August 31, 2020

Mr. Ilan Golcheh, President
GOLCHECH GROUP
1180 South Beverly Drive, Suite 300
Los Angeles, CA 90035

RE: Riverside at Lincoln Retail VMT Screening Analysis
19238

Dear Mr. Golcheh:

INTRODUCTION

Ganddini Group, Inc. is pleased to provide this vehicle miles traveled (VMT) screening assessment for the proposed Riverside at Lincoln Retail Project in the City of Lake Elsinore. The purpose of this VMT screening assessment is to evaluate if the project screens out from needing to conduct a detailed VMT analysis based on City of Lake Elsinore guidelines. This VMT screening assessment supplements the Riverside at Lincoln Traffic Impact Analysis (Ganddini Group, Inc., August 31, 2020).

PROJECT DESCRIPTION

The 5.9-acre project site is located northwest corner of Lincoln Street and Riverside Drive in the City of Lake Elsinore, California.

The currently vacant project site is proposed to be developed with 39,463 square feet of mini-warehouse, 4,456 square feet of fast-food restaurant with drive-thru, a 16 fueling position super convenience market/gas station, and an automated car wash. Vehicular access for the project site is proposed via one full access driveway at Lincoln Street and two right turn in/out only driveways at Riverside Drive. The proposed project is anticipated to be constructed and fully operational by year 2022.

PROJECT TRIP GENERATION

Table 1 shows the project trip generation based upon trip generation rates obtained from the Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition, 2017) and Traffic Impact Analysis for Automated Carwash 15118 Lakewood Boulevard (VA Consulting, Inc., November 2014). Reference pages for the car wash rates are provided in Appendix E of the traffic impact analysis.

Trip generation rates were determined for daily trips, AM peak hour, and PM peak hour for the proposed land uses. The number of trips forecast to be generated by the proposed project are determined by multiplying the trip generation rates by the land use quantity. The currently vacant project site is proposed to be developed with 39,463 square feet of mini-warehouse, 4,456 square feet of fast-food restaurant with drive-thru, a 16 fueling position super convenience market/gas station, and an automated car wash.

As shown in Table 1, the proposed project is forecast to generate a total of approximately 7,026 daily trips, including 279 trips during the AM peak hour and 275 trips during the PM peak hour.

VEHICLES MILES TRAVELED (VMT)

Background

California Senate Bill 743 (SB 743) directs the State Office of Planning and Research (OPR) to amend the California Environmental Quality Act (CEQA) Guidelines for evaluating transportation impacts to provide alternatives to Level of Service that "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." In December 2018, the California Natural Resources Agency certified and adopted the updated CEQA Guidelines package. The amended CEQA Guidelines, specifically Section 15064.3, recommend the use of Vehicle Miles Travelled (VMT) as the primary metric for the evaluation of transportation impacts associated with land use and transportation projects. In general terms, VMT quantifies the amount and distance of automobile travel attributable to a project or region. All agencies and projects State-wide are required to utilize the updated CEQA guidelines recommending use of VMT for evaluating transportation impacts as of July 1, 2020.

The updated CEQA Guidelines allow for lead agency discretion in establishing methodologies and thresholds provided there is substantial evidence to demonstrate that the established procedures promote the intended goals of the legislation. Where quantitative models or methods are unavailable, Section 15064.3 allows agencies to assess VMT qualitatively using factors such as availability of transit and proximity to other destinations. The Office of Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impacts in CEQA (State of California, December 2018) ["OPR Technical Advisory"] provides technical considerations regarding methodologies and thresholds with a focus on office, residential, and retail developments as these projects tend to have the greatest influence on VMT.

VMT Assessment and Screening

The project VMT impact has been assessed in accordance with guidance from the City of Lake Elsinore Traffic Impact Analysis Preparation Guide (June 23, 2020) ["City of Lake Elsinore guidelines"], which are provided in Appendix A for reference.

The City of Lake Elsinore guidelines include screening criteria for when a project is expected to cause a less than significant impact without conducting more detailed, project-level VMT assessment. The City of Lake Elsinore has established three types of project screening that lead agencies can apply to effectively screen projects from project-level assessment. A project only needs to fulfill one of the following three screening types to qualify for project screening. These screening criteria are summarized below.

