City of Kawartha Lakes

Transportation Impact Assessment Guidelines

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1.0 Introduction

It is essential to ensure that development driven growth and its impact on the City of Kawartha Lake's transportation network are adequately assessed and understood. A Transportation Impact Assessment (TIA) serves to identify on-site and off-site measures to be taken by a developer to align the transportation network's performance with the goals set forth by the City through its Official Plan and Transportation Master Plan by:

- Evaluating alignment of proposed development's transportation characteristics with City goals and policies.
- Evaluating transportation network performance before and after development.
- Enabling negotiations between the City and developers for costs of any required transportation network modifications.

The City has prepared these guidelines to provide a structured framework for conducting TIAs to ensure study methodologies, data collection, and analysis approaches, are consistent with industry best practices. This structural framework is intended to outline the expectations and requirements for stakeholders and assist the City with informed decision-making regarding land use approvals, infrastructure investment, and mitigation measures.

1.1 Development Planning Authority

The Province of Ontario's Planning Act gives the City authority to impose conditions when considering planning or development applications. Additional authority on development conditions may come from the current Provincial Policy Statement and various other regulatory documents including but not limited to the Municipal Act, Accessibility for Ontarians with Disabilities Act, and the Ontario Building Code.

The City of Kawartha Lakes Transportation Master Plan establishes the overall road use strategy for the City. The Official Plan reflects the authority to impose development conditions based on the road jurisdictions (Province, City, or Local Municipality) when it deems that a proposed development could impact the performance of its transportation network.

1.2 Applicability

These guidelines are applicable for all TIAs submitted to the City of Kawartha Lakes. All applications may be subject to additional requirements from applicable approving authorities or agencies. Applicants with developments within Ministry of Transportation (MTO) Controlled Areas should request a pre-consultation with the MTO early in the planning stage.

Furthermore, in municipal planning, TIA's serve distinct purposes for Site Plan Approval (SPA) and Draft Plan of Subdivision Approval (DPSA). Site Plan Approval TIA's focus on evaluating how a specific development site will impact local traffic flow, parking, and pedestrian access. They ensure compliance with transportation standards and mitigate site-specific transportation impacts. In contrast, Draft Plan of Subdivision Approval TIA's assess the broader impacts of subdividing land into multiple lots, examining infrastructure capacity, road network connectivity, and community transportation integration. Both TIA's are essential for guiding development decisions that align with municipal transportation goals and standards.

The policies, standards, and methodologies included and referenced in these guidelines are relevant at the time of publishing. Guideline revisions may be performed to reflect future changes to the City's policies, practices, or accepted standards. The City does not have the resources to confirm the scope of every TIA until after the TIA is submitted. As such, all applicants should make every effort to reference up to date guidelines by downloading the latest published version at Transportation Master Plan Study | Jump In Kawartha Lakes.

1.3 Pre-Consultation and Qualifications

Prior to commencement of any TIA, the City must confirm the type of TIA, if any, is required and identify any non-standard analysis parameters. To support discussion with City staff and to determine the type of TIA required, applicants are encouraged to complete the City of Kawartha Lake's TIA Screening form, in advance of pre-consultation meetings. The City's TIA Screening form, provided in **Appendix A**, is intended to provide an initial screening to determine the number of trips generated by the development and whether the development and/or boundary street conditions have high potential for safety concerns.

All studies will require engineering judgement and the seal of a registered member of the Professional Engineers Ontario (PEO) on the final report and all subsequent updates.

Furthermore, the review of the TIA shall also be conducted by a registered professional engineer.

1.4 Historical Report Relevance

The 'shelf-life' of a TIA is five years. As such, if development assessed within a TIA has not occurred within the five-year time frame, a new TIA will be required. Additionally, where developments are phased, or references made to previous documents, only reports completed within the five-year time frame prior to the completion of the subject analysis will be considered relevant. In addition, any newly required TIA must adhere to the latest available published TIA Guidelines regardless of compliance to the guidelines at the time of the original assessment.

