

NAMPA CITYWIDE TRANSPORTATION PLAN

Transportation Impact Studies - Requirements

Draft – December 15, 2009

Introduction and Purpose of Transportation Impact Studies

Transportation Impact Studies (TISs) are evaluations of proposed land use actions in terms of transportation issues and needs. How many trips will be generated and where they are likely to go. How will increased traffic affect roads? What opportunities exist for alternative modes – walking, biking and transit? Will increased capacity be needed? What about new or improved intersection controls or changes in access? Who should pay for improvements? Well-prepared TISs enable the City of Nampa to make informed decisions about these questions, needed improvements, service changes, and financing.

The Institute of Traffic Engineers' report, *Transportation Impact Analyses for Site Development*, notes that these studies

“...are intended to determine the need for any improvements to the adjacent and nearby transportation system in order to maintain a satisfactory Level of Service, an acceptable level of safety and the appropriate access provisions for a proposed development.”

The manner in which TISs are prepared is also critical in understanding and planning for system improvements. An Oregon Department of Transportation (ODOT) report, *Best Practices for Traffic Impact Studies: Final Report*, noted that

“TISs with either overly conservative or aggressive estimates can create problems. For individual projects, overly conservative TISs may result in wasted resources for improvements that are not needed. The cumulative effect of overly conservative TISs may be perceived as an agency antigrowth bias to the development community. The other extreme occurs when assumptions made about the basic variables allow the applicant...to underestimate projected impacts from development, or over-assume available capacity. Outcomes from this situation can include unanticipated congestion and safety problems, inappropriate or ‘throwaway’ mitigation, and a ‘chasing the last trip’ phenomenon, meaning the traffic effects of approved and built projects become the burden of future development.”

Credit Where Credit Is Due

Specific requirements and procedures in this chapter draw heavily from Report Number 17-2008, *Transportation Impact Studies Recommended Practices*, prepared by the Community Planning Association (COMPASS) in 2008 (see <http://www.compassidaho.org/planning/studies-completed.htm>). Applicants are advised to review this document prior to initiating the TIS process.

Requirements

A. Criteria that Trigger a Transportation Impact Study

A Transportation Impact Study is required whenever a proposed development meets either of the following thresholds:

1. Generates 400 or more total trips per day
2. Includes 40 or more residential dwelling units

Additionally, the City may require a Transportation Impact Study for the following actions if the City determines transportation-related impacts warrant the analysis.

1. Approving any proposed development, regardless of size or character, when special transportation-related conditions are anticipated
2. Creating special districts
3. Granting access permits
4. Granting conditional use permits

The City may waive the TIS requirement at its sole discretion if the City determines there are no traffic issues that will be resolved regardless of the outcome of the TIS.

B. Qualifications of the TIS Preparer

- The TIS shall be prepared under the guidance of a professional engineer registered in the State of Idaho.
- Further qualifications of the TIS preparer, such as Professional Traffic Operations Engineer, are highly recommended, especially for developments that trigger use of COMPASS' travel demand model to determine the Area of Influence.
- The City Engineer or designee will confirm qualifications of the proposed professional(s) prior to commencement of the TIS.
- The TIS preparer shall be hired by the person or organization required to present a TIS as part of a development approval process.
- The final TIS shall bear the stamp and signature of a professional engineer registered in the State of Idaho.

C. Study Area/Area of Influence

The following table defines the initial extent of the TIS Study Area/Area of Influence for proposed developments. The City may require an expanded study area based on site specific requirements.

Study Area Limits			
Grouping	Peak Hour Traffic	Minimum Required Study Area	Horizon Year(s)
Small	Fewer than 200 trips	1 st intersection each way ¹ plus all intersections and	Opening year only

¹ For developments that include any quadrant of an intersection, "each way" includes all legs of the intersection.

	during any peak hour	access points ² within 0.25 miles of a property line of the site	
Medium	Between 201 and 500 trips during any peak hour	1 st intersection each way ¹ plus all intersections and access points ² within 0.5 miles of a property line of the site	Opening year and five years after opening
Larger	Between 501 and 750 trips during any peak hour	1 st intersection each way ¹ plus all intersections and access points ² within 1.25 miles of a property line of the site	Opening year, five years after opening and ten years after opening
Area of Influence	Greater than 750 trips during any peak hour	See Area of Influence procedures below.	Opening year, five years after opening and ten years after opening

Area of Influence procedures:

