

CITY OF RIALTO
PUBLIC WORKS DEPARTMENT

TRAFFIC IMPACT ANALYSIS
REPORT GUIDELINES AND REQUIREMENTS

December 2013



Marcus L. Fuller, P.E., P.L.S.
Public Works Director/City Engineer

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Adopted by the City Council on _____

AUTHORITY

The City of Rialto regulates development within the City through its Municipal Code, General Plan Policies, in addition to conformance with State Laws and Local Agreements. The enactment of the Congestion Management Plan (CMP) law as contained in Government Code Sections 65088 and 65089 and the City's adoption of the San Bernardino County Congestion Management Plan set forth the requirements for Traffic Impact Analysis Reports for specific projects.

INTRODUCTION

In 1989, the State of California added Chapter 2.6 by statute along with Chapter 106, Section 9 to address Congestion Management. In 2002, the statute was amended with Section 65088 being added. In this section, the state concluded the economy was critically dependent upon transportation and that the street and roadway system in existence was designed for far fewer vehicles than were currently using the system. It established the requirement for federal, state and local agencies to join with transit districts, business, private and environmental interests to develop and implement comprehensive strategies to develop appropriate responses to transportation needs. Section 65089 mandated a congestion management program that required biannual updates for every county that included an urbanized area and it required inclusion of every city as well as the county. The City of Rialto joined with the County of San Bernardino and the surrounding cities in developing a unified Congestion Management Plan that was first adopted November 4, 1992 and subsequently amended.

The City of Rialto in conformance with State and Local Laws requires development projects to analyze and report on traffic and circulation impacts caused by new development or re-development. This requirement also applies to General Plan Amendments (GPA), Specific Plans (SP), and Specific Plan Amendments (SPA). This requirement for analysis is accomplished through the use of a Traffic Impact Analysis (TIA) that is submitted, reviewed and approved by the Rialto Public Works Director/City Engineer. The TIA must be prepared in conformance with requirements established by the City of Rialto, and must be prepared, signed and sealed by the Traffic or Civil Engineer, registered in the State of California, who is qualified to practice traffic and/or civil engineering in the State of California.

This Guideline identifies the required format and methodology that is generally required to be utilized in the preparation of a TIA. The procedures identified in this Guideline are to ensure consistency of analysis and adequacy of the information provided for any proposed project or development generating additional traffic that requires analysis by the City of Rialto. This Guideline is not meant to be all inclusive. Each TIA submitted to the City will be subject to review and comment, and may include additional requirements deemed necessary to adequately address traffic issues identified by the City.

PURPOSE

A TIA is generally required to identify potential traffic impacts and to determine appropriate traffic mitigation measures as a part of various types of environmental documents, or as a separate document required by the City, to adequately assess the impacts of a proposed project. Unless exempted (see **Exhibit A** for exemptions) by City, a TIA will be required in the following cases:

- **Proposed Development:** Any development project that is likely to have a traffic impact on the City's circulation system. Traffic impacts to be considered are: increased traffic volumes on any street; any operational traffic issues (i.e. traffic signal operations, increased delay, restricted pedestrian movements, modified roadway access, limited sight distance, inadequate ingress/egress, inadequate storage volume for required turning movements, etc.), or other concerns identified by the City.
- **General Plan Amendments and Specific Plans:** Will the circulation system for the area be able to provide the required level of service (LOS) with the additional traffic generated by the proposed land use changes? If not, what improvements will be required in order to provide the required LOS?

In either case, City staff will insure the required TIA fully complies with the California Environmental Quality ACT (CEQA). The City will take responsibility for the preparation of the TIA, in accordance with the following requirements:

1. The Guideline will develop a consistent scope of work for each TIA, allowing for project specific variations.
2. The City will provide the developer an initial scope of work, with final review and approval prior to preparation of the TIA (i.e. a signed Scoping Agreement)
3. The City will select the most qualified consultant for preparation of a TIA for a significant project, and will approve a scope of work through a professional services agreement; City staff will determine the cost of the proposed work for City agreements, in accordance with the State law and City guidelines.
4. At the City's discretion, the developer's may contract directly with the consultant selected by the City to prepare the TIA based on the approved Scoping Agreement; or the developer shall deposit with the City the cost of preparing the TIA as determined by the City. The developer shall also deposit any required administrative review fees, which are non-refundable.
5. The City will coordinate preparation of the TIA, and the developer may not have any contact with the City's selected consultant, other than as may be expressly approved in writing by the City.
6. A draft copy of the TIA will be provided to the City for review. The City will coordinate a review meeting with the developer to discuss comments regarding the draft TIA after initial review and discussion with the engineer.
7. The review meeting is a time to accept comments from the developer. Acceptability is at the sole discretion of the City. A formal comment letter will be prepared to identify items to be addressed in the final TIA. Additional scope of work, or new analysis to be included in the TIA, may be identified which will require additional deposits by the developer. The draft TIA may be deemed acceptable, and preparation of the final TIA requested.

8. The final TIA, when accepted by the City, will be utilized as the traffic impact study for the project, including any supporting data or studies available from the City.

DISCLAIMER

The City is not responsible for, nor liable to the developer for any costs associated with additional engineering fees, construction costs, project delay costs, loss of anticipated profits, or any other costs associated with this Guideline, or policies or procedures enacted pursuant thereto.

This Guideline may be substantially amended following review by the Transportation Commission and approval by the City Council. Users should review this Guideline and confirm that the Guideline being referenced is the latest adopted edition prior to initiating preparation of a TIA. Questions on the policies and procedures identified in this Guideline should be directed in writing to the Public Works Director/City Engineer.