1.5 References

All applicants are encouraged to utilize industry best practices in completion of all TIAs. To assist in this endeavour, references are recommended, but not limited to the most recent editions of following:

- City of Kawartha Lakes Transportation Master Plan (TMP).
- City of Kawartha Lakes Official Plan.
- Transportation Association of Canada (TAC) – Geometric Design Guide for Canadian Roads.
- Ministry of Transportation (MTO) Design Supplement to the TAC Geometric Design Guide for Canadian Roads.
- Transportation Association Board (TRB) - Highway Capacity Manual.
- TAC – Canadian Guide to Traffic Calming.
- TAC – Canadian Roundabout Design Guide.
- Institute of Transportation Engineers (ITE) – Trip Generation Manual.
- ITE – Parking Generation.
- ITE – Trip Generation Handbook.

- Ontario Traffic Manuals (OTM) – Books 1 – 19.
- Ontario Traffic Council (OTC) – Multi Modal Level of Service (MMLOS) Guidelines.
- National Association of City Transportation Officials (NACTO) – Urban Bikeway Design Guide.
- NACTO – Urban Street Design Guide.
- National Cooperative Highway Research Program (NCHRP) – Report 672 Roundabouts: An Information Guide.
- NCHRP – Report 716 Travel Demand Forecasting: Parameters and Techniques.
- American Association of State Highway and Transportation Officials (AASHTO) – Highway Safety Manual.

2.0 TIA Methodology Requirements

2.1 Objectives

The overall purpose of a TIA is to develop and maintain a safe, accessible, and well-connected transportation network for the City of Kawartha of Lakes. The main objectives of any TIA include but are not limited to:

- Identify the benefits and impacts of a proposed project/development or redevelopment.
- Identify the transportation impacts associated with the proposed development/redevelopment and how they can be mitigated in a manner consistent with the objectives and policies of the City.
- Identify any existing or potential safety concerns and countermeasures to enhance the level of safety for all road users.
- Identify roadway and access improvements to ensure acceptable levels of service for the roadway system.

Any TIA must be completed in accordance with established transportation planning and traffic engineering principles, supplemented, when possible, with local survey data and

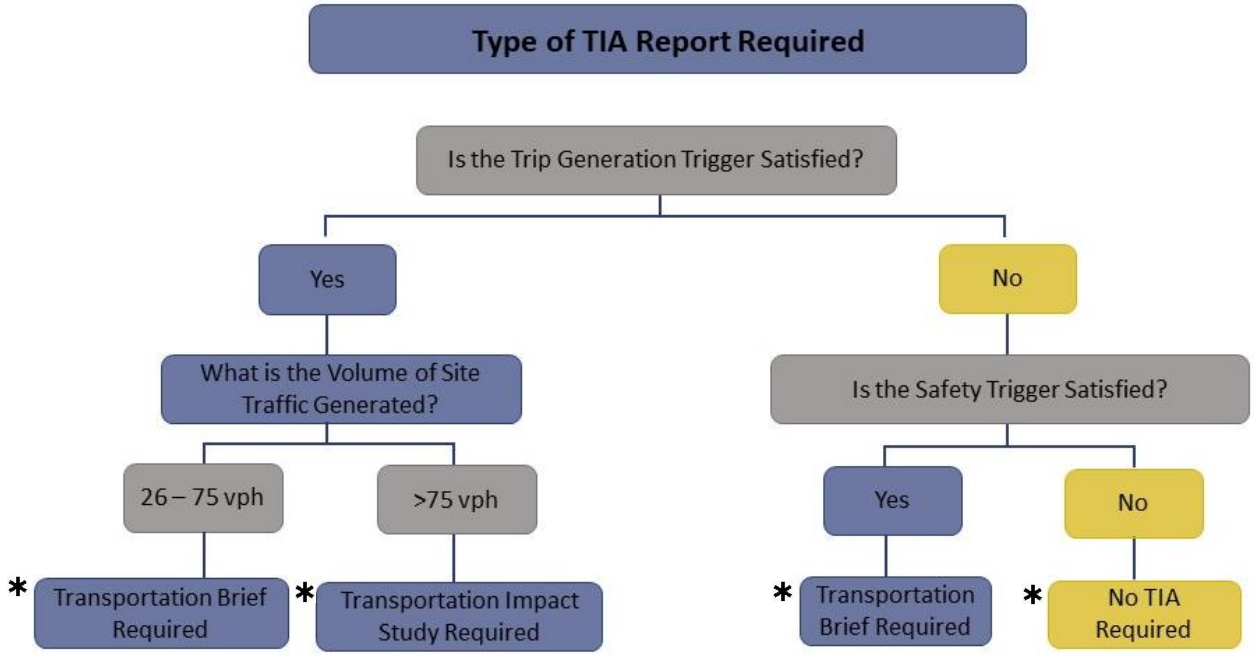
experience. TIAs should ensure equitable access to all modes of transportation including active transportation (cycling, walking), transit, automobiles, and trucks.

