearance Bridge
- Employment / Business Area

Base Information

- Major Arterial Road
- Minor Arterial Road
- Collector Road
- Local Road
- Escarpment
- Urban Area



Changes to Existing Network



HAMILTON TRUCK ROUTE MASTER PLAN

Existing Truck Route Network Recommended Changes

Existing Truck Routes

- Provincial
- Hamilton

Draft Changes

- Segments Removed
- Segments Added
- Segments Daytime Only (7am - 7pm)
- Future Link
- Employment / Business Area

Base Information

- Major Arterial Road
- Minor Arterial Road
- Collector Road
- Local Road
- Escarpment
- Urban Area

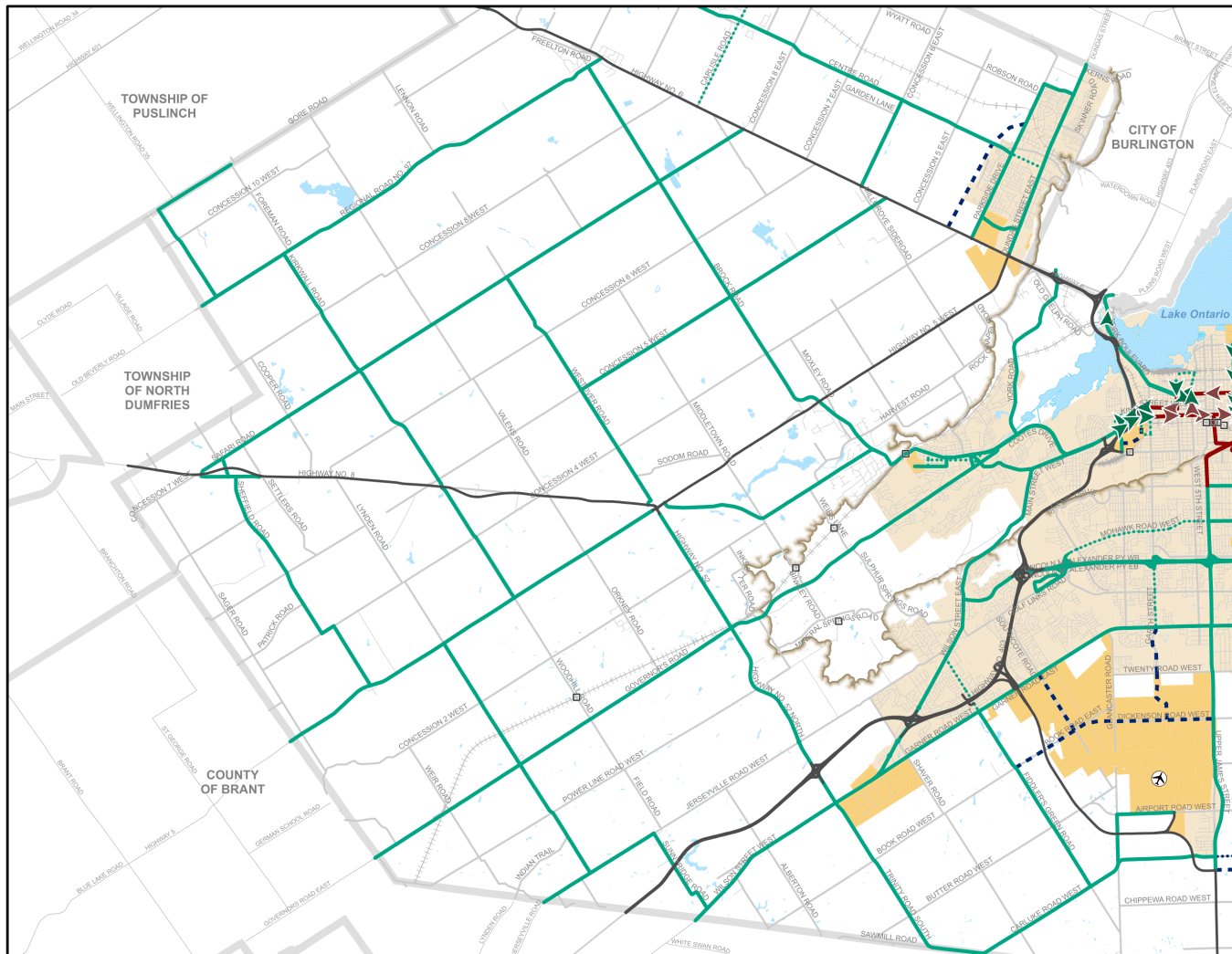


0 3.5 7 km





Recommended Truck Route Network by Sub Areas



HAMILTON TRUCK ROUTE MASTER PLAN

Long-term Recommended Truck Route Network

Truck Routes

- Full-Time (Provincial Highway)
- Full-Time
- Daytime Only (7am - 7pm)
- Max 5 Axles
- Future Link
- Future Daytime Only (7am - 7pm)
- Low Clearance Bridge
- Employment / Business Area



