City of Riverside
Public Works Department

Traffic Impact Analysis Preparation Guide

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1.0 INTRODUCTION

The City of Riverside (City), Public Works Department, requires that the traffic and circulation impacts of proposed development projects, General Plan Amendments (GPA), Specific Plans (SP), and Specific Plan Amendments (SPA) be analyzed. This requirement shall be satisfied through the preparation of a Traffic Impact Analysis (TIA) document prepared in conformance with Public Works Department – Traffic Engineering Division requirements. The Traffic Impact Analysis must be prepared by a Traffic Engineer or a Civil Engineer (Engineer) registered in the State of California, qualified to practice traffic engineering. This "Traffic Impact Analysis Preparation Guide" identifies the suggested format and methodology that is generally required to be utilized in the study preparation, subject to amendment without any notification. The purpose of this guide is to establish procedures to ensure consistency of analysis and the adequacy of information presented regarding the proposed development project (Project).

2.0 PURPOSE

A TIA report may be required to provide appropriate transportation impact/mitigation information as a part of various types of environmental documentation or as a separate document required by the City in order to assess the impacts of a proposed project. Unless exempted by the Public Works Department, a TIA report will be required in the following cases:

- **Proposed Development Projects:** Any development which could have a significant impact on the City's transportation network. Examples of possible impacts are increased traffic volumes on arterials, collector or local residential streets, traffic operational issues (i.e. access, visibility etc.), adequate driveway design, etc.

- **General Plan Amendments and Specific Plans:** Will the ultimate circulation system planned for the area be able to provide the required Level of Service (LOS), even with the additional traffic impact of the proposed land use changes? If not, what improvements will be required in order to provide the required LOS?

3.0 EXEMPTIONS

Certain types of projects, because of their size, nature, or location, may be exempt from the requirement of preparing a TIA (Exhibit A). However, the Public Works Department, Public Works Land Development Section and Planning Division may require that a TIA be prepared for any project, regardless of size, nature or location, if there are concerns over safety, operational issues, or if located in an area significantly impacted by traffic.

4.0 SCOPING

In order to facilitate the TIA preparation and review process, the Applicant/Engineer shall solicit input and approval from the Traffic Engineering Division and Planning Division prior to the preparation and submittal of a draft document. A TIA "Scoping Agreement" Form (Exhibit B), shall be prepared by the Applicant/Engineer and submitted to the Land

Development Section for approval prior to the preparation of a draft TIA. The form provides for agreement on the following key points before initiating the TIA:

- Determination of study area.
- Determination of Study intersections and/or roadway links to be analyzed.
- Assumption of Background Traffic Growth.
- Project trip generation, trip distribution, and trip assignment.
- Consideration of other related projects for Cumulative Analysis.
- Use of City of Riverside GP 2025 Model for Build-out Year analysis if required.
- Solicit input from other agencies if located within a mile radius and the County of Riverside if within a half-mile radius.
- Solicit input from Caltrans if located within a mile radius of a state system.

5.0 METHODOLOGY

5.1 Intersection Analysis

The Traffic Engineering Division requires the use of the Transportation Research Board (TRB) Highway Capacity Manual (HCM), 2010, or most recent release for all Traffic Analyses.

Signalized intersection Level of Service shall be analyzed using the Operational Method as described in Chapter 16, Section II. Unsignalized intersections are to be analyzed using Chapter 17 of the HCM. Also, refer to Exhibit C for default input parameters.

It shall be the responsibility of the Applicant/Engineer preparing the study to determine and document what factors, if any, exist, or will exist, as a result of the development, which will decrease performance of the intersection or roadway links (such as existing and proposed signal timing/phasing, etc.).

5.2 Roadway Link Analysis

When required, the roadway link analysis shall be performed by comparing the Average Daily Traffic (ADT) on a segment with the "City of Riverside Roadway Capacity" table (Exhibit D).