The City recognizes two types of TIAs. These include Transportation Impact Studies (TIS) and Transportation Briefs. Both TIAs focus on assessing impacts of a proposed development on the City's transportation network, providing recommendations for mitigation measures, and ensuring that the site design features align with City's policies and planning principles. Transportation Briefs are intended for proposed sites which are anticipated to have fewer transportation network impacts.

2.2 Type of TIA Required

The TIA Screening form provided in **Appendix A**, identifies triggers based on the volume of estimated site generated traffic in addition to various safety related considerations.
Figure 1 Figure 1 below assists in identifying the type of TIA report required based on the outcome of the screening form triggers.

Figure 1 – TIA Screening



*The City retains the right to request, at its discretion, any level of TIA.

2.3 Analysis Parameters and Methodologies

Prior to undertaking a TIA, there are a number of parameters which need to be defined such as the study area, traffic data, horizon years, analysis periods, trip generation and distribution estimates, and analysis performance metrics. The following sections describe these parameters.

2.3.1 Study Area

The study area includes the development property and boundary roads and includes all aspects of the transportation network such as roads, intersections, accesses, sidewalks, cycling and transit facilities, etc. The exact limits of the study area should be discussed with the City prior to commencing the TIA; however, at a minimum the study area must include intersections directly adjacent to the site, as well as any site accesses.

2.3.2 Traffic Data

The most recent available traffic data should either be obtained from the City or collected by a transportation specialist where existing count data is not available or more than three years old. Traffic data should include 8-hour Turning Movement Count (TMC) data, pedestrian volumes and cyclist volumes and vehicle count data should be aggregated by 3 classes at a minimum (cyclist, car, truck). The City also reserves the right to request new traffic counts for any reason, regardless of the submitted data's fit for purpose.

2.3.3 Analysis Periods

Impacts to the road network should generally be evaluated during typical morning (AM) and afternoon (PM) peak hours. Depending on the proposed development, weekend peak hour assessment may be required. Analysis periods for developments which generate high volumes of traffic that do not typically occur during the overall network peak hours (seasonal resorts, schools, event venues, etc.) should reflect the peak hour of development generated traffic as opposed to the peak hour of adjacent street traffic.

Table 1 - Analysis Periods based on Land Use Category

Land Use Category	AM Peak	PM Peak	Saturday Peak
Residential (e.g., single family, townhouse, condominium, apartments, senior homes)	X	X	
Employment (e.g., business park, industrial park, office, warehouse)	X	X	
Retail Commercial (e.g., shopping centre, restaurant, specialty store, supermarket)		X	X
Institutional (e.g., Seasonal resorts, school, hospital, church, banquet hall, entertainment centre, community centre)	Site Specific		

The outlined time periods shown in **Table 1** should be confirmed with City staff before commencement of the study.

2.3.4 Study Horizons

Study Horizons should include:

- Existing conditions (date TIA is being undertaken).
- The expected year of development build-out or full occupancy (if not the same as build-out).
- Five years post build-out or full occupancy.

Should a development proceed in phases, the TIA analysis must be completed for each development phase. Additionally, depending on complexity and scale of the development, the City reserves the right to request for a ten-year post build or a horizon year in line with the latest Transportation Master Plan.

