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July 4, 2023

Updated July 8, 2025

Doug Taylor
2396584 Ontario Inc.
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Georgetown, ON · L7G 4S6

**Re: Transportation Brief – Proposed Industrial Subdivision
 6739 Wellington Road 109, Teviotdale**

Dear Doug,

This updated Transportation Brief has been prepared in support of a proposed industrial subdivision at 6739 Wellington Road 109 in Teviotdale and in response to comments received from the Municipality. The left turn lane warrant on WR109 into the site has been updated to a design speed of 100 kph and some additional information about the location of the proposed new road connection to WR109 relative to the adjacent driveway to the north has been provided.

The site is located on the west side of Wellington Road 109 just north of the roundabout intersection with Wellington Road 7 and Wellington Road 9 and south of the Ontario Provincial Police site as illustrated in the attached Site Location Plan.

The proposal includes a new industrial subdivision with 12 developable lots and supporting infrastructure for development. Transportation access would be provided via a new road (Street A) connecting to Wellington Road 109 at the north edge of the Wellington Road 109 frontage. The entire site is about 8.26 hectares in size and the developable lots make up about 6.12 hectares. The proposed Draft Plan of Subdivision is attached for reference.

The traffic volumes generated by the proposal are not high enough to require a full Transportation Impact Study, however, the County of Wellington and the Town of Minto have requested that a Transportation Brief be submitted with the application to provide information about the estimated traffic generation of the proposal and an assessment of the proposed new intersection at Wellington Road 109 and Street A.

Wellington Road 109 Traffic Volumes

Wellington Road 109 is a two-lane rural road in the vicinity of the site. The posted speed limit is 70 kph south of the new road connection and 80 kph at and north of the new road connection. Existing traffic data was collected on Wellington Road 109 in the vicinity of the proposed new

road connection on Tuesday, January 31, 2023. The data was collected during the weekday morning and afternoon peak periods to capture traffic volumes on Wellington Road 109 when both Wellington 109 traffic and site traffic will be highest. The existing traffic data is attached to this letter and is illustrated for the morning and afternoon peak hours in the attached traffic volume figures.

A future 10-year horizon year of 2033 was chosen for assessment based on discussion with staff. Future background traffic volumes on Wellington Road 109 were estimated by growing traffic on Wellington Road 109 by two (2) percent per year. The resulting future background traffic volumes are illustrated in the attached figures.

The Proposal and Site Traffic

The proposal is for an industrial subdivision that allows for a range of industrial uses on individual lots. The permitted uses are those included in the rural industrial zone and will be dry uses.

Site traffic was estimated based on information in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition). The Industrial Park land use (land use code 130) was chosen to best represent the mix of permitted uses in the proposed subdivision. Gross floor area for the various industrial uses was estimated based on a maximum coverage of 30 percent of the developable blocks. Given that the developable blocks account for about 6.12 hectares (or about 660,000 s.f.), 30 percent coverage would result in about 200,000 s.f. of gross industrial floor area.

The estimated site traffic is summarized in the table below and excerpts from the ITE manual are attached for reference.

Table 1: Traffic Generation Estimates

Description		AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Trip Rate (trips/1,000 sf) ITE Land Use code 130 – Industrial Park		0.28	0.06	0.34	0.07	0.27	0.34
Trips	200,000 s.f.	55	13	68	13	55	68

The proposal is expected to generate 68 trips measured in both directions in each of the weekday morning and afternoon peak hours. The site traffic, assigned according to local traffic patterns on Wellington Road 109, is illustrated in the attached figures.



Future Total Traffic Conditions – WR 109 and Street A Intersection

Future total traffic in 2033 was calculated by adding the site traffic to the future background traffic and is illustrated in the attached figures.

Sight Line Review

A site visit was conducted on June 14, 2023, to review the available sight distance in the vicinity of the proposed new road connection to Wellington Road 109 at Street A.

Wellington County has an access policy that requires that a minimum of 180 metres of sight distance be available in both directions along a County road for a posted speed limit of 70 kph. For a posted speed limit of 80 kph, the minimum sight distance requirement is 200 metres.

There is good sight distance available in both directions along Wellington Road 109 from the where the new road connection is proposed. To the south, the roundabout is visible about 325 metres away and to the north the sight distance is more than the required 200 metres.