This Guideline does not replace any City of Rialto Engineering standards, and is not intended to be all inclusive. The Guideline identifies the minimum requirements for preparation of a TIA for a development project based on the limited amount of data available at the time of processing. All TIA's must be based on sound traffic engineering principles using sound traffic engineering judgment, with the latest information available to adequately identify and address traffic impacts associated with new development or redevelopment. TIA's must be acceptable to the Public Works Director/City Engineer, as identified in the Rialto Municipal Code, as required by State Law, or the adopted Congestion Management Plan that require the preparation of TIA's.

The City of Rialto has adopted a Circulation Element as part of its 2010 General Plan Update which serves as the basis for the Traffic and Circulation determinations. It must be noted that the Circulation Element of the 2010 General Plan Update, adopted Specific Plans, are "broad brush" concepts and are not to be interpreted as anything more precise. The City of Rialto is the sole agency that shall interpret these documents. Additionally, the City may use for reference the following: Manual on Uniform Traffic Control Devices for Streets and Highways, the most recent ITE Trip Generation Informational Report, the ITE Parking Generation Report, the Caltrans Traffic Manual, the Caltrans Design Manual,, the most recent Highway Capacity Manual (HCM), the American Association of State Highway Transportation Officials (AASHTO) Manuals, the "Standard Specifications for Public Works Construction" (Green Book) and other reports or research documents.

EXEMPTIONS

Certain types of projects, because of their size, nature, or location, maybe exempt from the requirement of preparing a TIA. The types of projects that are generally exempt from preparing a TIA are described in **Exhibit A** of this document.

The Public Works Director/City Engineer or Transportation Commission may require that a TIA be prepared for any project, regardless of size, nature or location, if there are concerns of traffic safety, operational issues, or if a project is located in an area significantly impacted by traffic.

SCOPING AGREEMENT

In order to accommodate the development process, the developer shall solicit input from, and obtain preliminary approval from the Public Works Director/City Engineer of the overall scope and content of a TIA prior to its preparation. The preliminary review and approval of the overall scope and content shall be identified in a “Scoping Agreement”. A Scoping Agreement shall be approved prior to the collection of traffic count data or other elements of the TIA. A “Project Scoping Agreement” form is attached as **Exhibit B**, and shall be prepared by the developer’s traffic engineering consultant. The form is intended to give guidance and conceptual agreement of the following items to ensure the draft TIA will adequately identify and address traffic impacts associated with the development project:

- Study Area
- Study Intersections to be analyzed
- Study roadway links to be analyzed
- Assumptions on the amount of background traffic growth
- Project trip generation rates and amounts, including truck allocation by number of axels, and possibly trips (if any).
- Source for trip generation rates.
- Project trip distribution and trip assignment by vehicle type
- Integration into existing models for traffic forecasts
- Consideration of trip generation from other projects impacting analysis segments or intersections that would be added within the time horizon anticipated with the current project.
- Solicit comments from City of Rialto staff from Development Services, Fire, Utilities and Public Works and include those comments to the Department of Public Works for review and consideration.
- Solicit input from any agency or jurisdiction within a one mile radius of the project that may be impacted (impact determined by affected agency).
- For projects within a one mile radius of Caltrans facilities or state highways, and/or impact the facility/highway, coordinate with Caltrans.

The initial scoping agreement is intended to be the basis of a Draft TIA. Review of the Draft TIA may reveal that one or more Scoping Agreements or scoping meetings to adequately address development related traffic impacts are needed. The Engineer preparing the TIA should be familiar with all aspects of the project, site and local conditions that may affect the final recommendations and development conditions. Approval of a Scoping Agreement in no way relieves the developer from conditions of approval established by the City in a more complete project review process conducted by the Development Review Committee, Transportation Commission, Planning Commission and/or City Council.

METHODOLOGY

The following is established as the **minimum** requirements of the City of Rialto with all material subject to the review and approval of the Public Works Director/City Engineer. In accordance with State Law, TIA's which identify or recommend any traffic or transportation improvements (i.e. traffic signals, geometric design changes, street widening and land dimensioning, etc.) will be required to be stamped and signed by a California registered professional traffic or civil engineer responsible for preparation of the TIA. The TIA shall contain a separate section to include an engineer's estimate of cost related to required improvements, the source and value of the improvements in a detailed manner (no lump sum estimates), including design, right-of-way acquisition, construction, project administration, etc.

Generally, in addition to the requirements of CEQA and the adopted CMP's, a TIA shall be required for any project that has the potential to cause any one of the following to occur:

- Degrade 1) existing street section 2) an existing signalized intersection 3) an un-signalized intersection to below the existing level of service.
- Cause any of the above to be lower than level of service "C" during any peak hour using the HCM methods of analysis on any individual existing traffic movement
- Generate more than 10% of its traffic from trucks.
- Intensify the usage of the site above the level currently allowed by zoning codes and requires a CUP, zone change, variance or other discretionary permit.
- Cause any existing or proposed intersection or access point to meet traffic signal or stop warrants

Intersection Analysis

The developer's traffic engineer shall use the Transportation Research Board (TRB) Highway Capacity Manual (HCM), most recent edition, unless otherwise approved by the City Engineer. All software used in the analysis shall be approved by the City prior to use.

Signalized intersection Level of Service shall be analyzed using the Operational Method as described in Chapter 16, Section II. Refer to **Exhibit C** for default input parameters. Defaults not specifically provided in **Exhibit C** for both signalized and un-signalized intersections are to be established in accordance with the HCM, most recent edition. Un-signalized intersections are to be analyzed using Chapter 17 of the HCM.

The traffic engineer responsible for the preparation of the TIA shall 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 V/C ratios exceeding 1.0, traffic signal timing/phasing different from existing conditions, etc.). When traffic impacts are identified, the TIA shall address the most effective solution to the impacts created. Mitigation measures shall also be identified, unless there is adequate explanation as to why the traffic impact is considered insignificant and need not be mitigated, subject to prior approval by the Public Works Director/City Engineer and the Transportation Commission. Right-turn-on-red, and changes to traffic signal timing can be incorporated in a signalized intersection analysis, but any traffic signal

timing changes must be specifically identified in the TIA recommendations with cautions or impact conclusions identified if the traffic signal timing changes are not otherwise allowed. If traffic signal timing changes are proposed to traffic signals that are part of a coordinated system, the TIA must also analyze the entire coordinated system.

