WITNESS STATEMENT OF JENNIFER LUONG, P.ENG.

Prepared June 12, 2024

PROCEEDING COMMENCED UNDER subsection 22(7) of the *Planning Act*, R.S.O. 1990, c. P. 13, as amended

Applicant/Appellant:	Caivan (Perth GC) Limited
Subject:	Request to amend the Official Plan – Failure to adopt the requested amendment
Property Address:	141 Peter Street
Municipality:	Town of Perth / County of Lanark
OLT Case No.:	OLT-23-000939
OLT Lead Case No.:	OLT-23-000534

PROCEEDING COMMENCED UNDER subsection 34(11) of the *Planning Act*, R.S.O. 1990, c. P. 13, as amended

Applicant/Appellant:	Caivan (Perth GC) Limited
Subject:	Application to amend the Zoning By-law – Refusal or neglect to make a decision
Property Address:	141 Peter Street
Municipality:	Town of Perth / County of Lanark
OLT Case No.:	OLT-23-000940
OLT Lead Case No.:	OLT-23-000534

PROCEEDING COMMENCED UNDER subsection 51(34) of the *Planning Act*, R.S.O. 1990, c. P. 13, as amended

Applicant/Appellant:	Caivan (Perth GC) Limited
Subject:	Proposed Plan of Subdivision – Failure of Approval Authority to make a decision
Property Address:	141 Peter Street
Municipality:	Town of Perth / County of Lanark
OLT Case No.:	OLT-23-000534
OLT Lead Case No.:	OLT-23-000534
OLT Case Name:	Caivan (Perth GC) Limited v. Lanark County

Qualifications:

1. I am a Senior Project Manager with Novatech. I have over 20 years of experience in the field of transportation and traffic. I have worked on numerous public and private sector projects and have been employed with Novatech for 22 years.

2. I am licensed as a Professional Engineer in the Province of Ontario and I am a member of the Professional Engineers of Ontario Association. My resume is attached as **Appendix A**.

Retainer:

3. I was retained as a Transportation Engineer by the Town of Perth to provide professional transportation services. In my capacity as a Senior Project Manager with Novatech, I conducted an independent review of the applicant's traffic study and prepared a summary memo. The summary memo is attached as **Appendix B**.

4. The evidence I will give at the hearing emerges from my review of the applicant's traffic study. I continue to have confidence in my review.

Reports:

5. I reviewed the following documents:
    - Town of Perth Infrastructure Master Plan Western Annex, by JP2G (November 2019)
    - Peter Street Bridge Crossing Memo, by HP Engineering (May 24, 2022)
    - Perth Golf Course Access Options Tech Memo, by CGH (November 24, 2022)
    - Transportation Impact Study (TIS), by CGH (February 21, 2023)
    - 141 Peter Street Planning Rationale, by WSP (February 2023)
    - 141 Peter Street Urban Design Brief, by NAK (February 2023)
    - Comment Response Summary, received by the Town (March 6, 2023)
    - Tay River Crossing Opinion Tech Memo, by CGH (March 1, 2024)
    - 141 Peter Street – Transportation Issue Resolution, by CGH (April 29, 2024)

Issues:

6. The procedural order has set out 17 issues. This witness statement will address issues 5, 6, 7, 8, and 9.

7. Issue 5 asks if the Application conforms to the policies, purpose, and intent of the Town of Perth Official Plan (the "Official Plan"). Issue 5 a) says that the conformity test will consider, but not be limited to, a number of policies of the Town of Perth Official Plan including 5.5 Transportation and 8.1.4 New Residential Area Designation.

    <u>Official Plan Policy 5.5 D) Road Classifications</u>

    Policy 5.5 D) refers to a table detailing the characteristics of the Town's road classification system, provided as Appendix 3 to the Official Plan. The table says that two-lane collector roads should have typical right-of-way (ROW) widths of 20-26m and lane widths of 4.5m.

It says that local roads should have typical ROW widths of 18.5m and a minimum asphalt width of 8.5m with parking on one side.

Peter Street east of Rogers Road is designated as a collector in Schedule B of the Official Plan however its characteristics are more consistent with a local road. It has a ROW width of 12m, a paved width of 7.5m, and a posted speed of 40kph. On-street parking is not permitted due to the narrowness of the road. The adjacent houses are close to the road with frequent driveway spacing.

West of Rogers Road, Peter Street is designated as a local in Schedule B of the Official Plan. It has a paved width of 5.5m to 6.0m, no shoulders, and a posted speed of 30kph. As noted in the *Peter Street Bridge Crossing Memo* by HP Engineering, the existing Peter Street Bridge has a clear width of 7.5m and currently supports two lanes of traffic with no load restrictions.

North Street is designated as a local in Schedule B of the Official Plan. The TIS recommends reclassification of North Street as a collector. It appears to have more of the typical characteristics of a collector.

Lustre Lane connects North Street to Peter Street and is designated as a local in Schedule B of the Official Plan. It has a ROW width of 16m and a paved width of 8.5m. The TIS recommends reclassification of Lustre Lane as a collector, however it does not have the characteristics of a collector.