2.3.5 Site Generated Traffic

The number of site trips entering and exiting the proposed development during applicable analysis periods will be estimated using one of the following methods:

- Trip generation surveys at proxy sites from similar developments in the City of Kawartha Lake's or comparable municipalities. The proxy sites and data collection methodology must be approved by the City staff.

- The latest edition of the ITE Trip Generation Manual.
- "First Principles" calculations of anticipated trips to/from the site. First Principles calculations involve breaking down problems into basic components to accurately estimate trips. In the context of anticipated trips to/from a site, it means analyzing the basic factors that drive trip generation—such as land use, demographics, and access to derive a more accurate estimate of vehicle trips. This method emphasizes questioning assumptions and clear framing. As a TIA reviewer, it suggests that well-supported findings, even if they diverge from standard guidelines, could or not be accepted.

Where appropriate, trip reductions may be justified to account for the following:

- Synergy/Internal Trips that are shared between two or more land uses on the same site.
- Pass-by Trips that enter the site as an intermediate stop on the way from their primary origin to their primary destination. Pass-by trips should account for turning movements at the access intersections. Pass-by trips are considered for applicable land uses.
- Travel Mode Share adjustment applicable to a proposed development that will reduce automobile travel to the site to account for non single occupancy vehicle travel to/from the site, such as transit, active transportation, and carpooling trips. As the majority of sites surveyed in the ITE Trip Generation Manual typically have a modal split included within their rates, in many cases, no modal split reduction should be applied. Transportation planning projections/goals are to be considered, however, they shall not replace good engineering judgment and actual modal split data (current or historic). It is also important to note that the City's transit system currently lacks ridership numbers sufficient to justify trip reductions for these modes. Additionally, the City's active transportation network is still developing, making it unlikely that such adjustments will be accepted. Furthermore, a Transportation Demand Model will be required, as outlined in the TMD section later in this guide, to support any proposed adjustments.
- Redundant Land Use trips which are generated by existing land use activity and reflected in current traffic volumes and will be replaced by the proposed

development. Unless otherwise accounted for, these trips will normally be subtracted from the trip generation estimates.

Sensitivity analysis may be required to support the analysis where trip generation parameters have the potential to vary considerably. Sensitivity analysis is a technique used to evaluate how changes in trip generation parameters such as, land use, traffic patterns, or modal splits can impact the overall trip generation estimates.

TIAs must include a table identifying the categories and quantities for each land use, along with the corresponding trip generation rates or equations and the resulting number of trips.

2.3.6 Trip Distribution

The trip distribution assumptions will be supported by one or more of the following methods:

- Origin-destination surveys.
- Comprehensive travel surveys.
- Planning models.
- Market studies.
- Other recognized trip distribution methodology.

All trip distribution assumptions must be documented and justified. Consideration should also be given to potential differences in trip distribution patterns associated with different time periods, days of the week, and development land-use types. Engineering judgement should be used to determine the most applicable of the above methodologies.

2.3.7 Trip Assignment

Trip assignments should consider logical routings, projected roadway capacities, road network restrictions, and travel time. Assumption for route assignments shall be supported by:

- Existing travel patterns.
- Anticipated future travel patterns.

2.3.8 Background Traffic Volumes

Traffic volumes should be projected to the applicable TIA horizon years in consideration of background area growth and future traffic from other approved developments within the vicinity of the site.

Background growth rates should be established in consultation with City staff through one of the following methods:

- Regression analysis of historical traffic data.
- Growth rate based on area transportation studies.

In the absence of these methods, and as established by the Transportation Master Plan a growth rate of 1.6% compounded annually should be used.

Should a reduction in future background traffic volumes be warranted to account for any modal split changes (increased active transportation modes), justification and rationale should be communicated to the City staff for review and approval.

2.3.9 Transportation Capacity Analysis

Operational evaluation of signalized and unsignalized intersections including proposed site accesses is required as part of any TIA. Analysis should be completed utilizing the most recent version of one of the following software packages:

- Synchro/SimTraffic for intersection analysis involving signalized or unsignalized intersections.
- ARCADY, Sidra, or Rodel, for intersection analysis involving roundabouts.
- Highway Capacity Manual (HCM) / Highway Capacity Software (HCS).

