Appendix I

Vision Georgetown ToR Correspondence

ORIGINAL: JANUARY 10, 2024
UPDATE: MAY 3, 2024

PROJECT NO: 1216-4339

SENT VIA: EMAIL

Town of Halton Hills
1 Halton Hills Drive
Halton Hills, ON L7G 5G2

Halton Region
1151 Bronte Road
Oakville, ON L6M 3L1

Attn:
Ivan Drewnitski, Transportation Planning & Active Transportation Lead, Town of Halton Hills
Matt Krusto, Supervisor, Transportation Development Review, Halton Region

RE: TERMS OF REFERENCE FOR SOUTHWEST GEORGETOWN BLOCK PLAN AND DRAFT PLAN TRANSPORTATION IMPACT STUDY

Dear Ivan and Matt,

C.F. Crozier & Associates Inc. (Crozier) has been retained to prepare a Transportation Impact Study (TIS) in support of the Southwest Georgetown Block Plan and Draft Plan. We note that it is intended that the Block Plan TIS will also support the Draft Plan of Subdivision application such that individual Transportation Studies will not be required to advance draft plans. The requirements for future Draft Plan transportation studies are outlined further in Section 13.0 below. The elements envisioned for this development include:

- Low and Medium-Density Residential Areas and High-Density Residential Mixed-Use Areas
- Core and Local Commercial Mixed-Use Areas and Major Commercial Areas
- Major Institutional Areas including Elementary and Secondary Schools and a Community Centre and Library
- Community and Neighbourhood parks
- Public Streets

While the development statistics are being refined, it is anticipated that the new community will support approximately 23,842 residents at full buildout, based on a total of 9,342 units consisting of 2,287 low density units, 4,012 medium density units, and 3,043 high density units. Furthermore, approximately 2,400 new jobs are expected to be generated by the proposed non-residential uses.

This Terms of Reference (ToR) was originally submitted on January 10, 2024. The Terms herein have been updated to address the Town and Region comments received on February 2, 2024, in addition to ongoing email and meeting correspondence.

1.0 Study Methodology

The study will be completed in general conformance with the Halton Region Transportation Impact Study Guidelines (January 2015) and Town of Halton Hills TIS Guidelines (August 2022).

2.0 Study Area

The following intersections are proposed to be analyzed as part of the scope of the study. Future roadways have been *italicized* for reference.

1. 15 Side Rd and Trafalgar Rd
2. 15 Side Rd and Belmont Blvd (west)/*Street A*
3. 15 Side Road and Belmont Blvd (east)
4. 15 Side Rd and Eighth Line/Main St South
5. Eighth Line and Miller Drive/*Street B*
6. Eighth Line and *Street C*
7. Eighth Line and Argyll Rd
8. Eighth Line and Danby Rd/*Street F*
9. Eighth Line and 10 Side Rd
10. 10 Side Road and *Street A*
11. Trafalgar Rd and 10 Side Rd
12. Trafalgar Rd and *Street F*
13. Trafalgar Rd and *Street E*
14. Trafalgar Rd and *Street C*
15. Trafalgar Rd and *Street B*
16. Trafalgar Rd and *Street D*
17. *Street A* and *Street B*
18. *Street A* and *Street C*
19. *Street A* and *Street D*
20. *Street A* and *Street E*
21. *Street A* and *Street F*
22. Trafalgar Rd and 5 Side Rd
23. Trafalgar Rd and Maple Ave/17 Side Rd
24. 10 Side Rd and Ninth Line/Mountainview Rd
25. Ninth Line and 5 Side Rd
26. Main St South and Maple Ave
27. Maple Ave and Delrex Blvd
28. Mountainview Rd and Argyll Rd
29. Mountainview Rd and Barber Dr
30. Mountainview Rd and Danby Rd
31. Argyll Rd and Miller Dr

These intersections are highlighted per Attachment 1.

3.0 Analysis Periods and Scenarios

This section reviews the details regarding obtaining existing traffic data and the proposed analysis periods and horizons years.

3.1 Traffic Data

As construction is currently ongoing in the Study Area, three Turning Movement Counts (TMCs) were conducted in November 2023 and compared to historical data to determine if new TMCs would be considered valid. A sample of the comparison results is included in Attachment 2. As shown, due to the current construction there are significant discrepancies and diversions, which even after balancing would likely result in some inaccuracies in the network volumes. As such, we have reviewed historical data and propose the following methodology for our existing traffic analysis.