Peter Street and Lustre Lane do not conform to the collector road standards outlined in Appendix 3 of the Official Plan. In my opinion, these streets cannot safely or adequately accommodate the proposed development based on a single access connection, regardless of whether the existing Peter Street Bridge is twinned or not. It is likely that the development can be accommodated if a second bridge crossing is provided as contemplated in the Town of Perth's 2019 Infrastructure Master Plan (IMP). However, this is dependent on the location of the second crossing and the corresponding road connections on the other side of the Tay River across from the development. The applicant's 2023 Transportation Impact Study (TIS) should be updated to consider the impacts of the proposed second crossing location outside the vicinity of the existing Peter Street Bridge.

<u>Official Plan Policy 5.5.3 Collector Roads</u>

Policy 5.5.3 a) says that collector roads with traffic expected to exceed 4,000 vehicles per day will be considered Major Collector roads. It says new Major Collector roads will have a minimum 23m ROW and include bike lanes. The applicant's traffic study says that the development is expected to generate approximately 740 vehicles per hour in the weekday p.m. peak, which is roughly equivalent to 7,400 vehicles per day. Since the collector roads will carry more than 4,000 vehicles per day they should be considered Major Collectors. A 23m collector road cross section is proposed which is consistent with a Major Collector designation per this policy. The proposed 23m cross section includes 1.5m bike lanes and parking on one side. This is consistent with Appendix 3 of the Official Plan.

However my review of Section 5.2 of *Ontario Traffic Manual (OTM) Book 18 Cycling Facilities*, and Table 5.3 in particular, suggests that separated bike lanes are appropriate for collector roads with volumes of 3,000 to 10,000 vehicles per day. Separated bike lanes are on-road bike lanes that are separated from the adjacent travel lane by a horizontal buffer plus a vertical element like a flex post or curb. Based on Table 4.8 of OTM Book 18, I recommend a bike lane width of 1.8m and a minimum buffer width of 0.3m where there is no parking lane and a minimum buffer width of 0.6m where there is a parking lane.

The proposed collector road cross section is consistent with the Official Plan. However, the Official Plan is not consistent with current industry standards for cycling facilities.

Official Plan Policy 5.5.4 Local Roads

Policy 5.5.4 (b) says that local roads with 500 vehicles per day should have a 20m ROW. It says all locals serving through traffic should have an 18.5m ROW and locals with no or low through traffic or developed with rear access lanes may have a 16.75m ROW.

Street 'H' has a 16.75m ROW with townhouses on both sides for its entire length. The narrower lots and increased units will result in an increased on-street parking demand. The 16.75m cross section does not include a sidewalk and pedestrians would share the vehicle travel lanes. The north half of Street 'H' has 53 townhouses and the south half has 42 townhouses. The applicant's traffic study uses Institute of Transportation Engineers (ITE) multi-family low-rise trip rates to estimate traffic generated by the townhouses. The multi-family low-rise trip rates are about half of the trip rates for single family homes. Generally, this is because townhouses are more affordable, and people may be less likely to own cars/more likely to take the bus. The reduced rates are likely less applicable to Perth since there is no transit system. While it's not uncommon to use the lower rates for municipalities with no transit, it is less common to permit the 16.75m cross section.

If the higher single family home rates are applied to the townhouse units then the daily traffic on Street 'H' will be in the order of 400 to 500 vehicles per day. Per the Official Plan this is more consistent with a 20m ROW.

There are known issues with making everything fit in a 16.75m ROW. Adding a sidewalk to this cross section is likely not feasible. An 18.5m ROW with a sidewalk should be provided for the local roads with townhouses on both sides.

Official Plan Policy 8.1.4 New Residential Area Designation

Policy 8.1.4.5 addresses the access constraints associated with the development of the Perth Golf Course lands southwest of the Tay River. It says that the Zoning amendment should not proceed until a new primary vehicle access corridor is established either by plan of subdivision, acquisition of a corridor by the Town, or identification of a corridor in a completed formal Master Plan. It says no development shall be permitted unless it is demonstrated that the development will not impede or reduce options for a new vehicle access.

As noted in item 8 below, the Town's 2019 IMP recommended a new bridge crossing at the Lanark County Office. The applicant's 2022 *Perth Golf Course Access Options Tech Memo* included a review of eight access options and recommended a new bridge immediately north or south of the existing Peter Street Bridge.

As noted in item 9 below, the applicant's subsequent 2024 *Tay River Crossing Opinion Tech Memo* indicated that Caivan intends to include a second crossing outside the vicinity of the existing Peter Street Bridge as part of the plan of subdivision. The design of the proposed second crossing must be completed and the process for obtaining the road corridor on the other side of the Tay River must be sorted prior to Draft Plan approval. This is consistent with the recommendations of the Town's 2019 IMP. To date only Phases 1 and 2 of the Municipal Class Environmental Assessment (MCEA) process, as described in item 9 below, have been completed for a new crossing at the Lanark County Office.

