



TRAFFIC IMPACT ANALYSIS GUIDELINES

ADOPTED AUGUST 24, 2004



*Prepared by:
City of Irvine
Public Works Department*

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TRAFFIC IMPACT ANALYSES

WHY A TRAFFIC IMPACT ANALYSIS IS REQUIRED

A hierarchy of federal and state laws requires the correlation of the Land Use Element building intensities in the General Plan with the Circulation Element capacity (i.e., Government Code 65302(C), Congestion Management Program (CMP), California Environmental Quality Act (CEQA), and Measure M). The traffic impact analysis serves as a test of this correlation during the development review process. Within the City, traffic impact analyses are categorized as traffic studies and limited scope traffic studies. The following outlines the criteria for when each type of analysis is applied.

WHEN IS A TRAFFIC/LIMITED SCOPE TRAFFIC STUDY REQUIRED?

A traffic study shall be required for:

- Discretionary projects which produce 50 or more peak hour trips during the AM peak period or the PM peak period. This traffic study trip threshold requirement shall be calculated using the City's approved land use trip generation rates. If the City approved Irvine Transportation Analysis Model (ITAM) land use trip generation rates do not correlate to the use(s) proposed, the Director of Public Works will approve the use of another rate.

A traffic study may be required for:

- Projects pursuant to the California Environmental Quality Act (CEQA) guidelines, Congestion Management Program (CMP) requirements or as otherwise required by City Ordinances/resolutions.

A limited scope traffic study is required for:

- Discretionary projects generating between 1 and 49 trips from a project site where no budget/trip cap has been established for the site and/or Planning Area; or
- Discretionary projects which exceed the established trip cap for the project site and/or Planning Area by 1 to 49 trips. If the project exceeds the established trip cap by 50 or more trips, see the requirements for a traffic study above. This limited scope traffic study trip threshold requirement shall be calculated using the City's approved land use trip generation rates. If City approved land use trip generation rates do not correlate to the use(s) proposed, the Director of Public Works will approve the use of another rate.

In cases where projects are within approved budget/trip caps and zoning, but are proposing new or altering existing access points, the site access analysis procedures outlined on Page 15 of the Special Issues section shall be followed in order to design and locate access points.

Exhibit 2 highlights the key differences between a Traffic Study and a Limited Scope Traffic Study.

Transfer of Development Rights (TDRs) and Intensity Shifts

- Within the Irvine Business Complex (IBC), TDRs are permitted. Outside of the IBC, transfer of development (intensity shifts) may be allowed, if permitted by the zoning ordinance and/or land use regulations. If a TDR or an intensity shift is proposed, City approved land use trip rates shall be used in determining whether a traffic study or limited scope traffic study is required. If the project involves a TDR or intensity shift of 50 peak hour trips or more, a traffic study will be required. If the project involves a TDR or intensity shift of between 1 and 49 peak hour trips, a limited scope traffic study will be required. In either case, a cumulative impact analysis that may include all known applications of this nature on file with the City at the time of the subject project's scope of work approval will be required (see Page 11 for Cumulative Impact Analysis).

The use of an existing traffic/limited scope traffic study for a project can be considered by the Director of Public Works if the land use assumptions, background conditions, and character of traffic analyzed in the existing study are not significantly changed in the proposed project. The determination of the longevity of an existing study will be consistent with CEQA Guideline 15162.

METHODOLOGY OF SUBMITTAL

Prior to beginning any study, the applicant and/or his/her transportation consultant shall meet with City staff. This meeting is considered the "Pre-Application Conference". The purpose of the Pre-Application Conference is to establish assumptions and the process of preparing the study. When interjurisdictional impacts are anticipated, appropriate representatives from the affected agencies will be informed in writing of the agreed upon assumptions by the Director of Public Works.

In order to establish a Pre-Application Conference, the applicant shall submit to the Director of Community Development a Pre-Application. For information on the submittal of the Pre-Application, the applicant is referred to the "Pre-Application" Information Sheet provided at the Community Development front counter.