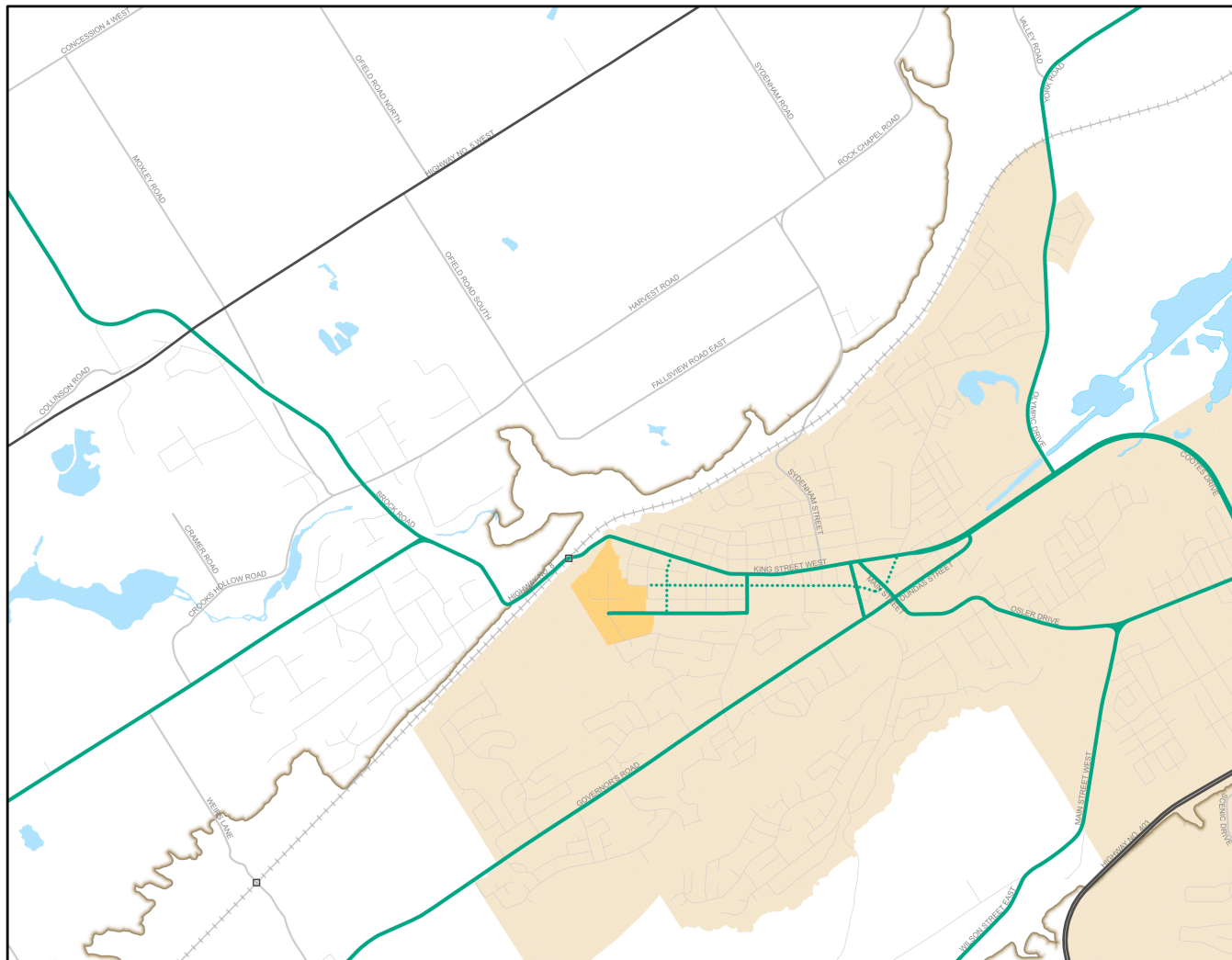
CITY OF HAMILTON

Base Information

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- Minor Arterial Road
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- Urban Area



0 2.5 5 km



HAMILTON TRUCK ROUTE MASTER PLAN

Long-term Recommended Truck Route Network

Truck Routes

- Full-Time (Provincial Highway)
- Full-Time
- Daytime Only (7am - 7pm)