6.0 STUDY AREA

At a minimum, the area to be studied shall generally include any intersection of "Collector" or higher classification streets on which the proposed project will add 50 or more peak hour trips up to a 5 mile radius of the project location. The study area may be extended if the project has a regional impact on the regional transportation system. Additional intersections

of concern which include but not limited to project driveways may require analysis. For the projects located in the vicinity of schools, counts may be required during the school season as determined by Public Works.

A Roadway Link analysis shall be required for TIA analyzing GPA, SP or SPA.

7.0 STUDY SCENARIOS

7.1 Tracts, Plot Plans, Use Cases, etc.

The TIA shall include the following analysis scenarios:

1) **Existing Conditions** - Existing traffic will be counted to determine current conditions. This constitutes the environmental setting for a CEQA analysis at the time that the hearing body reviews the project

2) **Project Completion** - Traffic conditions prior to the time that the proposed development is completed will be estimated by increasing the existing traffic counts by an appropriate growth rate, to be determined by the City, projected to the year that the project is estimated to be completed. Traffic generated by the proposed project will then be added, and the impacts on the circulation system will be analyzed. This scenario is generally referred to as "Existing Plus Project" conditions. This may be the basis for determining project-specific impacts, mitigations, and conditions of approval

3) **Cumulative Conditions** - Traffic generated by other approved and/or pending projects in the study area shall be identified and added to the Existing plus Project Traffic. These cumulative projects should be reviewed by the Planning Division prior to the model being run. This scenario is known as "Cumulative Plus Project" conditions

4) **Proposed Mitigation Measures** – Only feasible mitigation measures shall be recommended. Consideration should be made for existing right-of-way, availability of receiving lanes for additional thru or turn lanes, environmental constraints, utility conflicts, and economically feasible improvement costs. Mitigation measures that are determined to be infeasible should be discussed in the TIA and the factors resulting in the mitigation being infeasible should be identified.

   All studies that propose increasing the number of travel lanes on a roadway or intersections as mitigation measures, either beyond existing conditions or for General Plan conditions beyond what is planned for that segment shall clearly identify the impacts associated with such a change. A funding mechanism shall be identified to fund the improvements, including the availability of the funds. Exhibits must be provided to show the feasibility of the improvement.

5) **Phasing.** Traffic conditions at each project phase completion (if applicable) will be analyzed using the same approach as above.

7.2 Build-out Studies

Development proposals that include a GPA, SP, SPA or other approval and proposals with densities exceeding Typical d.u./acre or Typical FAR/acre ratios listed in the 2025 GP Table LU-3 will also be required in addition to the above to perform a Build-out level Analysis to assess long-term impacts. This analysis will determine if the Circulation Element of the 2025 GP is adequate to accommodate traffic growth at the target LOS, or if additional mitigation is necessary.

8.0 EXISTING TRAFFIC VOLUMES

The Traffic Impact Analysis shall use traffic volumes taken from new/recent counts, as approved by the Traffic Engineering Division. The traffic volume counts should not be older than a year. Counts should be conducted on Tuesdays, Wednesdays, or Thursdays during weeks not containing a holiday and conducted in favorable weather conditions. Counts taken near a school must be done while the school is in session. The traffic volume counts are to be included in the study appendices.

9.0 FUTURE TRAFFIC FORECASTS

9.1 Background Traffic for Opening Year Studies

An appropriate growth rate will be determined by the City for existing plus project analysis. In addition, all projects within the study area which either are pending or have received approvals for development shall be identified and added to the proposed development trip generation. These projects should be reported as Cumulative projects in a table format with reference number, name of projects, location, description, ADT, and AM/PM peak hour rates and trips. The Cumulative project information should be obtained from the Planning Division.

9.2 Background Traffic for Build-out Studies

The Traffic Engineering Division will provide link-level Build-out Traffic projections from the City's GP 2025 traffic model. The Engineer shall utilize the model projections as the basis for determining turning-movement volumes to be used in the intersection analysis. A post-processing methodology in National Cooperative Highway Research Program (NCHRP) may be used to calculate AM and PM peak hour turning movement volumes from the given link volume ADT. This results in Build-out traffic without the project.