Analysis results should include the following performance metrics: Level of Service (LOS), Volume to Capacity (V/C), 95th percentile delays, and average delays. Results should be output from applicable software packages utilizing the most recent version of HCM when possible. The TIA appendix should detail all assumptions used in the analysis concerning lane configuration/use, pedestrian/cyclist activity, saturation flows, traffic signal cycle length, phasing and timing, utilization of the inter-green phase, and other relevant parameters. Existing signal timings must be used for existing intersections and signal timing

modifications may be considered as a measure to address capacity or level of service deficiencies. Full documentation for the outputs from the analysis software should be provided.

The identification and required modifications and improvements of signalized intersections should be included in the analysis where the addition of background growth plus site-generated traffic/transit volumes create the following:

- Volume/Capacity (V/C) ratios for overall intersection operations, through movements or shared through/turning movements increased to 0.85 or above.
- V/C ratios for exclusive movements increased to 0.95 or above or,
- Queues for an individual movement are projected to exceed available turning lane storage.

The identification and required modifications and improvements of unsignalized intersections should be included in the analysis where the addition of background growth plus site-generated traffic/transit volumes cause the following:

- Level of Service (LOS), which is based on average delay per vehicle, for individual turning movements at an intersection, exceeds LOS "D", or
- The estimated 95th queue length for an individual movement exceeds the available queue storage.

Adequate storage space should be ensured for all exclusive turning lanes used by site-generated traffic. All proposed new traffic signals shall be evaluated regarding signal warrants, distance from other intersections, effects on existing signal coordination, likely timing of implementation, and sightlines.

All proposed adjustments to the traffic signal timing, phasing, and cycle lengths must clearly be identified and clear of any changes made to the existing signal timing plan. Overall, a full signal timing plan should be provided as well as a summary of changes from the original signal timing plan. Any traffic signal operational deficiencies that have been identified in the TIS must be addressed and solutions provided that are feasible to implement. All warrants must be supported by an Ontario Traffic Manual (OTM) Book 12 traffic control signals warrant to determine when a traffic signal or provision for signals are warranted, each one required to be included in the appendix of the TIS.

2.3.10 Safety Analysis

Safety for all road users shall be taken into consideration as part of any TIA. The safety review should identify and address potential safety or operational issues arising from the following:

- Insufficient sight distance and sight triangle at access or intersections.
- Vehicle-pedestrian or vehicle-cyclist conflicts.
- Access conflicts.
- Heavy truck movement conflicts.
- Collision history.
- Weaving and merging.
- Emergency vehicle response.
- Transit operational conflicts.
- Internal circulation, if applicable.
- Cut-through traffic.
- Critical gap acceptance at unsignalized intersections.

The safety review must include all modes of transportation that might access or travel through, or are in the proximity of, the proposed development.

A detailed review of the roadway geometry related to MTO/TAC guidelines for:

- Sight distances (stopping distance, intersection sight triangles, departure sight distance, decision sight distance) utilizing MTO guidelines for approach and departure sight distances for all existing roadways to be impacted directly by the development, accesses, entrances, new roadways, etc.
- Roadway curves (vertical and horizontal) standards.
- Roadway cross-sections & lane widths.
- Clear zone.

- Conflicting vehicle movements within and adjacent to the developments.

2.3.11 Site Access and Circulation

All site access points on the local municipal and City roads should be evaluated in terms of capacity, safety (for all road users), vehicular and sight distance, location, corner clearance, alignment, clear throat distance, and adequacy of queue storage capacity, based on the TAC Geometric Design Guide for Canadian Roads or other City-approved document. The proposed access points should be evaluated with respect to existing access points and intersections on street weaving problems, need for acceleration or deceleration lanes and pedestrian and cycling safety.