8. Issue 6 asks if the proposed ingress and egress to and from the subdivision will be sufficient from an emergency services perspective and from the perspective of long-term infrastructure replacement/maintenance. The applicant's 2022 *Perth Golf Course Access Options Tech Memo* includes a review of access options across the Tay River. The TIS suggests that the 2022 Tech Memo supercedes the Town's 2019 Infrastructure Master Plan (IMP) with respect to crossing options. The Tech Memo considered eight access options and recommended the construction of a new bridge immediately north or south of the existing Peter Street Bridge to function as a one-way couplet. The TIS recommendations are consistent with Tech Memo. The TIS also recommends a directional restriction via a bulbout on Peter Street between Lustre Lane and Rogers Road. The bulbout would ensure that inbound traffic uses North Street and outbound traffic uses either Peter Street or North Street. The restriction is intended to reduce traffic on Peter Street due to its narrow ROW and building setbacks.

   The Town's 2019 IMP recommended a new bridge crossing at the Lanark County Office complete with a westbound left turn lane on Sunset Boulevard at the County Office driveway. It recommended upgrading the existing Peter Street bridge and access to a collector road standard including sidewalks.

   Twinning the existing Peter Street bridge offers some redundancy for the bridge itself, however there is only one road approaching and departing the crossing. In my opinion, this constitutes a single access for the entire development. A blockage of the road on either side of the crossing will leave the development with no alternative point of access. Some form of redundancy is recommended in the event of a car accident, a fallen tree, a broken pipe, a fire, or the eventual replacement of infrastructure along the proposed collector or Peter Street west of Lustre Lane.

9. Issue 7 asks if the proposed ingress and egress to the site conforms to the principles of good transportation planning and if it provides safe access. The applicant's TIS recommends the development of 640 single detached units and 299 townhouse units with the existing Peter Street bridge and a new adjacent bridge, forming a one-way couplet. It says the development will be constructed in phases, with the first phase to include the existing Peter Street bridge and less than 40 units. It says that an Environmental

Assessment for the new adjacent bridge will be completed as development continues, with the construction timing to be determined.

In a response to comments received by the Town on March 6, 2023, CGH suggested that based on typical municipal requirements for fire servicing up to 200 units could be accommodated by the existing Peter Street bridge prior to the construction of the new adjacent bridge.

The Town's 2019 IMP considered the impacts of 120 units using the existing Peter Street bridge and 530 units using a new bridge to the Lanark County office. The IMP suggested that this would result in the lowest impact on Peter Street residents and the surrounding neighbourhood.

It is my opinion that a pair of one-way bridges with a single road on either side is not good planning for the development of approximately 940 residential units. It would not provide safe access in the event of a road closure, long-term infrastructure replacement or maintenance.

In the subsequent *Tay River Crossing Opinion Tech Memo* dated March 1, 2024, CGH indicated that Caivan intends to include a second crossing outside the vicinity of the existing Peter Street Bridge as part of the plan of subdivision. In the memo it is suggested that the additional crossing can be part of a phased build-out of the subdivision, with modifications to the existing Peter Street bridge permitting initial phases of development. It is now understood that a new bridge adjacent to the existing Peter Street bridge and a widening of Peter Street west of Lustre Lane would be completed prior to any occupancies.

In my opinion, a second crossing outside the vicinity of the existing Peter Street Bridge represents good transportation planning and it provides safe access to the development. However, the design of the proposed second crossing must be completed and the process for obtaining the road corridor on the other side of the Tay River must be sorted before the Draft Plan of Subdivision can be approved. The location of the second crossing informs the proposed road pattern, lot fabric, and developable area. These elements must be determined for Draft Plan approval. This is consistent with the recommendations of the 2019 IMP.

Phases 1 and 2 of the Municipal Class Environmental Assessment (MCEA) process include the identification of a problem or opportunity and alternative solutions. A preferred solution is selected as part of Phase 2. The 2019 IMP satisfies Phases 1 and 2 of the MCEA process for a crossing at the Lanark County Office. Phases 3 and 4 of the MCEA process include the identification of alternative design concepts for the preferred solution and the preparation of an Environmental Study Report. Phase 3 involves a detailed inventory of the natural, social, and economic environment, identification of the impacts of alternative designs, evaluation of alternative designs, consultation with review agencies and the public, and selection of a preferred design. Phase 4 involves a 30-day public review period for Environmental Study Report. It is understood that under the 2023 MCEA document, the second crossing may now be considered a Schedule B project instead of a Schedule C project as identified in the 2019 IMP. Schedule C projects require the completion of all phases of the EA process while Schedule B projects require only the

completion of Phases 1 and 2. Notwithstanding the public consultation process, the design of the second crossing has not been completed and the process for obtaining the road corridor on the other side of the Tay River has not been sorted.

I understand that the Lanark County Office, the Perth Community Care Centre, and the Lanark Lodge nursing home are located in Tay Valley Township. A bridge crossing at the Lanark County Office and a road connection to Sunset Boulevard involve a joint jurisdiction road allowance between Lanark County, Tay Valley Township, and the Town of Perth. I understand that County Council has not expressly considered the potential use of its property for a future bridge crossing or road, and neither has Tay Valley or Perth. The County has indicated that, to their knowledge, they have no obligation to allow a future road or open the allowance as a public road. Successful negotiations for the land and access are critical to the proposed development. Approval of the plan based on a second crossing is premature until the consent of the parties involved is granted for the use of the lands under their authority.

The evaluation of environmental impacts informs the design of the second crossing. The design of the second crossing informs the subdivision road pattern, lot fabric, and developable area. For these reasons, the design of the crossing should be completed and the process for obtaining the road corridor on the other side of the Tay River should be determined prior to Draft Plan approval.