Transit Priority Area (TPA) Screening

Projects located within a TPA. A TPA is defined as a half-mile area around an existing major transit stop or an existing stop along a high-quality transit corridor.[1] This presumption may not apply if the project:

1) Has a total Floor Area Ratio (FAR) of less than 0.75;

[1] Pub. Resources Code, § 21064.3 - 'Major transit stop' means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods. Pub. Resources Code, § 21155 ("For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.").

2) Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);
3) Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization); or
4) Replaces affordable residential units with a smaller number of moderate or high income residential units.

The WRCOG VMT screening tool has been used to determine project type screening for this screening criteria. Based on the WRCOG VMT screening tool, the proposed project is not located within a TPA.

Low VMT-Generating Areas Screening

Residential and office projects located within a low VMT-generating area may be presumed to have a less than significant impact absent substantial evidence to the contrary. Other employment-related and mixed-use projects within a low VMT-generating area may also be presumed to have a less than significant impact if the project can reasonably be expected to generate VMT per service population similar to the existing land uses in the low VMT area.

For this screening in the WRCOG area, the RIVTAM travel forecasting model was used to measure VMT performance for individual jurisdictions and for individual traffic analysis zones (TAZs). TAZs are geographic polygons similar to Census block groups used to represent areas of homogenous travel behavior. Total daily VMT per service population (population plus employment) was estimated for each TAZ. This presumption may not be appropriate if the project land uses would alter the existing built environment in such a way as to increase the rate or length of vehicle trips.

Based on the WRCOG VMT Screening Tool, the proposed project is located within a low VMT-generating area. Additionally, the proposed project does not include any features that would alter the built environment in such a way as to increase the rate or length of vehicle trips. In fact, the proposed project will conduct a General Plan Amendment (GPA) that would remove the residential component land use of the project's parcel replacing it with commercial land uses. The proposed commercial land uses are local-serving and generally produce less VMT per service population than residential land uses. Therefore, the proposed project satisfies the screening criteria for low VMT-generating areas and may be presumed to result in a less than significant VMT impact.

Project Type Screening

Some project types are presumed to have a less than significant transportation impact absent substantial evidence to the contrary as their uses are local serving in nature. Local serving retail generally improves the convenience of shopping close to home and has the effect of reducing vehicle travel. The City of Lake Elsinore guidelines identify the following uses that can be screened from project-level assessment as they are presumed to have a less than significant impact due to their local serving nature:

- Local-serving retail uses less than 50,000 square feet
- Local-serving K-12 schools
- Local parks
- Day care centers
- Local-serving gas stations
- Local-serving banks
- Local serving hotels (e.g. non-destination hotels)
- Student housing projects

- Local-serving community colleges that are consistent with the assumptions noted in the RTP/SCS
- Projects generating less than 110 daily vehicle trips per California OPR VMT Guidance

The proposed development is a local-serving retail project less than 50,000 square feet that also meets the criteria for local-serving gas stations. Therefore, the proposed project satisfies the project type screening criteria and may be presumed to result in a less than significant VMT impact.

CONCLUSION

In accordance with City of Lake Elsinore guidelines, the proposed project satisfies the VMT screening criteria for low VMT-generating areas and project type screening. Therefore, a detailed, project-level assessment is not warranted and the proposed project may be presumed to result in a less than significant VMT impact based on the guidelines and thresholds adopted by the City of Lake Elsinore.

It has been a pleasure to assist you with this project. Should you have any questions or if we can be of further assistance, please do not hesitate to call at (714) 795-3100.

Respectfully submitted,

GANDDINI GROUP, INC.

