

HALIFAX

Port Wallace Master Plan Area

Waverley Road and Highway 107
Collision Data Review

June 11, 2018

Background

- At the April 2018 Port Wallace PPC meeting, Staff agreed to review the collision data on
 - Waverley Road, and
 - Forest Hills Extension (Montague Rd to Hwy 118)
- For Waverley Road, collision data was obtained from HRP.
- For Highway 107, collision data was obtained from the RCMP.

Waverley Road

- Between January 1, 2016 and March 31, 2018, there were **35** reported collisions.
- Of this amount, there were no fatalities, **2** personal injury collisions, and **33** property damage only collisions.
- There are were no collisions involving cyclists and/or pedestrians, although **4** collisions involved vehicles that were stopped at a crosswalk waiting for a pedestrian to cross.

Waverley Road Collision Locations

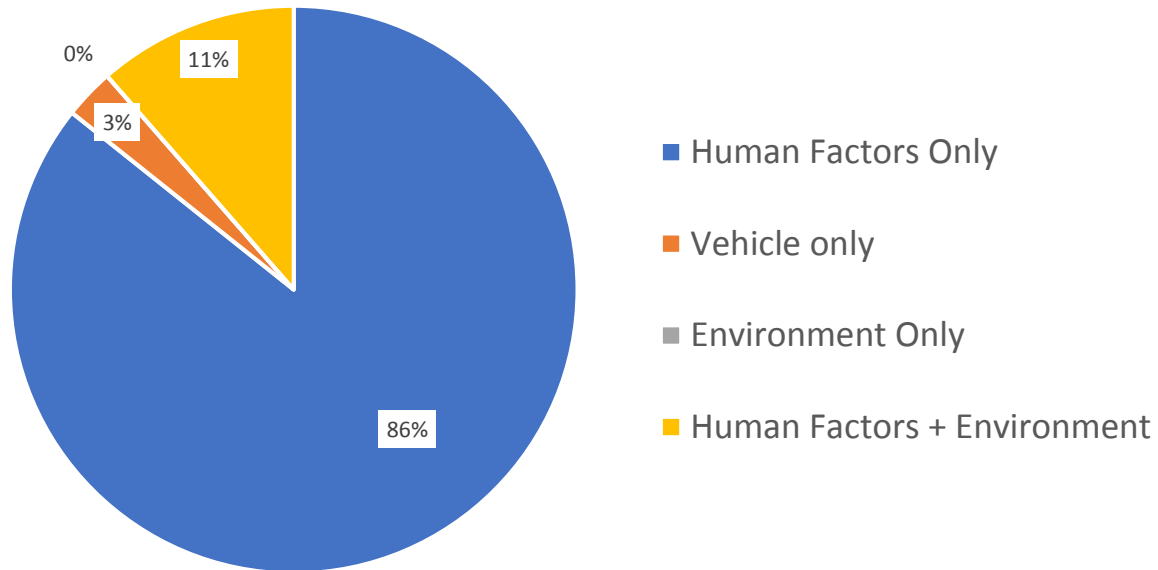


Collision Contributory Factors

- Studies show that the occurrence of road collisions can be broken down into three broad categories:
 - Human Factors
 - Environment (weather, daylight)
 - Vehicle (mechanical failure)