Where identified by the City, the applicant will complete vehicle swept path analysis using accepted software (AutoTURN or Autodesk Vehicle Tracking). Analysis should be completed utilizing the proper design vehicles (buses, fire trucks, garbage trucks, etc.) as appropriate that will access the site. Analysis must demonstrate that design vehicles can adequately access and circulate through the site according to their intended purpose. For the purposes of this guideline, the minimum design vehicle size to represent general traffic will be a full-size pickup truck. Site circulation should demonstrate satisfactory maneuverability, to avoid any possible queuing onto public right-of-way, especially as related to drive-through operations.

Site assessment should ensure proper integration between pedestrian walkways, cycling paths and transit routes and vehicular access to development, identifying conflicts between the parking areas and potential pedestrian desire lines.

2.3.12 Parking Assessment

Applicants must demonstrate the proposed parking facilities meet all City by-law requirements.

Should the proposed supply not satisfy by-law requirements, justification of the proposed parking supply must be provided. The applicant must complete a first principles assessment, which can be completed using the ITE Parking Generation Manual (Latest Edition), proxy site survey data from similar land use, propriety data from applicant or other suitable source. In this context, a first principles assessment involves analyzing the proposed parking supply by breaking down the fundamental factors that influence parking demand, rather than relying solely on standard ratios or assumptions. This assessment must justify the

proposed parking supply by utilizing detailed data and methodologies, such as those outlined in the latest edition of the ITE Parking Generation Manual. When considering multiple land uses, applicants should consider time-of-day demand and illustrate that the overall, peak parking demand does not exceed the proposed parking supply.

3.0 Transportation Impact Study

3.1 Introduction

A Transportation Impact Study (TIS) is intended to determine the impacts of the site generated trips on the transportation network, recommending mitigation measures as required, and assessing the suitability of the site design features in relation to the planning principles and goals of the City. A TIS is required as determined in **Section 2.2**

The TIS should generally follow the structure outlined in the following sections.

3.1.1 Project and Site Context

This section will include information regarding the project, the location of the site, adjacent land uses, and adjacent transportation infrastructure, and should include the following:

- Description and illustration of the proposed study area including the site location and surrounding land uses.
- Description of the proposed development. This should include all relevant information pertaining to the development including but not limited to:
    - A drawing and a written description of the type of land uses proposed and a detailed site plan showing structures, parking, access, and site circulation for all modes of transportation.
    - The characteristics of the proposed development, such as property size (area), number of residential units, industrial gross floor area, number of employees, number of hotel rooms, commercial gross leasable floor area, parking spaces, active transportation facilities, transit stops, etc.
    - The anticipated phasing scheme of the development and the expected dates of full and partial build-out.

- Description and illustration of the existing transportation network, including but not limited to:
    - Study area roadway jurisdictions, classifications, posted speed limits, adjacent land uses, and entrances (abutting and across the street), etc.
    - Intersection traffic control types and lane configuration.
    - All active transportation facilities including sidewalks, cycling facilities (on road or off road), nearby trails, pedestrian crossings, etc.
    - All nearby transit routes and transit stops within walking distance of the site (400 m).

3.1.2 Existing Transportation Conditions

This section will include information on available traffic data, traffic volumes, and the existing study area traffic operations. This section should include but not be limited to the following:

- Figure illustrating the existing study area traffic volumes including heavy vehicle percentages and pedestrian volumes.
- Capacity analysis summary as outlined in **Section 2.3.9**
- Identification of safety issues through assessment of the most recent 5-year collision data (if available) and consultation with the City.
- Key field observations (desktop review or on site).

3.1.3 Future Background Conditions

This section outlines the anticipated future study area conditions including but not limited to the following:

- Identify all developments under construction or in the approval process within the vicinity of the site. Respective development land uses, location, and site-generated traffic should be identified.
- Identify all anticipated roadway improvements or modifications and the planned completion dates.

