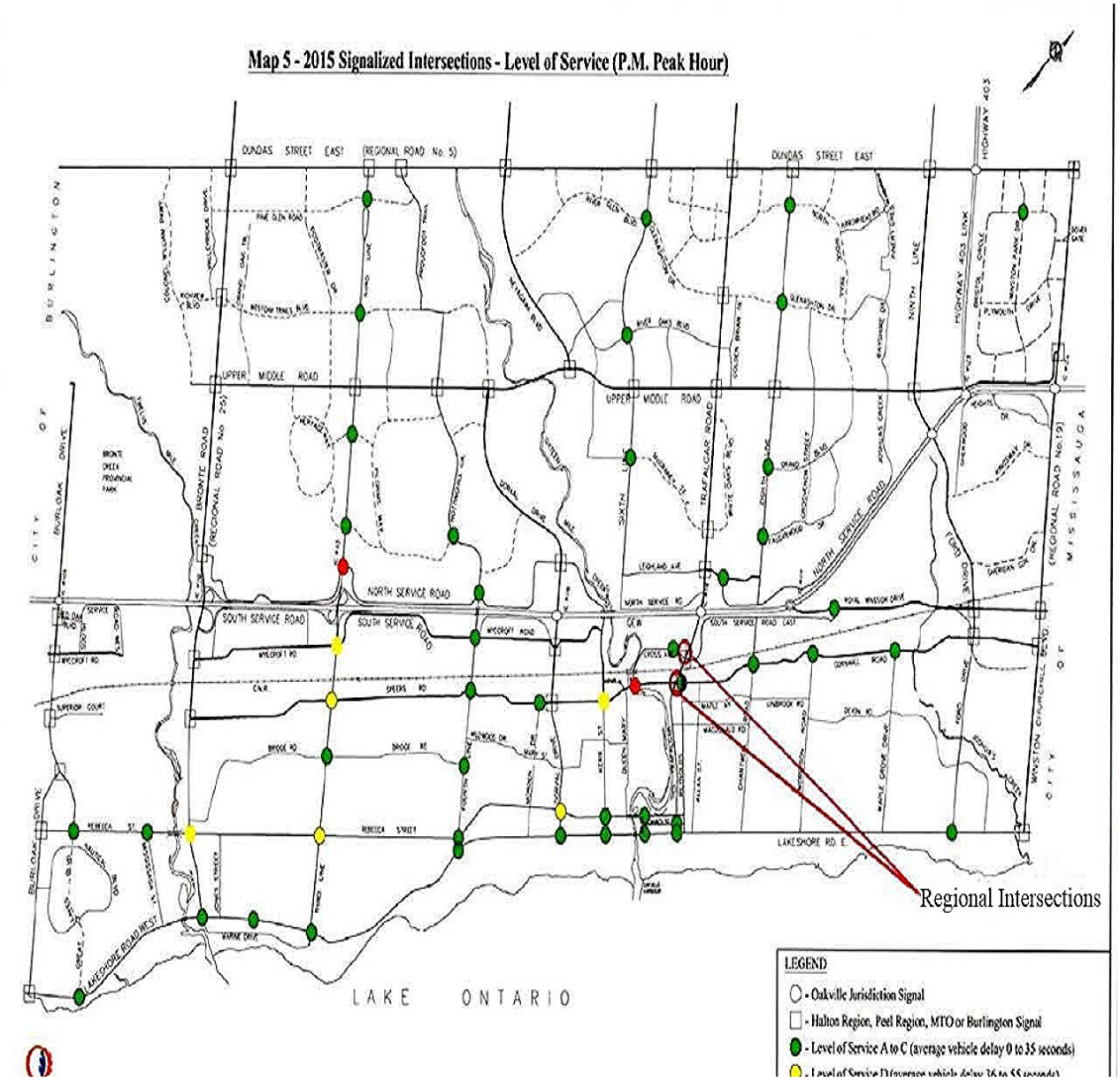
Midtown Traffic Issues and Possibly, How to Solve Them Mostly on The Province and Regions Budgets.

General Area Picture of the 16 Mile Creek and QEW Bridge.

Town Map of Worst Intersections in 2015.

Note: The Key Regional and Provinces Intersections, therefore, this map does NOT Include Trafalgar / Cornwall or Trafalgar / Cross Avenue Regional Intersections or the Province QEW Exit Intersection.