Bryan Crawford, Senior Transportation Analyst
Giancarlo Ganddini, PE/PTP, Principal Traffic Engineer

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Table 1
Project Trip Generation

Trip Generation Rates										
Project				AM Peak			PM Peak			Daily
No.	Land Use	Code[1]	Units[2]	In %	Out %	Rate	In %	Out %	Rate	Rate
1	Mini-Warehouse	ITE 151	TSF	60%	40%	0.10	47%	53%	0.17	1.51
2	Fast-Food Restaurant with Drive-Thru Window	ITE 934	TSF	51%	49%	40.19	52%	48%	32.67	470.95
3	Super Convenience Market/Gas Station	ITE 960	VFP	50%	50%	28.08	50%	50%	22.96	230.52
4	Automated Car Wash	-[3]	Tunnel	57%	43%	49.00	48%	52%	108.00	1936.00

Trips Generated										
Project				AM Peak			PM Peak			
No.	Land Use	Quantity[2]		In	Out	Total	In	Out	Total	Daily
1	Mini-Warehouse	39.463	TSF	2	2	4	3	4	7	60
2	Fast-Food Restaurant with Drive-Thru Window	4.456	TSF	91	88	179	76	70	146	2,099
	Internal Capture[4]	--		-29	-12	-41	-8	-15	-23	-65
	Pass-By[4]	49% AM / 50% PM		-30	-37	-67	-34	-28	-61	-128
	Subtotal Net Trips			32	39	71	34	27	62	1,907
3	Super Convenience Market/Gas Station	16	VFP	225	225	450	184	184	368	3,688
	Pass-By[4]	--		-11	-29	-41	-92	-53	-145	-186
	Pass-By Reduction[4]	62% AM / 56% PM		-133	-121	-254	-52	-73	-125	-379
	Subtotal Net Trips			81	75	156	40	58	98	3,123
4	Automated Car Wash	1	Tunnel	28	21	49	52	56	108	1,936
Subtotal - Gross Trips				346	336	682	315	314	629	7,783
Subtotal - Internal Capture				-40	-42	-82	-100	-68	-168	-250
Subtotal - Pass-By Trip				-163	-158	-321	-86	-101	-186	-507
Total - Net Trips				**143**	**136**	**279**	**129**	**145**	**275**	**7,026**

Notes:

(1) ITE = Institute of Transportation Engineers, Trip Generation Manual, 10th Edition, 2017; ### = Land Use Code

(2) TSF = Thousand Square Feet, FP = Fueling Position

(3) Source: Traffic Impact Analysis for Automated Carwash 15118 Lakewood Boulevard, Bellflower, CA (VA Consulting, Inc., November 2014); see Appendix E.

(4) Source: Institute of Transportation Engineers, Trip Generation Handbook, 3rd Edition, 2017. Internal capture calculated using the National Cooperative Highway Research Program 684 Internal Capture Estimation Tool provided by the Institute of Transportation Engineers; see Appendix F.