Regarding the initial phases of development with a twinned crossing at the Peter Street Bridge, the one-lane section of Peter Street west of Lustre Lane is still the limiting factor in terms of traffic. Peter Street has a narrow ROW of approximately 12m east of Lustre Lane and 15m west of Lustre Lane. Due to the narrow ROW, Peter Street doesn't have the potential to function as more than a local road. The proponent has indicated that they will widen Peter Street west of Lustre Lane. We understand that the widening will consist of a 7.5m road platform, which is still consistent with a local road. Additional ROW is required for Peter Street to function as a collector.

In accordance with the Transportation Association of Canada (TAC) Geometric Design Guide, the typical capacity of a local road is 1,000 vehicles per day. Peak hour traffic can be estimated at 10% of the daily volume, or 100 vehicles per hour. Based on the Institute of Transportation Engineers (ITE) trip generation rates outlined in Table 1 of the TIS, 100 vehicles per hour is equivalent to 110 dwelling units. The Town's 2019 IMP identified a threshold of 120 units prior to the second crossing. The National Fire Protection Association (NFPA) 1141 *Standard for Fire Protection Infrastructure for Land Development in Wildland, Rural, and Suburban Areas* identifies a threshold of 100 units for a single access. These three numbers are generally consistent. In this case, 110 dwelling units is recommended as the appropriate number of units that can be accommodated with a twinned bridge at the existing Peter Street crossing prior to the construction of a second crossing outside the vicinity of the existing Peter Street Bridge.

10. Issue 8 asks if the proposed ingress and egress create unacceptable traffic impacts on adjacent streets. Peter Street and Lustre Lane would not have the required collector road characteristics to accommodate the development with a single access. Based on their local road characteristics, the Transportation Association of Canada (TAC) Geometric Design Guide (GDG) suggests that typical traffic volumes should be less than 1,000

veh/day. The TIS indicates that the existing traffic on Peter Street is already 2,890 veh/day and the development would add another 1,000 veh/day. Existing traffic on Lustre Lane is likely less than 500 veh/day and the development would add another 5,670 veh/day. This would create unacceptable conditions for residents along those streets on a daily basis and in the event of an emergency.

The TIS recommends traffic signals at the Wilson Street/North Street intersection. The adjacent Wilson Street/Peter Street intersection is signalized. The spacing between these two intersections is 50m, measuring stop bar to future stop bar. Sight distance is limited at the southwest and southeast corners of both intersections. The spacing of the two intersections is significantly less than the TAC minimum standard of 200m for an arterial road like Wilson Street. The TIS recommends prohibition of the northbound left turn at Wilson Street/North Street. This will help to mitigate the substandard spacing, however northbound and southbound queuing through both intersections is expected during peak hours.

The TIS considered a 2041 buildout horizon. Table 11 of the TIS summarizes the projected 2041 total traffic operations based on Synchro analysis. In the p.m. peak, a northbound queue of 85m is expected at Wilson Street/North Street. This blocks the Wilson Street/Peter Street intersection to the south. A southbound queue of approximately 120m is expected at Wilson Street/North Street. This queue approaches the upstream intersection of Wilson Street/D'Arcy Street, 125m to the north. The southbound queue at Wilson Street/Peter Street is expected to be metered. Metering is indicative of upstream capacity constraints and queues could be longer if vehicles were able to clear the upstream intersection.

The TIS includes a detailed queuing analysis based on SimTraffic software, which is a microsimulation package that is built into the Synchro software. Microsimulation was used to better understand the forecasted queuing. Table 12 of the TIS summarizes the results of the SimTraffic analysis. The microsimulation suggests that in the p.m. peak the northbound queue at Wilson Street/North Street will be 60-65m instead of 85m. This still blocks the Wilson Street/Peter Street intersection to the south. A southbound queue of approximately 115m is expected at Wilson Street/North Street, instead of 120m. This is still in proximity of the upstream Wilson Street/D'Arcy Street intersection. A southbound left queue of approximately 55m is expected at the Wilson Street/Peter Street intersection, which blocks the Wilson Street/North Street intersection. In addition, the SimTraffic analysis shows an eastbound queue of approximately 100m at the Wilson Street/Peter Street intersection. This is more than double the 40m queue based on the 2041 background traffic. The distance to the upstream intersection of Peter Street/Lewis Street is 125m.

Signalization of the Wilson Street/North Street intersection to facilitate access to the new community will have a negative impact on the arterial flow of traffic on Wilson Street and interfere with progression.

Historic collision data was not reviewed as part of the TIS. It is not known if any identifiable collision patterns are associated with the limited sight distance at the Wilson Street/North Street and Wilson Street/Peter Street intersections. It is noted that a recent collision at the Wilson Street/Sunset Boulevard intersection on Tuesday, May 14, 2024 resulted in a

closure of Wilson Street between Highway 7 and Sunset Boulevard. The road closure was in place from 3:30pm on Tuesday, May 14 to approximately 4:00pm on Wednesday, May 15 while the collision was under investigation. Detours were in place to divert traffic to Drummond Street and police advised the public to expect delays and avoid the area. We understand that the arterial road closure caused lengthy traffic delays and congestion throughout the Town.