- Max 5 Axles
- Future Link
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CITY OF HAMILTON

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HAMILTON TRUCK ROUTE MASTER PLAN

Long-term Recommended Truck Route Network

Truck Routes

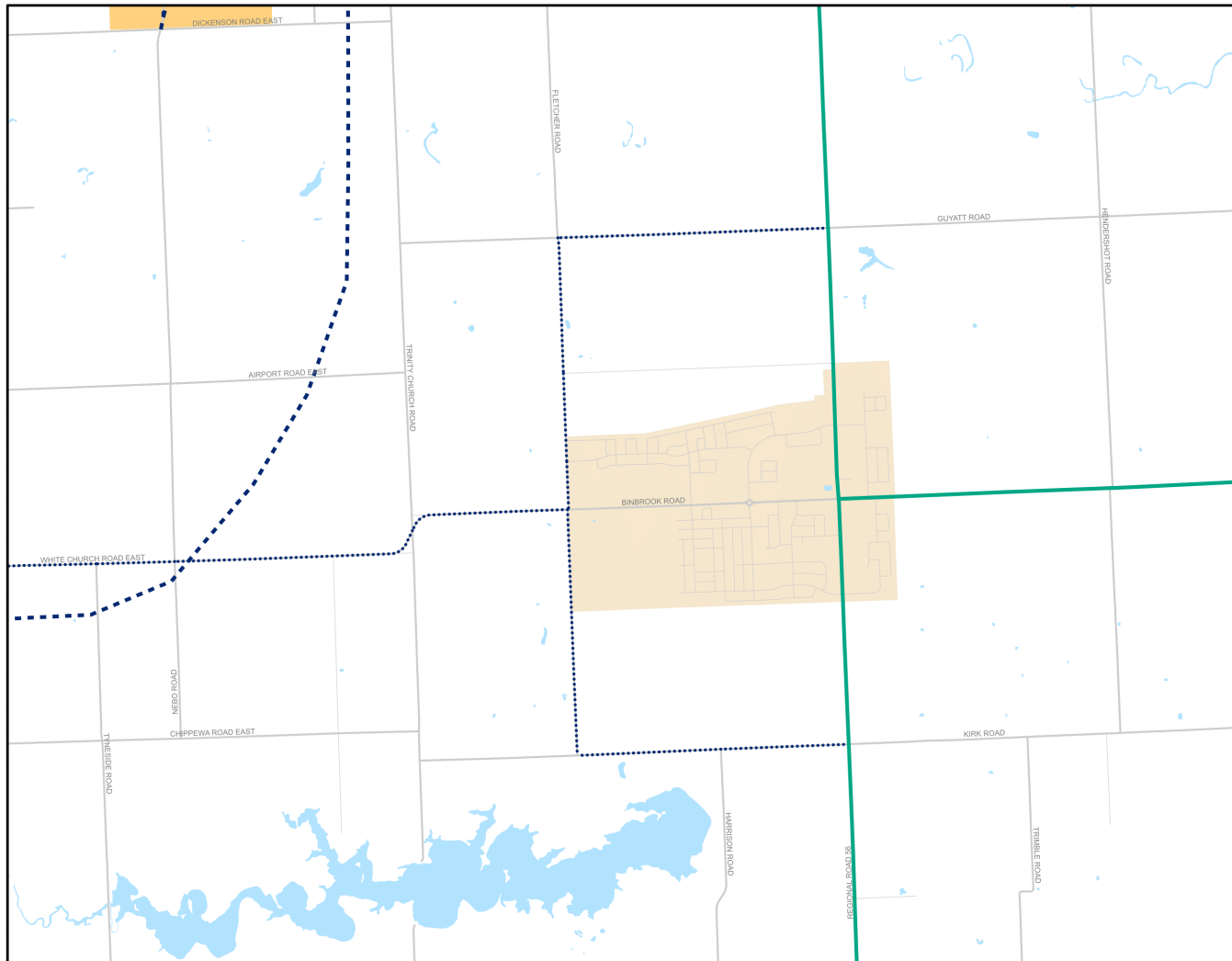
- Full-Time (Provincial Highway)
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Base Information