The following points will be discussed and methodology established at the Pre-Application Conference regarding traffic:

- Site Plan and Development Assumptions
- Access Points
- Committed Roadway Improvements¹
- Trip Generation
- Trip Distribution
- Trip Assignment
- Preliminary Study Area
- Background Traffic (Ambient Growth and Approved Developments)

¹See definition in the Committed Improvements section.

Development Time Frame and Phasing
Processing Schedule
Other Pertinent Factors

Additional planning issues, submittal requirements, etc. may also be addressed at this Pre-Application Conference, as identified and deemed appropriate by Development Services staff.

The schedule shall be determined in accordance with the overall schedule associated with the type of application being requested or with CEQA requirements. The Pre-Application Conference shall also identify information which will be supplied by the City.

Scopes of Work

Based on the agreements reached at the Pre-Application Conference, a scope of work shall be prepared by the applicant's traffic consultant and approved prior to commencement of the study. Waiver of portions of these guidelines for a project may be approved by the Director of Public Works. Studies will not be accepted unless the traffic study/limited scope traffic study of work has been approved by the Director of Public Works.

The City Council reserves the right to approve traffic study scopes of work. Once approved by the City Council, they will be processed in the same manner as if approved by the Director or Public Works.

An approved scope of work is valid for twelve months. Prior to commencing the study, the applicant shall confirm with the City the appropriate version of ITAM to utilize. The study must be submitted for the first screen check review within twelve months of the scope of work approval. A new scope of work is required if the twelve month period expires without a submittal.

Approval

The Director of Public Works shall review a traffic study and determine if the traffic study is consistent with the approved scope of work. If deemed consistent, the Director of Public Works shall approve and advance the traffic study with any recommendations to the next reviewing/approval body for appropriate action.

Limited scope traffic studies are reviewed and approved at the staff level only.

Miscellaneous Submittal Requirements

Four (4) copies of the screen check draft study shall be submitted in conjunction with the remainder of the development application package. It should be noted that no development application for which a study is required, will be accepted without the appropriate number of copies of that study. Once finalized, 10 copies of the final study shall be provided to staff for use in Commission packets and files. If City Council approval of the project is required, a total of 16 copies of the final study shall be provided.

The applicant shall be responsible for the study and all costs associated with it. This may include, but is not limited to, preparation of the scope of work, preparation of the study, including consultant fees and computer model runs, review of the study by City staff and Commissions/Committees/Council.

All studies must be prepared under the supervision of and signed, stamped and dated by a Registered Traffic or Civil Engineer with appropriate transportation engineering and/or planning credentials.

OBJECTIVES OF A TRAFFIC/LIMITED SCOPE TRAFFIC STUDY

The study has three basic objectives, as outlined below:

1. To provide a tool to analyze a specific project as it relates to the General Plan (long term).
2. To provide a means to identify specific short term circulation, operational and access needs.
3. To provide a basis for equitable impact mitigation.

TRAFFIC/LIMITED SCOPE TRAFFIC STUDY FORMAT

In order to provide consistency and facilitate staff review of studies, the format identified below and in the approved scope of work must be followed. Under each heading, the content and methodologies to be utilized are discussed. An outline of the study is attached as Exhibit 1.

Executive Summary

The Executive Summary of the report shall be a clear, concise description of the study findings. It shall include a general description of all data, project scope and purpose, findings, conclusions, mitigation measures, and recommendations.

Technical publications, calculations, documentation, data reporting, and detailed design should not be included in this section. The Executive Summary should be concise, complete in itself, and not dependent on supplementary data included by reference.

Introduction

The Introduction shall supply the reader with a general description of the project. This description shall include the size of the parcel, general terrain features, and the existing and proposed uses of the site (including phasing) based on the zoning and general plan categories outlined in the City's Zoning Ordinance and the General Plan. In addition, specific uses for which the request is being made must be identified, as a number of uses may be permitted under the same Zoning or General Plan Category. This information shall include the square footage of each use or number and size of units proposed.