Roadway Link Analysis

Roadway link analysis shall be performed by comparing the Average Daily Traffic (ADT) on a segment to the Roadway Capacity Table contained in **Exhibit D**. It cannot be assumed that intersection analyses at both ends of the roadway segment are the controlling factor. The TIA shall discuss traffic operations parameters in the event existing traffic signal timing must be changed at intersections in order to achieve adequate capacity, as well as discuss the roadway capacity issues where V/C ratios exceed 1.0 and how they are to be corrected on or by the opening date of the project.

Roadway link analysis is always required for a TIA analyzing a GPA, SP or SPA.

STUDY AREA

In general, the study area shall include any intersection of streets on which at least one street is classified as a Collector or above, where the proposed project, along with adjacent projects, opening in the same time frame, generate more than 50 peak hour trips (truck trips adjusted to PCE) up to 5 miles from the project site. The study area shall include any freeway interchanges within 2 miles that is designated to take more than 40% of total traffic from the project, irrespective of the total number. Any additional intersections of concern which include, but are not limited to, project driveways, additional intersections located in the vicinity of schools, shopping areas, or other locations of high trip generation and roadway links that exceed V/C ratio as a result of project traffic, as determined by the City of Rialto.

ANALYSIS PARAMETERS

Single Site Developments, Tracts, Plot Plans, Use Cases, etc.

The TIA shall contain the following parameters:

- 1. Existing Conditions.** Existing traffic volumes (ADT and Peak Hours) will be obtained to determine current conditions. This constitutes the environmental setting for a CEQA analysis at the time that the hearing body reviews the project. Traffic count data shall be new data, unless required traffic count data may be obtained from another TIA approved by the City not more than six months prior to preparation of the subject TIA. Any exception to this must be requested prior to approval of the Scoping Agreement.

- 2. Project Completion (existing + ambient background growth + project).** Traffic conditions prior to the time that the proposed development is completed will be estimated by increasing the existing traffic counts by an appropriate background growth rate varying from 1% to 5% (as determined by the City), projected forward to and including the year the project is estimated to be complete. Traffic generated by the proposed project will then be added to existing traffic to generate the total traffic impacts on the circulation system at the date of project completion. The impacts of this traffic on the circulation system shall be analyzed. These traffic impacts will be the basis for determining the project's specific traffic impacts, mitigation measures, and conditions of approval related to the project. See number 3 below for possible additional impacts and conditions.
- 3. Cumulative Conditions (existing + growth + project + cumulative).** Traffic generated by other approved projects in the study area shall be identified and added to the Project Completion traffic identified in Cumulative Conditions. Cumulative traffic may include projects that are proposed and in the review process, but not yet fully approved. Of primary concern will be projects that add traffic to the specific intersections and roadway segments being analyzed. They would, in general, be within 1 mile of the intersections studied, project location, or roadway segment already being analyzed. This analysis shall include any freeway ramp location with at least 20% of project traffic designated to use the freeway ramps. This total traffic scenario shall be analyzed for traffic impacts on the target Level of Service (LOS), and if the LOS cannot be maintained or achieved, the area of impact shall be identified along with the required mitigation. If the traffic impacts identified are within existing impact fees, CMP or other approved funding sources applicable to the project, then payment of such fees may be considered as cumulative mitigation in the conditions of approval. If the transportation improvements are not funded through existing CMP impact fees or other approved funding mechanisms, or if the requirement for the mitigation exists upon completion of the project, the developer may be required to complete the improvement as a condition of approval. Such work may be subject to development agreements, reimbursement agreements or other mechanisms at the sole discretion of the City.
- 4. Proposed Mitigation Measures.** Consideration shall be made for existing right-of-way, availability of receiving lanes for any additional thru or turn lanes or transitions, environmental constraints, utility conflicts, and improvement costs. Should any mitigation measures be determined to be infeasible, as determined and approved by the City, they shall be discussed in the TIA and the factors resulting in the mitigation being infeasible shall be identified along with the probable unsolved impacts created.

All TIA's that propose increasing the number of travel lanes on a roadway or at an intersection that is either beyond the existing conditions or General Plan build out conditions, shall clearly identify the impacts associated with such a change. The TIA shall identify a funding mechanism for such improvements and include a discussion of funding available for the required improvements. If there are no existing funding mechanisms in place, the TIA shall include a proposed method to accomplish the proposed mitigation along with a probable time line for completion.

Exhibits shall also be included in the TIA to show the feasibility of the proposed improvement.

- 5. Project Phasing.** In the event the proposed project is to be constructed in phases, traffic conditions shall be analyzed as above for each completion year. Each successive phase shall include all prior phases. Mitigation measures required in the final phases may be required prior to the later phase if at the discretion of the City, deemed necessary for orderly development. Later phases will be granted credit for such construction advances; said credit shall be determined by the City.

General Plan Amendments, Specific Plans, Specific Plan Amendments or Land Use

Development proposals that include a General Plan Amendment, Specific Plan, Specific Plan Amendment, Zone Change or other approval that increases traffic beyond that analyzed in the approved General Plan will be required to perform a build-out analysis to evaluate long-term impacts. The required analysis will determine if the Circulation Element of the General Plan is adequate to accommodate the projected traffic at the target LOS, or if additional mitigation is necessary. A phasing plan for all Specific Plans or Specific Plan Amendments that identifies mitigation for each development phase is also required.