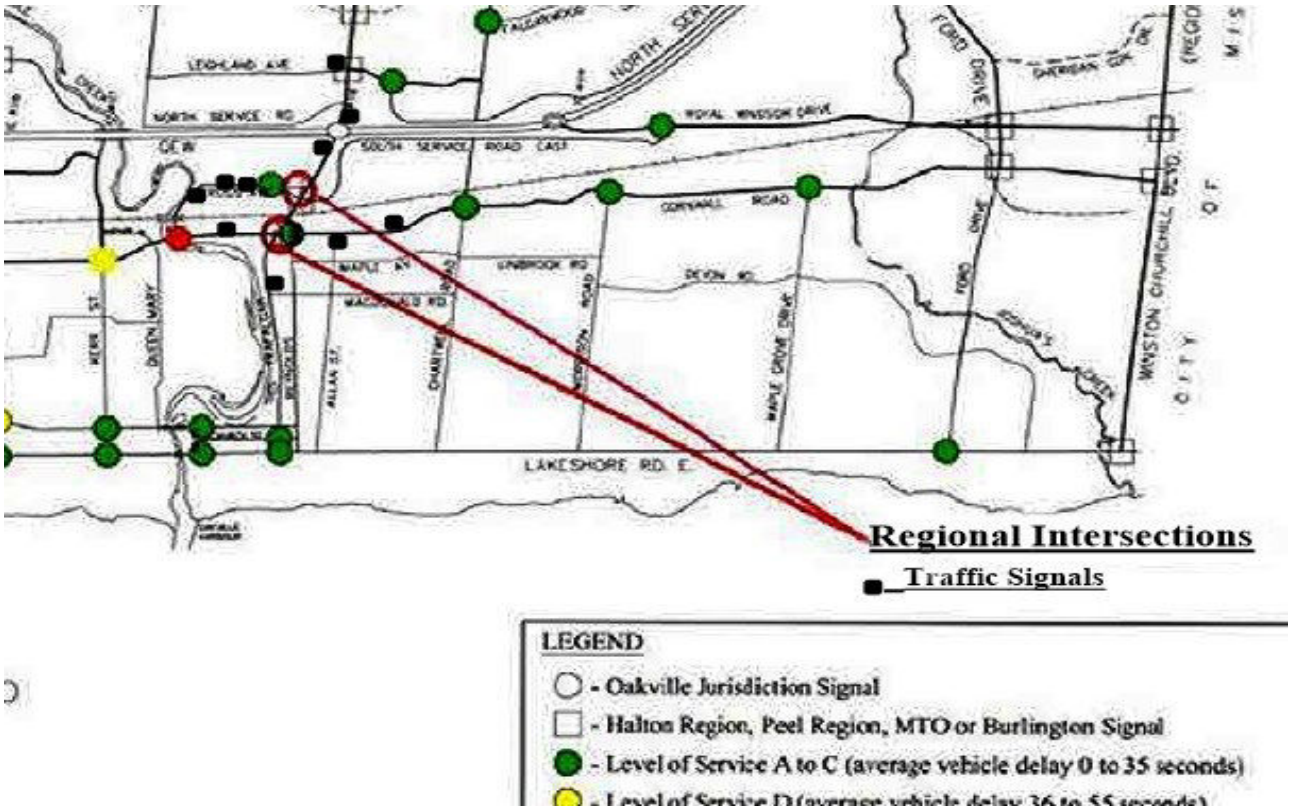


Key Intersections in and Around the Midtown Area:

The sheer number of close by signalised intersections causes much of the traffic congestion particularly during the evening westward rush hours.

- **Traveling west from Chartwell to Kerr Street, there are 7 x signalized intersections in about 1.5km (1,500m).**

- **Traveling North from the Trafalgar/Cornwall intersection to the west bound QEW exit on Trafalgar, there are 3 x signalized intersections in about 0.5km (500m).**



No Wonder That Even Today There Is Already Huge Traffic Congestion Around the Midtown Area.

This must be fixed before the Midtown building starts.

There will be growth all over Oakville, so, those closest to the GO Station will be using it. Therefore, the growth in traffic will not be just the Midtown population.

Focusing on Midtown, when Midtown is built out, present estimates of some 50,000 – 60,000 thousand more people, there will be even more traffic and the whole area will become impossible to travel through <u>unless the road infrastructure has been upgraded</u>.

Below is some information From Dr. Mike Spack, which I believe, informs non-traffic engineers, what some 50,000- 60,000 more people and their vehicles will bring to the Midtown area. (**Note:** His full article is on Appendix A. Page 14.)

Mike Spack, PE, PTOE

Mike is the founder of Spack Enterprise and creative force and principal writer behind MikeOn Traffic.

He is the recognized industry leader of traffic studies and traffic data collection. He is also the author or numerous industry leading guides used by transportation professionals around the world and presenter for Traffic Corner Tuesday webinars.

Some Key Transportation Information from Dr. Mike Spack. (**Note:** His paper is attached in the addendum)

Theoretical maximum saturation flow rate per lane *(this will allow you to do quick calculations in your head to check reasonableness at big events)*

- 1,900 vehicles per hour per lane

Threshold for when you need to add a second (dual) left turn lane at a signalized intersection?

- 300 left turning vehicles from that leg of the intersection in the peak hour.

Closeness between driveways and intersections *(these are very rough rules of thumb — other regions are less stringent)*

- On a local street: 150 feet
- On a collector street: 660 feet
- On an arterial: 1,320 feet to 2,640 feet (with medians, right-in/right-outs can be 660 feet away).