A manual assignment of the project traffic added to the Build-out traffic may typically be used to determine total Build-out traffic with Project.

It should be noted that certain large-scale proposals have the potential to create traffic impacts which are significantly greater than the traffic projections used in the Traffic Model, and which also affect the modeling assumptions. For these projects, the Traffic Engineering Division may request that the Build-out analysis utilize more detailed focused model runs in order to determine the realistic Build-out traffic. The following are guidelines of projects considered to be significant and subject to the revised modeling requirements:

- 1,000 dwelling units or greater
- 20 acres of commercial or greater
- 100 acres of industrial or greater
- any project producing 10,000 daily trips or greater

10.0 CEQA COMPLIANCE

The following type of traffic impacts may be considered to be "significant" under CEQA:

1) When Existing Traffic conditions already exceed the General Plan 2025 target LOS.

2) Project Traffic, when added to Existing Traffic, will deteriorate the LOS to below the target LOS, and impacts cannot be mitigated through project conditions of approval.

3) When Existing plus Project plus Cumulative Traffic exceeds the target LOS, and impacts cannot be mitigated through the TUMF network (or other funding mechanism) or project conditions of approval. Or when the target LOS is exceeded and the needed improvements are not funded.

The City Council at its discretion can approve development projects even in instances where the target LOS is exceeded, if the project has overriding benefits. Examples include projects that provide jobs in a local area, projects that provide needed Traffic improvements that otherwise would not be constructed, projects that provide habitat conservations, projects that implement non-motorized Traffic systems, or projects that provide some unique benefits to the City which outweigh the traffic impacts. These projects are required to mitigate traffic impacts to the extent that it is economically feasible as determined by the Council, based on a value engineering analysis. Projects that have a significant traffic impact and require a finding of overriding benefits may be required to prepare an Environmental Impact Report (EIR). The need to prepare an EIR shall be determined through consultation with the City.

11.0 FORMAT

The format and required elements to be included in the TIA are specified in Exhibit E. Deviations require pre-approval of the Traffic Engineering Division.

The TIA will generally include the following major components, as shown in more detail in Exhibit E:

- Level of Service analysis
- Proposed mitigation measures
- Traffic signal warrant analysis
- On-site circulation analysis
- Funding mechanism identification

In addition to the above, General Plan Amendments, Specific Plans and Specific Plan Amendments shall include the following:

- Specific Plan signalization analysis
- General Plan conformance review

Projects that involve special uses, such as truck-intensive projects or special events, may also be required to perform additional analysis to determine project impacts.

11. 1 Level of Service Analysis

The City of Riverside 2025 General Plan has established minimum LOS standards (Exhibit F). The Traffic Impact Analysis shall address whether or not the required LOS will be achieved after the proposed project is constructed. LOS calculations shall be included with the TIA for all intersections studied. For intersections or roadway links not meeting the required LOS, the intersection or roadway link's LOS must be recalculated using the proposed mitigation measures to verify that the required LOS will be achieved.

11.2 Proposed Mitigation Measures

All studies which propose increasing the number of travel lanes on a road or intersection as mitigation measures, either beyond existing conditions or for 2025 General Plan conditions beyond what is planned for that level of roadway shall clearly identify the impacts associated with such a change. These measures shall be assumed to be in place for the subsequent analyses. Exhibits showing the proposed lane configuration must be provided in the report.

11.3 Traffic Signal Warrant Analysis

The Engineer shall review unsignalized intersections within the study area including the project access points, to determine if signal warrants are met for any of the study year scenarios (existing, existing plus project, cumulative with and without project, etc.) The signal warrant analysis shall utilize the Peak-hour warrants from the most recent edition of California Manual on Uniform Traffic Control Devices (CA-MUTCD). The warrant analysis shall be included in the study appendices.