TRAFFIC VOLUMES

Existing Traffic. Existing traffic shall be obtained from new traffic counts, as approved by the Public Works Director/City Engineer. No traffic counts shall be older than six months. Traffic counts should be conducted on Tuesdays, Wednesdays, or Thursdays during weeks not containing a holiday, and conducted in favorable weather conditions. Traffic counts within 1 mile of a school must be taken while the school is in session. All traffic counts shall be included in the appendices to the TIA.

Future Traffic. An appropriate background growth rate will be determined by the City for existing plus project analysis. In addition, projects that have been approved or are in the approval process (approved plot plans, tentative tracts, condition use permits or other development approval) shall be added to the proposed development trip generation to determine projected traffic at "Opening Year" of the project or any subsequent phase. The TIA shall identify the "other projects" that have been included from the list of projects provided by the City and accurately plot them on a location map in relation to the project site.

Build-Out Studies for General Plan Amendments and Specific Plans or Amendments. Certain large scale Specific Plans and General Plan Amendments have the potential to create traffic impacts that are significantly greater than the traffic projections used in the current traffic models. For these types of projects, the Public Works Director/City Engineer may request that the Build Out analysis utilize a model approved by the City to develop a more detailed focused model run in order to determine the projected Build-out traffic. The consulting traffic engineer shall use the traffic model projections as the basis for determining turning movement volumes to be used in the intersection analysis. A post processing methodology in the National Cooperative Highway Research Program (NCHRP) may be used to calculate AM and

PM peak hour turning movement volumes from the link volume ADT. A manual assignment of the project traffic added to the Build Out traffic typically be used to determine total Build Out traffic with Project. The TIA shall include a discussion of how manual turning movement assignments were developed.

The following guidelines for projects considered significant and subject to the revised modeling requirements are:

- 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

CEQA COMPLIANCE

The following types of traffic impacts are considered to be "significant" under CEQA:

- 1) When existing traffic conditions exceed the General Plan 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 Background growth plus Cumulative Traffic exceeds the target LOS, and impacts cannot be mitigated through the CMP 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, may, at its discretion, approve development projects even in the 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 conservation, 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 City 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.

FORMAT

The format and required elements to be included in the TIA are specified in **Exhibit E**. Any deviation requires written pre-approval from the Public Works Director/City Engineer.

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

- Identification of safety and operational improvements
- Funding mechanism identification
- Engineering estimates for mitigation measures

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
- Identification of regional funding mechanisms.

Projects that involve the following may also be required to perform additional analysis to determine project impacts:

- Special uses
- Truck intensive projects
- Special events

Level of Service Analysis

The City of Rialto 2010 General Plan Update has established minimum LOS standards. Specifically, General Plan Policies 4-1.20 and 4-1.21 establish the minimum standards to be applied to any TIA, as follows:

Policy 4-1.20: Design City streets so that signalized intersections operate at Level of Service (LOS) D or better during the morning and evening peak hours, and require new development to mitigate traffic impacts that degrade LOS below that level. The one exception will be Riverside Avenue south of the Metrolink tracks all the way to the City's southern border, which can operate at LOS E.

Policy 4-1.21: Design City streets so that unsignalized intersections operate with no vehicular movement having an average delay greater than 120 seconds during the morning and evening peak hours, and require new development to mitigate traffic impacts that increase delay above that level.

The TIA shall address whether or not the required LOS will be achieved after the proposed project is constructed. LOS calculations shall be included in the TIA for all intersections studied. Intersection LOS shall be calculated at current timing and noted as a mitigation measure if traffic signal timing changes are required to achieve acceptable LOS. For intersections or roadway links not meeting the required LOS, the LOS for the intersection or roadway links must be recalculated using the proposed mitigation measures to verify that the required LOS will be achieved. For projects with heavy truck usage, Passenger Car Equivalents (PCE's) approved by the City, shall be utilized in the analysis.

Proposed Mitigation Measures

All TIA's that propose increasing the number of travel lanes on a road or at an intersection as a mitigation measure, either beyond existing conditions or beyond General Plan ultimate conditions, shall clearly identify the impacts associated with such a change. The TIA shall identify funding mechanisms available to fund the improvements and provide exhibits showing the lane configuration. The exhibits illustrating the improvements must be to scale, but may be conceptual in nature. The exhibits while being conceptual must still show existing and any required right of way, any physical barriers that might preclude making the proposed improvements (i.e. railroads, drainage courses requiring bridges or culverts, power lines, easements, etc.). Any other feature or requirement that might render the improvement unfeasible (i.e. adjacent jurisdiction, grade differential, etc.) shall also be identified. The purpose is to ensure that conditions of approval for the project are indeed possible and within ordinary means to accomplish.

Exhibits, as described above, are required for the following:

- Improvements, whether on-site or off-site, necessary to mitigate impacts under Existing traffic plus Background growth plus Project Conditions.
- Improvements abutting the proposed project and that are necessary to mitigate impacts under Existing traffic plus Background growth plus Project plus Cumulative Project Conditions.
- All improvements where the required improvements exceed the number of lanes, under any traffic scenario, that would typically be developed at full development of the roadways per the General Plan and the Design Standards for the designated roadway.

In all cases the feasibility of the proposed improvements must be demonstrated and the availability of right of way must be ascertained. Acquisition of additional right of way, if necessary, is the responsibility of the project proponent.

Traffic Signal Warrant Analysis

The consulting or project traffic engineer shall review intersections within the study area, including the project access points, to determine if traffic signal warrants are met for any of the study year scenarios. The traffic signal warrant analysis shall utilize the Caltrans peak-hour warrants for existing intersections and the Caltrans daily warrant for new intersections. The warrant analysis worksheets shall be included in the TIA appendices. There shall be a minimum 10 hours of actual counts that include the 8 highest hours at the subject intersection. Intersections connecting to arterials will provide the analysis for the Interruption of Traffic warrant as well as the Volume warrants. Traffic counts shall be made simultaneously on all approaches.