1. Historic TMCs were gathered from the following sources:

Table 1: Historic TMC Sources

Intersection	TMC Year	Source
Main St South and Maple Ave	2019	Eighth Line Environmental Assessment (EA) (R.J. Burnside & Associates Limited, July 2023) (Figure 5)
Eighth Line and 15 Side Rd/Main St South		
Eighth Line and Miller Dr		
Eighth Line and Argyll Rd		
Eighth Line and Danby Rd		
Eighth Line and 10 Side Rd		
15 Side Rd and Belmont Blvd (West)	2014	Vision Georgetown Transportation Analysis (AECOM, April 2018)
15 Side Rd and Belmont Blvd (East)		
Trafalgar Rd and 10 Side Rd	2016	
10 Side Rd and Ninth Line/Mountainview Rd		
15 Side Rd and Trafalgar Road	2017	
Trafalgar Rd and 5 Side Rd		
Trafalgar Rd and Maple Ave/17 Side Rd		
Mountainview Rd and Argyll Rd		
Mountainview Rd and Barber Dr	2022	Provided by Town of Halton Hills
Mountainview Rd and Danby Rd		
Maple Ave and Delrex Blvd	2023	
Argyll Rd and Miller Dr		
Ninth Line and 5 Side Rd	2023	Provided by Halton Region

Note, while some of the raw TMC data for the intersections along Eighth Line is from before 2019, Figure 5 of the Eighth Line EA illustrates the balanced volumes assumed for the 2019 conditions. Accordingly, to be consistent with the Eighth Line EA, we have used these volumes for the Eighth Line corridor assuming a 2019 baseline.

2. Historical TMCs were grown to the base year of 2024. A growth rate of 1% compounded annually was applied to both through and turning movements consistent with the AECOM Vision Georgetown Transportation Analysis, with the exception of select movements. As is consistent with the Eighth Line EA, 0% growth for volumes associated with the following roadways was applied:

    - 15 Side Road
    - Belmont Boulevard
    - Miller Drive

- Argyll Road
- Danby Road

It should be noted that the zero-growth rate assumed for the roadways listed above is consistent with the Eight Line EA study and is assumed on the basis that the lands abutting these roadways are generally fully built out, and the only opportunities for additional traffic growth would otherwise be resulting from redevelopment. These roadways connect mature neighbourhoods to the boundary road network. Historical imagery of the surrounding area was also reviewed to confirm that no developments that would contribute to additional traffic generation were built between the base TMC year and 2024.

Similarly, 0% growth was applied to the volumes associated with Delrex Boulevard and the Holy Cross Elementary School access, due to the localized nature.

3. The 2024 base volumes were then balanced. First, volume discrepancies greater than 10% between adjacent intersections were identified. Balancing was then applied to through movements, where appropriate. Balancing was not applied where the presence of local accesses and major driveways could attribute to a difference in volumes between intersections.

3.2 Analysis Periods

The weekday A.M. and P.M. peak hours for the 2024 existing conditions, as well as an assumed ultimate horizon year of 2031 will be considered for future background and future total traffic conditions, as is consistent with the Eighth Line EA and Town of Halton Hills Official Plan.

As discussed with Town and Region staff, while commercial uses are proposed, the overall peak trip generation of the lands will occur during the weekday a.m. and p.m. peak hours due to the primarily residential nature of the development. In addition, Saturday roadway peak hour volumes are typically lower than the weekday peak hour volumes. Therefore, the weekday peak hour assessment would represent the most conservative scenario for the road network and any corresponding recommendations.

The study will be primarily focused on confirming the required improvements, and timing of improvements, to satisfy the full buildout of the development. Intermediate horizon years reflecting major phases from a development and mobility perspective will be assumed and reviewed. Phasing considerations are currently being coordinated with the Project Team. At this point an intermediate phase assuming 50% build out is to be considered. However, a different phasing scenario may be reviewed pending additional information from the project team.

4.0 Background Developments

Active background developments which are expected to generate traffic that impacts the study intersections will be included in our analysis. Based on our review of the Town of Halton Hills Development Applications map, the following developments are noted within the study area and will be included in our analysis:

- Danby Road – Municipal Park, D09OPA22.002, D14ZBA22.003
- 14015 Danby Road – 157 Residential Units, D09OPA22.004 & D14ZBA22.011

Please provide any information on relevant site statistics as well as the associated transportation impact studies for the above applications. Furthermore, please confirm if any additional background developments are required to be included in our analysis.

