

## 734-051-0180

### Transportation Impact Study

(1) When a Transportation Impact Study (TIS) is required. The requirement by the Department of Transportation for a TIS will be identified and the scope of the TIS will be determined by the Region Manager at the application meeting as set forth in OAR 734-051-0140(3). A TIS may be required by local government under conditions different than those required by the Department. The Department's requirements and scope for a TIS should not be interpreted as satisfying the local government requirements and scope for a TIS. A TIS shall be required by the Department for:

- (a) Any proposed development that is expected to generate vehicle trips that equal or exceed 600 daily trips or 100 hourly trips;
- (b) Any proposed zone change or comprehensive plan change; or
- (c) Any proposed development or land use action where the on-site review as set forth in OAR 734-051-0100(6) indicates that operational concerns or safety concerns, as set forth in OAR 734-051-0080(3), require a TIS.

(2) Requirements for a TIS. A TIS shall be prepared by an Oregon Registered Professional Engineer with expertise in traffic, in accordance with Department approved methods and input parameters, and of sufficient scope and detail to allow the Department to evaluate the impact of the proposal and the need for roadway capacity, operational, and safety improvements resulting from the proposed approach. The source of all data and the application of such data in the analysis shall be identified by the applicant.

(3) Analysis Area. This section identifies the maximum analysis area. This area may be reduced as necessary during the application meeting as set forth in OAR 734-051-0140(3). Unless otherwise determined by the Region Manager at the application meeting, the analysis area shall include:

- (a) Both sides of the highway along the entire frontage of the property(ies) involved;
- (b) All state highways and major city or county streets which directly serve the proposed development or land use change, as well as any interchange ramps in the area, as defined in OAR 734-051-0200;
- (c) All proposed approaches;
- (d) Any public approach or private approach intersection where the proposed development can be expected to add 300 vehicle trips in a single day or more than 50 additional vehicle trips in any single hour, or an approach to the intersection; and
- (e) Any road segment or intersection where the additional traffic created by the proposed development is greater than 10 percent of the current traffic volume for road segments or the current entering volume for intersections.

(4) Future Year Analysis. The TIS submitted shall address Year of Opening conditions and may require a future year analysis depending upon the development trip generation. Requirements for analysis beyond the Year of Opening are defined in Table 1, hereby adopted and made a part of this rule. The following requirements apply to future year analyses:

- (a) The future year analysis area, at a minimum, shall include twice the spacing standard for approaches, as set forth in OAR 734-051-0190, and, if appropriate, to include the nearest signalized intersection(s);
- (b) The purpose of a future year analysis is to determine future safety and operation of the approach. The Department shall use the information from future year analyses provided through the TIS as follows, but not limited to:
  - (A) Identify safety and operational impacts of a proposed development to determine the long term design, location and operational parameters;

(B) Identify future safety and operational issues for purposes of Department and local government planning;

(C) Identify long term impacts of a proposed development and determine the appropriate level of mitigation. The mitigation improvements must have a connection to the impacts of the proposed development and be proportional to the level of impact; and

(D) Identify how a proposed site approach(es) fits into an access management plan, if one has been developed and adopted, and approved by the Department.

(c) The highway mobility standards from the future year analysis will not be used as the basis for denial of the requested approach(es).

(5) Future Year Analysis for Zone Changes and Plan Amendments. The future year analysis shall include Year of Opening conditions and Year of Planning Horizon for Transportation System Plan or 15 years, whichever is greater:

(a) The area of analysis is determined by section (3) of this rule;

(b) The future year analysis for zone changes and plan amendments will be used to determine if highway mobility standards are met; and

(c) The highway mobility standard for the highway segment for future year analysis shall be used to evaluate performance, to improve performance as much as feasible and to avoid further degradation of performance where no performance improvements are feasible.

(6) Data Collection. The Department may add to a database information collected in a TIS submitted pursuant to this rule for the purpose of updating transportation system plans and comprehensive plans.