If the TIA states that "a traffic signal is warranted" (or "a traffic signal appears to be warranted" or similar statement) at an existing un-signalized intersection under current existing conditions, 8-hour approach traffic volume information must be submitted in addition to the peak hourly turning movement counts for that intersection.

On-Site Circulation

The TIA shall include a discussion of on-site or internal circulation and parking. The TIA shall show and discuss how vehicles would enter and exit via the access driveways and identify any potential on-site and/or off-site circulation problems. The TIA shall include truck turning paths for proposed truck movements, stacking issues for trucks or passenger vehicles attempting to enter/exit the site and potential conflicts with mixed vehicle driveway usage.

Safety and Operational Analysis

The TIA shall examine existing physical roadway conditions including geometrics to determine if safety and/or 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:

- Need for turning lanes - analysis shall consider operational needs of adjacent undeveloped properties.
- Traffic signal improvements.
- Additional thru and/or turning lanes.
- Parking restrictions
- Extensions of existing streets along with drainage considerations
- Modification to existing traffic signage or striping.
- Bus turn-outs
- Stopping and/or sight distance concerns
- Measures necessary to reduce/prevent cut-through project traffic in residential areas
- School impacts
- Right turn overlaps
- Traffic signal coordination
- Protected/permissive phasing improvements
- Queue lengths/turn pocket lengths and impacts to adjacent intersections
- Location of driveways including proximity to existing driveways and intersections
- Turning radius
- Access/Egress to proposed project

Specific Plan Signalization Analysis

For traffic signals which are found to be warranted within or bordering a Specific Plan, the TIA shall identify traffic signals which are the responsibility for the development, and also those covered under the City Traffic Impacts Mitigation fee program covered by fair share payments from the development. Responsibility for construction of improvements will be addressed in the conditions of approval.

General Plan Conformance

The TIA shall identify if the roadway system proposed in the Circulation Element of the City's General Plan is adequate to accommodate traffic from the project, or if changes to the General Plan are recommended as part of the project approval. If a project is proposing a change in the General Plan Circulation Element, the General Plan Amendment must be approved before the project can be approved.

Funding Mechanisms

The TIA shall identify funding sources for recommended mitigation improvements to achieve LOS standards.

SPECIAL USES

Truck Intensive Uses

In addition to the standard TIA requirements, projects which are "truck intensive" (i.e. distribution centers, warehousing, surface mining, etc) shall be required to submit a TIA addressing the truck access routes, adequacy of the existing streets to be used (i.e. roadway geometry and pavement structural section), traffic safety issues (i.e. speed differential, merging etc.) relating to the truck traffic, and the impacts of the truck traffic on existing residences or businesses within the study area, in the TIA.

Special Note: The City of Rialto does not accept High Cube (152) trip generation rate without prior approval. Generally, High Cube Warehousing will only be considered when a specific tenant has been identified by the developer, is the owner of the property, or has a minimum 10 year lease and can demonstrate both high levels of mechanization and palletized operations. ***All warehousing projects shall use the ITE Warehouse (150) trip generation rate, unless otherwise approved by the City.***

Special Note: The City of Rialto no longer accepts the City of Fontana, Truck Trip Generation Study, August 2003, as the basis for determining the percentage of truck trips generated by a warehousing project. The City of Rialto implements South Coast Air Quality Management District (AQMD) recommendations requiring that TIA's prepared for warehousing projects use a minimum truck rate of 40% of total project traffic. Additionally, the City requires that the truck mix for warehousing to be in accordance with the current measured rates within the City, as follows: 70% 4-axel, 28% 3-axel, and 2% 2-axel trucks. PCE conversion rates, in accordance with the San Bernardino CMP, shall be applied as follows: PCE = 3 for 4-axel and above, PCE = 2 for 3-axel and PCE = 1.5 for 2-axel trucks.

Truck distribution shall use designated truck routes unless otherwise approved. Trucks shall be routed in the direction of intended travel to the nearest freeway access point in the desired direction of travel. Opposite direction of travel to freeway ramps (even if slightly closer) is not permitted unless justified and previously approved in the Scoping Agreement. A separate exhibit identifying the Truck Trip Distribution shall be included in the TIA.

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 are sports stadiums, racetracks, or use which exhibit substantial traffic peaking associated with special events that are scheduled on a periodic basis.

The TIA 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.

SUBMITTAL REQUIREMENTS AND PROCEEDURE

- 1) In general, a project Scoping Agreement form shall be submitted for approval prior to preparation of any TIA. The Scoping Agreement shall be reviewed and signed by the Public Works Director/City Engineer and the consulting or project traffic engineer prior to initiating any work on the TIA. The Scoping Agreement shall be submitted along with applicable processing fees determined. Scoping Agreement processing fees are in addition to any technical review fees established by the City for review and approval of the TIA.
- 2) The project Scoping Agreement form must indicate if the project is part of a Specific Plan (SP) and, if it is part of a SP, must provide a listing of other approved and active projects within the SP, and whether or not a SP Amendment is proposed.
- 3) The Scoping Agreement must also show the land use designation in accordance with the City's General Plan and the proposed land use designation.
- 4) Following approval of the Scoping Agreement, submit two (2) copies and one (1) electronic data (PDF format) of the TIA, with applicable review fees, to the Public Works Department at 335 West Rialto Ave, Rialto, CA
- 5) If revisions to the TIA are necessary, resubmit one (1) copy and one (1) electronic data (PDF format) of the TIA, plus the red lined original TIA, and one (1) copy of the City's TIA review letter with appropriate response provided by the developer's traffic engineer applicable to each City comment.
- 6) Upon approval, submit one (1) final copy and (1) electronic data copy (PDF) of the approved TIA to the Planning Division, Development Services Department 150 S. Palm Ave, Rialto, CA and to the Public Works Department at 335 West Rialto Ave, Rialto, CA