11.4 On-site Circulation

Include a brief discussion on internal circulation and proposed on-site parking. Show and discuss how vehicles would enter and exit via the main access driveways and identify any potential on-site or off-site circulation problems. This shall include Truck Turning paths for any proposed truck movements.

11.5 Safety and Operational Improvements

The TIA shall examine existing roadway conditions to determine if safety and operational improvements are necessary due to increase in traffic from the project or cumulative projects. The types of improvements to be identified may include, but are not limited to:

- Traffic Signal Improvements
- Additional thru and/or turning (right/left) lanes

- Signing and Striping
- Bus Turnouts
- Stopping/Corner sight distance studies
- Parking restrictions
- Measures to reduce cut-through project traffic in adjacent residential areas
- Potential impacts to adjacent schools
- Right turn overlaps
- Signal Coordination
- Protected/Permissive Phasing Improvements
- Queue lengths/turn pocket length and impacts to adjacent intersections

11.6 Specific Plan Signalization Analysis

For traffic signals which are found to be warranted within or bordering a SP, the TIA shall identify signals which are the responsibility of development, and also those covered under the City Traffic Signal Mitigation Program for Fair Share fee payment by the development.

11.7 General Plan Conformances (GPA/SP/SPA)

The TIA shall identify if the roadway system proposed in the Circulation and Community Mobility Element of the 2025 GP is adequate to accommodate traffic from the project, or if changes to the 2025 GP are proposed as part of the project approval. If a project is proposing a change in the GP circulation, the General Plan Amendment must be approved before the project approval.

11.9 Funding Mechanisms

Identify whether or not the recommended improvements to achieve LOS standards are within the scope of a funding mechanism.

11.10 Special Uses

- **Truck Intensive Uses**

  In addition to the standard TIA requirements, projects which are "truck intensive" (distribution centers, warehousing, etc.) may be required to submit a study addressing the truck access routes, adequacy of the existing streets to be used (in terms of geometry and structural section), safety issues relating to the truck traffic, and the impacts of the truck traffic on existing residences or businesses.

  All trips generated by the project shall be based on ITE's *Trip Generation Manual, 8th Edition* (or latest edition) any other method of calculating trip generation or vehicle mix shall have prior approval from the Traffic Engineering Division. The vehicle mix shall be determined based upon vehicle mix percentages provided in the August 2003 City of Fontana *Truck Trip Generation Study* (or latest version). The PCE factors will be provided by the Traffic Engineering Division and all methodologies shall be approved during the scoping process prior to starting the study. A separate exhibit containing Truck Trip Distribution shall also be prepared.

- **Special Event Uses**

  Special event land uses which do not exhibit typical trip generation characteristics may require unique analysis, including weekend and off-peak scenarios. Examples of such uses would be sports stadiums, racetracks or uses which exhibit substantial traffic peaking associated with special events that are scheduled on a periodic basis.

  The traffic analysis for such uses shall include a traffic management plan to control traffic impacts associated with the special events. Adequate circulation shall be provided to the site and all impacts shall be alleviated to the maximum extent possible.

12.0 SUBMITTAL REQUIREMENTS AND PROCEDURE

a) Submit two (2) copies and one (1) electronic data (PDF format) on a CD of the Traffic Impact Study to the Planning Division public counter, 3rd Floor, City Hall. Attach a Traffic Study Submittal Form shown in Exhibit G (optional)

b) If revisions to the Traffic Impact Study are necessary, re-submit one copy, plus the red lined original study and City comment letter containing the Department's comments

c) Upon approval submit two (2) Final copies and one (1) electronic data copy (PDF) format on a CD of the approved Traffic Impact Study to the Planning Division, 3rd Floor, City Hall, after notification by the Planning Division.