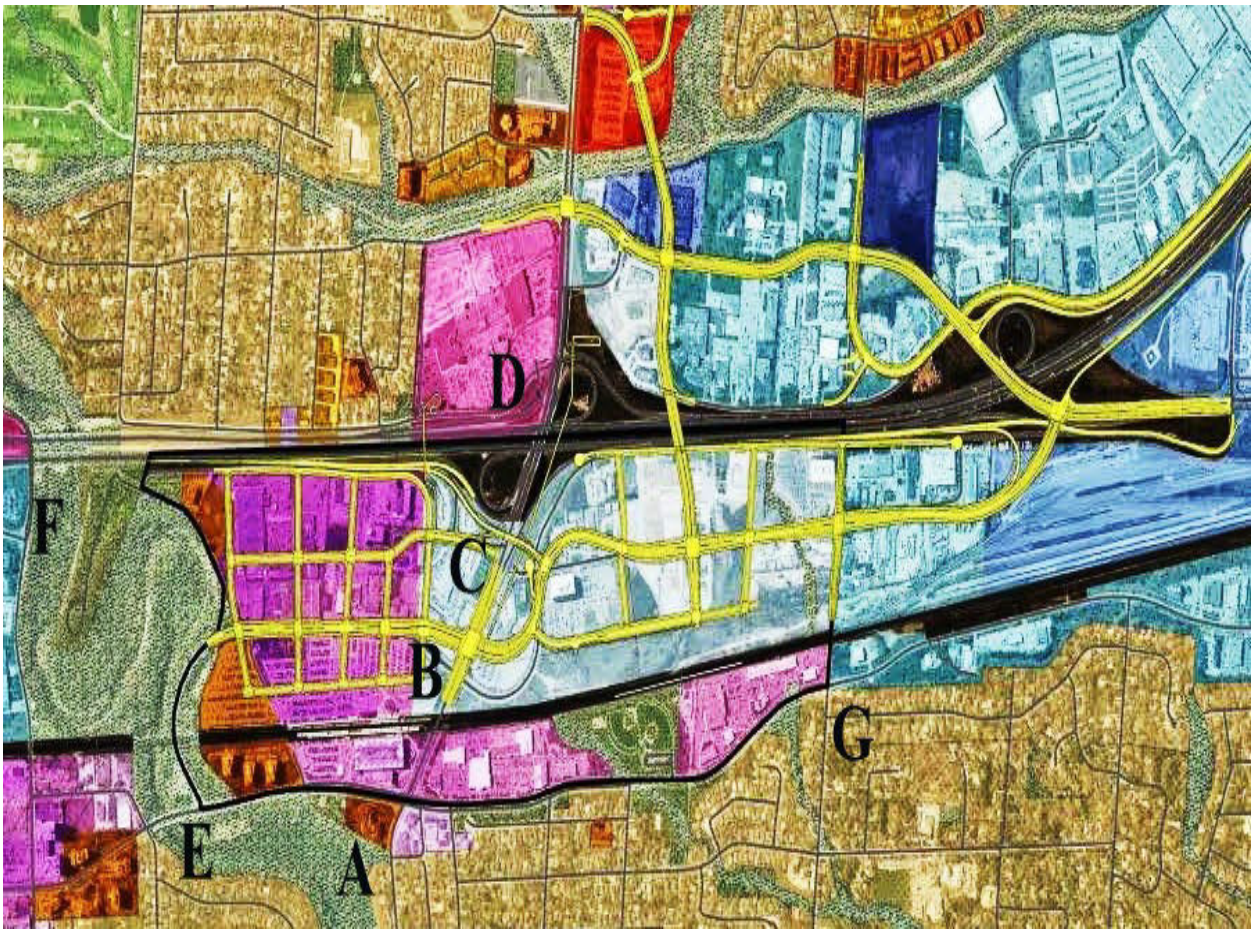
Size of a footprint that a regular roundabout can take.

- Single lane diameter: 132 feet.
- Double lane diameter: 165 feet.

(Just a note; there are many sizes roundabouts, up to and including 3 x story ones in the UK and elsewhere. If interested, please contact m Nick Hutchins e for information).

To Solve the Midtown Congestion, Changes Are Necessary Today and Must Be Done BEFORE Midtown Starts.

The “A” and “B” <u>Regional Intersections</u> Are the Worst in Oakville, especially during the west bound rush hour traffic.