TRAFFIC IMPACT ANALYSIS

Preparation Guide

Exhibits

- A. Traffic Impact Analysis Exemptions
- B. Scoping Agreement
- C. Signalized Intersection Analysis Input Parameters
- D. Link Volume Capacities for City of Rialto General Plan Streets
- E. Traffic Impact Analysis Format
- F. Level of Service (LOS) Standards
- G. Traffic Impact Analysis Submittal Form

Exhibit A

TRAFFIC IMPACT ANALYSIS

EXEMPTIONS

The following types of development projects may be exempt from the Traffic Impact Analysis requirements with approval from the Public Works Director/City Engineer:

1. Residential Parcel Maps (4 lots or less)
2. Single Family residential subdivisions (10 lots or less)
3. Apartments and other Multiple Family projects (50 units or less)
4. Plot Plans and Use Cases for projects of one acre or less
5. Lodges, Community Centers, Neighborhood Parks and Community Parks.
6. Commercial Storage Facilities (less than 10 acres)
7. Congregate Care Facilities that contain significant special services, such as medical facilities, dining facilities, recreations facilities and support retail facilities.
8. Projects with 51-100 or less peak-hour trips in areas where there exists a current (less than one year old) comprehensive traffic analysis, where infrastructure funding mechanisms are in place, or the roadway system is built out in accordance with the General Plan within a 0.50 mile radius. The Public Works Director/City Engineer may require a local/focused TIA for projects that have the potential to create adverse impacts to the circulation system.
9. Any proposed use which can demonstrate, based on the most current Trip Generation Manual, published by the Institute of Traffic Engineers (ITE), or other approved trip generation data, that there will be less than 50 vehicle trips during peak hours.

These exemptions will apply in most cases; however, the Public Works Director/City Engineer reserves the right to require a TIA for any development, regardless of size and/or type. The level of analysis shall be determined by the Public Works Director/City Engineer on an individual basis. The following are examples of situations and/or conditions where an exemption would **not** be granted:

- a. The presence of an existing safety problem
- b. The location/development is likely to create or has the potential to create a safety problem
- c. The location of the development is in an environmentally or otherwise sensitive area, or in an area which is likely to generate public controversy.
- d. The presence of a nearby substandard street or intersection. This is normally any street or intersection at Level of Service (LOS) D or worse or where substandard improvements exist (street width, pavement section, improvements, substandard signals etc.)
- e. There is a need for a focused study due to access, circulation or operational issues.
- f. A request for any affected agency (adjacent City, County, Caltrans) which is deemed by the Public Works Director/City Engineer to be reasonable and rational.

Exhibit B

SCOPING AGREEMENT FOR TRAFFIC IMPACT ANALYSIS

This following form shall be used to acknowledge preliminary approval of the scope for the traffic impact analysis (TIA) of the following project. The TIA must follow the City of Rialto Traffic Impact Analysis – Report Guidelines and Requirements, adopted by the City Council on _____.

City of Rialto
Traffic Impact Analysis
Scoping Agreement

Case No. _____

Related Cases -

SP No. _____

EIR No. _____

GPA No. _____

ZC No. _____

Project Name: _____

Project Address: _____

Project Description: _____

Consultant

Developer

Name: _____

Address: _____

Telephone: _____

Fax: _____

1. Trip Generation Source: _____

Existing GP Land Use _____ Proposed Land Use _____

Current Zoning: _____ Proposed Zoning: _____

Total Daily Project Trips: _____

	Current Trip Generation			Proposed Trip Generation		
	In	Out	Total	In	Out	Total
AM Trips	_____	_____	_____	_____	_____	_____
PM Trips	_____	_____	_____	_____	_____	_____
Internal Trip Allowance	Yes	No	(_____ % Trip Discount)			
Pass-By Trip Allowance	Yes	No	(_____ % Trip Discount)			

For appropriate land uses, a pass-by trip discount may be allowed not to exceed 25%. Discount trips shall be indicated on a report figure for intersections and access locations.

2. Trip Geographic Distribution: N _____ % S _____ % E _____ % W _____ %

(Detailed exhibits of trip distribution must be attached with Trucks as a separate exhibit)

3. Background Growth Traffic

Project Completion Year: _____ Annual Background Growth Rate: _____%

Other Phase Years _____

Other area projects to be considered: _____

(Contact Planning for Lists. Correlate projects to exhibit map and also indicate which projects have been included in study area forecasts for existing + background growth + project + cumulative)

Model/Forecast methodology: _____

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

- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____
- 6. _____
- 7. _____
- 8. _____
- 9. _____
- 10. _____

5. Study Roadway Segments: (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies received.)

- | | |
|----------|-----------|
| 1. _____ | 6. _____ |
| 2. _____ | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

6. Other Jurisdictional Impacts

Is this project within any other Agency's Sphere of Influence or within one-mile of another jurisdictional boundary? Yes No

If so, name of Jurisdiction: _____

7. Site Plan (please attach 11" x 17" legible copy)

8. Specific issues to be addressed in the Study (in addition to the standard analysis described in the Guideline) (to be filled out by the City of Rialto Public Works Department) (NOTE: If the traffic study states that "a traffic signal is warranted" (or "a traffic signal appears to be warranted," or similar statement) at an existing un-signalized intersection under existing conditions, 8-hour approach traffic volume information must be submitted in addition to the peak hourly turning movement counts for that intersection.)

9. Existing Conditions

Traffic count data must be new or within one year. Provide traffic count dates if using other than new counts.

Date of counts: _____

NOTE Fees are due and must be submitted with, or prior to submittal of this form. The City will not process the Scoping Agreement prior to the receipt of the processing fee.