Traffic Impact Analysis Preparation Guide

Exhibits

A. Traffic Impact Analysis Exemptions

B. Scoping Agreement for Traffic Impact Analysis

C. Signalized Intersection Analysis Input Parameters

D. Link Volume Capacities for City of Riverside General Plan Roads

E. Traffic Impact Analysis Format

F. Level of Service Standards

G. Traffic Impact Analysis Submittal Form

H. Traffic Consultants

EXHIBIT A

TRAFFIC IMPACT ANALYSIS EXEMPTIONS

The following types of development proposals may be generally exempt from Traffic Impact Analysis requirements per approval from Public Works Department and Planning Division.

1. All Residential Parcel Maps (4 lots or fewer)

2. Single Family Residential Tracts 10 lots or less

3. Apartments and other Multiple Family projects 75 units or less

4. Plot Plan and Use Cases for projects of one acre or less

5. Lodges, Community Centers, Neighborhood Parks and Community Parks

6. Commercial Storage Facilities

7. Congregate Care Facilities that contain significant special services, such as medical facilities, dining facilities, recreation facilities and support retail facilities.

8. Level 1 Project (101-200 peak hour trips) in areas where a current comprehensive traffic analysis exists, infrastructure funding mechanisms are in place, or roadway system is built out in accordance with the 2025 General Plan within a 0.25 mile radius of the project. The Public Works Department may, however, require a local/focused traffic impact analysis study for projects that exhibit potential adverse impacts to the circulation system.

9. Any use which can demonstrate, based on the Trip Generation Manual published by the Institute of Traffic Engineers (ITE) or other approved trip generation data, during the peak hours on the roadway, trip generation of less than 100 vehicle trips. Uses generating between 50 and 100 peak hour trips may be requested to prepare a local/focused traffic impact analysis study for the purposes of assessing local impacts only.

A Traffic exemption letter shall be prepared and submitted to the Traffic Engineering Division. These exemptions will apply in most cases; however, the Traffic Engineering Division reserves the right to require a traffic impact analysis for any development regardless of size and/or type. The level of analysis shall be determined on an individual basis. The following are examples of conditions under which an exemption would not be granted.

a. The presence of an existing or potential safety problem
b. The location of the development in an environmentally or otherwise sensitive area, or in an area which is likely to generate public controversy
c. The presence of a nearby substandard intersection or street. This is normally considered to be an existing Level of Service "D" or worse or substandard improvements
d. The need for a focused study for access/operational issues
e. A request from an affected agency, such as Caltrans or an adjacent city, which is deemed by the Traffic Engineering Division to be reasonable and rational.

Exhibit B

SCOPING AGREEMENT FOR TRAFFIC IMPACT STUDY

This letter acknowledges the City of Riverside Public Works Traffic Engineering Division requirements for traffic impact analysis of the following project. The analysis must follow the City Traffic Impact Analysis Preparation Guide dated January 2016.

Case No. _____
Related Cases -
SP No. _____
EIR No. _____
GPA No. _____
CZ No. _____
Project Name: _____
Project Location: _____
Project Description: _____

	Consultant	Developer
Name:		
Address:		
Telephone:		

A. Trip Generation Source: ITE *Trip Generation Manual,* most recent edition

Existing Land Use _____ Proposed Land Use _____
Existing Zoning _____ Proposed Zoning _____
Total Daily Trips _____

	In	Out	Total
AM Trips			
PM Trips			

Internal Trip Allowance ☐ Yes ☐ No (_____ % Trip Discount)
Pass-By Trip Allowance ☐ Yes ☐ No (_____ % Trip Discount)
(Attach additional sheet if this is a multi-use site with a breakdown of trips generated)

B. Trip Geographic Distribution: N ____ % S ____ % E ____ % W ____ %
(See attached exhibit for detailed assignment)

C. Background Traffic

Project Completion Year: _____ Annual Ambient Growth Rate: ____ %
Other area projects to be included: _____