Legend

(#) Study Intersection

(#) Project Driveway

Figure 1
Project Location Map

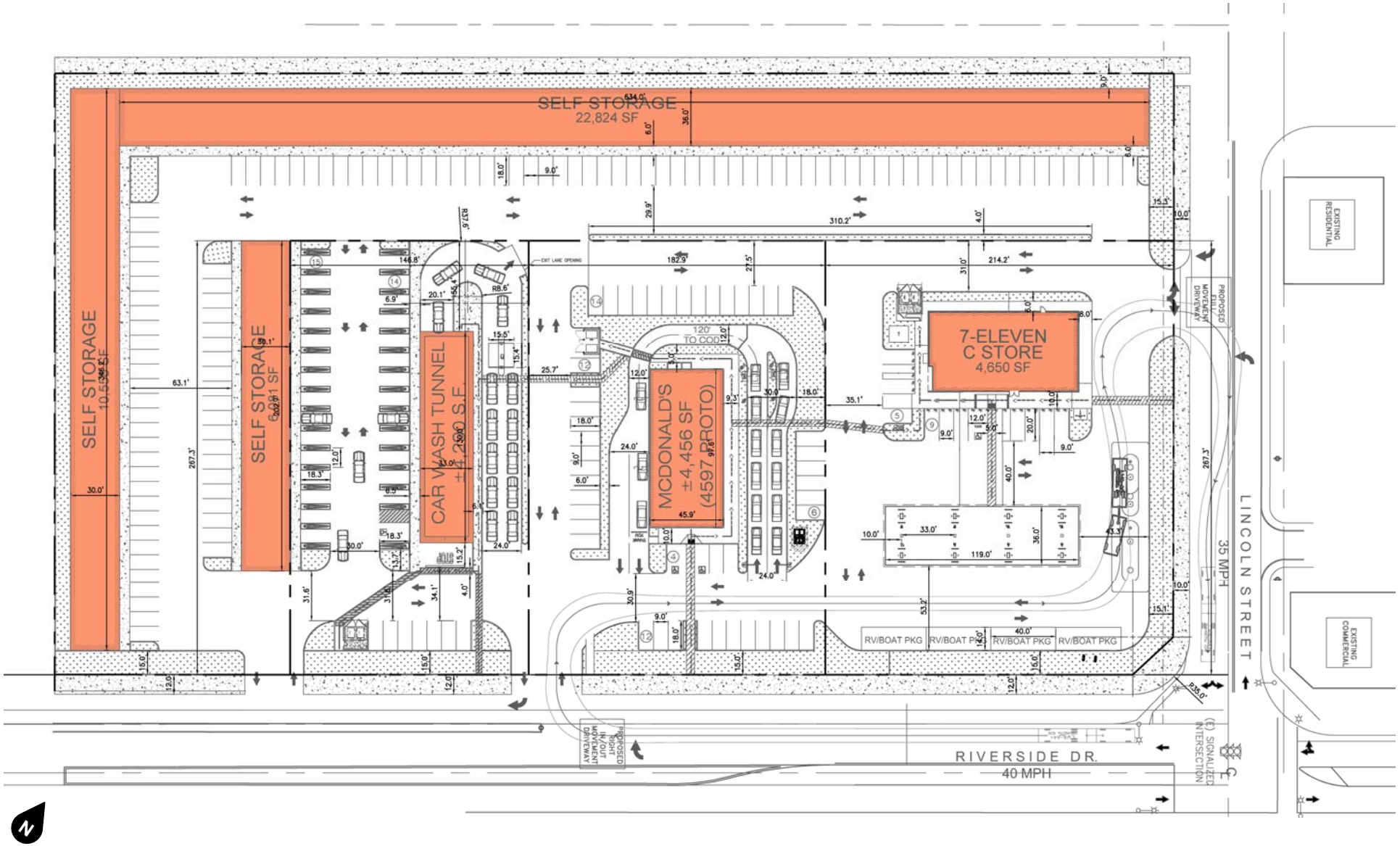


Figure 2
Site Plan

APPENDIX A

CITY OF LAKE ELSINORE TIA GUIDELINES

CITY OF LAKE ELSINORE

DREAM EXTREME™

Traffic Impact Analysis Preparation Guide

Adopted June 23, 2020

Remon Habib, PE
City Engineer

1.0 INTRODUCTION

The City of Lake Elsinore ("City") requires that the traffic and circulation impacts of proposed development projects, General Plan Amendments, and Specific Plans be analyzed. The traffic impacts of proposed developments are to be analyzed through the preparation of two Traffic Impact Analyses (TIAs) prepared in conformance with City requirements. While CEQA only requires vehicle miles traveled (VMT) analysis for projects, the City is also requiring the use of level of service analysis to determine project impacts on transportation infrastructure. The two Traffic Impact Analyses, as described below, must each be prepared, signed and sealed by a Traffic Engineer or a Civil Engineer registered in the State of California, qualified to practice traffic engineering ("Engineer"). This Traffic Impact Analysis Preparation Guide identifies the required formats and methodologies that are required to be utilized in the preparation of the studies, subject to the review and approval of the City.

2.0 PURPOSE

Two separate Traffic Impact Analysis documents are to be prepared to assess the following:

Report No. 1 (CEQA Analysis)

- **All Projects:** Will the project create an increase in vehicle miles traveled (VMT) versus the existing baseline VMT of the City? If so, what will be required to lower VMT or mitigate these impacts?