Fees Paid: \$ _____ Date _____

Recommended:

Scoping Agreement Submittal date _____

Scoping Agreement Resubmittal date _____

Applicant/Engineer

Date

Land Use Concurrence:

Development Services Department

Date

Approved by:

Public Works Department

Date

NOTE:

The Applicant/Engineer acknowledges that the Scoping Agreement is intended to assist in the preparation of any required TIA. It is preliminary in nature and the City does not have sufficient data to determine the ultimate conditions that may be imposed for the project. It does not provide nor limit the requirements imposed on the Project but is intended only to provide initial input into the parameters for review of the traffic generated by the Project and the initial areas to be considered and studied. Subsequent changes to scope of required analysis to be included in the TIA may be required by the Transportation Commission, Planning Commission, and/or the City Council upon Public Works Director/City Engineer review and approval.

Exhibit C

SIGNALIZED INTERSECTION ANALYSIS INPUT PARAMETERS

<u>PARAMETER</u>	<u>VALUE</u>
Base Saturation Flow Rate	1900 pc/hr/ln
Heavy Vehicle Factor:	Determine % heavy vehicles in existing traffic stream based on count data or consultation with the City Public Works Department. Projects with truck intensive uses must convert project trips to passenger car equivalents. Truck Intensive uses include heavy industrial, warehousing or as determined by the Department of Public Works.
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 sec. each movement (10 sec. including change) in areas of light pedestrian activity. In areas of high pedestrian activity, the minimum green shall be calculated based on the methodology in the HCM.
Cycle length	50 seconds to 130 seconds
Lost Time	Per HCM Exhibit 10-17 (below)

Major street	Minor street	Number of phases	L(sec)
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 the City of Rialto Public Works Department. Refer to HCM 2010 for any default values not specifically identified here

Intersection analyses should be conducted utilizing acceptable software based on HCM methodology. Closely spaced intersections are to be analyzed using analysis tools capable of accounting for turn lane storage, queue length, blockage, etc. such as Synchro. Other programs must be approved in advance of use.

Actual signal timing and peak hour factors should be collected in the field and utilized in existing and near term analyses. In cases where traffic is added from a significant number of cumulative projects, the consultant shall use their engineering judgment in the application of peak hour factors to maintain consistency with the existing conditions analyses. A peak hour factor of 1.0 shall be applied to build out traffic conditions.

** Contact the Rialto Department of Public Works for other warrants.

Exhibit D

CITY OF RIALTO ROADWAY CAPACITY⁽¹⁾

Roadway Classification	No. 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 (60' or 64')	2	9,900-11,199	11,200-12,499	12,500 +
Industrial (45')	2	9,900-11,199	11,200-12,499	12,500 +
Arterial ⁽³⁾	2	14,400-16,199	16,200-17,999	18,000 +
Secondary Highway	4	16,900-19,399	19,400-21,199	22,000 +
Modified 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 +
<p>Notes:</p> <p>(1) All capacity figures are based on optimum conditions and are intended as guidelines for planning purposes only</p> <p>(2) Maximum two-way ADT values are based on the 1999 Modified Highway Capacity Manual Level of Service Tables.</p> <p>(3) Two lane roads designated as future arterials that conform to arterial design standards for vertical and horizontal alignments are analyzed as arterials.</p>				

Exhibit E

TRAFFIC IMPACT ANALYSIS FORMAT

The Traffic Impact Analysis Report shall generally include the following items, unless specifically waived by the Department of Public Works/City Engineer. Required **Exhibits** and **Tables** are indicated.

Executive Summary

I Introduction

- A. Purpose of the TIA and Study Objectives
- B. Site Plan, location and the Study Area (**Exhibit**)
- C. Development project identification - City of Rialto Case Number, Planning Number and related numbers i.e. GPA/SP, EIR 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) (**Exhibit**)
 - 5. Proposed project opening year
 - 6. Any proposed project phasing
 - 7. Indicated if project is within another agency Sphere of Influence or within 1-mile of jurisdictional boundary

II Area Conditions

- A. Identify Study Area and Intersections
- B. Existing traffic controls and intersection geometrics (**Exhibit**) - include descriptions of existing roads (number of lanes, signals, etc.)
- C. Existing traffic volumes - AM and PM peak hour turning movements and roadway links (**Exhibit**). Peak hour counts during mid-day or weekends may be required.
- D. Existing delay and LOS at Study intersections/roadway links (**Table**)
- E. Copy of General Plan Circulation Element in the project vicinity (**Exhibit**)
- F. Description of Transit Services and routes (if any) within the Study Area

III Projected Future Traffic

- A. Project Traffic and Project Phasing (each study year)
 - 1. Trip Generation (**Table**) – Passenger vehicle trips shall be estimated using the rates and methodologies outlined in the Trip Generation Manual, current edition, published by the Institute of Transportation Engineers (ITE). Other sources require prior approval by the Public Works Director/City Engineer. The trips generated by most residential uses should be based on the number of dwelling units. The trips generated by most commercial

Traffic Impact Analysis – Report Guidelines and Requirements

Exhibit E

Traffic Impact Analysis Format

and industrial uses should be based on gross. Some unique types of uses may not have rates published by ITE or ITE rates have been determined from too few sites to be applicable. In these cases, the Applicant/Engineer may propose and submit for consideration data collected at similar existing facilities and if acceptable to the Department may use the agreed upon data for forecasting trips. The City may require additional information from sites it selects to adequately address traffic trip projections.

2. Trip Distribution and assignment (**Exhibit**) – A 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 (in the direction of ultimate travel) 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 Public Works Director/City Engineer and must be based on accepted traffic engineering documentation. Pass-by factor shall not be assumed at more than 25% and internal capture shall not be assumed at more than 10% if allowed. If permitted, reduced or net trips generated by the project shall not be used to analyze project driveways and intersections immediately adjacent to the project site. Instead, a full trip generation shall be used. Discounted factors are typically only applicable to new fast-food, gas stations and shopping centers.