Northbound Left Turn Lane Warrant Analysis

The MTO Design Supplement for the TAC (Transportation Association of Canada) Geometric Design Guide for Canadian Roads provides a methodology for assessing whether or not a left turn lane is warranted at an intersection on a two-lane road based on the percentage of left turns in the approaching stream of traffic, the design speed and the volumes at the intersection. The methodology applies when the percentage of left turns in the approaching stream of traffic is 2.5 percent or greater. When the percentage of left turns in the approaching stream of traffic is less than 2.5 percent, the left turn lane is not warranted.

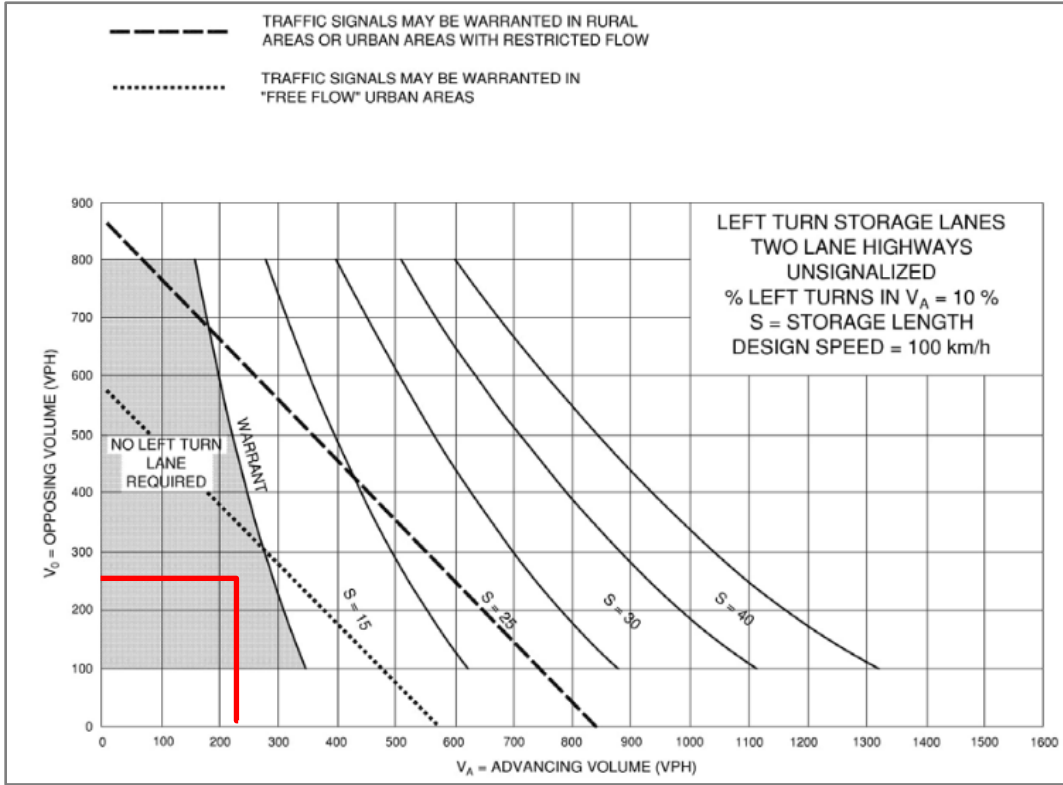
Under future total traffic conditions, the percentage of left turns in the northbound approaching stream of traffic to the site driveway is expected to be eleven percent in the morning peak hour and three (3) percent in the weekday afternoon peak hour.

The appropriate nomograph was consulted for the morning and afternoon peak hours and the forecast traffic volumes at the driveway were plotted to determine if a left turn lane is warranted. A design speed of 100 kph was chosen given that the posted speed is 80 kph at the new road connection.