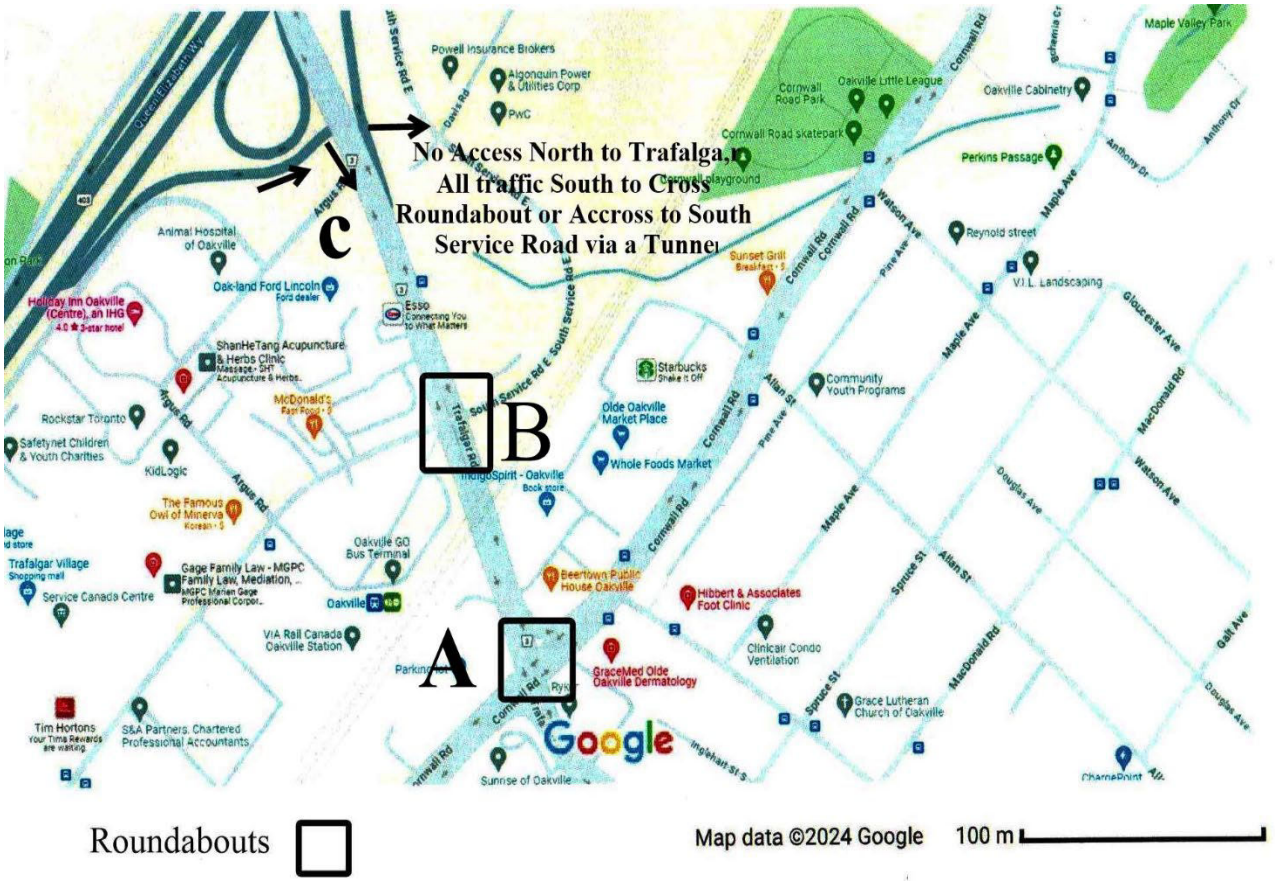


Regional Intersection “A” is the Trafalgar and Cornwall Avenue intersection, so it would be paid for by the Region NOT Oakville.

Issues:

- The stacked Metrolinx car park, being on the south side of the tracks on Cornwall creates huge issues as in the evening west bound rush hour, since passenger vehicles exiting and trying to go north on Trafalgar, **unless it is policed, routinely block traffic going west on Cornwall**.

- West bound rush hour traffic on Cornwall is always busy but if the QEW is blocked for any reason, accident or weather, traffic on Cornwall backs up to Ford Drive. Therefore, GO Station passengers trying to go north on Trafalgar and blocking the Cornwall intersection can add hours to traffic congestion there as well as increasing road rage.



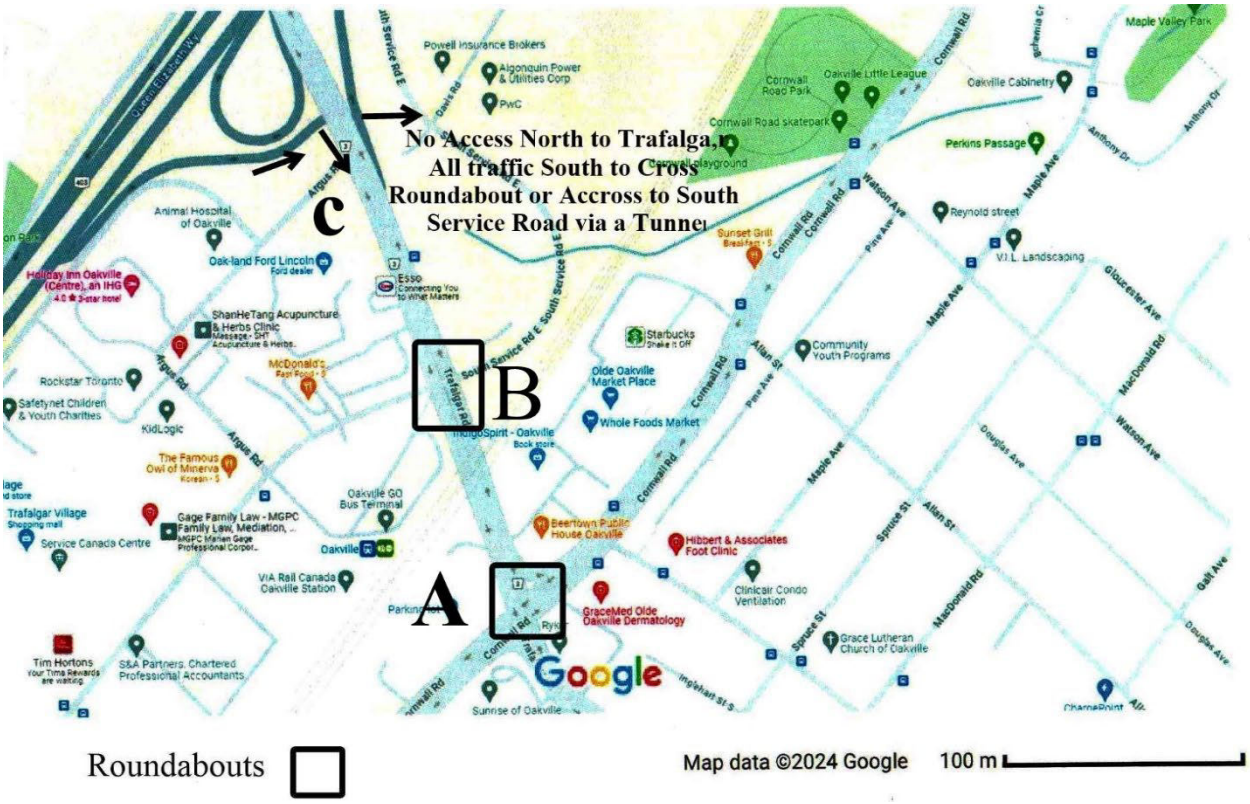
The solution for the "A" intersection is a roundabout.