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HAMILTON TRUCK ROUTE MASTER PLAN

Long-term Recommended Truck Route Network

Truck Routes

- Full-Time (Provincial Highway)
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CITY OF HAMILTON

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HAMILTON TRUCK ROUTE MASTER PLAN

Long-term Recommended Truck Route Network

Truck Routes

- Full-Time (Provincial Highway)
- Full-Time
- ... Daytime Only (7am - 7pm)
- Max 5 Axles
- - - Future Link
- ... Future Daytime Only (7am - 7pm)
- Low Clearance Bridge
- Employment / Business Area

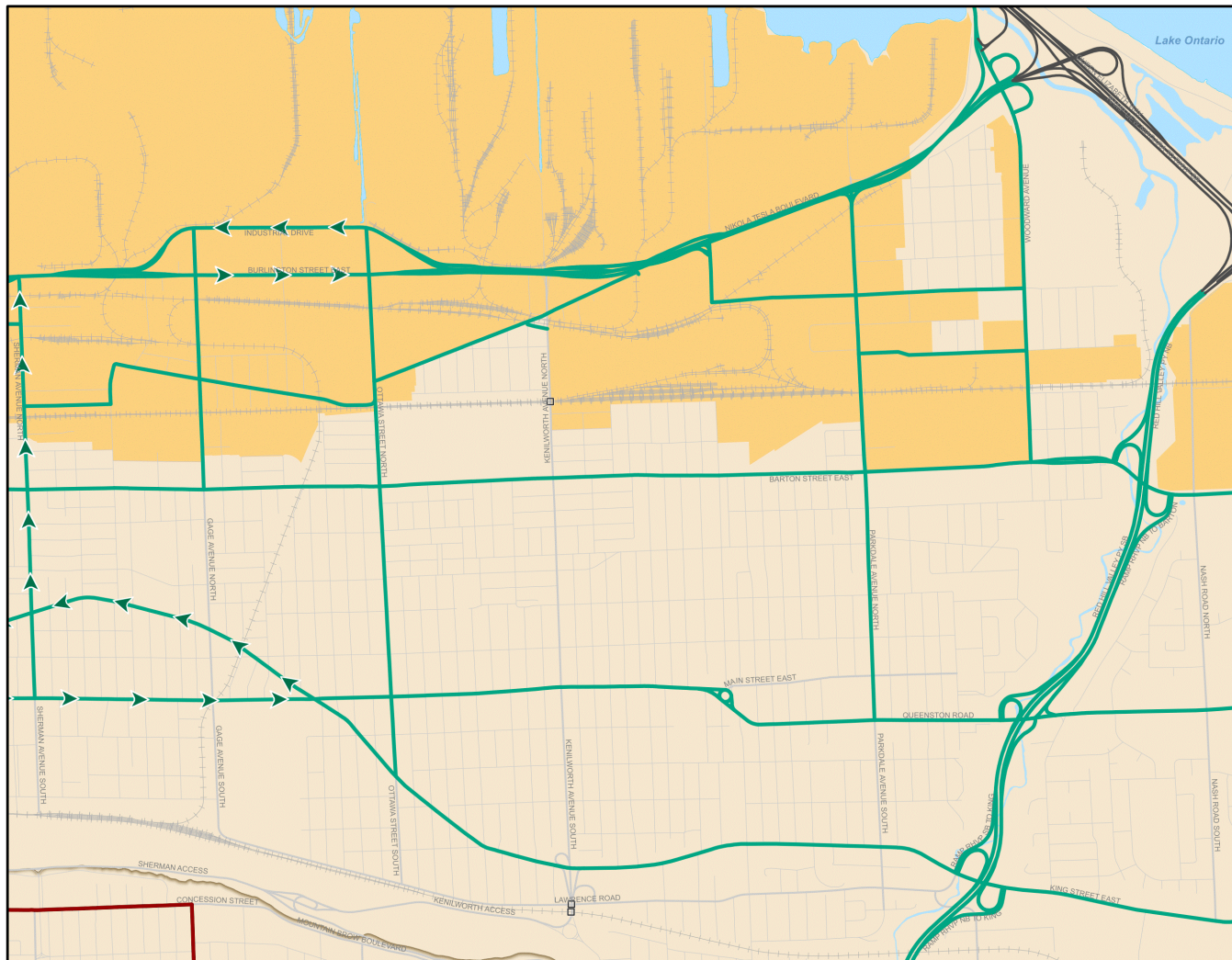


CITY OF HAMILTON

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HAMILTON TRUCK ROUTE MASTER PLAN

Long-term Recommended Truck Route Network

Truck Routes

- Full-Time (Provincial Highway)
- Full-Time
- ... Daytime Only (7am - 7pm)
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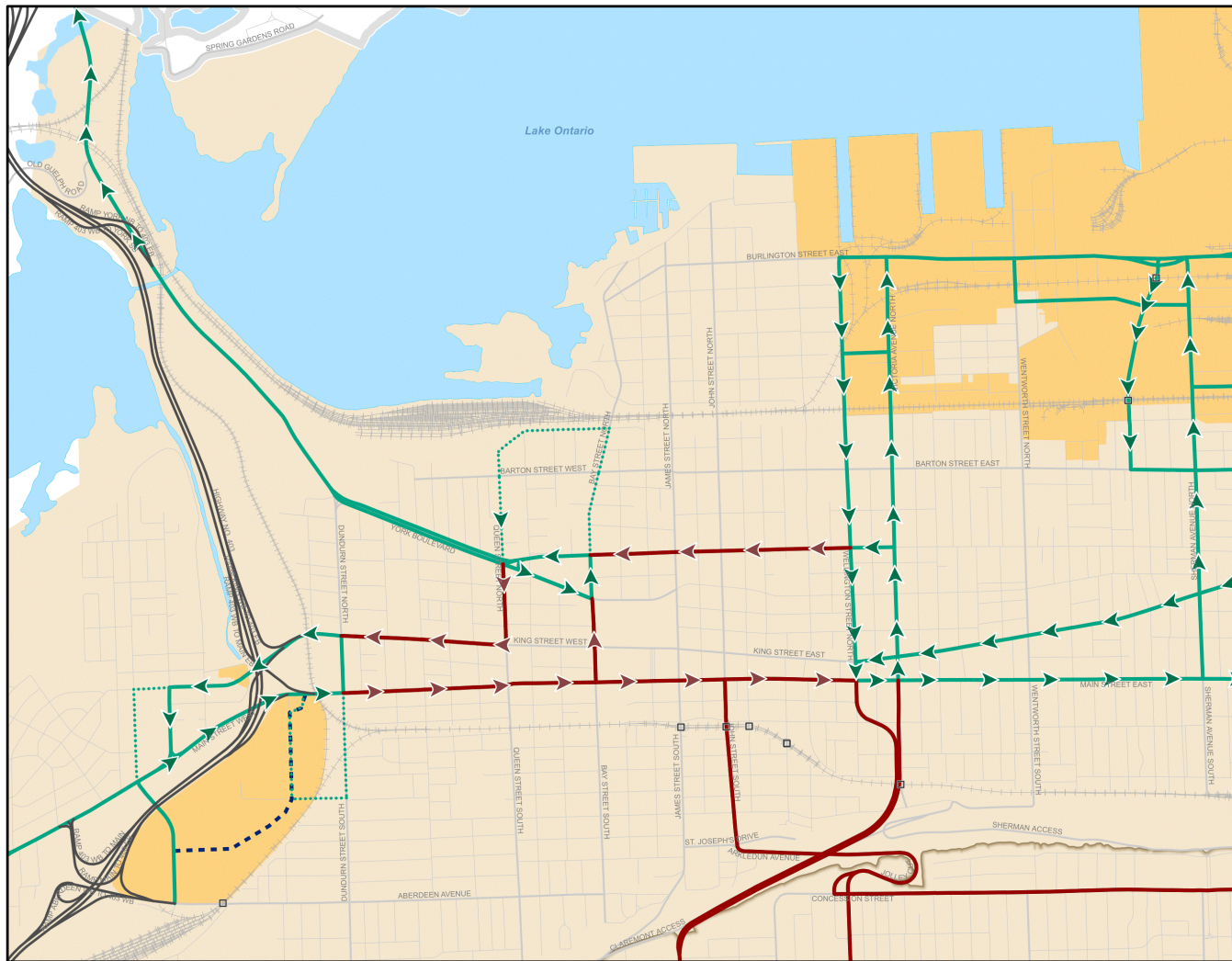