The intent of the study is to evaluate traffic impacts for the most probable case or maximum entitlement permitted for the development or parcel proposed by the Map Level, Zoning Ordinance or the General Plan. If several different uses are permitted, the land use with the greatest overall traffic impact shall be assumed in the study, unless the applicant specifies the uses for the site. This most probable case analysis may be waived by the Director of Public Works only if the development is conditioned for the specific uses analyzed in the study.

In addition, the location of the project site shall be described. As part of this description, a vicinity map shall be provided. The map shall include roadways, which afford access to the site and are included in the study area.

For projects which are reviewed in accordance with CEQA requirements, the required alternatives to the project shall be analyzed. The proposed alternatives shall be defined in the Introduction section.

The limits of the study area for the traffic study shall be based on the potential impact of the proposed project on the City's existing and ultimate street network, and the existing traffic conditions surrounding the site. In all instances, however, the study area limits must include areas with significant impacts based on the approved Performance Criteria (see the Performance Criteria section). If an agreement cannot be reached on an appropriate study area boundary, the Director of Public Works may require that a preliminary study area be established through a "select zone" analysis of Irvine's Transportation Analysis Model (ITAM). This preliminary study area shall be expanded or reduced, as appropriate, to meet the Performance Criteria or impacts by phase of the development.

The study area boundary for a limited scope traffic study is limited to all project access points and immediately adjacent intersections.

Existing Conditions

The study must identify the existing conditions in the vicinity of the project site, including a description of the area to be affected by the development. This is to provide a comparison of the impacts over time on land use and circulation.

Existing roadway conditions shall include the following:

- Existing Roadway Network
- Number of Existing Lanes
- Intersection Configurations
- Traffic Control (i.e., signal, stop sign, etc.) - For signalized intersections, where split phasing or right turn overlap is in place, this information shall be provided in the study
- Traffic Counts^{2,3}
 - Average Daily Traffic
 - Peak Hour Intersection Volumes Both A.M. and P.M. (Turning Movements)
- Pedestrian Activity/Circulation (identification of pedestrian activity, trails, sidewalks in the project area)
- Level of Service Calculations Both Daily and Peak Hour

Existing Conditions with Proposed Development

In order to assess the existing environmental setting as it exists at the time of the notice of preparation for a proposed development, existing conditions with the project in place must be analyzed. Existing traffic conditions based on the current circulation system shall represent the existing environmental setting.

Existing plus project projections shall be developed through the use of Irvine's Transportation Analysis Model (ITAM). The proposed land uses for the project site and any project-related circulation improvements shall be added to the ITAM database and ITAM model runs with and without the project shall be used to determine the traffic model impact of the project on the existing circulation system.

Future Traffic Without Proposed Development

Projected Traffic

Future traffic without the proposed development's impact is also called "background" traffic or "baseline" traffic. This baseline traffic consists of three components:

- Regional traffic - Through traffic which has neither origin nor destination within

²Counts for intersections on the CMP Highway System (i.e., Irvine Blvd., Irvine Center Drive, Jamboree Road, and Laguna Canyon Road) shall be conducted on at least three separate days (not necessarily consecutive). An average of three counts will be used for existing LOS in the Level of Service calculation.

³Count data must have been collected within the previous one year period from the approval date of the scope of work during the AM (generally between 7-10 AM) and PM (generally between 3:30-6:30 PM) peak period. However, traffic counts cannot be older than 18 months from the date of the first screen check traffic/access study submittal. For access analysis purposes, midday peak hour counts may be requested by the City depending on where the project is located in relation to certain intersections. Counts should be conducted on a Tuesday, Wednesday or Thursday during weeks not containing a holiday. Current counts which have been performed by the City will be made available at the request of the applicant. However, if the City does not have counts or if the counts are not current, the applicant will be required to perform the counts. Should concerns or discrepancies arise regarding the traffic count data collected, the City may request additional counts.

Orange County.