(Note: This same roundabout would also allow an entrance way into the future high-rise condominiums to be built as part of Midtown on the Wholefoods Mall. The exit from this area would be by traffic light at Reynolds).

Regional Intersection “B” is the Trafalgar and Cross Avenue intersection again, it would be paid for by the Region.

Issues:

- It is a signalised 4-way intersection only some 200m north of Trafalgar Cornwall intersection, so when the signals are red, traffic quickly backs up Trafalgar, blocking the Trafalgar Cornwall Intersection “A”.



The solution for the “B” intersection is a roundabout.

Note: A roundabout here allows the next intersection “C” the West Bound QEW exit to eliminate the signalised intersection entirely. Vehicles wanting to go north on Trafalgar, from this QEW exit, would first travel south to go around the roundabout, or underneath Trafalgar in the new to be built tunnel, then on South Service Road south to roundabout “B,” to then go North.

Intersection “C” allows traffic to go immediately north on Trafalgar.

Issues.

- **It is only some 200m north of intersection “B”, so when congested, easily blocks, AND BACKS UP traffic from intersections “B” and “A”.**

  BECAUSE OF THE NEW TUNNEL; to be built underneath Trafalgar Road to South Service Road, there is no need for an intersection or to have any north bound traffic.

Here, any northbound traffic can either turn south on Trafalgar Road to the Cross Avenue roundabout “B”, then go around the roundabout north, or the traffic can go under the Trafalgar Road through the new tunnel, to access Midtown East and the QEW South Service Road. Here, traffic can travel south to access The Cross Avenue roundabout “B” then travel North again on Trafalgar.

Note: By removing all the signalised traffic signals from “A.” “B” and “C” there is much more room for traffic going north on Trafalgar and it will flow even in the west bound rush hour.

Provincial Intersection “D” remains the same.

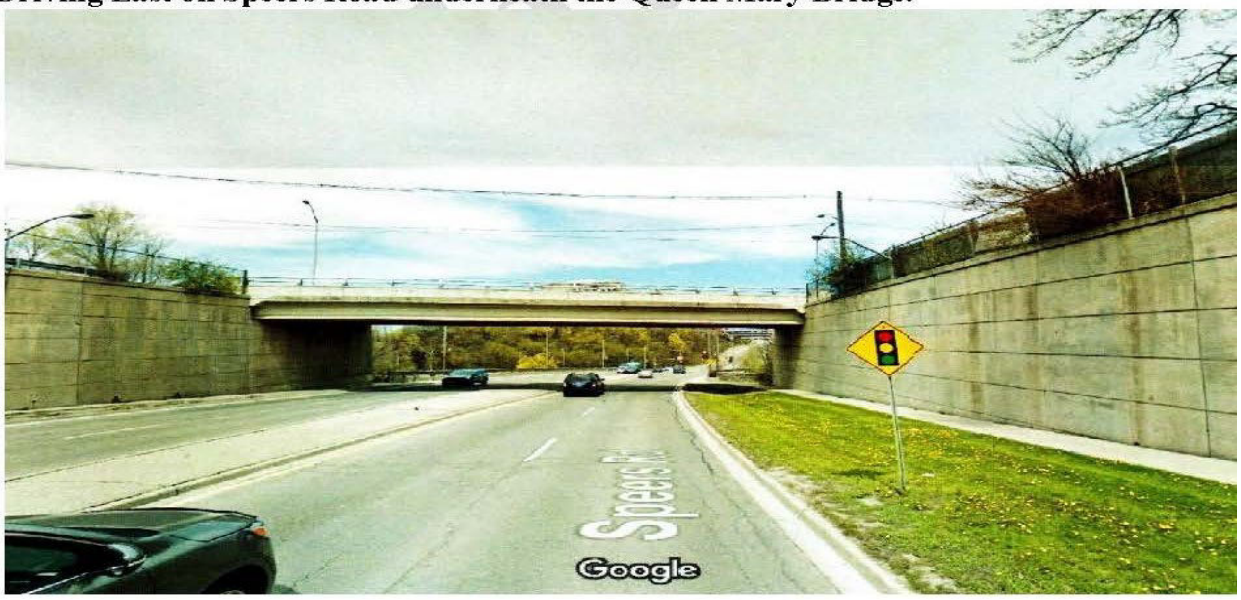
Although a roundabout here would eliminate the signalised intersection allowing for much better traffic flow everywhere, as it is a small, raised area, so would be expensive to build a roundabout there.

Oakville’s intersection “E” is the only intersection that Oakville would have to pay to improve the infrastructure.

