Hamilton – Smart Mobility Challenge

Scope Area & Context

Hamilton is Canada's prime gateway for goods movement and federally designated Foreign Trade Zone. Located at the centre of busiest economic hub in the country, Hamilton's strategic location and infrastructure supports all form of transportation; Passenger, eCommerce, heavy/project cargo or commodities. Port of Hamilton is the largest port in Ontario and the western marine gateway to Greater Toronto-Hamilton Area, handling approximately 10 million metric tonnes of cargo annually. JC Munro Hamilton International Airport is Canada's largest overnight express cargo airport and a hub of eCommerce. Hamilton's road infrastructure is instrumental for at surface transport of commercial goods, vehicular traffic and intercity public transit.

Scenario 1: Wellington Street, Victoria Avenue and Upper James Street establish the most direct route connecting Port of Hamilton to Hamilton International Airport. These three corridors are designated as full-time truck routes traversing through residential communities, sensitive land uses and Niagara Escarpment. Upper James Street is part of the planned BLAST rapid transit network (A-Line). None of these corridors have cycling infrastructure to support multimodal transportation needs.

Scenario 2: One-third of the port of Hamilton-bound truck trips are originated in the Southwestern Ontario region. Main Street and Victoria Avenue North establishes the most direct inbound route between Highway 403 and the port terminals. Wellington Street, Cannon Street, Queen Street and King Street West make up the outbound route for westbound truck traffic between port lands and the Provincial Highway 403. The above listed one-way roads traverse through the downtown business district and many residential communities resulting in environmental, safety and noise concerns. King Street West is a rapid transit corridor with the potential for future dedicated rapid transit right of way. Major intersections along these routes are designed for A-train and B-train design vehicles, yet turning vehicles are encroaching into protected bike lanes and sidewalks, presenting safety risks to vulnerable road users.

Objectives

Challenge: Within this scope area as shown on the map (attached), the major problems include:

- High peak hour congestion
- High queuing at signalized intersections
- High Heavy vehicle turning movements at intersections*
- Safety issues (particularly high accident rates at intersections)
- Pedestrian and cyclist safety issues within commercial districts
- Pedestrian and cyclist safety issues at signalized intersections of truck routes*
- conflict between heavy vehicles and transit vehicles along rapid transit routes
- Heavy vehicles idling along major arterials
- Heavy vehicles conflict with sensitive land use and receptors
- Heavy vehicles engine breaking, noise and vibration pollution

* *more applicable to Scenario 2*

Your challenge is to showcase how your company would use technologies, practices, and options to enhance the efficiency and long term sustainability of this network.

More information and traffic data is available through these sources:

- Traffic data: (https://hamilton.ms2soft.com/tcds/tsearch.asp?loc=Hamilton&mod=)
- Truck Route Network: https://open.hamilton.ca/datasets/5ff31b1c5a5d494c94fa2c5f12be5377_5?geometry=-79.949%2C43.253%2C-79.767%2C43.274)
- Transit routes and maps (https://www.hamilton.ca/sites/default/files/media/browser/2016-02-16/hsr-system-map-dec2019.pdf)

ITS CANADA 2021 Virtual Conference

June 21-22, 2021

creating connections that matter


Burlington
403
Hamilton Division
Hamilton
Mohawk Rd W
Golf Links Rd
Stone Church Rd W
Garner Rd E
Rymal Rd W
Twenty Rd W
Twenty Rd E
Lincoln M. Alexander Pkwy
Stone Church Rd E
Mohawk Rd E
Queensdale Ave E
Rymal Rd E
411
Highland Rd W
Glancaster Rd
Upper Paradise Rd
Southcote Rd
Fiddlers Green Rd
Butter Rd E
Airport Rd
6
Miles Rd
Nebo Rd
Dartnall Rd
Pritchard Rd
Fletcher Rd
First Rd W
56
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Google Earth
1985
Imagery Date: 7/8/2018 43°12'38.93" N 79°52'50.58" W elev 711 ft eye alt 40445 ft