- Sub-Regional traffic - Through traffic which has neither origin nor destination within the City of Irvine.
- Other development traffic - Traffic generated by all other development with either origin or destination within the City of Irvine. If the proposed project involves a TDR, General Plan intensity modification or intensity shift, the development traffic of project applications on file with the City will be assumed in a cumulative impact analysis (see Page 11 - Cumulative Impact Analysis for details). A list of all said projects shall be included as an attachment in the approved scope of work

Within the City of Irvine, background traffic is generally estimated using Irvine's Transportation Analysis Model (ITAM).

The following horizon years are required to be analyzed:

- Existing
- Interim Year (short term, typically a 5-year horizon), assumptions include committed roadway improvements by this timeframe and tolled corridor facilities
- Interim Year (long term, typically 20 to 25 year horizon), assumptions include committed improvements by this timeframe and tolled corridor facilities
- Buildout of City, assumptions include full buildout of adopted General Plan and Master Plan of Arterial Highways and tolled corridor facilities

The database shall be modified to include only those uses for the project site which exist at the time of application (i.e., existing land use - if vacant, the database shall have zero land use for that site) or, in the case of legally vested development, that amount of land use which is vested. Documentation of the vesting of land uses will be required of the applicant with the application. Computer model runs will then be performed for all horizon years. These runs will represent the background traffic volumes against which the "with project" analyses will be compared to develop mitigation measures. In an expansion project, the expansion and any existing development to be expanded will be considered the "with project" scenario (see Exhibit 3).

For limited scope traffic studies, the horizon year by which time the project will be built out will be the only horizon year analyzed.

The study shall specify the volumes and levels of service associated with the daily A.M. and P.M. peak hour conditions. Daily information shall be shown in a graphic format. Peak hour information shall be summarized in a table which identifies the levels of service (volume-to-capacity ratios from the Intersection Capacity Utilization {ICU} worksheets). In addition, ICU worksheets shall be attached as an appendix.

Committed Improvements

For interim conditions, improvements funded by government agencies (i.e., in the Capital

Improvement Project {CIP} or other development (as approved by the Director of Public Works) shall be identified. This list would include the nature of the improvement project, its extent, implementation schedule, and the agency or funding source responsible. An official list of these “committed improvements” shall be obtained from the City. A list shall be provided showing the location of such facilities or projects.

The currently approved General Plan Arterial Highway Designation (General Plan Exhibit D-5) and the Orange County Master Plan of Arterial Highways (MPAH - for adjacent Cities’ roadways, as appropriate) shall be the basis for roadway improvements considered to be in place for the buildout analysis. The network assumptions for the analysis years will be discussed in the report.

Proposed Project Impacts

Definition of Impact

Impacts of development on the circulation network shall be mitigated compared to the existing land use of the site at the time of submittal for development approval or, in the case of vested development, that amount of land use which is vested. Documentation of the vesting of land use will be required of the applicant with the application.

Model Trip Generation

The calculation of traffic volumes used to determine impacts of the development shall be based on the latest plans submitted for planning areas or on land use intensity allowed (including a trip cap adopted by the City) under the existing (or proposed) Zoning Ordinance or the General Plan. For proposed mixed-use developments, the analysis will assume the plan presented by the developer and any trip cap established for the area. When a zone change is requested that proposes to increase the trip cap, the traffic impact analysis for the proposed use will assess the impacts of the project by comparing the new proposal to a no project condition. To achieve the new project to no project comparison, the analysis will add project mitigation at the end of the analysis versus keeping previous mitigations in from the beginning.

Trip generation rates shall be based on the most recently approved socioeconomic data based trip rates. These rates are included in the technical documentation for the Irvine Transportation Analysis Model (ITAM).

Land use trip generation rates will be based on the most recent edition of Institute of Transportation Engineers utilized by ITAM (at the time of this publication ITE 6th Edition was used).

Land use information will be converted to the following socioeconomic variables:

- Single-Family Residential
- Multi-Family Residential
- Population
- Employed Residents
- Retail Employment