From Oakville’s own data, it is one of the two worst traffic congestion intersections in Oakville, because the three-way juncture of Cross Avenue / Cornwall Road / Speers Road all meeting just before the 16 Mile Bridge.

The Solution: To install a roundabout. Then by eliminating the east bound Speers Road left lane turn to Cross Avenue another lane going west can be easily installed.

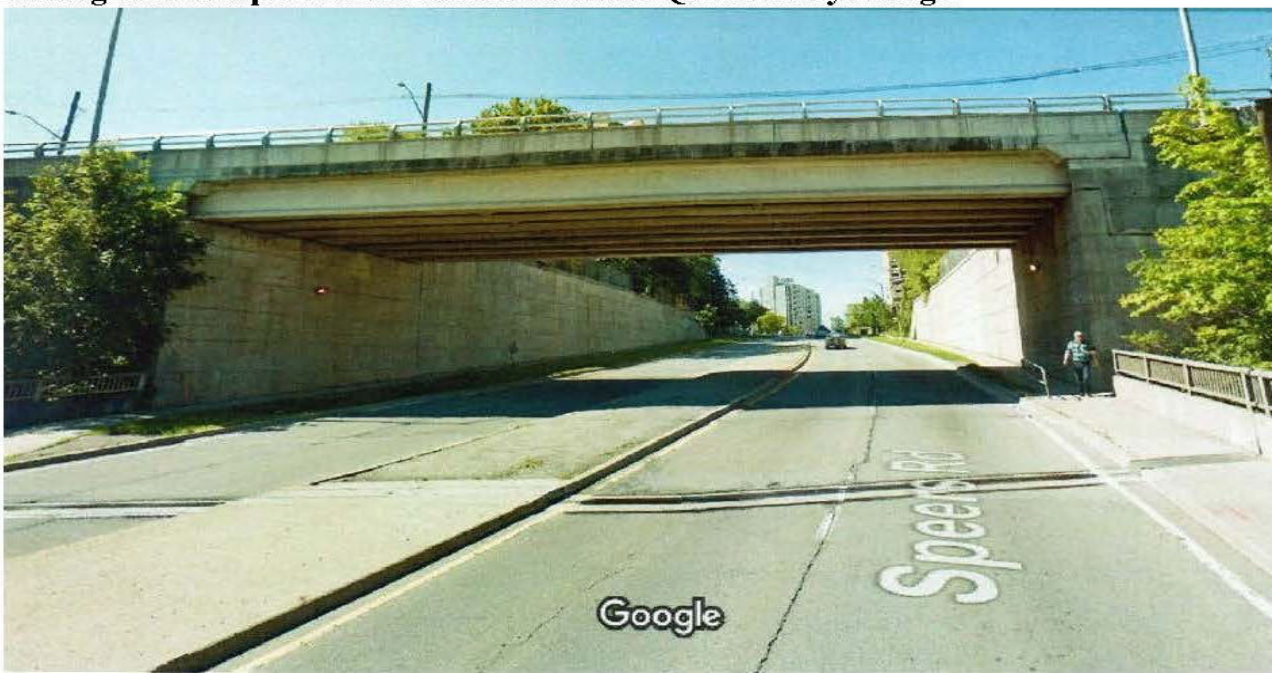
Driving East on Speers Road underneath the Queen Mary Bridge.



Notice the wide concrete separator in the middle of the road.

If this is eliminated, and a roundabout installed at the Speers Road, Cornwall Road, and Cross intersection, another lane going west can be easily installed.

Driving west on Speers Road underneath The Queen Mary Bridge.



Notice the wide concrete separator in the middle of the road.

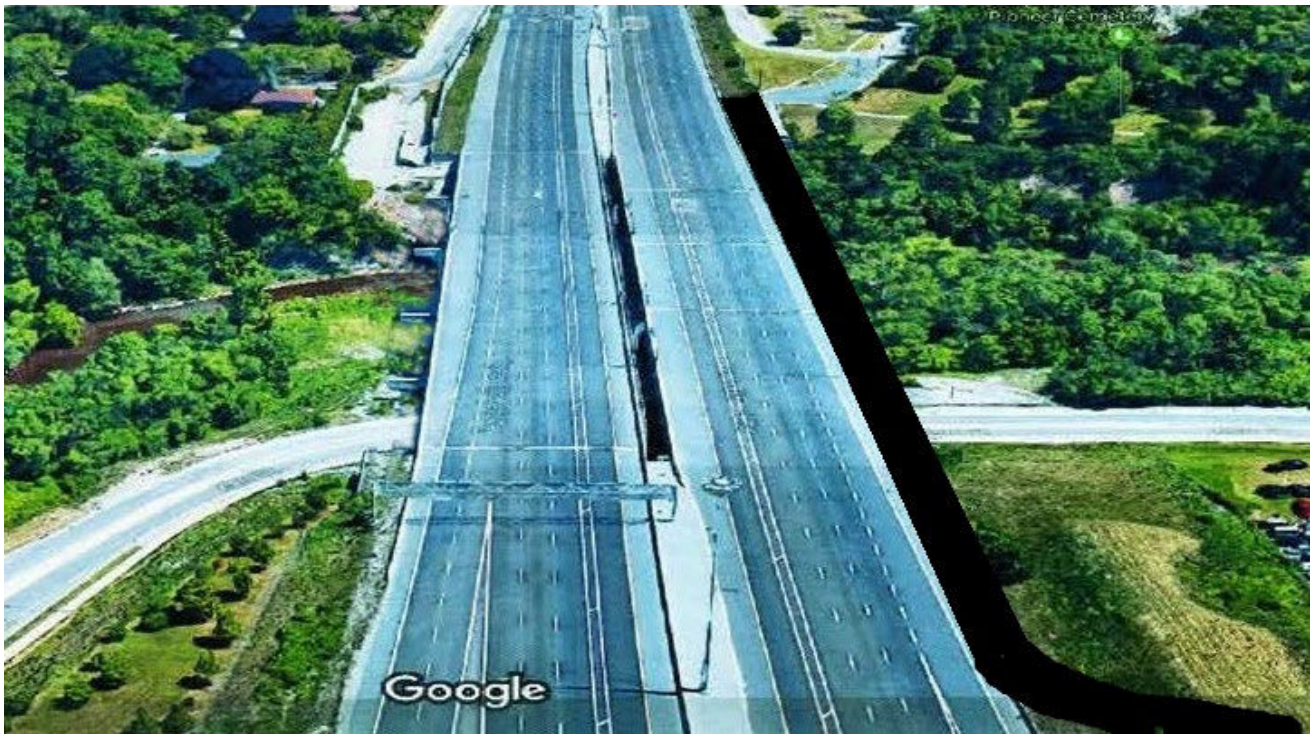
For Midtown Safety and Ease of Access and Active Transportation, A New Midtown Exit Bridge is Needed.