5.0 Future Background Growth Rate

Based on correspondence with Town and Region staff, we propose the following growth rates outlined in Table 2 for each corridor, to be applied to through movements:

Table 2: Proposed Growth Rates (2024 to 2031)

Corridor	Municipality	Annual Compound Growth Rate
Delrex Boulevard	Town of Halton Hills	0%
15 Side Road[1]		0%
Belmond Boulevard[1]		0%
Miller Drive[1]		0%
Argyll Road[1]		0%
Danby Road[1]		0%
Eighth Line/Main Street South[1]		1.0%
Maple Avenue[1]		1.0%
5 Side Road		1.0%
Mountainview Road		1.5%
Barber Drive		1.5%
Trafalgar Road	Halton Region	2.0%
Ninth Line		2.0%
10 Side Road		3.0%

Note 1: Consistent with the Eight Line EA.

No growth has been applied to turning movements associated with corridors that have a proposed 0% growth rate for through movements, as outlined in Table 2. A 1.0% annual compounded growth rate is proposed for the turning movements at Maple Avenue and Main Street South, consistent with the Eighth Line EA. An annual compounded growth rate of 0.5% will be applied to the remainder of the turning movements.

6.0 Roadway Improvements

We are aware of the following roadway improvements outlined in Table 3, and they will be considered within our assessment.

Table 3: Future Roadway Improvements

Location	Improvement	Estimated Timing	Design Reference
Town of Halton Hills Projects			
Eighth Line (Steeles Avenue to 10 Side Road)	Widening from 2 to 3 lanes: One travel lane in each direction One bi-directional centre turn lane	2027-2029[1]	Future lane configurations are assumed to be consistent with the Preferred Design Concept Plan from the Eighth Line Environmental Assessment between Steeles Avenue to Maple Avenue. Please see the Preferred Design Concept Plan in Attachment 3.
Eighth Line (15 Side Road to Maple Drive)			
Eighth Line (10 Side Road to 15 Side Road)	Widening from 2 to 5 lanes: Two travel lanes in each direction One bi-directional centre turn lane		
15 Side Road and Belmont Boulevard (west)	Implementation of Traffic Signals	2027[1,2]	To be determined following completion of study.
Halton Region Projects			
Trafalgar Road from 10 Side Road to Highway 7	Widening from 2 to 4 lanes	Construction Start: Q2 2026[1] Completion: Q4 2029[1]	Future lane configurations will be assumed to be consistent with the 60% detailed design drawings for Trafalgar Road (2024). Please see Attachment 3 for reference.
Trafalgar Road from Steeles Avenue to 10 Side Road		Completion: Q3 2025	
Ninth Line from Steeles Avenue to 10 Side Road		Construction Start: Q2 2026[1] Completion: Q4 2028[1]	Future lane configurations will be assumed to be consistent with the Ninth Line Corridor Study Appendix K – Preliminary Preferred Design (May 2016). Please see Attachment 3 for reference.
10 Side Road from Trafalgar Road to Winston Churchill Boulevard		Construction Start: 2031	Please provide any applicable preliminary designs if available. Otherwise, the TIS will make appropriate assumptions.

Note 1: Subject to budget approval through Council.
Note 2: The TIS will evaluate the timing required to implement the traffic signal, which would be triggered by the full buildout of the south leg.

There are no other capital roadway improvements that have been identified in the study area. As part of the study, we will confirm and recommend lane configurations at the new intersections within the boundary road network as well as traffic control details.

7.0 Internal Roadways

The proposed internal road network will be consistent with Schedule H6-3 associated with the Halton Hills OPA 32. Refer to Attachment 4 for the OPA 32 Schedule H6-3.

Consistent with Section H6.14 "Road Network" of the Halton Hills OPA 32, Table 4 below outlines the right-of-way (ROW) proposed for each class of roadway within the internal road network of the Subject Lands.

Table 4: Internal Road Network

Classification	Roadway	Minimum ROW Width
Major Collector[1]	Street A Street B Street C	22.75 m (Outside Community Core) 24.0 m - 25.0 m (Inside Community Core)
Minor Collector[1]	Street D Street E Street E	21.0 m
Local Roads[2]		16.0 m (typical) 14.0 m (window streets)
Public Laneways		7.5 m

Note 1: All collector roadways are to have sidewalks on both sides.
Note 2: All local roadways are to have a sidewalk on one side. Exceptions may be considered in circumstances where the density is lower.

Pursuant to Section H6.14.1 of OPA 32, the feasibility of incorporating a 24.0 metre ROW for the Major Collector Roadways within the Community Core Area, instead of a 25.0 metre ROW, will be reviewed to confirm all elements in the pedestrian realm can be satisfactorily accommodated within the reduced ROW.