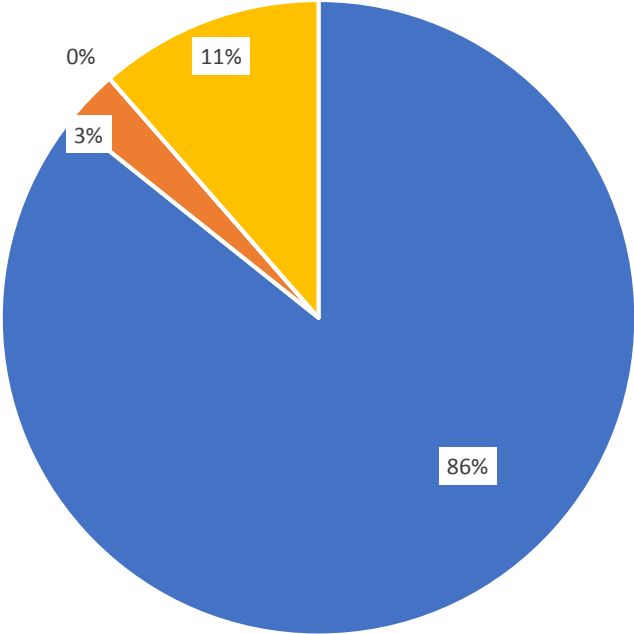
Collision Contributory Factors

Waverley Road
Collision Contributory Factors

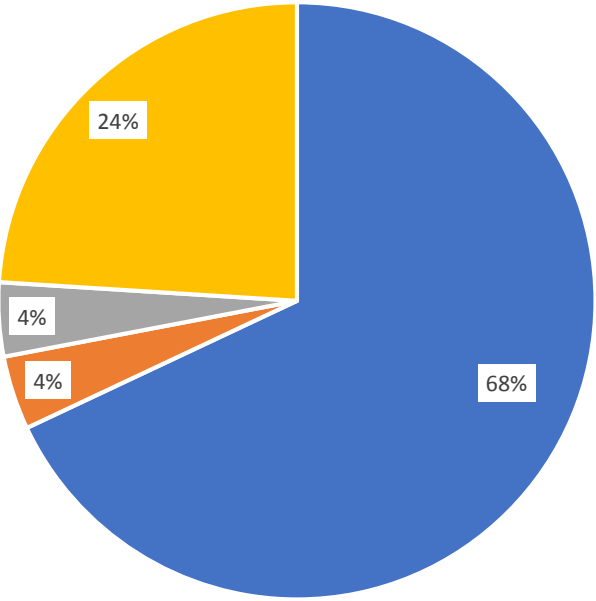


Collision Contributory Factors

Waverley Road



Transportation Association of Canada



- Human Factors Only
- Vehicle only
- Environment Only
- Human Factors + Environment

Waverley Road

- Vehicle Factors

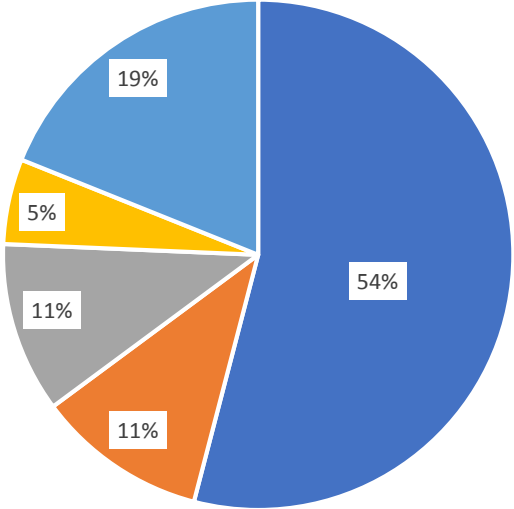
- Tow hitch gave way. Vehicle being towed ended up in lake.

- Environmental Factors

- Darkness
- Freezing Rain
- Rain

Waverley Road

Collision Types



■ Rear End ■ Crossing ■ Left Road ■ Sideswipe ■ Other

Waverley Road

- Most collisions (**20**) occurred within 500 metres of the Waverley Road at Montebello intersection. This is the commercial district. This area has increased access activity.



Waverley Road

- Only **three (3)** collisions occurred north of Breeze Drive. This could be a function of traffic volumes and number of access points.



Waverley Road

- **Four (4)** collisions indirectly involved pedestrian crossing, Vehicles waiting for pedestrians to cross were rear-ended



How does the collision data on Waverley Road compare to other roads in HRM?