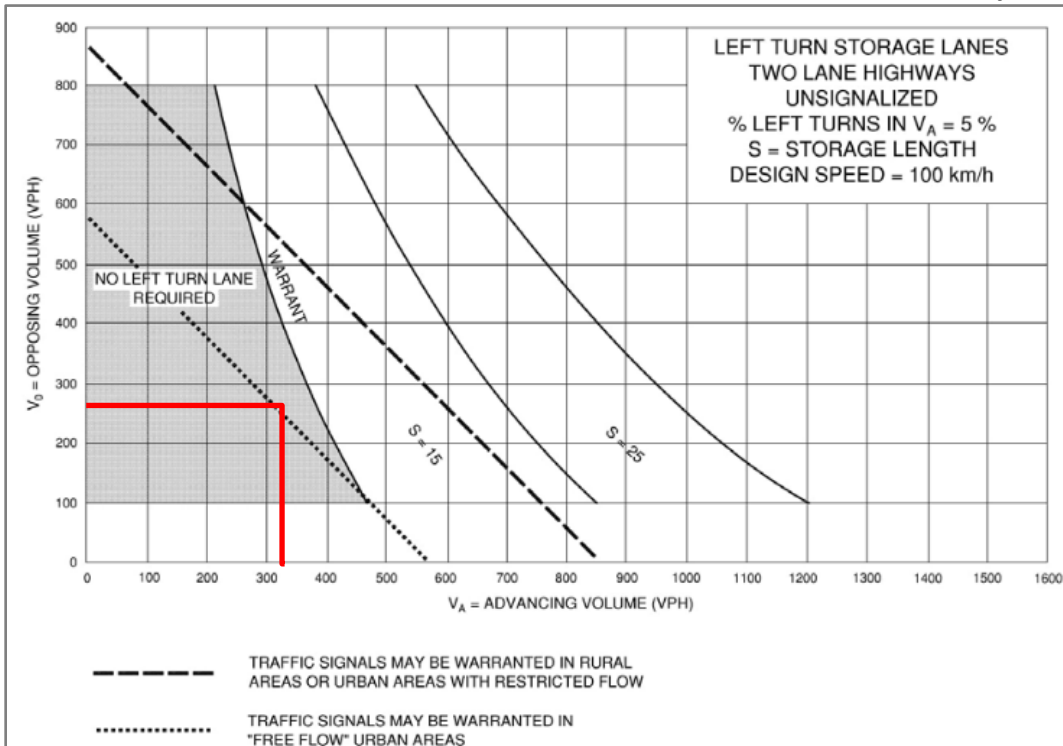
The assessment is illustrated in the two figures below for the morning and afternoon peak hours.



AM Peak Hour NB Left Turn Lane Warrant Assessment – WR 109 and Site Driveway



PM Peak Hour NB Left Turn Lane Warrant Assessment – WR 109 and Site Driveway



A left turn lane is not warranted at the proposed new road connection to WR 109.

Traffic Operations Assessment

An assessment of the traffic operations at the proposed new road connection to WR 109 at Street A was undertaken to estimate the traffic operations parameters in the weekday peak hours. The assessment was undertaken using Synchro 11 software. The proposed geometry with shared turning lanes was used as an input along with forecast future total traffic volumes and existing truck percentages on Wellington Road 109. For other inputs, default Synchro parameters were used.

The assessment is summarized in the table below and the Synchro worksheets are attached.

Table 2: Future Total Traffic Operations Assessment - WR 109/Street A

Measure of Effectiveness	Approach Direction/Lane			
	AM Peak Hour		PM Peak Hour	
	EB	NB	EB	NB
Level of Service	B	A	B	A
Delay (s)	11.1	1.0	12.6	0.3
Volume/Capacity	0.02	0.02	0.11	0.01
95 th Percentile Queue (m)	0.6	0.5	2.8	0.2

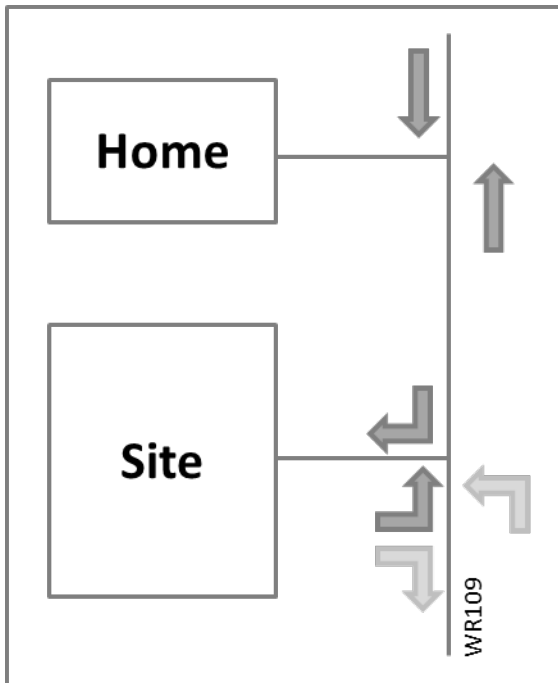
The Street A intersection with Wellington Road 109 is expected to operate at acceptable levels under future total traffic conditions in both weekday peak hours.