Report No. 2 (General Plan Consistency Analysis)

- **Subdivisions, Design Review, Conditional Use Permits, etc.:** Will the Level of Service (LOS) required by the General Plan be maintained at all affected intersections with the addition of traffic from the proposed project? If not, what conditions of approval will be necessary in order to provide the required Level of Service? If conditions of approval or design changes are necessary, are they feasible to implement? Will the project deteriorate traffic operations or safety on and off site?

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

3.0 TRAFFIC IMPACT ANALYSIS EXEMPTIONS

Certain types of projects, because of their size, nature, or location, may be 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.

The City, at its discretion, may require that a TIA be prepared for any development, regardless of size, if there are concerns over safety, operational issues, or if located in an

area heavily impacted by traffic. A focused traffic study may be required by the City to analyze certain aspects of a project.

4.0 COORDINATION WITH CITY/MANDATORY SCOPING AGREEMENT

In order to streamline the TIA preparation and review process, the Engineer shall solicit input and approval for the City prior to the preparation and submittal of a draft document. A "Scoping Agreement for Traffic Impact Study" (Scoping Agreement), attached as Exhibit B, shall be prepared by the Engineer and submitted to the City for review and approval prior to the preparation of a draft TIA. The Scoping Agreement provides for agreement of key points before initiating the TIA including the following:

- Determination of study area, intersections, and roadway links to be analyzed.
- Project trip generation, distribution, and assignment.
- Use of other approved projects for background traffic, traffic growth assumptions, or integration with the traffic Model.
- Analysis scenarios.
- For those projects located near another city, unincorporated County area, and/or Caltrans roadways the Engineer shall also solicit comments on the above from the respective agency staff. The Engineer shall submit all comments from other agencies to the City for review and consideration for the scoping form.

A traffic study scoping agreement shall be filled out and signed by the applicant or applicant's representative for all development projects regardless of exempt status.

5.0 TRAFFIC IMPACT ANALYSIS – CEQA ANALYSIS

5.1 REQUIRED METHODOLOGY

A key element of SB 743, signed in 2013, is the elimination of automobile delay and LOS as the basis of determining CEQA impacts. For purposes of SB 743 compliance, a VMT analysis shall be conducted for land use projects as deemed necessary by the City and would apply to projects that have the potential to increase the average VMT per service population (e.g. population plus employment) compared to the City's baseline threshold. Using this metric allows the user to compare the project to the remainder of the City for purposes of identifying transportation impacts.

The following VMT guidelines are based on the WRCOG Implementation Pathway Study, March 2019, which provides options for both methodologies and VMT screening. The methodologies and significance thresholds presented below are based on WRCOG recommendations from the Implementation Pathway Study. The Implementation Pathway Study can be found at https://www.fehrandpeers.com/wrcog-sb743/.

A Project Screening

There are three types of screening that lead agencies can apply to effectively screen projects from project-level assessment. These screening steps are summarized below:

Step 1: Transit Priority Area (TPA) Screening

A TPA is defined as a half-mile area around an existing major transit stop or an existing stop along a high-quality transit corridor. Major transit stops are rail, ferry, or bus terminals served by bus or rail service at the intersection of two or more major bus routes with a service interval frequency of 15 minutes or less during the morning and afternoon peak periods. A high-quality transit corridor is a corridor with fixed route bus service with service interval frequency of 15 minutes or less during the morning and afternoon peak periods.

Projects located within a TPA may be presumed to have a less than significant impact absent substantial evidence to the contrary. This presumption may not be appropriate if the project:

1. Has a Floor Area Ratio (FAR) of less than 0.75;
2. Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);
3. Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization); or
4. Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

Step 2: Low VMT Area Screening

Residential and office projects located within a low VMT-generating area may be presumed to have a less than significant impact absent substantial evidence to the contrary. In addition, other employment-related and mixed-use land use projects may qualify for the use of screening if the project can reasonably be expected to generate VMT per service population that is similar to the existing land uses in the low VMT area.