- Figure illustrating the future background traffic volumes for study horizons outlined in **Section 2.3.4**. Background Traffic volumes should be developed according to **Section 2.3.8**
- Capacity analysis summary of future background traffic as outlined in **Section 2.3.9**

3.1.4 Site Travel Demand

This section includes description of methodology for estimating site generated trips, distribution and assignment to the transportation network. This section should include but not be limited to the following:

- Trip generation estimates and methodology for study periods, outlined in **Section 2.3.3**
- Description of trip distribution assumptions and methodology, as outlined in **Section 2.3.6** and **Section 2.3.7.**
- Figures illustrating the site generated trips. Additional figures should be included to illustrate any pass-by trips.
- Figures illustrating the future total traffic (future background traffic + site generated traffic).

3.1.5 Impact Analysis

This section should provide a summary of the anticipated impacts of the proposed development on the transportation network and should include but not be limited to the following:

- Capacity analysis of future total traffic as outlined in **Section 2.3.9.**
- Identification of potential operation issues (capacity deficiencies, queues, weaving conflicts, signal timings, etc.).
- Warrant assessments including auxiliary lane warrants (left, right or taper), left turn lane warrants (MTO Supplement to the TAC Geometric Design Guide for Canadian Roads), traffic signal warrants (OTM Book 12), Pedestrian Crossing Treatments (OTM Book 18), etc.

3.1.6 Safety Assessment

The safety review should identify and address potential safety or operational issues. Outlined in **Section 2.3.10**, the safety assessment should include but not be limited to the following:

- Identify any sight distance deficiencies.
- Identify any roadway design element issues relating to cross-section elements, conflicts between pedestrians, cyclists, or motorists.
- Collision or speeding related concerns. If available 85th percentile speeds should be reviewed and compared to posted speed limits
- Safety issues arising from operation deficiencies such as inadequate gaps at stop-controlled intersections or conflicts with nearby accesses.

3.1.7 Site Plan, Access, and Parking

This section should evaluate the on-site components of the proposed development to ensure they adequately align with the City's by-laws, planning principles, and goals. This section should include but not be limited to the following assessments:

- Identification of all site accesses, location, and type (full move, right-in / right-out, etc.).
- Identification of any potential on-site pedestrian/vehicle conflicts and identification of any on-site pedestrian facilities.
- Site Access and Circulation review for all design vehicles (emergency vehicles, delivery trucks, site specific vehicles, etc.) as outlined in **Section 2.3.11**
- Identification of on-site parking supply and facilities including accessible parking rates and location, bicycle parking supply, parking space dimensions and drive aisle widths, etc.
- Evaluation of on-site parking supply, demonstrating proposed parking facilities meets the City requirements. Should proposed parking supply not meet City by-law requirements, first an assessment should be completed utilizing ITE Parking Generation Manual considering development land use/uses and time-of day demand.

3.1.8 Transportation Demand Management

If Transportation Demand Management (TDM) reductions are being applied to trip generation, a TDM plan should be prepared that identifies existing and future (proposed) sustainable forms of transportation, routes, and infrastructure within the study area.

The plan should describe and evaluate the potential impacts and changes to pedestrian, cycling, and transit modal split associated with the development/redevelopment. **Appendix B** provides a TDM checklist of the various TDM measures that can be included as part of the TIS.

3.1.9 Conclusion and Recommendations

The key findings and recommendations should be provided in this section. It should serve as a quick reference for the future to determine specific conditions which will be attached to a particular development.

The impacts of the proposed development on the adjacent roadway network and any transit and active transportation infrastructure should be provided including the mitigation measures to support the future traffic demands. Moreover, an implementation strategy outlining the timings of all identified operational and roadway improvements should also be included.

3.1.10 Appendices

All relevant reference documents for the report should be provided in the appendices. These should include all supporting information which was used in completing the report, analysis, and assumptions.

4.0 Transportation Brief

A Transportation Brief is undertaken for developments anticipated to have fewer impacts on the transportation network and can generally be considered as a TIS with a reduced scope. Its main focus is to determine existing network deficiencies and establish site design features needed to support the transportation systems objectives.

The reporting of a Transportation Brief should follow those outlined in **Section 3.0,** with the following changes and omissions:

- Section 3.1.3 (Future Background Conditions) is omitted.
- Section 3.1.4 (Site Travel Demand) is omitted, however, trip generation estimates must still be provided.
- Section 3.1.5 (Impact Analysis) – This section should include a qualitative assessment of the development's impact on the study area.