New Road Location Review

The new proposed road has been placed near the north edge of the site where it connects to WR109. The neighboring property to the north is a home with a driveway connection near the south edge of that property. The new road will be adjacent to the neighboring driveway with a separation distance of about 17.5 metres measured from the edge of the road to the edge of the driveway. As described above, both intersections will have a simple geometry with no auxiliary turn lanes and the new proposed road connection is expected to operate at acceptable level of service B or better on all approaches indicating minimal delays and queuing for any of the movements.



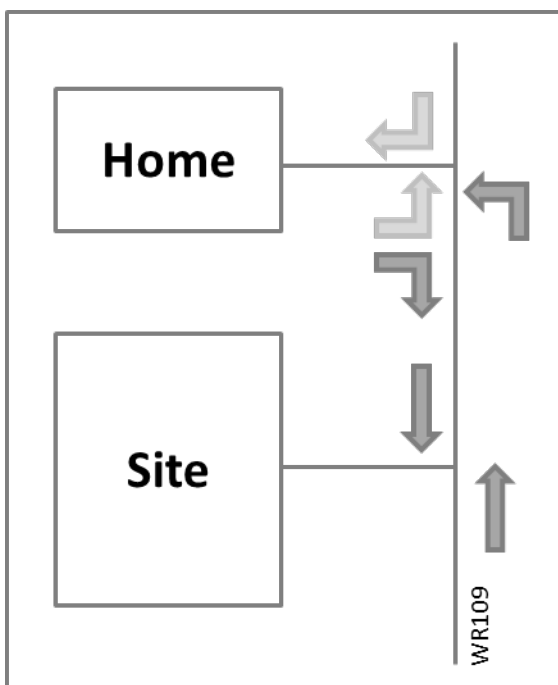
Figure 1: Potential Site Traffic Conflicts with Residence



The traffic from the residential property is expected to be minimal and would generally include the same drivers entering and exiting. Figure 1 illustrates how traffic entering and exiting the proposed road connection on the subject property may impact traffic at the residential driveway. Traffic turning into and out of the site to and from the south would have no direct impact on the turning movements at the residential driveway as shown in the lighter gray. Traffic entering the site from the north (a southbound right turn to the site) would pass by the home before turning into the site. Any traffic entering the home from the north is likely to be known and so traffic exiting the residence could and should assume that unknown traffic is turning into the subject site. Left turning traffic exiting the site (an eastbound left turn from the new

road connection) would pass by the residence at a relatively low rate of speed and can be seen from the residential driveway making it a seen conflict.

Figure 2: Potential Residential Traffic Conflicts with Site



The minimal traffic entering and exiting the residential driveway can also impact on the turning traffic at the new proposed road connection as illustrated in Figure 2. Traffic turning into and out of the residential driveway to and from the north would have no direct impact on turning traffic at the proposed driveway. Traffic turning right out of the driveway would travel through the new intersection southbound on WR109 at a relatively low rate of speed. This traffic could be seen and drivers exiting the new road connection would have to look for traffic exiting the driveway in this manner. Traffic travelling northbound on WR109 past the proposed road to the residential driveway may be mistaken for a left turning vehicle into the site, but would have right of way regardless



and would not create an additional conflict for traffic turning into and out of the new proposed road.

Generally, the potential for conflict is low given the location of the two connections relative to one another, the ability for traffic entering and exiting the two sites to see each other, and the nature of the residential driveway traffic (minimal and generally the same drivers). It may be helpful to trim back the trees at the edge of the two properties to improve the sight distance for the drivers at the two connection points.

Summary and Conclusions

This Transportation Brief provides an overview of the transportation considerations for a proposed industrial subdivision on Wellington Road 109 in Teviotdale and includes the following information:

- The proposal is expected to generate 68 trips measured in both directions in both the weekday morning and afternoon peak hours.
- The sight distance at the proposed Street A connection to Wellington Road 109 meets the County's criteria in their Entrance Policy.
- A northbound left turn lane on Wellington Road 109 at Street A is not warranted.
- The Street A intersection with Wellington Road 109 is expected to operate at acceptable levels under future total traffic conditions in both weekday peak hours.
- The proposed new road is located about 17.5 metres from the adjacent residential driveway to the north measured from the edge of the two connections. Generally, the potential for conflict between the turning movements at the two connections is low. It may be helpful to trim back the trees at the edge of the two properties to improve the sight distance for the drivers at the two connection points.