In our opinion, this type of impact can be expected when there is limited redundancy in the arterial and collector road network. Incidents like the collision at Wilson Street/Sunset Boulevard highlight the importance of connectivity and alternate routes. In the event of an emergency, a development with 940 units and a single access to Peter Street could result in safety concerns for residents of the development, the neighbouring community, and the downtown core.

11. Issue 9 asks if the proposed parking standards are functional. A review of the off-street parking requirements and provisions has not been provided as part of the TIS. In accordance with the Town's Zoning By-Law (ZBL), the minimum parking requirement for singles and townhouses is two (2) parking spaces per unit. This includes any combination of a garage, carport, driveway, or tandem parking spaces. The minimum parking requirement for home-based businesses is a minimum of one (1) parking space per business in addition to the required residential parking.

    Section 4.35.4 of the ZBL defines driveways as commencing at the street line and extending along the front yard. Section 3 of the ZBL defines the street line as the limit of the road allowance. Section 3 defines the front yard as the yard between the front lot line and the main wall of the building.

    The minimum parking space dimensions are 2.6m in width and 5.5m in length.

    The unit types outlined in the *Urban Design Brief* by NAK include townhouses and 35' singles, 41' singles, 42' singles, and 50' singles. The townhouses and 35' singles have single car garages. The other single unit types have two car garages. The garage sizes are currently unknown. However, it is assumed that they will meet the minimum clear dimension requirements at detailed design when the grading and number of stairs is developed. Each lot has a 3m front setback from the road allowance to the building face. This is insufficient for a parking space. The townhouses and 35' singles all have one parking space, which is less than the minimum requirement of two spaces. From my review of the Draft Plan, this amounts to approximately 400 units out of the 940 low density units, or about 40% of the development. As there is no transit in the Town of Perth, this will likely result in parking spillover.

    No lots have more than two parking spaces. The Planning Rationale by WSP indicates that the development will support downtown commercial uses and as a result only home-based businesses are proposed. No lots have sufficient parking to meet the ZBL requirements for residential and home-based commercial uses.

    The streets with townhouses facing townhouses are most likely to result in parking complaints, with the highest demand and lowest supply of on-street parking. Mixing unit types would allow for more on-street parking to better absorb the spillover demand.

The functionality of the proposed parking standards has not been demonstrated. A parking study should be conducted to assess the impacts of the proposed parking reduction and any parking spillover.

Conclusion:

12. Peter Street and Lustre Lane cannot safely and adequately accommodate the development based on a single access connection. A single access connection is not good planning for the development of approximately 940 residential units. It would not provide safe access in the event of a road closure, long-term infrastructure replacement, or maintenance.

    Caivan has indicated that they intend to include a second crossing outside the vicinity of the existing Peter Street bridge as part of the plan of subdivision. The design of the proposed second crossing must be completed and the process for obtaining the road corridor on the other side of the Tay River must be sorted prior to Draft Plan approval.

    We understand that the widening of Peter Street west of Lustre Lane will consist of a 7.5m road platform, which is still consistent with a local road. Based on the narrow ROW, 110 dwelling units is recommended as the appropriate number of units that can be accommodated with a twinned bridge at the existing Peter Street crossing prior to the construction of a second crossing outside the vicinity of the existing Peter Street Bridge.

    The proposed collector road cross section is consistent with the Official Plan. However, the Official Plan is not consistent with current industry standards for cycling facilities. Separated bike lanes should be provided on the collector roads. Based on the anticipated traffic, the local roads with townhouses on both sides should have an 18.5m ROW with a sidewalk instead of a 16.75m ROW with no sidewalk.

    The functionality of the proposed parking standards has not been demonstrated. A parking study should be conducted to assess the impacts of the proposed parking reduction and any parking spillover.

    Until these outstanding items are completed and incorporated into the design, the applications are premature and should not be approved.

Prepared by:

Jennifer Luong, P.Eng.
Senior Project Manager, Transportation/Traffic

APPENDIX A

Resume

NOVATECH
Engineers, Planners & Landscape Architects

Jennifer Luong, P. Eng.

Position:

Senior Project Manager Transportation/Traffic

2001 - Present

Education:

Bachelor of Science, Civil Engineering, University of New Brunswick

1999

Application of the Unsignalized Pedestrian Crossing and Off-street Pedestrian and Bicycle Facilities Methods

Affiliations:

P.E.O.

Experience:

Traffic/Transportation

Municipal Infrastructure

Land/Site Development

Ms. Luong is a Senior Project Manager specializing in Transportation and Traffic Assessments and has over 20 years of progressive experience. She is responsible for completing Traffic Impact Assessments (TIA), Environmental Assessments, as well as, functional preliminary and detailed designs for municipal and land development projects.

Ms. Luong is proficient in current software applications including Synchro, SIDRA and RODEL. She has participated in on-line webinars pertaining to Parking Management and Travel Demand Management (TDM) strategies, completed a five-day workshop regarding analytical transportation planning and attended a two-day course regarding roundabout planning and design.