- Detailed collision data on all HRM roads is not available in a compiled format.
- NSTIR does collect and publish collision data for the Province. The latest available compiled study was for the year 2006.
- In 2006, there were 12,920 collisions in Nova Scotia. Of that total, roughly 50% (6155) of all collisions were in HRM.
- This equates to about **17 collisions** per day.

Source: https://novascotia.ca/tran/publications/collisionstats/CCMTA_2006.pdf

How does the collision data on Waverley Road compare to other roads in HRM?

- Waverly Road had 35 reported collisions over a 28 month period, or about **0.04 collisions** per day.
- The HRM travel demand model was used to compare the data.
- On any given weekday, it is estimated that there are 10 million vehicle-km trips made in HRM. Of that amount, it is estimated that there are 52,000 vehicle-km trips made on Waverley Road.

How does the collision data on Waverley Road compare to other roads in HRM?

- For HRM this equates to an average collision rate of **1.7** collisions per million vehicle kilometres (MVK) travelled.
- For Waverley Road, the average collision rate is **0.77** collisions/MVK.
- Based on this data, the average collision rate on Waverley Road is less than the HRM average.

Waverley Road Conclusions

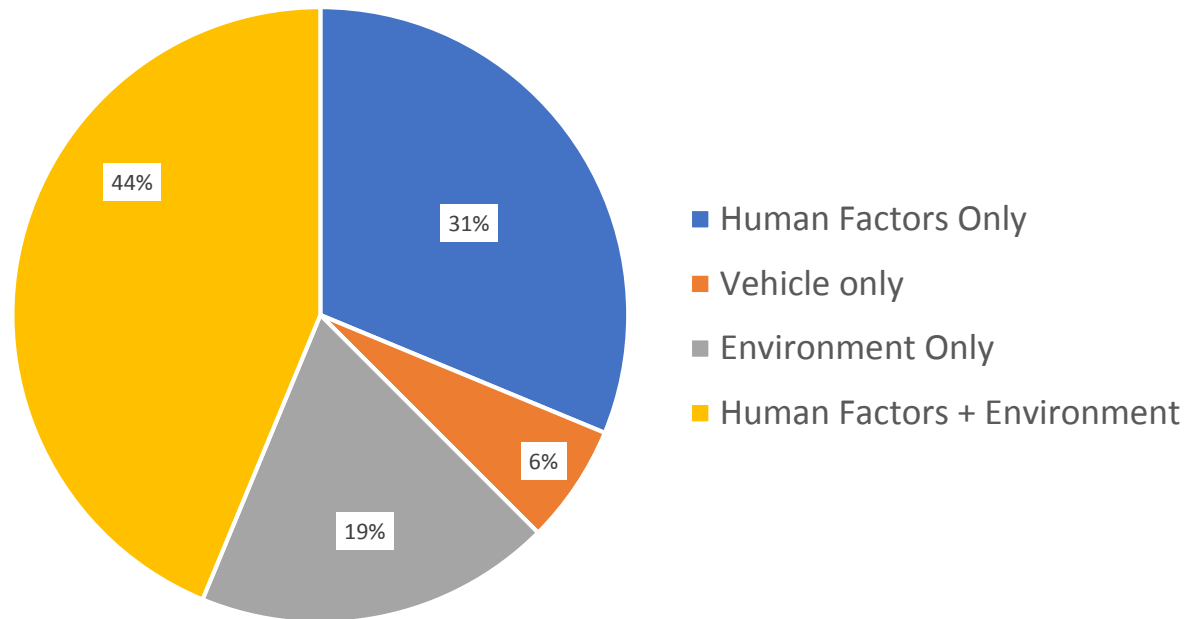
- With an increase in traffic volumes, there is a risk of an increase in collisions.
- There is no current collision pattern where roadway geometry is a contributing factor.

Forest Hills Extension

- Between April 1, 2013 and March 31, 2018, there were **16** reported collisions on Forest Hills Extension between Montague Road and Highway 118.
- Of this amount, there were no fatalities, **3** personal injury collisions, and **13** property damage only collisions.
- Of the 16 collisions, **44%** (7) occurred during the weekend.
- Of the **9** collisions occurring during the week, only one (**1**) collision occurred during AM or PM peak hour.