Please contact Planning Division or use the most recently provided data

Model/Forecast methodology if required _____

D. Build-out Studies: Does this project require a Build-out Study per TIA Guidelines Section 7.2?
☐ Yes ☐ No

E. Study intersections: (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.)

1. _____ 5. _____
2. _____ 6. _____
3. _____ 7. _____
4. _____ 8. _____

F. Study Roadway Segments (For Build-out Studies):

1. _____ 5. _____
2. _____ 6. _____
3. _____ 7. _____
4. _____ 8. _____

G. Other Jurisdictional Impacts

Is this project within any other Agency's Sphere of Influence or one-mile radius of boundaries? ☐ Yes ☐ No

If so, name of Jurisdiction: _____

H. Site Plan (please attach a legible 11'X17' copy)

I. Specific issues to be addressed in the Study (in addition to the standard analysis described in the Guideline) (To be filled out by Public Works Traffic Department)

_____

_____

Recommended by:

_____ _____
Consultant's Representative Date

_____
Scoping Agreement Submitted on Date

_____
Scoping Agreement Resubmitted on Date

Approved Scoping Agreement:

_____ _____
City of Riverside Date
Traffic Engineering Division

cc: Planning Division

Exhibit C

SIGNALIZED INTERSECTION ANALYSIS INPUT PARAMETERS*

PARAMETER	VALUE
Base Saturation Flow Rate	1900 pc/hr/ln
Heavy Vehicle factor	Determine % heavy vehicle in existing traffic stream based on count data or consultation with City Traffic Engineering Division. Projects with truck intensive uses must convert project trips to passenger car equivalents (PCE=2). Truck intensive uses include heavy industrial, warehousing or as determined by the Traffic Engineering Division.
Grade	Include as appropriate
Exclusive left turn lane	peak hour volume > 100
Exclusive right turn lane	peak hour volume > 350
Dual left turn lanes	peak hour volume > 200
Protected Left Turn Phasing	peak hour volume > 120**
Minimum green time	7 seconds each movement
Cycle length	50 sec to 130 sec
Lost time	Per HCM Exhibit 10-17 (below)

Major street	Minor Street	Number of Phases	L (s)
Protected	Protected	4	16
Protected	Permitted	3	12
Permitted	Permitted	3	12
Permitted	Permitted	2	8

* All values are taken from HCM 2010 Chapters 10 and 16. Any deviation from these parameters requires prior approval from City of Riverside Traffic Engineering Division. Refer to HCM 2010for any default values not specifically identified here.

** Contact City Traffic Engineering Division for other warrants

Exhibit D

City of Riverside Roadway Capacity [1]

Roadway Classification	Number of Lanes	Two-Way Traffic Volume (ADT)[2]		
		Service Level C	Service Level D	Service Level E
Local	2	2,500-2,799	2,800-3,099	3,100+
Collector (66' or 80')	2	9,900-11,199	11,200-12,499	12,500+
Arterial [3]	2	14,400-16,199	16,200-17,999	18,000+
Arterial (88')	4	16,800-19,399	19,400-21,199	22,000+
Arterial (100')	4	26,200-29,599	29,600-32,999	33,000+
Arterial (120')	6	38,700-44,099	44,100-49,499	49,500+
Arterial (144')	8	50,600-57,799	57,800-64,999	65,000+

Notes: (1) All capacity figures are based on optimum conditions and are intended as guidelines for planning purposes only

(2) Maximum two-way ADT values are based on the 1999 Modified Highway Capacity Manual Level of Service Tables

(3) Two-lane roadways designated as future arterials that conform to arterial design standards for vertical and horizontal alignments are analyzed as arterials.

Exhibit E

Traffic Impact Analysis Format

The Traffic Impact Analysis shall generally include the following items, unless waived by the Traffic Engineering Division. Required ***Exhibits*** and ***Tables*** are indicated.

Executive Summary

I. **Introduction**

A. Purpose of the TIA and Study Objectives

B. Site Plan, Site location and the Study vicinity ***(with Exhibit)***

C. Development project identification - City of Riverside Case Number, Public Works Traffic Reference number, any related case numbers i.e. GPA/SP number, EIR number, etc.