Typical Projects:

Land Development

Kanata North Community Design Plan *(2012-2016).* Lead the preparation of a Transportation Master Plan (TMP) as a component of the Community Design Plan (CDP) for the Kanata North Urban Expansion Area (KNUEA). The TMP identified the collector road network, access locations, provisions for pedestrian and cycling linkages, and interim and ultimate road cross sections that incorporate the planned widening of March Road and the extension of planned transit facilities. The KNUEA includes 181 hectares north of the Morgan's Grant, Briarbrook, and Brookside subdivisions and adjacent to a number of rural estate subdivisions. The TMP identified right-of-way requirements, preferred intersection control types and lane configurations, an extension of planned Bus Rapid Transit (BRT) service, and the size and location of a future Park and Ride lot.

Equinelle Subdivision, Municipality of North Grenville *(2002-present).* Prepared Traffic Impact Studies in support of multi-phased Plan of Subdivision for the Equinelle development in North Grenville. Phases 1 and 2 of the development included an 18-hole golf course, a clubhouse, approximately 430 residential units, a 1.88-acre commercial block, and two accesses to County Road 44. Phases 3 to 6 include an additional 540 residential units, for a total of approximately 970 residential units. Evaluated study area intersections and identified required roadway modifications based on projected traffic conditions. Reviewed internal traffic circulation, provisions for non-auto transportation modes as well as on-site parking provisions. Prepared functional and detailed design for required roadway modifications.

Clarence Crossing Subdivision, City of Clarence Rockland *(2013-present*). Prepared Traffic Impact Studies in support of a multi-phased Plan of Subdivision for the Clarence Crossing development in Clarence Rockland. Phase 1 of the development

Position:

Senior Project Manager Transportation/Traffic

2001 - Present

Education:

Bachelor of Science, Civil Engineering, University of New Brunswick

1999

Application of the Unsignalized Pedestrian Crossing and Off-street Pedestrian and Bicycle Facilities Methods

Affiliations:

P.E.O.

Experience:

Traffic/Transportation

Municipal Infrastructure

Land/Site Development

included approximately 210 residential units, lands designated for economic development, a future school site, and a new access to County Road 17. The ultimate concept includes an additional 2,250 residential units, a 0.58-hectare commercial block, 12 hectares of business park, and two additional accesses to County Road 17. Evaluated study area intersections and identified required roadway modifications based on projected traffic conditions.

Marshall's Bay Meadows Subdivision, Town of Arnprior *(2019-present).* Prepared Traffic Impact Studies in support of multi-phased Plan of Subdivision for the Marshall's Bay Meadows development in Arnprior. The development consists of approximately 520 residential units, 0.95 hectares of highway commercial, and two accesses to Madawaska Boulevard. Evaluated study area intersections and identified required roadway modifications based on projected traffic conditions. Prepared functional and detailed design for required roadway modifications.

Lead in the preparation of Traffic Impact Assessment reports for:

- Provence Orléans Subdivision, 2128 Trim Road
- The Commons Subdivision, 3610 Innes Road
- Greystone Village Subdivision, 175 Main Street
- Highway 7 South Conceptual Development Plan, Carleton Place
- Orléans Town Centre Lands
- Metric Residential Subdivision, 950 Terry Fox Drive
- CitiGate Business Park, West Barrhaven
- 27 storey residential towers and grocery store, 383 Albert & 340 Queen
- 27 storey residential towers and grocery store, 187 Metcalfe
- 23 storey mixed-use development, 1050 Somerset Street
- 38 storey residential tower, 1040 Somerset Street West
- Giant Tiger Headquarters, 2480 Walkley Road
- Amazon Prestige Office and Light Industrial Building, 222 CitiGate Drive
- Robert Grant Avenue, Abbott-Fernbank Community
- Silver Seven Corporate Centre, 737/777 Silver Seven Road
- Tim Hortons, Franktown Road, Carleton Place
- Colonnade Commercial Development, McNeely Avenue, Carleton Place
- Kemptville Crossing Shopping Centre, Colonnade Drive, North Grenville

Municipal Infrastructure

Bel-Air/Bedbrooke/Field/Iris Integrated Project *(2020-2021).* Reviewed and discussed traffic calming measures to achieve 30kph operating speeds on local roads

Position:

Senior Project Manager Transportation/Traffic

2001 - Present

Education:

Bachelor of Science, Civil Engineering, University of New Brunswick

1999

Application of the Unsignalized Pedestrian Crossing and Off-street Pedestrian and Bicycle Facilities Methods

Affiliations:

P.E.O.

Experience:

Traffic/Transportation

Municipal Infrastructure

Land/Site Development

per City of Ottawa council direction. Measures include intersection and mid-block road narrowings, raised intersections, raised crosswalks, speed humps and alternating on-street parking.

Greenfield-Main-Hawthorne et al. Reconstruction *(2019-2021).* Reviewed traffic operations at Main Street/Greenfield Avenue to determine the impacts of removing the Greenfield left turn lane in favour of cycling facilities. Reviewed the impacts of removing a through lane on Main Street between the Queensway and Graham Avenue to accommodate a southbound cycle track. Discussed the appropriate type of intersection control and lane configuration at Main Street/Colonel-By Drive for a pedestrian/cyclist connection to the Rideau Canal pathway.