If you have any questions about the analysis presented in this letter, please contact me to discuss.

Sincerely,

Julia Salvini, MEng, PEng, FITE
President

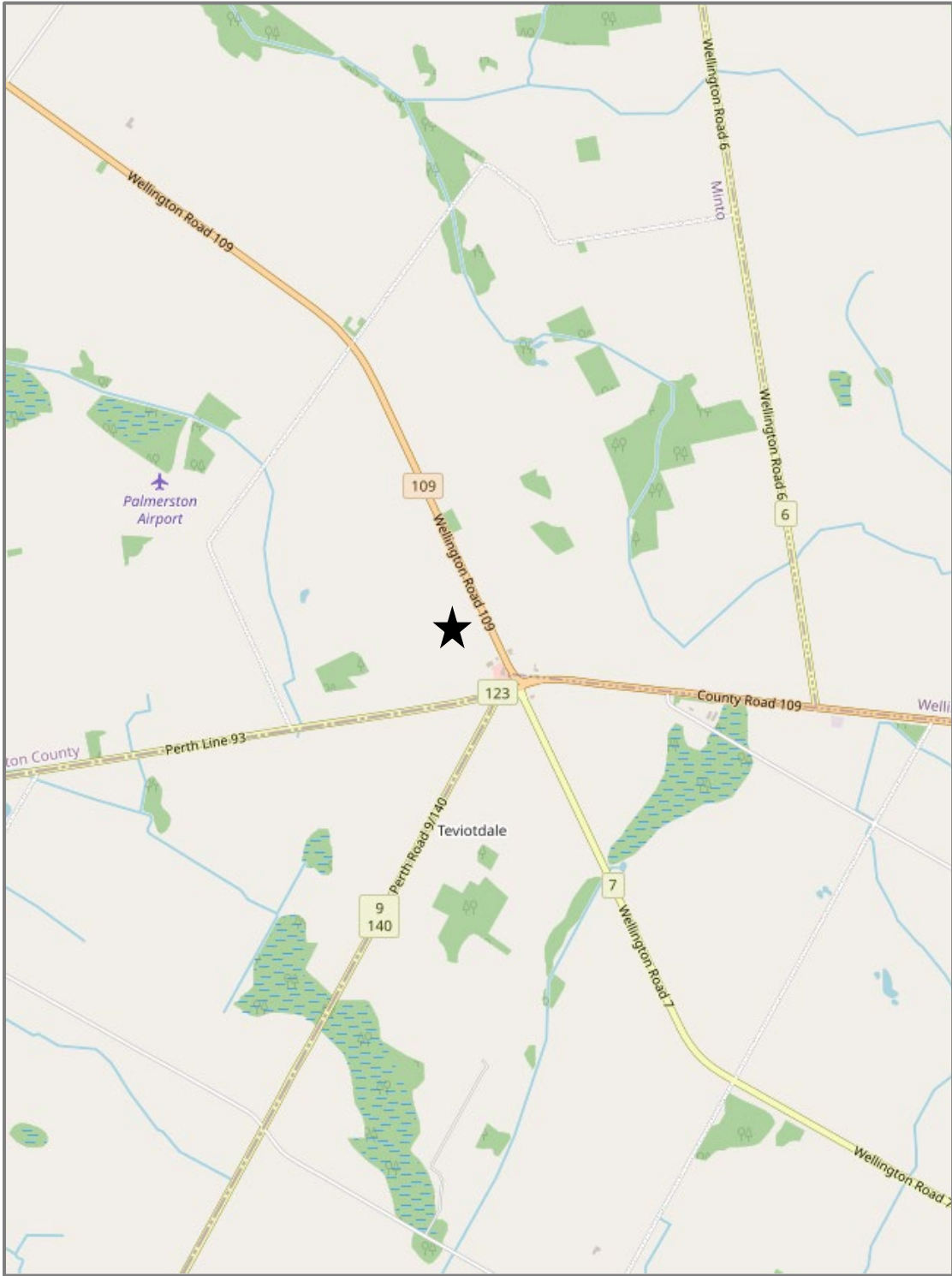
Cc: Meghan Lippert, MHBC Planning

Attach: Site Location Plan
Draft Plan of Subdivision
Traffic Count Data on Wellington Road 109
Traffic Volume Diagrams
Excerpts from the ITE Trip Generation Manual
Synchro Worksheets – Street A/WR 109 Intersection



Attachments





Site Location Plan

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