- Determine the definition of “background traffic”
 - Establish existing traffic conditions.
 - Establish committed additions to existing traffic from all existing development activities plus funded and planned developments (see E(iii) Pre-Development Considerations, below).
- Apply COMPASS’ travel demand model to compare background traffic levels with traffic levels including the proposed development:
 - Developer requests COMPASS to run a special model run with and without the proposed development.
 - COMPASS performs special model runs and prepares a pdf map color-coded by percent of or absolute increase in total traffic attributable to the proposed development (specific alternative is determined during the Initial Scoping Session).
 - Map is used to determine the area of influence.
 - Developer pays COMPASS directly for these special model runs at \$65 per hour with a two-hour minimum.
- Define all roadway segments or intersections experiencing an increase in traffic greater than 10% or 150 trips per day between the two model runs as the initial Area of Influence.
- Expand the initial Area of Influence to include existing congested corridors, facilities and intersections, as determined by the City Engineer, within 1.25 miles of a property line of the site if not already identified by the travel model.
- Expect the resulting Area of Influence to be more like an “amoeba” than a circle as desire lines for travel are not symmetrical around a development.

² “Access points” includes all accesses with 50 or more vehicle trips per day or five or more vehicle trips in any peak hour.

- Negotiate a final Area of Influence among the City, the Applicant and the TIS preparer during the Initial Scoping Session.
- Determine additional transportation and/or land use agencies to participate in the Scoping Session and subsequent TIS review based on geography of the initial Area of Influence.
- Note: A digital file of the Study Area/Area of Influence is a required deliverable to accompany the TIS when it is submitted. This may be in the form of a GIS shape file, a CAD file or some other format agreed upon as a part of the Initial Scoping Session.

D. Initial Scoping Session

A scoping session will be held after the TIS preparer has been approved by the City, after the Study Area or preliminary Area of Influence has been determined, and prior to the TIS preparer developing a Scope of Work for his/her client. Attendees shall include at least the City, the Applicant and the approved TIS preparer. For TISs where the Study Area or Area of Influence extends beyond the existing City limits, all other affected agencies will be invited to attend this session. Representatives of these affected agencies will be invited to participate actively in the session.

There will be two outcomes from an Initial Scoping Session. Both will be drafted by the TIS preparer:

1. A meeting summary to document who was present, items discussed and agreements made, copy disseminated to all session attendees.
2. A Scope of Work prepared in conformity with this chapter, containing approval signature blocks for both the Applicant and the City. Both signatures must be affixed on the Scope of Work prior to commencement of the study.

Agenda items for the Initial Scoping Session include, at a minimum:

- Review and agree upon procedures to establish existing traffic conditions
- Review and agree upon specific projects to include in establishing additional traffic included in “background traffic:”
 - Transportation projects
 - From existing TISs and warrants
 - From COMPASS’ current Long Range Transportation Plan (beyond the Regional Transportation Improvement Program)
 - From local plans
 - Other
 - Land use/development projects, zoning changes, etc.
- Define the final Study Area/Area of Influence
- Establish assumptions
 - Which agency’s Level of Service threshold to use (if multiple agencies are involved)
 - Horizon year(s) for the project or, if a multi-phased project, for each phase
 - Multi-modal considerations: transit, pedestrian, bicycle and truck as a minimum

- Determine how to address requirements of Idaho Code Title 67 Chapter 65 -- specifically 67-6519(3) – when a school is included in the development proposal
- Identify proprietary or confidential information, if any, and agree how to handle it
- Establish the Table of Contents for the TIS report
- Establish the list of figures to be included in the TIS report
- Define the format of the required GIS/CAD/Other digital file
- Establish which analysis software will be utilized for Level of Service determinations
- Determine whether interim or preliminary analysis meetings will be held
- Establish a tentative TIS schedule including target dates for key deliverables

E. Expectations and Standards

i. Scope of Work

- An approved Scope of Work may only be modified with written approval of both the Applicant and the City.

ii. TIS Format

- All TIS reports will use the same basic Table of Contents as shown in Appendix 1, subject to modification and documentation during the Initial Scoping Session.
- All TIS reports will use the same basic List of Figures/Tables as shown in Appendix 2, subject to modification and documentation during the Initial Scoping Session.