Iona Street, Broadhead Avenue and Helena Street Reconstruction *(2016 – 2017).* Conducted Multi-Modal Level of Service (MMLOS) analysis of the existing transportation conditions along Iona Street between Broadhead Avenue and Island Park Drive and Broadhead Avenue between Iona Street and Clare Avenue. Prepared technical memorandum outlining results and preliminary design recommendations. Prepared technical memorandum addressing Councillor comments and resident concerns regarding traffic/pedestrian/cycling issues in order to keep the project on schedule and allow the water and sewer designs to proceed.

Strandherd Drive Widening, Fallowfield to Kennevale *(2013 – 2015).* Lead the development of the preliminary design for the widening of Strandherd Drive to a four-lane urban divided cross section between Fallowfield Road and Kennevale Drive. The project included new signalized intersections at Strandherd Drive/Jockvale Road Extension and Strandherd Drive/Maravista Drive, as well as new legs at Strandherd Drive/Fallowfield Road and Strandherd Drive/Kennevale Drive with access to the CitiGate Business Park. Coordinated the development of the approved cross section which includes a new hydro line, streetlights, concrete sidewalk, raised cycle track, and underground services. Tailored the design to minimize disruption within the community, avoid throwaway works, and minimize costs.

Churchill Avenue Rehabilitation, Carling Avenue to Scott Street *(2008 – 2013).* Lead the development of geometry for the preliminary design of the Churchill Avenue (Carling Avenue to Scott Street) and Scott Street (Churchill Avenue to Winona Avenue) reconstruction. Completed operational analysis of signalized intersections. Assessed on-street parking utilization. Identified opportunities to implement traffic calming measures and improvements to transit services. Participated in Public Advisory Committee (PAC) meetings, Technical Advisory Committee (TAC) meetings, and Public Open Houses.

Ontario
Ontario Land Tribunal

ACKNOWLEDGMENT OF EXPERT'S DUTY

Case Number	Municipality
OLT-23-000534	Town of Perth

1. My name is .....Jennifer Luong
   I live at the .....City of Ottawa
   in the ..... Province of Ontario

2. I have been engaged by or on behalf of the Town of Perth to provide evidence in relation to the above-noted OLT proceeding.

3. I acknowledge that it is my duty to provide evidence in relation to this proceeding as follows:

   a. to provide opinion evidence that is fair, objective and non-partisan;

   b. to provide opinion evidence that is related only to matters that are within my area of expertise; and

   c. to provide such additional assistance as the OLT may reasonably require, to determine a matter in issue.

   d. not to seek or receive assistance or communication, except technical support, while under cross examination, through any means including any electronic means, from any third party, including but not limited to legal counsel or client.

4. I acknowledge that the duty referred to above prevails over any obligation which I may owe to any party by whom or on whose behalf I am engaged.

Date April 15, 2024 ..... Jennifer Luong .....
Signature

APPENDIX B

Traffic Impact Study Review Memo

NOVATECH
Engineers, Planners & Landscape Architects

M E M O R A N D U M

DATE: **JULY 20, 2023**

TO: **GRANT MACHAN, TOWN OF PERTH**

FROM: **JENNIFER LUONG**

RE: **WESTERN ANNEX LANDS – 141 PETER STREET**
TRANSPORTATION IMPACT STUDY REVIEW
123056

CC: **EDSON DONNELLY, STEVE PENTZ, MARK BISSETT**

Novatech has been retained to provide assistance with planning, engineering, and transportation matters related to Draft Plan, Official Plan Amendment, and Zoning Amendment applications for the above development. The development consists of 640 single family homes and 299 townhouse dwellings. Access is proposed via the existing Peter Street Bridge and a new crossing adjacent to the existing bridge. We understand that an initial phase of 40 units is proposed based on the existing bridge. An Environmental Assessment (EA) for the second crossing will be completed as development continues and the appropriate timing for its construction will be determined.

We have reviewed the following transportation related documents:

- Memo on Structural Capacity of Peter Street Bridge, by HP Engineering (May 24, 2022)
- Perth Golf Course Access Options Tech Memo, by CGH (November 24, 2022)
- Transportation Impact Study (TIS), by CGH (February 21, 2023)
- Comment Response Summary, received by the Town (March 6, 2023)

This memo provides a summary of our review.

Transportation Impact Study

Peter Street is designated as a local road between the existing bridge crossing and Rogers Road, with a posted speed of 30 kph and a paved width of 6m. It is designated as a collector road between Rogers Road and Wilson Street with a posted speed of 40 kph and a paved width of 7.5m. It has a right of way (ROW) width of 12m. East of Lustre Lane houses are located close to the road with frequent driveway spacing. On-street parking is restricted due to the narrowness of the road.

Though a portion of Peter Street is designated as a collector in the Town's Official Plan, it is not consistent with the typical characteristics of a collector road in terms of speed, ROW width, parking, and adjacent land use. Section 8.1 of the Town's *2017 Transportation Master Plan* suggests that collectors should have 20-26m ROW widths and posted speeds of 50 to 60 kph.

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A restriction of westbound traffic is proposed on Peter Street between Lustre Lane and Rogers Road, so that all inbound site traffic uses North Street. This is to limit the impact of site traffic on Peter Street given the narrow ROW. Outbound site traffic can use North Street or Peter Street.