Collision Contributory Factors

Forest Hills Extension
Collision Contributory Factors



Forest Hills Extension

- Vehicle Factors
 - Blown Tire
- Environmental Factors
 - Darkness
 - Hydroplaning
 - Icy Conditions
 - Snow Build Up
 - Collision with Animal (Deer, Eagle)

Highway 107

Road Safety Review

- In March 2018, NSTIR completed a Road Safety Review of Highway 107, from Burnside to Musquodoboit Harbour in response to safety related concerns noted by the public, emergency service providers, and municipal representatives
- The study included the section of Forest Hill Extension between the Highway 118 interchange and Main Street.

Highway 107 Road Safety Review

- Collision Contributory Factors
 - Environmental Factors 35%
 - Excessive Speed 18%
 - Animals 16%
 - Other Human Factors 31%

Source: NSTIR

Highway 107

Road Safety Review

- Collision Rate Comparison
 - Section from Burnside to Main Street has a collision rate less than the provincial average for Fully Access Controlled 100-Series Highways

Section	Description	5 Year Annual Collision Rate	Collision Rate for Two-lane, Fully Access Controlled 100-Series Highways in Nova Scotia
10	BURNSIDE INDUSTRIAL PARK TO HWY 118 INTERCHANGE	30.81	33.0
15	HWY 118 INTERCHANGE TO EXIT 14 (MONTAGUE RD)	26.19	
17	EXIT 14 (MONTAGUE RD) TO TRUNK 7 (MAIN STREET)	22.43	
20	EXIT 17 (EAST PRESTON) TO EXIT 18 (MINEVILLE)	29.07	
30	EXIT 18 (MINEVILLE) TO EXIT 19 (WEST PORTERS LAKE)	19.57	
40	EXIT 19 (WEST PORTERS LAKE) TO EXIT 20 (PORTES LAKE)	68.10	
50	EXIT 20 (PORTES LAKE) TO EXIT 21 (EAST CHEZZETCOOK)	31.93	
60	EXIT 21 (EAST CHEZZETCOOK) TO TRUNK 7 JUNCTION (MUSQUODOBOIT HARBOUR)	46.89	

- These rates are collisions per HVKM (hundred million vehicle kilometres)
- To compare this to the Waverley Road data, the collision rate for Two-lane, Fully Access Controlled 100-Series highways would be **0.33** collisions/MVKM

Source: NSTIR

Highway 107

Road Safety Review

- Stakeholder Input:
 - Increase in vehicle traffic, aggressive and reckless driving
 - Increased in distracted driving (smartphones)
 - Need more police presence
 - Limited visibility due to vegetation
- Safety Issues:
 - Roadside clear zone, barriers, and guide rails
 - Paved and shoulder maintenance
 - Rumble strips
 - Sight Distance