Appendix A - Screening Form

26 Francis Street
Lindsay, Ontario
K9V 5R8

City of Kawartha Lakes TIA Guidelines Screening Form

1. Description of Proposed Development

Municipal Address	
Description of Location	
Land Use Classification	
Development Size (units)	
Development Size (m^2)	
Number of Accesses and Locations	
Phase of Development	
Buildout Year	

***Please attach a sketch of the development or Site Plan to this form, if available.**

2. Trip Generation Trigger

Considering the proposed Development's Land Use type and Size, the total volume of development trips must be estimated in accordance with the current edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual.

Total Trips*	0-25 vph**	26– 75 vph**	>75 vph**
What is the Volume of Site Generated Traffic?			

* Total Trips – Highest of the AM and the PM peak hour of adjacent street traffic
**vph – vehicles per hour *(The total trips are calculated as the higher volume of traffic observed during either the AM peak hour or the PM peak hour on adjacent streets).*

If the proposed site is anticipated to generate 26 vph or more, the Trip generation Trigger is satisfied.

3. Safety Triggers

	Yes	No
Are posted speed limits on a boundary street 80 km/h or greater?		
Are there any horizontal/vertical curvatures on a boundary street that limit sight lines at a proposed driveway?		
Is the site access located within 200m of a signalized intersection?		
Is the proposed access within auxiliary lanes of an intersection?		
Does the proposed driveway make use of an existing median break that serves an existing site?		
Is there a documented history of traffic operations or safety concerns on the boundary streets within the 500 m of the development? *(This will be assessed by reviewing existing traffic operation records, safety reports, and historical data related to traffic incidents within 500 meters of a development. This information can be obtained from local traffic authorities, accident databases, and previous completed traffic studies).*		
Does the development include a drive-thru facility?		
Is there a high percentage of truck traffic on the boundary streets surrounding the development?		

If any of the above questions were answered with a 'Yes,' then the Safety Trigger is satisfied.

4. Type of TIA Report Required

If either the Trip Generation or Safety Triggers are satisfied then a TIA is required. Also, The City retains the right to request, at its discretion, any level of TIA.

As identified in the City of Kawartha Lakes TIA guidelines, two types of TIA reports are identified: Transportation Briefs and Traffic Impact Studies. If the proposed site is anticipated to generate more than 75 vph, a Traffic Impact Study is required. A Transportation Brief is required at 25-75 vph or if only the safety trigger is satisfied.

Appendix B - TDM Measures Checklist

TDM Measures Checklist: Residential (Muti-Family, Condominium or Subdivision) and Non Residential Developments (Office, Institutional, Retail, or Industrial)

Legend

Basic	The measures are feasible and effective, and in most cases would benefit the development and its users;
Better	The measures could maximize support for users of sustainable modes, and optimize development performance;
★	The measure is one of the most dependably effective tools to encourage the use of sustainable modes

TDM Measures: Residential & Non-Residential Developments	Check if proposed & add description
1. TDM Program Management	
1.1 Designate a program coordinator	☐
1.2 Conduct periodic travel surveys to identify travel-related behaviours, attitude, challenges and solutions, and to track progress	☐
2. Walking and Cycling	
2.1 Display local area maps with walking/cycling access routes and key destinations at major entrances	☐
2.2 Offer secure valet bike parking during public events when demand exceeds fixed supply (e.g., festivals, concerts, games)	☐
3. Transit	
3.1 Display relevant transit schedules and route maps at entrances	☐
3.2 Provide real-time arrival information display at entrances	☐
3.3 Provide shuttle service for senior homes or lifestyle communities (e.g. schedules mall or supermarket runs)	☐
4. TDM Marketing and Communications	
★ 4.1 Provide a multi-modal travel option information package to new/relocating employees and students	☐
★ 4.2 Include multi-modal travel information in invitations or advertising that attract visitors or customers (e.g., festivals, concerts, games)	☐