The New Bridge "F" would normally be an Oakville project to be paid for but could be part of the Provincials costs For Midtown.

Having only two exits for Midtown via Cross Avenue, Midtown needs another way out of the area. In the case of a major fire or a train derailment, like the Mississauga derailment or any serious emergencies, with the population density, having only two exits is dangerous.

In addition, **Midtown is key to the Kerr Street and Lakeshore downtowns, so easy, Active Transport access is important.** Therefore, Midtown needs a new bridge connection via South Service Road to Wyecroft Road.

The quickest and easiest way is to have a new bridge, is to add on to the present QEW bridge. Could be done almost immediately as it would require no environmental studies. If approved by the province; this would be the least expensive way of accomplishing this. As a Provincial undertaking the Ontario Government would build out the QEW bridge over the northern unused spare supports. Afterwards the QEW would be moved over by two lanes, allowing for the new Midtown Bridge crossing of 16 Mile Creek.

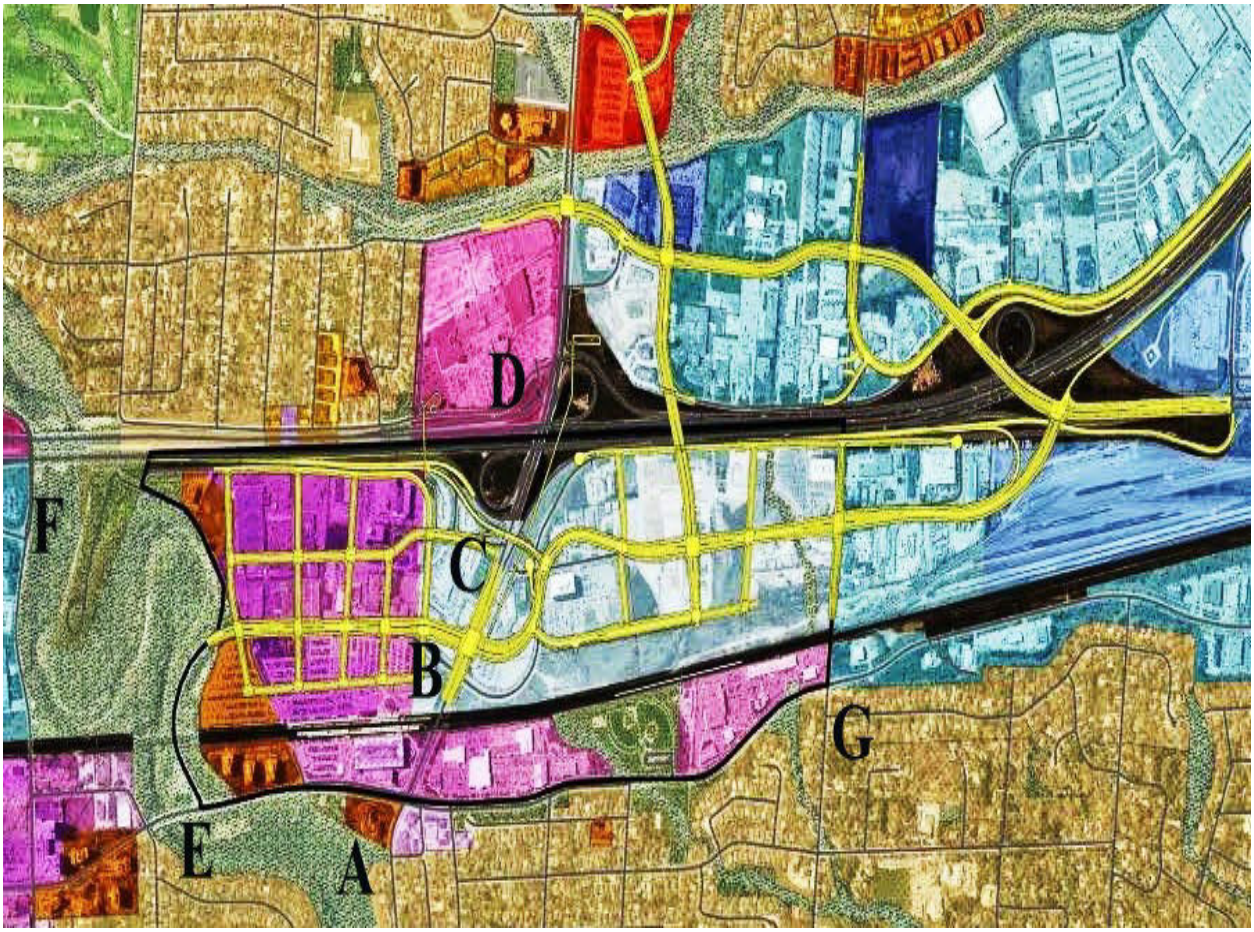


Note: Because the present bridge is being used, it would NOT affect the Pioneer Cemetery and would be easily, the most environmental, the quickest, and the least expensive way to achieve such a bridge.

Again, being a Provincial Project, Oakville would NOT be paying for it.

"G" Is the Level Crossing at Chartwell just North of Cornwall Road: Here an underpass must be built under Metrolinx railway tracks since once the province completes the all-way freeway intersection at Royal Windsor Drive and the QEW, Chartwell Road will be one of the ways of access.

Since the level crossing is on Metrolinx's land and they need unobstructed use for their freight car shunting, presumably Metrolinx and the Province will pay for this.



There is a lot of infrastructure to build before any Midtown can be contemplated, since without these types of new infrastructure, today's traffic congestion with be seen as minor compared to the traffic jams that will be experienced without the infrastructure.

Nick Hutchins

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January 2024

Appendix A.

Mike Spack, PE, PTOE

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Numbers Every Traffic Engineer Should Know

By Mike Spack, PE, PTOE December 9, 2011*) **(Corrections were made to these numbers as of as of Jan 25, 2018 at 10:00 pm)***

Numbers Every Traffic Engineer Should Know, Traffic Corner Tuesday, Traffic Engineering Standards Traffic Facts

I originally posted this article several years ago. I attend a lot of meetings where I am seen as the expert on traffic issues, and I get asked questions related to basic standards and general practice. You can always respond that you do not know the answer and you need to look it up, but you look better if you're able to rattle off the numbers from memory. To that end, I have updated the list of questions and answers that every traffic engineer should consider memorizing.