Similarly, pursuant to Section H6.14.4 of OPA 32, select local window streets will be reviewed to confirm if a reduced 14.0 metre ROW can satisfactorily accommodate pedestrian and vehicular circulation, street parking, and utility requirements.

The internal roadway review will also include a review of all street furniture and buried infrastructure and utilities.

We understand that with respect to Trafalgar Road and the future intersections at *Street E* and *Street F*, additional intersection approvals will be required from Conservation Halton through the permitting process, due to the area flood risks (regulated watercourse and associated flooding hazard).

8.0 Trip Generation and Distribution

Trip Generation for the proposed development will be based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition. We will confirm land use codes with Town and Region staff prior to commencing analysis. Pass-by trips and internal trip capture will be accounted for per ITE methodologies. Trip generation will be conducted for all proposed land

uses including residential, commercial, institutional, etc. Non-residential trip generation will be based on gross floor area (GFA) or number of employees, depending on the information available at the time of the study.

Trip distribution will be based on the latest Transportation Tomorrow Survey (TTS) data and a combination of existing travel patterns, proximity of major traffic generators, land use synergies, as warranted. TTS data will be appended to the report for reference.

It is noted that trip distributions for land uses such as elementary and secondary schools and community centres may be based on the surrounding catchment areas within the community for each use rather than TTS data.

9.0 Analysis Procedures

9.1 Automobile

Weekday A.M. and P.M., peak hours will be analyzed using Synchro 11.0 analysis software, using Highway Capacity Manual (HCM) 2000 procedures.

Queuing analyses will be undertaken for all intersections using SimTraffic. Five iterations, using a seeding interval of 10 minutes and an analysis period of 60 minutes will be used.

A peak hour factor of 1.0 will be assumed for all proposed/future unsignalized and signalized intersections per Town staff.

Standard measures of effectiveness such as control delay, volume-to-capacity ratios and queue lengths will be included for review.

9.2 Active Transportation

Active Transportation network opportunities and constraints will be assessed, and recommendations made to establish an active transportation network within the subject lands, consistent with Schedule H6-3 from the Halton Hills OPA 32. Attachment 4 includes the OPA 32 Schedule H6-3. Key considerations such as pedestrian crossings and type of cycling facilities will also be assessed. Active transportation desire lines and connectivity to AT trip generators, such as parks, schools, community centres, bus stops and off-road trails, will also be assessed to determine route and connection recommendations for the internal network. The Halton Region Active Transportation Master Plan will also be reviewed and considered.

Future active transportation improvements will be reviewed. We understand the following improvements are expected within the study area to be constructed concurrently with each roadways associated widening:

- Multi-use paths are planned on both sides of Eighth Line.
- A multi-use path is planned on the east side of Trafalgar Road along the subject lands.
- Bicycle lanes/paved shoulders are planned on both the east and west side of Trafalgar Road.
- On road bicycle lanes and multi-use paths are proposed on both sides of 10 Side Road.

9.3 Transit

A comprehensive Transit Facilities Plan will be provided, including a review of the following:

- Opportunities for the establishment and configuration of future transit routes and transit stop locations to ensure the mobility network can support future transit service once warranted.
- Transit stop classifications, warrants and locations.
- A transit coverage assessment to ensure transit stops are located within walking distance throughout the community.
- Recommendations on the mobility network and planned transit services for consistency with the Town's Transit Service Strategy (June 2019).

9.4 Summary

The improvements warranted on the external road network to support the full buildout of the Subject Lands, and the timing to implement such improvements, will be identified in the Transportation Study.

10.0 Traffic Safety Review

The Block Plan TIS will include a traffic safety review including, but not limited to the following:

- A traffic calming strategy with recommendations made to address conflicts and potential safety concerns that may be identified as part of the preceding analysis.
- A review of the available sight distance at the proposed collector road intersections and major accesses. The sight distance will be compared to standards set out by the Transportation Associates of Canada (TAC) Geometric Design Guide for Canadian Roads (GDGCR).
- A review of the proposed internal road network to ensure that all roadways and intersections meet the relevant standards set out within TAC GDGCR.
- A review of sight triangle requirements at the internal intersections. Sight triangle requirements will be compared to the Town of Halton Hills Subdivision Manual.
- A review of new connections to the Region's road network in accordance with Halton Region's Access Management Guidelines (January 2015).
- A review of the supportability of site access locations and restrictions based on traffic operations and expected queue lengths, as well as applicable access spacing guidelines. A preliminary figure illustrating the proposed intersection spacing along Trafalgar Road and 10 Side Road has been included in Attachment 5. A more detailed figure will be prepared for the Block Plan TIS.
- An outline of access considerations, geometrics (turn lanes, sight lines, etc.) recommendations, and conclusions by phase and/or year required.
- Warrants for all-way stop control, signalization, roundabouts, pedestrian crossings, and auxiliary lanes will be conducted to identify any operational improvements needed to mitigate safety/operational impacts and to meet the Town and Region requirements, as necessary. As confirmed with Town staff, roundabouts will be considered for internal collector-to-collector intersections where a traffic signal or all-way stop may be warranted. The appropriate timing of improvements required to accommodate the proposed development will also be identified.
- A review of conflicts between vehicles, pedestrians, cyclists, and recommendations made to maintain multimodal safety. Vehicle Turning Diagrams will be included to illustrate the feasibility of efficient turning manoeuvres at collector-collector intersections.
- A review of traffic infiltration.