D. Development project description

1) Project size and description

2) Existing land use and zoning

3) Proposed land use and zoning

4) Site plan of proposed project (reduced) ***(with Exhibit)***

5) Proposed project opening year

6) Any proposed project phasing

7) Indicate if project is within another agency Sphere of Influence

II. Area Conditions

A. Identify Study Area and Intersections

B. Existing traffic controls and intersection geometrics ***(with Exhibit)*** - include descriptions of existing roads (number of lanes, etc.)

C. Existing traffic volumes - AM and PM peak hour intersection turning movements and roadway links (if required) ***(with Exhibits).*** Peak hour counts during mid-day or weekends may be required

D. Existing LOS at study intersections ***(Table)***

E. Copy of GP Circulation Element in the project vicinity ***(Exhibit)***

F. Description of Transit Services (if any) within the Study Area.

III. Projected Future Traffic

A. Project Traffic (each study year)

1. Trip generation (***Table)*** - Passenger vehicle trips shall be estimated using the rates and methodologies outlined in *Trip Generation Manual,* latest edition, published by the Institute of Transportation Engineers (ITE). Other sources require prior approval by the Traffic Engineering Division. The trips generated by most residential uses should be based on the number of dwelling units. The trips generated by most commercial and industrial uses should be based on gross floor area and so on and so forth. Some unique types of uses may not have rates published by ITE. In this case, a trip generation study may be conducted at similar existing facilities (minimum of 3) in order to determine acceptable trip generation rates to be used in the study. The type and location of these facilities and the trip generation methodology must be pre-approved by the Traffic Engineering Division

2. Trip distribution and assignment ***(with Exhibit)*** – Separate Trip Distribution is required for each land use proposed. Also, separate trip distribution is required for truck traffic if applicable. Exhibits showing the percentages and volumes of the project traffic (ADT, AM, and PM) logically distributed on the roadway system must be provided

3. Other factors affecting trip generation (pass-by trips, internal trips, or modal choice) require prior approval by the Traffic Engineering Division and should be based on accepted traffic engineering documentation such as trip generation manual or other. Pass-by factor shall not be assumed more than 25% and internal capture shall not be assumed to exceed 10%. Also, the reduced or net trips generated by the project should not be used to analyze project driveways and intersection(s) immediately adjacent to the project site; instead a full trip generation should be used. These discounted factors are typically applicable to new fast-food restaurants, gas stations, shopping centers etc.

B. Existing Plus Project

1. Ambient growth rate

2. Existing Plus Project ADT, AM, and PM peak hour volumes ***(with Exhibits)***

3. Existing Plus Project AM and PM Peak Hour LOS ***(Table).***

C. Cumulative with and without Project Traffic

1. Identify location and description of other approved or proposed development projects ***(with Table and Exhibit)***

2. Trip generation of other development projects ***(Table)***

3. Trip distribution and assignment of other development projects ***(with Exhibits)***

4. Cumulative with and without project ADT, AM, and PM peak hour volumes

5. Cumulative with and without project AM, and PM peak hour LOS ***(Table).***

D. Build-out with and without Project Traffic (GPA/SP)

1. Description of Methodology used for pre-processing and post-processing of Model Raw Data

2. Worksheet showing post-processed AM and PM peak hour volumes

3. Model Runs ***(Exhibit)***

4. Build-out with and without project ADT, AM, and PM peak hour volumes ***(with Exhibits)***

5. Build-out with and without project AM, and PM peak hour LOS ***(Table).***

IV. Mitigation Measures

The traffic study should provide the nexus between a project and the traffic impacts to the City transportation network. Level of Service shall be calculated for all study scenarios (A thru D above) with additional improvements if required to either eliminate or bring Significant Impacts to the level of insignificance. This should include improvements currently scheduled for construction prior to project completion ***(Exhibit and Table).***