CITY OF HAMILTON

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HAMILTON TRUCK ROUTE MASTER PLAN

Long-term Recommended Truck Route Network

Truck Routes

- Full-Time (Provincial Highway)
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CITY OF HAMILTON

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0 0.42 0.85 km



Implementation Strategies

Implementation Strategies

1. Focus on limiting larger trucks by adding restrictions (maximum 5-axle) in downtown.
2. Implement “daytime only” routes – 7 a.m. to 7 p.m.
3. Implement Operational Improvements.
4. Add the segments once necessary approvals and improvements have been made.

Maximum 5-Axle Segments: Sample Allowable Trucks



Many tractor-trailers (van style) 5-axle



Dump truck 4-axle



Cement Mixer 4-axle



Vehicle carrier with trailer 5-axle



Refuse truck 3-axle



Delivery Van 2-axle



Infrequent: 2-trailer 5-axle

Maximum 5-Axle Segments: Sample Prohibited Trucks



Tractor with two tanker trailers 8-axle



Tractor with two dump trailers 7-axle



Dump truck with trailer 6-axle



Tractor with dump trailer 7-axle



Tractor with tanker trailer 6-axle



Tractor with soft-sided van 7-axle

Recommendation

- a) That the City of Hamilton Truck Route Master Plan (TRMP) update be approved;
- b) That the General Manager of the Planning and Economic Development Department be authorized and directed to file the City of Hamilton Truck Route Master Plan Update with the Municipal Clerk for a minimum thirty-day public review period;
- c) That the Transportation Operations and Maintenance (TOM) Division develop a truck route signing implementation strategy and that the estimated cost of \$300 K for signage modifications and installations be funded from the Unallocated Capital Levy Reserve Account #108020;
- d) That the Transportation Operations and Maintenance (TOM) Division prepare an amendment to the City of Hamilton Traffic By-law 01-215 for consideration by Council;

Recommendation

- e) That, where truck routes have been identified along various roads within the Recommended Truck Route Network - Future Conditions, as presented in Exhibit 4.13 of Appendix “A” attached to Report PED19073(b), that these roadways are planned and designed with the appropriate roadway and pavement structure to support truck movement and reflect a Complete-Livable-Better Streets and Vision Zero approach; and
- f) That Hamilton Police Services (HPS) be requested to review and develop an enhanced commercial vehicle enforcement strategy in collaboration with Transportation Planning (TP) and Transportation Operation and Maintenance (TOM).



Next Steps

Next Steps



Fall 2021

Project File Report Present master plan report, truck route network maps and report to Truck Route Sub-committee, Public Works and City Council



Winter 2022

Develop a detailed sign installation plan; an enhanced commercial vehicle enforcement strategy, and finalize By-Law changes and related schedules



Thank You

