

# Development Application Guideline

## Terms of Reference – Traffic Impact Study

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### Description

A Traffic Impact Study (TIS) is a document that will aid the City in assessing the potential impacts of a proposed development on the existing and future transportation system. The completion of a Traffic Impact Study ensures that the transportation system, including the road network, will continue to operate efficiently upon completion of the proposed development. This Terms of Reference document is intended to be applied in conjunction with all other applicable guidelines, such as the City of Kingston's Site Plan Control Guideline and the City of Kingston's Subdivision Development Guideline and Technical Standards.

### Rationale

The Traffic Impact Study will provide the City with a comprehensive analysis of the implications of the proposed development on transportation both at the local and regional scale. The study will provide a basis through which the suitability of the type and scale of the proposed development can be evaluated along with the identification of what improvements and mitigating strategies may be necessary either on or off site as well as for future demand in order to provide for a safe and efficient traffic flow. Furthermore, the requirement of the study supports the intent of Official Plan policies as well as the directives of the Kingston Transportation Master Plan.

### When Required

The City of Kingston may require the completion of a Traffic Impact Study for any development regardless of size and land use. All proposed developments are considered on an individual basis in order to assess the need for a Traffic Impact Study. A Traffic Impact Study will be required for any proposed development that is expected to generate a total of 100 new vehicle trips or more (inbound and outbound), during the morning or afternoon peak period. A Traffic Impact Study may also be required when there are issues related to site access or serious safety-related concerns. If a TIS is not needed for a particular development, the City may still require the developer to be responsible for any off-site modifications deemed necessary.

### Applicable Legislation

The Planning Act gives Council the authority to request other information or material that it deems necessary in order to evaluate and make a decision on a proposed planning application.

Section 9.12.3 of the City's Official Plan contains a list of additional information (such as a Traffic Impact Study) which may be required upon request.

## **Qualified Persons**

The Traffic Impact Study must be signed and sealed by a licensed professional engineer.

## **Required Contents**

### **1. Project Introduction & Site Description**

- 1.1. Outline the scope of work of the Traffic Impact Study, which should include specific traffic scenarios to be analyzed, the study time periods (e.g. peak hours), relevant intersections, etc.
- 1.2. Provide a description, maps, and concept plans of the study area that includes:
  - 1.2.1. All nearby municipal, regional, and provincial roadways that will experience a noticeable impact from the traffic generated by the proposed development.
  - 1.2.2. Intersections and access points for adjacent developments, neighborhoods, and nearby amenities.
  - 1.2.3. Neighboring land uses and any anticipated adjacent developments.
  - 1.2.4. The transportation network in the area including intersections, proposed roadway improvements, transit routes, transit stops, bicycle and pedestrian facilities, on street parking, prohibited parking or stopping restrictions, heavy vehicle restrictions, and any other relevant transportation features.

### **2. Proposed Development**

- 2.1. Provide a comprehensive description of the proposal that should include:
  - A site plan or plan of subdivision if applicable.
  - Proposed land uses.
  - Building location, size, and floor space.
  - Operation times and date of occupancy.
  - Other relevant information.

### **3. Traffic Volume Analysis**

- 3.1. Compile existing hourly background traffic volumes for the study area based on the weekday AM and PM peak periods. If the proposed development is anticipated to generate high volumes of traffic on weekends, a peak weekend hour should also be included in the scope of the study.
  - 3.1.1. This information can be obtained in consultation with the City, through analysis of historical traffic growth, through previous land use or

transportation planning studies, or through other approved traffic forecasting methods.

- 3.2. Provide an estimate of future site generated traffic for the selected study time periods as well as the net auto, transit, cycling, and pedestrian trips for the proposed development and study area. The estimate of the site generated traffic should be done using the latest ITE Trip Generation Manual.
  - 3.2.1. The Traffic Impact Study should identify the impacts of the proposed development over a 5 year period after completion.
- 3.3. Estimate traffic volumes by mode for any nearby anticipated development sites.
- 3.4. Determine intersection and movement level of service (LOS) and volume to capacity ratios (V/C) at signalized intersections under existing, future background and future total traffic for the 5 year horizon period.
  - 3.4.1. Indicate any expected delay at intersections for transit service where this service exists.
- 3.5. Identify any operational and geometric modifications required to maintain the system at Level of Service 'E'. A V/C of 1.0 should not be exceeded for any vehicle movement if at all possible.
  - 3.5.1. Identify any operational and geometric modifications required to mitigate new delays for active transportation modes and transit.
- 3.6. Identify any potential safety implications which may include implications for pedestrians and active transportation movements.
  - 3.6.1. Where new access points or intersections are proposed, proper sight line requirements should be considered to ensure safe conditions.

#### **4. Conclusion & Recommendations**

- 4.1. Provide a conclusion and summary of the proposed development's transportation impacts.
- 4.2. Identify any recommendations for improvements to the site and surrounding area that would mitigate transportation impacts.

#### Additional Considerations for Completing the Study:

- Public safety
- Upgrades to existing traffic signals for pedestrians such as pedestrian fixtures and crosswalk markings.
- Parking for both vehicles and bicycles
- On-site traffic circulation must demonstrate that internal vehicles queues would not extend onto to adjacent public roads and that all truck maneuvering can be accommodated.
- Access locations must be checked for sightlines, the need for dedicated left-turn and right-turn lanes and conflicts with other driveway locations and transit stops.

- Left-turn storage lanes must have adequate length to accommodate 1.5 times the average number of arrivals per cycle during the peak hour.
- Right-turn storage lanes should be long enough to permit right-turning traffic to by-pass the maximum queue of through vehicles in the queue during the red indication.
- The introduction of right-turn channelization will not be supported unless deemed necessary by the City.
- Vehicle storage between intersections must be adequate to accommodate 1.5 times the average number of vehicles arriving on each red indication during the heaviest hour.

**Tip:**

- Numerical data should be tabulated.
- **A functional sketch (scale 1:250) should be included indicating the proposed road** system along with any off-site improvement cost estimates.
- Intersection capacity analysis must be completed with Synchro and use of Synchro or SimTraffic is preferred for all capacity analysis calculations and simulations.
- Design standards should align with those set out by the Transportation Association of Canada unless otherwise approved by the City due to exceptional design constraints.

## Submission Requirements

All development applications and accompanying studies and reports should be submitted through the City of Kingston's **DASH Development and Services Hub** which can be accessed online at: [City of Kingston DASH](#)

## Additional Information

For additional information, please contact the City of Kingston Planning, Building and Licensing Services Department at:

1211 John Counter Boulevard, Kingston  
 613-546-4291 ext. 3180  
[planning@cityofkingston.ca](mailto:planning@cityofkingston.ca)

If the proposal falls within the Ministry of Transportation Ontario (MTO) permit control area, the Traffic Impact Study will also need to be reviewed by MTO. See Ministry of Transportation Guidelines for the Preparation of Traffic Impact Studies: [Ministry of Transportation](#)