The Project may be subject to implementation of direct Project mitigation requirements (100% responsibility) and/or contributions toward larger, longer range, improvement projects ("Fair Share"). In addition, the City is concerned with Project equity if one project's mitigation is completing a "first phase" (i.e. easier to implement, less expensive improvement, etc.) of an improvement, while a significantly larger improvement burden remains for other future developments. The City will determine if a Project's mitigation responsibility should be "direct mitigation", Fair Share contributions, or some combination of the two. It should be noted that Fair Share improvement measures must be developed based on the ultimate area-wide roadway improvement needs.

V. Findings and Recommendations

A. Improvements - Proposed on-site and off-site mitigation measures to achieve desirable LOS at impacted intersections and roadways (if required). Identify if improvements are scheduled for construction, funded for future implementation by a regional mechanism, or not funded

B. Traffic signal warrant analysis - Indicate on-site intersections found to meet signal warrants at study year. Also indicate the warrants for offsite unsignalized intersections for fair share of project traffic contribution.

C. Circulation recommendations

1. On-site (***with Exhibit)***

2. Off-site - provide exhibit showing roadway improvements and signal locations

3. Same as above (1 and 2) for subsequent Phasing (if appropriate)

D. Safety and operational improvements – Conduct Sight distance Analysis if warranted by the conditions

E. Fair share Calculations – Project fair share mitigation cost calculations shall include intersections requiring mitigation improvements, existing traffic, year 2025 with project traffic, project traffic, total new traffic, and project % of new traffic.

F. Specific Plan signalization analysis (SP only)

G. General Plan Conformance (GPA and SP only) ***(show any proposed General Plan Amendments in Exhibit)***

H. Identify existing or proposed Regional funding mechanisms

Exhibit F

Level of Service Standards

"City of Riverside allows Level of Service (LOS) D to be used as the maximum acceptable threshold for the study intersections and roadways of Collector or higher classification. LOS C is to be maintained on all street intersections. For projects in conformance with the General Plan, a significant impact occurs at a study intersection when the peak hour LOS falls below C, or D per CCM-2.3 as noted below. For projects that propose uses or intensities above that contained in the General Plan, a significant impact at a study intersection is when the addition of project related trips causes either peak hour LOS to degrade from acceptable (LOS A thru D) to unacceptable levels (E or F) or the peak hour delay to increase as follows:

LOS A/B	=	By 10.0 seconds
LOS C	=	By 8.0 seconds
LOS D	=	By 5.0 seconds
LOS E	=	By 2.0 seconds
LOS F	=	By 1.0 seconds

Policy CCM-2.3:
Maintain LOS D or better on Arterial Streets wherever possible. At key locations, such as City Arterials that are used by regional freeway bypass traffic and at heavily traveled freeway interchanges, allow LOS E at peak hours as the acceptable standard on a case-by-case basis.

Exhibit G

TRAFFIC STUDY SUBMITTAL FORM

CASE #	APN#

Related Cases: (If Applicable)

FAST TRACK AUTHORIZATION: (If Applicable)	DATE:

APPLICANT'S NAME/ADDRESS/PHONE NUMBER:

_____

_____

_____

_____

_____

APPLICANT CONSULTANT NAME/ADDRESS/PHONE NUMBER:

_____

_____

_____

_____

_____

PROJECT NAME: _____

LAND USE: _____

PROJECT LOCATION: _____

SECTION(S): _____ **TOWNSHIP:** ___ **N/S** **RANGE:** _____ **E/W**

SUPERVISORIAL DISTRICT: _____ **ROAD BOOK PAGE/GRID:** _____

THOMAS BROS PAGE/GRID: _____

NEAREST MAJOR INTERSECTION: _____

FOR DEPARTMENT USE ONLY

STAFF ASSIGNED: _____

CASE NUMBER: _____

PWTR NUMBER: _____

FEE RECEIPT NUMBER: _____