For this screening in the WRCOG area, the RIVTAM travel-forecasting model was used to measure VMT performance for individual jurisdictions and for individual traffic analysis zones (TAZs). TAZs are geographic polygons similar to Census block groups used to represent areas of homogenous travel behavior. Total daily VMT per service population (population plus employment) was estimated for each TAZ. This presumption may not be appropriate if the project land uses would alter the existing built environment in such a way as to increase the rate or length of vehicle trips.

To identify if the project is in a low VMT-generating area, the analyst may review the WRCOG screening tool and apply the appropriate threshold within the tool. Additionally, as noted above, the analyst must identify if the project is consistent with the existing land use within that TAZ and use professional judgement that there is nothing unique about the project that would otherwise be misrepresented utilizing the data from the travel demand model.

The WRCOG screening tool can be accessed at the following location: http://gis.fehrandpeers.com/WRCOGVMT/

Step 3: Project Type Screening

Local serving retail projects less than 50,000 square feet may be presumed to have a less than significant impact absent substantial evidence to the contrary. Local serving retail generally improves the convenience of shopping close to home and has the effect of reducing vehicle travel.

In addition to local serving retail, the following uses can also be presumed to have a less than significant impact absent substantial evidence to the contrary as their uses are local serving in nature:

- Local-serving K-12 schools
- Local parks
- Day care centers
- Local-serving gas stations
- Local-serving banks
- Local-serving hotels (e.g. non-destination hotels)
- Student housing projects
- Local serving community colleges that are consistent with the assumptions noted in the RTP/SCS
- Projects generating less than 110 daily vehicle trips per California OPR VMT Guidance

B. VMT Assessment for Non-Screened Development

Projects not screened through the steps above should complete VMT analysis and forecasting through the latest version of the RIVTAM model or the RIVCOM model (once complete) to determine if they have a significant VMT impact. This analysis should include 'project generated VMT' and 'project effect on VMT' estimates for the project TAZ (or TAZs) under the following scenarios:

- Baseline conditions - This data is already available in the web-screening map.

- Baseline plus project for the project - The project land use would be added to the project TAZ or a separate TAZ would be created to contain the project land uses. A full base year model run would be performed and VMT changes would

be isolated for the project TAZ and across the full model network. The model output must include reasonableness checks of the production and attraction balancing to ensure the project effect is accurately captured. If this scenario results in a less-than-significant impact, then additional cumulative scenario analysis may not be required (more information about this outcome can be found in the Thresholds Evaluation discussion later in this chapter).

- Cumulative no project - This data is available from WRCOG.

- Cumulative plus project - The project land use would either be added to the project TAZ or a separate TAZ would be created to contain the project land uses. The addition of project land uses should be accompanied by a reallocation of a similar amount of land use from other TAZs; especially if the proposed project is significant in size such that it would change other future developments. Land use projects will generally not change the cumulative no project control totals for population and employment growth. Instead, they will influence the land use supply through changes in general plan land use designations and zoning. If project land uses are simply added to the cumulative no project scenario, then the analysis should reflect this limitation in the methodology and acknowledge that the analysis may overestimate the project's effect on VMT.

The model output should include total VMT, which includes all vehicle trips and trip purposes, and VMT per service population (population plus employment). Total VMT (by speed bin) is needed as an input for air quality, greenhouse gas (GHG), and energy impact analysis while total VMT per service population is recommended for transportation impact analysis.

Both "plus project" scenarios noted above will summarize two types of VMT: (1) project generated VMT per service population and comparing it back to the appropriate benchmark noted in the thresholds of significance, and (2) the project effect on VMT, comparing how the project changes VMT on the network looking at Citywide VMT per service population and comparing it to the no project condition.

Project-generated VMT shall be extracted from the travel demand-forecasting model using the origin-destination trip matrix and shall multiply that matrix by the final assignment skims. The project-effect on VMT shall be estimated using the City limit and extracting the total link-level VMT for both the no project and with project condition.

A detailed description of this process is attached to these guidelines in Exhibit F.

