

APPENDIX D

TRAFFIC IMPACT STUDY POLICY

1.0 TRAFFIC IMPACT STUDY POLICY FOR THE CITY OF BRANDON

A review of guidelines for the preparation of Traffic Impact Studies (TIS) was conducted from a variety of municipalities including MIT, Saskatoon, Ministry of Transportation for Ontario, Toronto, Ottawa, Halton, Halifax, St. Clair, and Hamilton. This section provides a general overview of typical components for TIS guidelines.

1.1 Warrants

The need to conduct a traffic impact study most often results when a proposed development is expected to generate over 100 additional peak hour, peak direction trips to or from the site during the roadway or development's peak hour. The objective of a traffic impact study is to assess the impacts of a new or changed development on the existing and proposed transportation system. It should also suggest transportation system improvements to mitigate any negative affects or increased travel demand caused by the development.

A traffic impact study may also be required when less than 100 peak hour trips are generated if the development:

- Is located in an area of rapid population growth or in an area of existing high traffic congestion.
- Generates traffic that would result in a volume/capacity ratio greater than 0.85 for the overall or shared/turning movement at a signalized intersection.
- Generates traffic that would result in a volume/capacity ratio greater than 1.0 for exclusive turning movements at a signalized intersection
- Has direct vehicular access to a major collector or arterial street.
- Is not identified in the local development plan.
- Requires the implementation of a traffic signal.
- Has the potential to cause adverse safety impacts on the road network.
- Have inadequate horizontal and vertical curves at the access points.
- Lacks left or right turn lanes at access points.

Traffic impact studies are most often required during a Zoning By-law Amendment application or a Plan of Subdivision application and have a shelf life of five years provided the study area has developed as planned.

1.2 Components of a Traffic Impact Study

Typically a traffic impact study should include the following:

- **Introduction:** This section should include a description of the type of development, name of the developer, current and proposed land use designation, total building size, total usable square footage, site plan, number of parking spaces, proposed hours of operations, expected date of occupancy, planned phasing of development, proposed access locations and the location of existing and proposed transit facilities.
- **Study Area:** The study area should include all locations where traffic on the network is expected to grow by at least five percent. The study area should include a description of adjacent roads including lane configurations, turning restrictions, vehicle type restrictions, location of transit routes, on-street parking, bicycle routes, location of pedestrian crosswalks, and any improvements that are being considered in a five-year horizon period.
- **Background Traffic:** Existing traffic volumes and turning movements should be obtained from traffic counts less than two years old. Signal timing at signalized intersections, pedestrian traffic volumes and transit ridership information should also be collected. Growth factors should be determined using a forecast model that incorporates all developments being proposed within the study's horizon years and includes an appropriate mode split between transit, vehicular and alternative uses.
- **Travel Demand:** Forecasts of travel demand generated by the proposed development should be completed using appropriate rates found in the ITE Trip Generation Manual or manual calculations based on anticipated trips. This section should include:
 - Trip generation – pass-by, new and internal trips.
 - Trip distribution – based on the size and type of development and existing land uses and traffic patterns.
 - Trip assignment – considering roadway capacities and travel times.
- **Traffic Analysis:** This section should review intersection and transit level of service, site access, safety issues, roadway and intersection geometry, suitability of parking/loading facilities, sightlines, on-site circulation, and bicycle/pedestrian access routes.
- **Recommendations:** This section should include transportation system mitigation measures and recommendations that address right of way needs, funding, cost effectiveness and construction sequencing. Most jurisdictions surveyed required a qualified transportation engineer experienced in transportation planning and traffic engineering to oversee a traffic impact study. The municipality should have a list of

qualified consultants and have it made available on request. All traffic impact studies should be submitted under engineer's seal and signed and dated accordingly.

1.3 Definition of a Traffic Impact Study

Traffic impact refers to the effect a certain type or magnitude of development will have on the surrounding transportation system. A Traffic Impact Study (TIS) provides a way of assessing the adequacy of the existing or future transportation system to accommodate additional traffic generated by a proposed development, redevelopment or land rezoning. It is also to assist in determining what improvements may be required to the roadway system to maintain a satisfactory level of service.

1.4 Requirements for a Traffic Impact Study

A traffic impact study will be required to support a development or redevelopment proposal under the following situations:

- When a proposed development is expected to generate 100 or more vehicle trips, in total (inbound and outbound) during the morning or afternoon street/avenue peak hour
- When a specified large amount of land use is being rezoned and expected to have a transportation system or community impact
- When a proposed development will occur in a sensitive area (environmentally, or in areas where traffic concerns currently exist or are anticipated)
- At the discretion of the City Engineer, Engineering Department

The proponent should contact the Engineering Department early in the planning process to apprise the Department of the proposed plans and obtain a determination on whether a TIS will be required and the specific parameters.

1.5 Purpose of a Traffic Impact Study

A Traffic Impact Study will indicate the effects of a proposed development on an existing or future roadway system. It is also the intent of the TIS to recommend necessary geometric or operational improvements to the roadways in order to satisfactorily accommodate additional traffic at a reasonable level of service, in line with the City's level of service guidelines.

A traffic impact analysis shall constitute an essential part of the development review process. Specifically, a TIS will address the following:

- Identify the additional traffic contribution of a particular site development to existing roadway system traffic loads
- Provide a credible basis for estimating roadway improvements attributed to a proposed development to maintain a satisfactory level of service (LOS)
- Ensure that the proposed plan, and the associated traffic, is compatible with the existing and future transportation policy of the City of Brandon

1.6 Contents of a Traffic Impact Study

A Traffic Impact Study shall be prepared under the supervision of a qualified and experienced transportation engineer, licensed in the Province of Manitoba. The exact parameters for a TIS required for a specific proposal will follow the guidelines identified in Appendix D, and any specific features as set out by the Engineering Department.

1.7 Proponent's Role

It is the responsibility of the proponent (developer/owner or the owner's designated agent) to have a TIS prepared by a qualified and experienced transportation engineer licensed in the Province of Manitoba. Following completion of the report the TIS shall be submitted to the Engineering Department in conjunction with the development application.

Three copies of the final report, sealed by a Professional Engineer registered in the Province of Manitoba, as well as a PDF digital copy shall be submitted.

1.8 City's Role

The City's role will be to:

- Provide a generic guideline for conducting the study (Appendix D.1)
- Supply readily available data and relevant reports
- Review the submitted report thoroughly and objectively
- Approve or reject the TIS in a timely fashion
- Circulate (if necessary) the TIS to other City Departments, Utility Organizations, or external agencies

1.9 Costs

All costs associated with the preparation of a TIS shall be borne by the applicant.