iii. Background Traffic Considerations

- In general, TISs must include as “background” traffic all traffic from previously completed TISs in the vicinity of the project unless a proposed project connected to a particular TIS was denied.
- All TISs are expected to incorporate traffic impacts of funded and planned transportation projects within the Study Area/Area of Influence that are included in COMPASS’ current Regional Transportation Improvement Program or local transportation and capital improvement programs. The TIS preparer is responsible for requesting, researching and using the latest and most up-to-date information.
- All TISs are expected to incorporate land use impacts of funded and planned development projects within the Study Area/Area of Influence. The TIS preparer, with assistance from the City, is responsible for requesting, researching and using the latest and most up-to-date information.
 - Existing development that is under construction or for which a building permit has been issued and for which a TIS was required
 - In Process development where a full application, including a TIS, has been submitted and accepted by the City or County
 - Anticipated development for which a pre-application has been submitted and accepted by the City or County and the Applicant has enough information available to begin a TIS
- All assumptions must be detailed and specified as to source and date, specifically including programmed transportation improvements.

iv. Confidential Information

- Confidential or proprietary information that needs to be protected in the TIS must be disclosed during the Initial Scoping Session and made part of the scope

in advance of any study or finding. The burden of proof for withholding information for reasons of confidentiality is on the Applicant. No information will be withheld that is related to the determination of the need for mitigation.

v. Level of Service

- The target Level of Service for all TISs in the City of Nampa shall be “D.” This requirement applies to the opening year and all horizon years. It will be calculated and reported as the worst movement Level of Service.
- Software to complete Level of Service analyses shall be selected from among the following:
 - *Highway Capacity Manual* (generally for isolated signalized and unsignalized intersections)
 - *Synchro/SimTraffic* or *VISSIM* (generally used when there are adjacent signals or coordinated signal systems)
 - *aaSIDRA* or *RODEL* (generally used for roundabouts, although methodology is quite different)
- Mitigation measures must bring Level of Service within acceptable standards using measures consistent with regional and local plans.
- When multiple agencies have jurisdiction over transportation facilities within the Study Area/Area of Influence for a TIS, determining a satisfactory Level of Service will be a part of the Initial Scoping Session.
- Use of corridor planning Level of Service analyses should be considered in addition to more detailed intersection Level of Service, particularly when evaluating long-term implications of the proposed development.

vi. Final TIS Document

- Draft and final copies of TISs must be provided in hard copy and PDF format. Permissions in the PDF document must be set so that high-resolution printing and searching is allowed, but this should NOT include the ability to change or copy text or graphics.
- The final TIS document must include all technical materials as a technical memorandum appended to the main TIS report. These include, at a minimum:
 - Minutes from Initial Scoping Session (s)
 - Approved Scope of Work
 - Documentation of assumptions
 - Raw traffic counts
 - Raw travel demand model forecasts
 - Smoothed travel demand forecasts, if any
 - Level of Service/delay calculations, both input and output, from the analysis software
 - Turning movements
 - List of individual transportation and land use projects included in determining background traffic
 - Site maps, if any (other than those required in the body of the report)
- The City may reject any TIS that fails to document assumptions and data adequately.
- The final TIS, appendices, technical reports and shape file are to be submitted to the City with the preliminary plat application or other land use application.

APPENDIX 1

SAMPLE TABLE OF CONTENTS³

- I. Introduction and Summary
 - a. Purpose of report and study objectives
 - b. Executive Summary
 - i. Site location and Study Area/Area of Influence
 - ii. Development description
 - iii. Types of study/studies undertaken (I.e., impacts, signal warrant, site access, etc.)
 - iv. Principal findings
 - v. Conclusions
 - vi. Recommendations

- II. Proposed Development (Site and Nearby)
 - a. Site Location
 - b. Study Area/Area of Influence
 - c. Off-Site/Background Development
 - d. On-Site Development
 - i. Land use and intensity
 - ii. Location
 - iii. Site plan
 - iv. Zoning
 - v. Phasing and timing

- III. "Background" Conditions
 - a. Land Use
 - i. Existing land uses
 - ii. Existing zoning
 - iii. Anticipated future development by others
 - b. Site Accessibility
 - i. Roadway system
 1. Existing
 2. Additions by others
 - ii. Traffic volumes and conditions
 - iii. Transit service and accessibility
 - iv. Transit, pedestrian, bicycle and truck service and accessibility
 - v. Existing relevant transportation plans

- IV. Projected Traffic for each horizon year
 - a. Site Traffic
 - i. Trip generation

³ This table represents a City of Nampa adaptation of Table 10-1 in the ITE *Transportation Impact Analyses for Site Development*, pp. 102-103.