**(7)** TIS Documentation Requirements. The submittal requirements may be reduced by the Region Manager during the application meeting as set forth in OAR 734-051-0140(3). However, unless otherwise determined by the Region Manager at the application meeting as set forth in OAR 734-051-0140(3), the TIS submitted shall include the following:

- (a)** Introduction and Executive Summary;
- (b)** Proposed Development Description (site and vicinity) including:
  - (A)** Land use and intensity (units, square feet, acres, as applicable);
  - (B)** Location;
  - (C)** Site plan showing recommended site approach(es) and circulation plan;
  - (D)** Vicinity map of study area including zoning; and
  - (E)** Project phasing and time schedule;
- (c)** Scope of Work and Data Sources;
- (d)** Existing Area Conditions:
  - (A)** Study area:
    - (i)** Area of potentially significant traffic impact;
    - (ii)** Existing, planned and proposed street network;
    - (iii)** Planned future street and highway improvements;
    - (iv)** Committed future street and highway improvements;
    - (v)** Existing traffic volumes and conditions;
    - (vi)** Public transit availability;
    - (vii)** Existing transportation system management programs;
    - (viii)** Local policy and regulations;
    - (ix)** High accident locations and accident type(s), as pertinent; and

- (x) Known operational problems (e.g., lengthy queues, high truck percentage, site distance issues); and
    - (B) Study area land use(s):
      - (i) Existing land uses;
      - (ii) Existing zoning;
      - (iii) Anticipated future development;
      - (iv) Planned future development; and
      - (v) Proposed zoning or plan amendments;
  - (e) Traffic Forecasts and Distribution must include the following:
    - (A) Non-site traffic:
      - (i) Method of projection;
      - (ii) Documentation of assumptions; and
      - (iii) Documented historical data;
    - (B) Site-generated traffic:
      - (i) Method of generation;
      - (ii) Trip distribution and assignment;
      - (iii) Modal split;
      - (iv) Pass-by trips; and
      - (v) Internal trip generation; and
    - (C) Total traffic (combined non-site and site traffic);
  - (f) Traffic Analysis. The analysis is to include:
    - (A) Volume to Capacity (V/C) ratio for all intersections and approaches for each analysis year;
    - (B) V/C for critical links for each analysis year;
    - (C) Geometrics (must meet current standards specified in the 1996 ODOT Highway Design Manual);
    - (D) Left turn requirements;
    - (E) Traffic signal warrants, timing and progression as set forth in OAR 734-020-0400 through 734-020-0500;
    - (F) Weaving and ramp analysis;

- (G) Sight distance and other safety considerations;
- (H) Queue length analysis and queue conflicts with adjacent approaches;
- (I) Impacts to other transportation modes (bicycle, pedestrian, transit, rail, air, water, etc.);
- (J) Deceleration lanes/right turn lane requirements;
- (K) Transportation Demand Management Measures (TDM);
- (L) Transportation System Management Measures (TSM);
- (M) Various alternative mitigation measures, including all measures suggested by ODOT or the consultant, and feasibility of each alternative;
- (N) Site characteristics – internal circulation, driveway throat length(s) and width(s), and queuing on site, in parking lots;
- (O) Driveway conflicts and impacts to adjacent approaches and street intersections;
- (P) If near an interchange, impact on the interchange ramps, ramp terminals, and any need for ramp metering;
- (Q) Needed right of way for the TIS recommendations;
- (R) Identification of design vehicle(s);
- (S) Truck operations analysis;
- (T) Needed modifications of existing highway appurtenances (e.g., guardrails, landscaping, walkways, manholes, signs); and
- (U) Other operational functions;
- (g) Mitigation alternatives as set forth in OAR 734-051-0210;
- (h) Recommendations for conclusions; and
- (i) Attachments must include:
  - (A) Vicinity map;
  - (B) Site plan;

- (C) Summarized raw manual and machine traffic count data;  
and
- (D) All calculation and analysis worksheets (e.g., Highway  
Mobility Standards and signal warrants).

Stat. Auth.: ORS 184.616, 184.619, 374.310; Sec. 4, Ch. 972 and Ch. 974, Oregon Laws 1999

Stat. Implemented: ORS 374.310 and Ch. 974, OL 1999