About how much traffic will my development generate? *(round numbers based on ITE Trip Generation Report, 10th Edition)* ***(Corrections were made to these numbers as of as of Jan 25, 2018 at 10:00 pm)***

- Single Family Houses (per unit): 10 trips per day, 1 per peak hour
- Apartments/Condos/Townhouses (per unit): 7 trips per day, 0.7 per peak hour
- Office (per 1000 sq ft): 10 trips per day, 1.5 per peak hour
- Retail (per 1000 sq ft): 38 trips per day, 4.2 per peak hour
- Industrial (per 1000 sq ft): 5 trips per day, 0.9 per peak hour

Planning level daily capacity of a road *(Round numbers based on Level of Service D/E thresholds in HCM 6th Edition)*

- 2 lane local street: 1,000 vehicles per day based on livability.
- 2 lane (w/ left turn lanes): 18,300 vehicles per day
- 4 lane (w/ left turn lanes): 36,800 vehicles per day
- 6 lane (w/ left turn lanes): 55,300 vehicles per day

Peak hour capacity of an intersection *(Based on Level of Service D/E thresholds in HCM 6th Edition)*

- Stop sign controlled: 35 seconds/vehicle.
- Roundabout controlled: 35 seconds/vehicle
- Traffic Signal controlled: 55 seconds/vehicle

Theoretical maximum saturation flow rate per lane *(this will allow you to do quick calculations in your head to check reasonableness at big events)*

- 1,900 vehicles per hour per lane

Threshold for when you need to add a second (dual) left turn lane at a signalized intersection?

- 300 left turning vehicles from that leg of the intersection in the peak hour.

Width of a commercial driveway *(based on NCHRP Report 659)*

- One lane in only: 14 feet curb to curb
- Two lanes, bi-directional: 24 feet curb to curb
- Three lane, one lane in with median than two lanes out: 40 feet curb to curb
- Minimum industrial driveway: 26 feet curb to curb

Size of a footprint that a roundabout can take.

- Single lane diameter: 132 foot.
- Double lane diameter: 165 foot.

Closeness between driveways and intersections *(these are very rough rules of thumb — other regions are less stringent)*

- On a local street: 150 feet
- On a collector street: 660 feet
- On an arterial: 1,320 feet to 2,640 feet (with medians, right-in/right-outs can be 660 feet away).

Parking needed for functionality *(these are suburban rules of thumb – urban conditions require less, but that's very situational)*

- Multifamily Residential: 1 per bedroom
- Retail: 4 per 1,000 SF
- Restaurant: 15 per 1,000 SF (varies a lot)

Interested in learning more about the numbers every traffic engineer should know? Check out our Traffic Corner Tuesday webinar replay titled *Numbers Every Traffic Engineer Should Know*.