Lustre Lane and North Street west of Wilson Street are designated as local roads with a regulatory speed of 50 kph. Lustre Lane has a paved width of 8.5m and a ROW width of 16m. North Street has a paved width of 9m from Lustre Lane to Lewis Street and a paved width of 11m from Lewis Street to Wilson Street. It has a ROW width of 19 to 20m in the study area. The TIS recommends reclassification of North Street as a collector. North Street appears to have more of the typical characteristics of a collector.

All inbound site traffic and half of the outbound site traffic are expected to use Lustre Lane which has insufficient ROW to function as a collector road. All site traffic will use Peter Street west of Lustre Lane. This part of Peter Street will need to be widened from its current width of 6m to function as a collector road.

The new Peter Street Bridge will be located adjacent to the existing bridge to form a one-way couplet. The TIS says that the new bridge provides a secondary emergency access. However, there is just a single road approaching and departing the two one-way bridges. In our opinion, this still constitutes a single point of access for the entire development. A blockage of the road on either side of the bridge will still leave the development with no alternative point of access. Some form of redundancy is recommended in the event of a car accident, a fallen tree, a broken pipe, a fire, or the eventual replacement of infrastructure along the proposed collector corridor or Peter Street west of Lustre Lane.

The TIS recommends traffic signals at the Wilson Street/North Street intersection. The spacing between Wilson Street/North Street and Wilson Street/Peter Street is 50m. Sight distance is limited at the southwest and southeast corners of both intersections. The spacing of the two intersections is significantly less than the Transportation Association of Canada (TAC) minimum standard of 200m for an arterial like Wilson Street. The TIS recommends prohibition of the northbound left at Wilson Street/North Street, and this will help to mitigate the substandard spacing, however northbound and southbound queuing through both intersections is expected during peak hours. Signalization of Wilson Street/North Street to facilitate access to the new community will have a negative impact on the arterial flow of traffic on Wilson Street and interfere with progression.

Comment Response Summary

The response to comment 131 suggests a “typical” maximum of 200 units for a single point of access. The source of this number should be confirmed with CGH.

This number seems reasonable to us however our research suggests that lower numbers are used by some jurisdictions:

- Calgary, Alberta – *Fire Department Access Standard*, p. 8 says 100 units for a single access, 101 to 600 units for two accesses, and 601 or more units for three accesses
    - Planning & Development resource library (calgary.ca)
- Vancouver, Washington – *Fire Department Access Standards*, Section 2.2.5 says 100 units for a single access or 200 if all units are sprinklered

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  - https://www.cityofvancouver.us/sites/default/files/fileattachments/fire_vfd/page/12953/vancouver_fire_department_access_standards.pdf
- Grand Junction, Colorado – *Municipal Code* 29.24.030 says less than 30 units for a single access or 60 units if all units are sprinklered
  - https://www.codepublishing.com/CO/GrandJunction/html2/GrandJunction29/GrandJunction2924.html
- International Code Council (develops construction and public safety codes through a governmental consensus process) – *2021 International Fire Code*, Section D107 says less than 30 units for a single access unless all units are sprinklered
  - https://codes.iccsafe.org/content/IFC2021P1/appendix-d-fire-apparatus-access-roads

Novatech consulted the City of Ottawa's Manager of Development Review, Jeff McEwan, and Fire Protection Engineer, Allan Evans, to confirm if they have a standard maximum number of low density residential units for a single access. Jeff indicated that a maximum of 50 units is used before a second watermain connection is required based on system vulnerability. He was not aware of any specific maximum number of units for vehicular access. Allan was also not aware of any specific maximum and suggested that the Ontario Fire Code doesn't have one.

The City of Kitchener *Emergency Services Policy* suggests that single access streets (cul de sacs) in residential subdivisions exceeding 150m in length require an emergency access leading to another public ROW within 150m of the cul de sac.

In our opinion, the entire development of approximately 950 units is proposed to have a single point of access through a single road connection to and from the existing Peter Street Bridge crossing. We believe this can not be supported from an emergency services perspective or from the perspective of long-term infrastructure replacement/maintenance.

Conclusions

In conclusion, our review of the transportation related documents is summarized as follows:

- All inbound site traffic and half of the outbound site traffic are expected to use Lustre Lane which has insufficient ROW to function as a collector road. All site traffic will use Peter Street west of Lustre Lane. This part of Peter Street will need to be widened from its current width of 6m to function as a collector road.
- The new Peter Street Bridge will be located adjacent to the existing bridge to form a one-way couplet. The Transportation Impact Study (TIS) says that the new bridge provides a secondary emergency access. However, there is just a single road approaching and departing the two one-way bridges. In our opinion, this still constitutes a single point of access for the entire development of approximately 950 units.
- Signalization of Wilson Street/North Street to facilitate access to the new community will have an unacceptable negative impact on the arterial flow of traffic on Wilson Street and interfere with progression.

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- A “typical” maximum of 200 units for a single point of access has been suggested by CGH. The source of this number should be confirmed. This number seems reasonable to us however our research suggests that lower numbers are used by some jurisdictions.

- In our opinion, the entire development of approximately 950 units is proposed to have a single point of access through a single road connection to and from the existing Peter Street Bridge crossing. We believe this can not be supported from an emergency services perspective or from the perspective of long-term infrastructure replacement/maintenance.

We recommend that a second point of access via a separate road connection and bridge crossing be reconsidered.

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