

## TRANSPORTATION STUDY FORMAT & REQUIRED ELEMENTS

The following outline is a guide in preparing the Transportation Study for the proposed Ethanol Plant in Oshawa. However, additional sections may be warranted or needed.

- Submit a proposed work program for City staff review and approval.
- Include in the work program or submit a separate *Letter of Assumptions* for Regional and City staff review and approval.
  - This process will confirm the analysis assumptions with respect to forecasting future background traffic, planned road improvements, peak hours of operation and the generation/distribution of estimated site traffic with Regional and City of Oshawa staff.
  - City staff will assist in providing available information.
- The Transportation Study should address the inflow and outflow of all materials as well as employee traffic to/from the subject development. Therefore, at a minimum, address traffic operations in the Study Area road network, access and circulation of site generated traffic with consideration for all modes of transportation, impacts of potential traffic infiltration through local neighbourhoods, impacts of proposed rail operations on existing travel corridors (e.g. Wentworth Street East, Harbour Road), and the ability of the City harbour to accommodate additional shipping traffic associated with the subject development.
- A brief outline for the Study is suggested below:
  - Background
  - Objective
  - Description of proposed development;
    - Type of development including any phasing and the timing for each phase;
    - Size of development;
    - Location map, including major streets and study intersections;
    - Site plan including proposed driveways, streets, parking facilities, and internal circulation for vehicles, bicyclists, and pedestrians; and
    - Reference to other Transportation and Planning studies (if available).
  - Setting
    - Describe existing and proposed roadway, driveway, and rail spur system within the project site and surrounding area (provide map);

- Describe location and routes of nearest public transit system serving the project (provide map);
  - Describe location and routes of existing and proposed bicycle and pedestrian facilities serving the surrounding area (provide map); and
  - Describe existing traffic control devices.
- Summary of Existing Conditions (If appropriate, previously approved developments should be included in the existing conditions)
    - Map of study area with ADT of major streets;
    - Map of study area with weekday and weekend (if applicable) peak hour turning movements;
    - Table of existing AM, PM, and weekend (if applicable) peak hour levels of service;
    - Queue Lengths (95th Percentile); and
    - Assessment of the following intersections:
      - Simcoe Street South / Harbour Road (Regional)
      - Simcoe Street South / Wentworth Street East (Regional)
      - Simcoe Street South / Bloor Street East (Regional)
      - Farewell Street / Harbour Road (Regional)
      - Farewell Street / Wentworth Street East (Regional)
      - Farewell Street / Bloor Street East (Regional)
      - Wilson Street South / Bloor Street East (Regional)
      - Wilson Street South / Wentworth Street East (Regional)
    - Safety related deficiencies.
- Summary of Future Background Traffic Conditions (For phased development, future non-site forecasts will also be included in this section)
    - Assumed annual traffic growth rates;
    - Assumed planned road improvements by the Region and the City;
    - Background developments including, but not limited to:
      - Lands located on the northeast corner of Harbour Road and Farewell Street;
      - Additional development(s) at the northwest corner of Farewell Street and Harbour Road;
      - Future development on the east wharf, south of Harbour Road;
      - Expanded use of the port area, should the rail spur be constructed;
      - Planned residential and commercial developments for lands along Harbour Road, east of Simcoe Street South; and