- 1. Adjustments including shared trips, pass-by trips, and internal capture calculations
 - ii. Trip distribution
 - iii. Modal split
 - iv. Trip assignment
 - b. Background Traffic Projections
 - i. Method of projection
 - ii. Non-site traffic for anticipated development in Study Area/Area of Influence
 - 1. Method of projections
 - 2. Trip generation
 - 3. Trip distribution
 - 4. Modal split
 - 5. Trip assignment
 - c. Total Traffic (Background traffic plus site traffic)
- V. Transportation Analysis
 - a. Site Access
 - b. Capacity and Level of Service
 - i. Existing conditions
 - ii. Background conditions (existing plus growth) for each horizon year
 - iii. Total traffic (existing, background and site) for each horizon year
 - c. Transportation safety
 - d. Traffic signals or roundabouts
 - e. Site traffic circulation, including on-site storage room
- VI. Improvement Analysis
 - a. Improvements to accommodate existing traffic
 - b. Improvements to accommodate background traffic
 - c. Additional improvements to accommodate site traffic
 - d. Alternative improvements
 - e. Status of improvements already funded, programmed or planned
- VII. Findings
 - a. Site accessibility
 - b. Transportation impacts
 - c. Need for improvements
 - d. Compliance with local codes
- VIII. Recommendations
 - a. Site access/Circulation plan
 - b. Roadway improvements
 - i. Off-site
 - ii. On-site
 - iii. Phasing, if appropriate
 - c. Transit, pedestrian and bicycle

- d. Transportation system management/Transportation demand management actions
 - i. Off-site
 - ii. On-site
 - iii. Signal coordination
- e. Other

IX. Conclusions

APPENDIX 2

SAMPLE LIST OF FIGURES/TABLES⁴

Item #	Title	TOC Reference	Description
Fig. A	Site location	II.a.	Area map showing site location
Fig. B	Study Area/Area of Influence	II.b.	Map showing Study Area/Area of Influence
Fig. C	Existing Transportation System	III.b	Existing roadway system serving the site: <ul style="list-style-type: none"> • All functionally classified streets • Local streets adjacent to the site • Right-of-way widths • Intersection control • Site boundaries • Transit, bicycle and pedestrian facilities
Fig. D	Existing and anticipated area development	II.c & II.d	Map showing existing and anticipated land uses/developments in Study Area/Area of Influence
Fig. E	Current daily traffic volumes	III.b.	Recent or existing daily volumes on roads in Study Area/Area of Influence.
Fig. F	Existing peak-hour turning volumes	III.b.	Current peak hour turning volumes at each location critical to site access or serving major traffic volumes through the Study Area/Area of Influence.
Fig. G	Anticipated transportation system	IV.	Area transportation system map showing programmed and applicable planned roadway, transit, bikeway and pedestrian-way improvements.
Fig. H	Directional distribution of traffic	IV.a.	Map showing by percentages the portion of site traffic approaching and departing the area on each roadway; may differ by land use within multi-use developments.
Tbl. A	Estimated site traffic generation	IV.a.	Estimated directional peak hour and average daily trips generated by each major component of the proposed development.

⁴ This table represents a City of Nampa adaptation of Table 10-2 in the ITE *Transportation Impact Analyses for Site Development*, pp. 104-105. The original document contains samples of all referenced figures and tables.

Fig. I	Site traffic	IV.a.	Map of anticipated Study Area/Area of Influence roadway network showing peak hour turning volumes generated by site development.
Tbl. C	Estimated trip generation for non-site development	IV.b.ii	Trips generated by off-site development within the Study Area/Area of Influence in same format as Table B.
Fig. J	Estimated non-site traffic	IV.b.ii	Map similar to Figure H showing peak hour turning volumes generated by off-site development within Study Area/Area of Influence plus traffic through horizon year.
Fig. K	Estimated total future traffic	IV.c.	Map similar to Figure H showing sum of traffic from Figures I and J.
Fig. L	Projected levels of service	V.b.	Map with levels of service computed for agreed-upon intersections in the Study Area/Area of Influence. Include existing, horizon year non-site and total horizon year (with site development) conditions.
Fig. M / Tbl. D	Recommended improvements	VIII.	Map showing recommended off-site transportation improvements, site access points and on-site circulation and parking features, as appropriate. May require more than one figure. Table will describe improvements by location and type. If phasing of improvements is anticipated, this should also be shown on these or a separate figure or table.