Highway 107

Road Safety Review

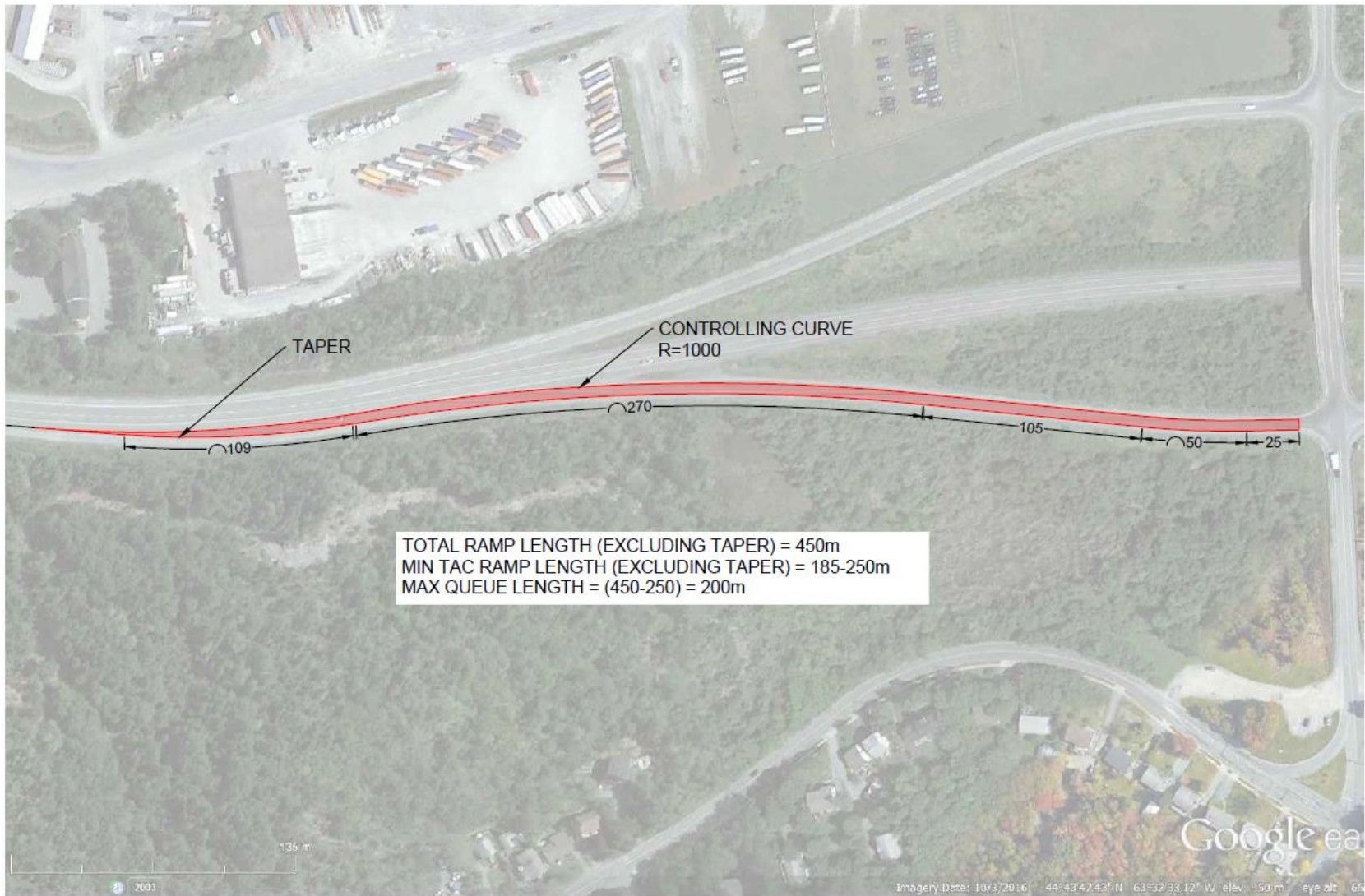
- Recommendations for Section from Hwy 118 to Main Street:
 - Brush Cutting
 - Better shoulder maintenance
 - Replace traffic signs that are missing or in poor condition
 - Shoulder rumble strips
 - Assess Guide Rails to see if they have the proper end treatments, need to be lengthened, or replaced.
 - Installation of a 2m wide paved shoulder