- Reopened marina.
  - Table of trip generation for the project. The consultant should obtain trip generation data from existing facilities that are similar in size and operation to verify study assumptions for trip generation and possibly trip distribution for all anticipated modes of transportation (e.g. vehicles, rail, and ship);
  - Figure showing trip distribution and assignment for all proposed scenarios (e.g. one site access / two or more site accesses);
  - Map of study area with weekday and weekend (if applicable) peak hour turning movements for all proposed scenarios;
  - Table of AM, PM, and weekend (if applicable) peak hour level of service for the identified intersections under all proposed scenarios; and
  - Queue Lengths (95th Percentile)
- Summary of Total Traffic Conditions – All phasing scenarios (if applicable)
    - Map of study area with weekday and weekend (if applicable) peak hour turning movements for all proposed scenarios;
    - Table of AM, PM, and weekend (if applicable) peak hour level of service for the identified intersections under all proposed scenarios;
    - Queue Lengths (95th Percentile);
    - Signal warrants (e.g. Harbour Road at Farewell Street);
    - The impact of truck traffic on the road network bounded by and including Simcoe Street South, Harbour Road, Farewell Street and Bloor Street East will have to be analyzed along with access points to Highway 401.
    - Assessment of traffic impacts resulting from the proposed rail spur operations (associated with the subject development) at potential at-grade crossings with Wentworth Street East and Harbour Road. This evaluation should identify impacts in terms of delay, queuing and level of service along the affected corridors; and
    - Discussion on the frequency of expected ship arrivals and the ability of the City Harbour to accommodate this new traffic generated by the proposed development.
  - Parking and Loading Analysis
    - Identify future parking and loading requirements (as per zoning and any other relevant City by-laws); and
    - Provide commentary on the proposed parking supply and loading areas and related compliance with the zoning and any other relevant City by-laws.

- Site Access and Circulation Analysis
  - Comment on the appropriateness of site access (e.g. whether an easterly extension of Harbour Road is required) and circulation; and
  - Explain how raw materials and finished products and by-products are to be transported both on-site and within the Study Area.
  
- Traffic Infiltration Analysis
  - Identify and assess the impact of potential traffic infiltration by trips associated with the subject development via Harbour Road and Simcoe Street South;
  - Identify suitable traffic management strategies to control infiltration in the neighbouring community to reduce, insofar as practicable, the infiltration and use of Harbour Street and Simcoe Street South (e.g. road closures, realignments and traffic calming measures); and
  - Quantify impacts of proposed counter-measures on local traffic flow patterns and traffic operations.
  
- Pedestrian and Cycling Connections
  - The Waterfront Trail uses the unopened and opened portion of Harbour Road. On-street cycling treatment is expected to be established along portions of Harbour Road west of Farewell Street in the near future. Therefore, consideration has to be given to this activity as part of any design improvements to Harbour Road. For instance, the pedestrian and bicycle components of the Lake Ontario Waterfront Trail will need to be barrier-free and contained within the road allowance of any road improvements involving a Harbour Road Extension and/or adjacent to any extension of a driveway along the unopened Harbour Road allowance.
  - Similarly design for any rail crossings at Harbour Road and Wentworth Street East will require the appropriate on-road treatment for cyclists and pedestrians.
  - In addition, it is expected that options for an on-site pedestrian friendly public access system linking the Lake Ontario Waterfront Trail with the heritage commemorative site at Gifford Hill will be assessed and a recommended route will be identified. The pedestrian system will need to be included within the road rights-of-way per the Urban Design Plan and Guidelines for Gifford Farm presented as part of the May, 1997, decision of the Ontario Municipal Board (File No. O 960129) concerning City Official Plan Amendment No. 42.

- It should also be noted that the draft Regional Cycling Plan Study identifies cycling facilities (e.g. bike lanes) along Bloor Street East, Simcoe Street South, Ritson Road South, Farewell Street and Wentworth Street East. Therefore, operational analyses and any required mitigation measures along these corridors should consider and address the planned cycling facilities in consultation with City and Regional staff.
- **Conclusions & Recommendations**
  - Discuss results including identification and analysis of mitigation measures with minimal impact on the mixed-use harbour (e.g. potential road improvements including conceptual diagrams, and operational improvements, such as traffic signals at Harbour Road and Farewell Street, to support access and egress);
  - Identify financing of mitigation measures and project's pro rata costs; and
  - Identify scheduling of mitigation measures.
- Appendices should include all data relating to the project. This could include but not be limited to traffic counts, signal warrants, traffic operations modeling, and all other analyses.