B. Existing Traffic Plus Background Growth Plus Project Traffic

1. Ambient growth rate
2. Delay and Level of Service for existing traffic conditions without project but with existing improvements (**Table**).
3. Existing plus ambient plus Project ADT, AM, and PM peak hour volumes (**Exhibits**)
4. Existing plus ambient plus Project ADT, AM, and PM peak hour LOS (**Table**)

C. Cumulative (existing+ambient+cumulative) with and without Project Traffic

1. Identify location and description of other approved or proposed development projects (**Table and Exhibit**)
2. Background growth rate
3. Trip generation of other development projects (**Table**)
4. Trip distribution and assignment of other development projects (**Exhibits**)
5. Delay and Level of Service (LOS) with project, with existing and committed improvements (**Table**)
6. Cumulative with and without project ADT, AM, and PM peak hour volumes, delay and LOS (**Table**)

IV Mitigation Measures

The TIA must link the project and the traffic impacts to the City street system and how the Level of Service (LOS) will be maintained. It should describe how Significant Impacts will be brought to a level of insignificance. This nexus will include only improvements currently scheduled for construction prior to project completion. If improvements are funded for future implementation by some regional mechanism, this shall be shown. **(Table and Exhibits)**

Traffic Signal warrant analysis – indicate intersections found to meet traffic signal warrants at the study year and the share of project contribution (use peak hour for existing intersections and delay for new intersections).

The Project is subject to implementation of direct Project mitigation requirements (100% project responsibility). The Project may also be subject to contributions toward larger, longer range, improvement projects (on "Fair Share" basis). The City is concerned with Project Equity – where one project's mitigation is completing a "first phase" (i.e. an easier less expensive improvement or mitigation fee payment) of an improvement, while a significantly larger portion of the improvements remains for other future phases or other developments. The City is also concerned with immediate impacts of the Project. That is, does the Project create or exacerbate an existing problem to a level that requires immediate mitigation. The City shall determine if a Project's mitigation responsibility should be "direct mitigation", Fair Share contributions, mitigation of the immediate concern (with fee offsets, reimbursement agreements, or development agreements) or some combination thereof. It is noted that Fair Share improvements are developer based on the ultimate area-wide roadway improvements needed.

V. Findings and Recommendations

- A. Improvements – Proposed on-site and off-site mitigation measures to achieve required LOS at impacted intersections and roadways. Identify if improvements are scheduled for construction, funded for future construction, or unfunded. Identify the funding mechanism in place, if none indicate "None".
- B. Traffic Signal Warrant analysis – Indicate on-site intersections found to meet traffic signal warrants at study year (and at future phases if project is phased). For off-site intersections indicate if traffic signal warrants are met for study year with background, project and Cumulative growth and "fair share" based on traffic contribution. Use peak hour for existing intersections and daily for new intersections.
- C. Circulation Recommendations
 1. On site **(Exhibit)**
 2. Study Area – Provide an **exhibit** showing roadway improvements and signal locations
 3. Phasing for both on and off site.
- D. Safety and operational improvements – Complete Sight Distance analysis if warranted by the conditions.

- E. Fair Share calculations – Project fair share mitigation costs calculations shall be completed by the Project Engineer in a detailed manner (include design, right of way acquisition, improvements, project administration etc. in a detailed cost estimate) and included in the appendices. It shall include intersections requiring mitigation improvements, roadway improvements (not including site specific per code), transitions, drainage and other required or recommended mitigations. Calculations shall show existing traffic, project traffic, cumulative traffic at build out and % of new traffic attributed to the Project.
- F. Specific Plan signalization analysis (SP only)
- G. General Plan Conformance (GPA and SP only) (GP Amendments in **Exhibit**)
- H. Identify existing or proposed Regional funding mechanisms that may be applicable to any of the mitigations.

Exhibit F

LEVEL OF SERVICE STANDARDS

The City of Rialto 2010 General Plan Update identifies policies applicable to minimum Level of Service within the City, as follows:

Policy 4-1.20: *Design City streets so that signalized intersections operate at Level of Service (LOS) D or better during the morning and evening peak hours, and require new development to mitigate traffic impacts that degrade LOS below that level. The one exception will be Riverside Avenue south of the Metrolink tracks all the way to the City's southern border, which can operate at LOS E.*

Policy 4-1.21: *Design City streets so that unsignalized intersections operate with no vehicular movement having an average delay greater than 120 seconds during the morning and evening peak hours, and require new development to mitigate traffic impacts that increase delay above that level.*

New development is required to mitigate traffic impacts exceeding these levels.

Significant impacts are deemed to occur at any intersection in which the project causes the LOS to fall below level D or the peak hour delay increases 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

Roadway segments may or may not be governed by signalized intersections at the ends of the segment. If the segments exceed 1,500 feet and the V/C ratio exceeds 1.0, the segment must be mitigated even if improved intersections at the ends do not exceed LOS D. Additional study may be required or presented to support allowing V/C to exceed 1.0, but are subject to the discretion of the Public Works Director/City Engineer and Transportation Commission, on a case by case basis, as to the acceptability of allowing such segments being un-mitigated.

Exhibit G

TRAFFIC IMPACT ANALYSIS SUBMITTAL FORM

DATE OF SUBMITTAL: _____

CASE NO. _____ APN NO. _____

Related Cases: _____

APPLICANT INFORMATION

CONSULTANT INFORMATION

PROJECT NAME: _____

LAND USE: _____

PROJECT LOCATION: _____

NEAREST MAJOR INTERSECTION: _____

THOMAS BROS PAGE/GRID: _____

FOR DEPARTMENT USE ONLY

STAFF ASSIGNED: _____

FEE RECEIPT NO. _____

PUBIC WORKS ASSIGNED STAFF: _____