- On-street parking plan including any layby parking opportunities.
- Active transportation plan (trails, bike lanes, sidewalks, PXO, potential opportunities for school crossing guards, etc.)
- A review of future transit opportunities, traffic operational impacts, and AT connections to proposed bus stops.

11.0 Functional Designs

Per Town Staff request, functional designs for any proposed intersection improvements will be provided for review. We note that Functional Designs may be submitted under a separate cover than the Block Plan TIS for Town and Region staff review. Pavement marking and signal design will conform to the relevant Ontario Traffic Manual (OTM). Functional Designs will identify the following, if required:

- Traffic related infrastructure
- Utilities
- Street furniture (traffic signals, signs, medians, etc.)
- Pavement markings
- Curb radii
- Daylight triangles
- Active transportation facilities

12.0 Transportation Demand Management Strategy

A Transportation Demand Management (TDM) Strategy will be developed to support reduced automobile use consistent with the long-term sustainability goals of the Town and Region. This TDM strategy will provide a framework for future development applications within the subject lands. TDM recommendations will be outlined for each land use including residential, commercial and institutional uses.

13.0 Requirements for Future Draft Plan Transportation Studies

We note that Section H6.14.11 of OPA 32 states that TIS's for parcels will be required to build on the Block Plan TIS. However, it is the intent that the Block Plan TIS will be sufficiently detailed (including assessment of Collector Roads, and any major local road and access connections) such that elements including traffic operations, auxiliary lane storage, and mitigation measures will be outlined in the Block Plan TIS to avoid duplication at the Draft Plan Stage.

We note that the Block Plan work is currently being coordinated with the Draft Plans so that the Block Plan will be a consolidation of the individual Draft Plans. Therefore, the Block Plan TIS will essentially be a consolidation of the individual Draft Plan TIS reports. However, should a landowner significantly change their Draft Plan after the Block Plan is approved, it is understood that they will have to complete their own TIS to show how the revised Draft Plan fits within the overall community.

Subject to preliminary review by the Town and Region a Transportation Brief of reduced scope would be considered appropriate to support Draft Plan applications, provided there are no material changes to the Draft Plan. It is expected that the Transportation Brief will provide additional details such as internal Pavement Marking and Signage Plans, internal safety reviews,

site specific TDM measures, etc. The scope of the individual Draft Plan Transportation Briefs will be confirmed once each Draft Plan consultant coordinates with Town and Region staff.

Only if there is a significant change to the transportation assumptions per the Block Plan TIS as a result of a Draft Plan proposal would an updated analysis be needed for that Draft Plan. The idea behind this approach is to avoid having multiple studies with different background volumes and network assumptions, all relying on each other, which would inevitably result in different future background recommendations for each report. We understand that Halton Region and Halton Hills staff will review any future Draft Plan Transportation Briefs/Letters and determine if an updated TIS is required at that time.

14.0 Summary

We request the following information for inclusion in the study, along with any comments that arise with regards to the above Terms of Reference.

Please provide:

- Any relevant background developments and the associated traffic impact studies that are to be included in our analysis.

Should you have any questions or require any further information, please do not hesitate to contact the undersigned.

Sincerely,

C.F. CROZIER & ASSOCIATES INC.

Michael Linton, M.A.Sc., P.Eng., Associate
Senior Project Manger, Transportation

C.F. CROZIER & ASSOCIATES INC.

Kierra Harper, EIT.
Engineering Intern, Transportation

Enclosed
Attachment 1: Proposed Study Area
Attachment 2: Turning Movement Count Comparison
Attachment 3: Roadway Improvement Excerpts
Attachment 4: Halton Hills OPA 32 Schedule H6-3
Attachment 5: Regional Road Intersection Spacing Diagram

/KH/ML

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