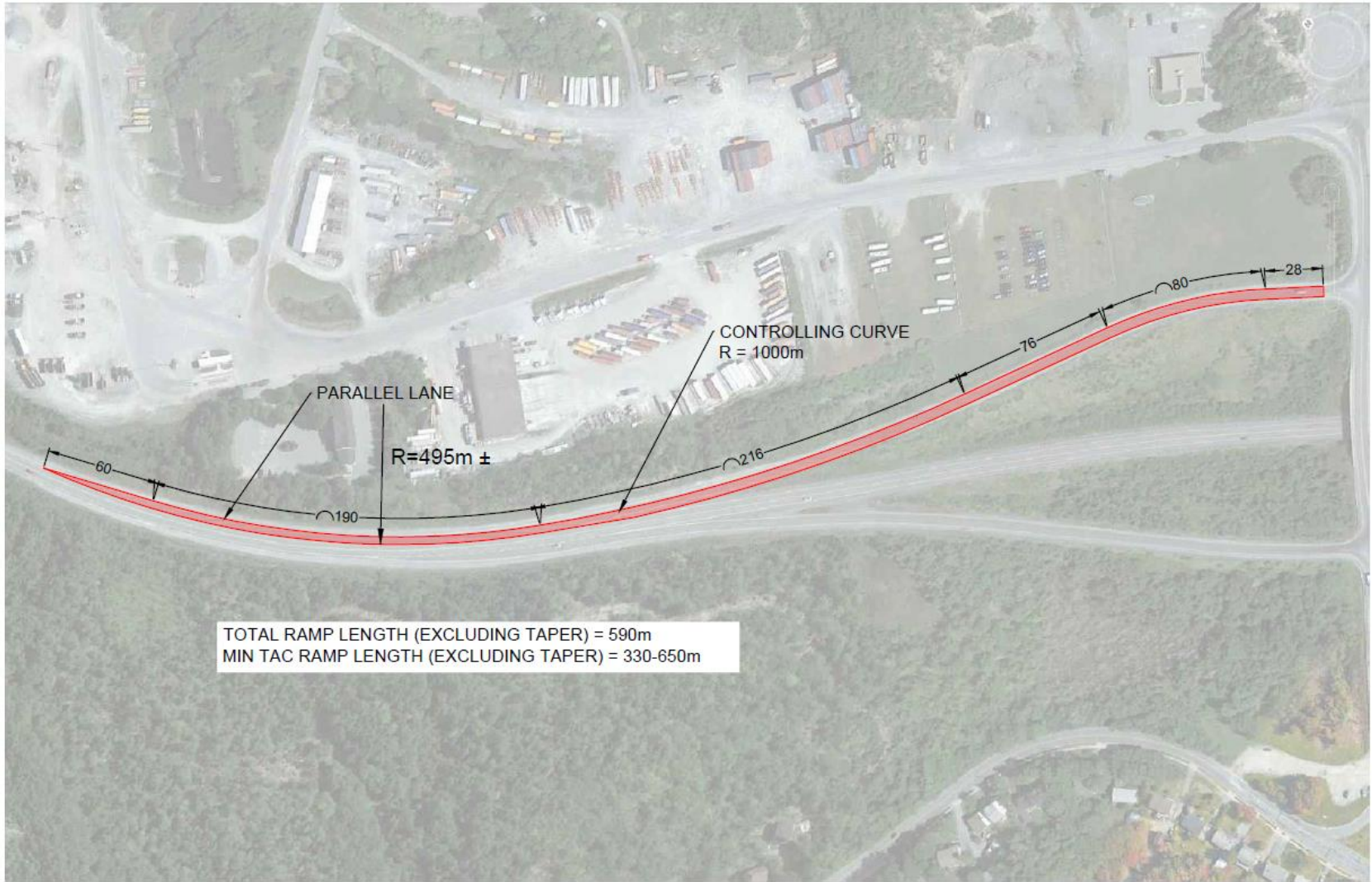
Forest Hills Extension Conclusions

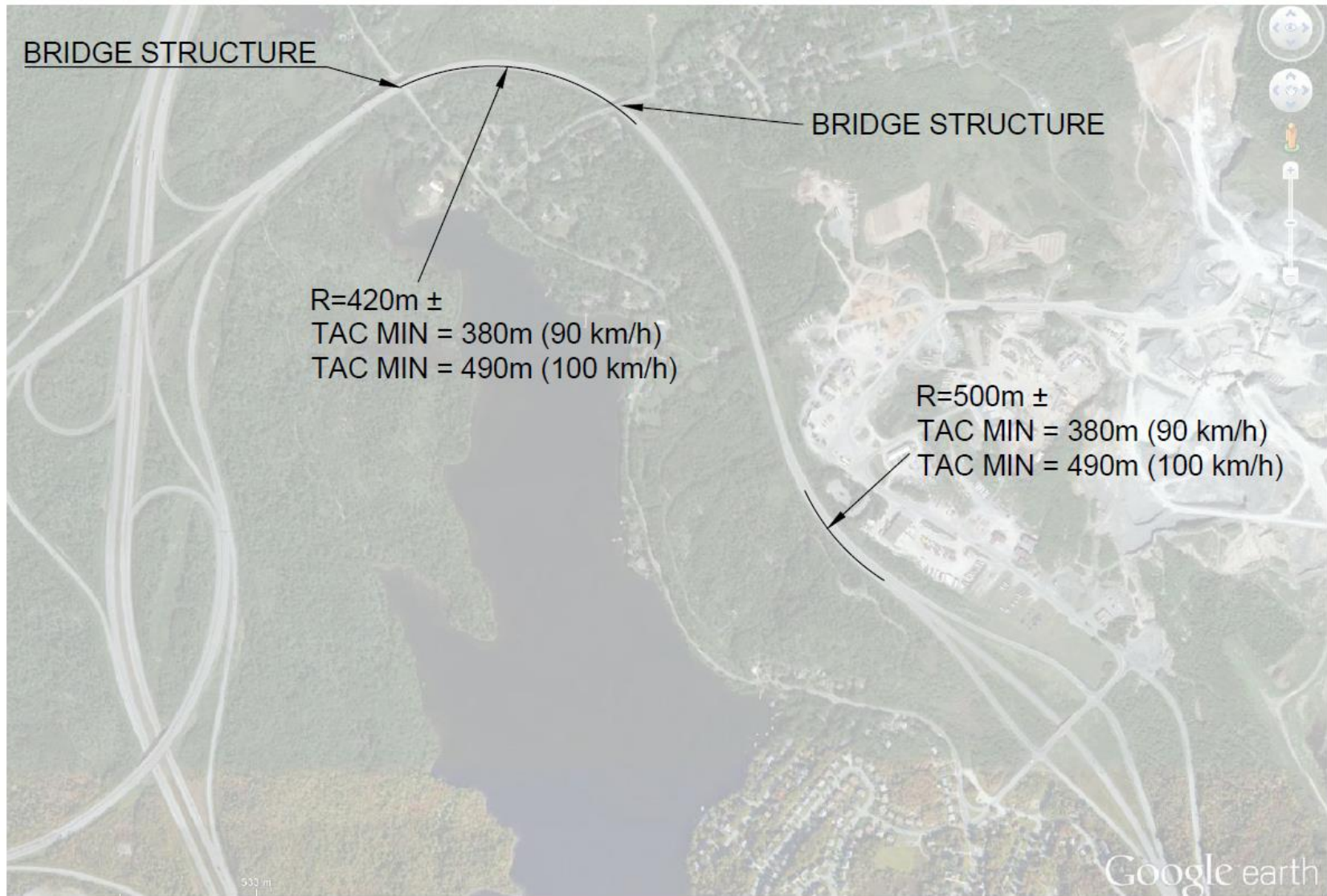
- Statistics show most collisions occur outside of the weekday AM and PM peak hour periods. The weekday AM and PM peak hour periods are typically dominated by commuters who would be familiar with the road and traffic conditions.
- From the available information provided, there does not appear to be any collision pattern related to roadway geometry.

Forest Hills Extension Conclusions

- The ramp geometry appears to conform with TAC guidelines.
- The off ramp will need to be able to accommodate queues without spillback onto the main highway.
- A preliminary check indicates that the ramp should be able to accommodate a queue of 200m and still provide adequate stopping sight distance.







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Questions?

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