C. VMT Impact Thresholds

A project would result in a significant project-generated VMT impact if either of the following conditions are satisfied:

1. The baseline project-generated VMT per service population exceeds the City's baseline VMT per service population, or

2. The cumulative project-generated VMT per service population exceeds the City's baseline VMT per service population.

The project's effect on VMT would be considered significant if it resulted in either of the following conditions to be satisfied:

1. The baseline link-level boundary VMT per service population (City boundary) to increase under the plus project condition compared to the no project condition, or

2. The cumulative link-level boundary VMT per service population (City boundary) to increase under the plus project condition compared to the no project condition.

Please note that the cumulative no project shall reflect the adopted Regional Transportation Plan/Sustainable Communities Strategy; as such, if a project is consistent with the regional RTP/SCS, then the cumulative impacts shall be considered less than significant subject to consideration of other substantial evidence.

Potential impacts to public transit, pedestrian facilities and travel, and bicycle facilities and travel can be evaluated using the following criteria:

- A significant impact occurs if the project conflicts with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decreases the performance or safety of such facilities.

Therefore, the TIA should include analysis of a project to examine if it is inconsistent with adopted policies, plans, or programs regarding active transportation or public transit facilities, or otherwise decreases the performance or safety of such facilities and make a determination as to whether it has the potential to conflict with existing or proposed facilities supporting these travel modes.

D. VMT Mitigation Measures

To mitigate VMT impacts, the following choices are available to the applicant:

1. Modify the project's built environment characteristics to reduce VMT generated by the project
2. Implement transportation Demand Management (TDM) measures to reduce VMT generated by the project.
3. Participate in a VMT fee program and/or VMT mitigation exchange/banking program (if they exist) to reduce VMT from the project or other land uses to achieve acceptable levels

As part of the WRCOG Implementation Pathway Study, key TDM measures that are appropriate to the region were identified and can be accessed at the following location:

https://www.fehrandpeers.com/wp-content/uploads/2019/03/TDM-Strategies-Evaluation.pdf

Measures appropriate for most of the WRCOG region are summarized in Attachment B of the TDM Strategies Evaluation Memorandum. Evaluation of VMT reductions should be evaluated using state-of-the-practice methodologies recognizing that many of the TDM strategies are dependent on building tenant performance over time. As such, actual VMT reduction cannot be reliably predicted and monitoring may be necessary to gauge performance related to mitigation expectations.

The California Environmental Quality Act (CEQA) allows the City Council to approve development projects even in instances where the VMT thresholds are exceeded, if the project has overriding benefits. Examples include projects that provide jobs in a local area, projects that provide needed transportation improvements that otherwise would not be constructed, projects that provide habitat conservations, projects that implement non-motorized transportation 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 may have a significant traffic impact and require a finding of overriding considerations will be required to prepare an Environmental Impact Report (EIR). The need to prepare an EIR shall be determined through consultation between the City's Engineering and Planning Departments, and the City Attorney.

5.2 TRAFFIC IMPACT ANALYSIS FORMAT – CEQA ANALYSIS

The traffic impact analysis report for CEQA should generally have the following items:

1. Project and Analysis Introduction
    a. Purpose
    b. Study Objectives
    c. Project Location and Description
    d. Project Consistency with General Plan
2. Methodology
    a. City and Regional Guidelines and Requirements
    b. Screening Results
    c. RivTAM or RivCOM Description
    d. City Baseline and Cumulative Conditions
3. Results
    a. Baseline Plus Project Conditions
    b. Cumulative Plus Project Conditions
    c. Comparison Between Conditions to Determine Impacts
4. Mitigations, if any
5. Conclusion

6.0 GENERAL PLAN CONSISTENCY ANALYSIS

6.1 REQUIRED METHODOLOGY

A Intersection Analysis

The City requires the use of the Transportation Research Board - Highway Capacity Manual 6 (HCM6) or most recent release. Unsignalized and signalized intersections are to be analyzed using Highway Capacity Manual. Refer to Exhibit C for default input parameters for software analysis. For default values not specifically provided in Exhibit C, the Engineer shall refer to the HCM6 or most recent release.

The City accepts all microsimulation software for intersection analysis as long as they conform to HCM6 (or later) analysis methodologies.

Riverside County has established, as a countywide target, an LOS “C” on all County-maintained roads and conventional state highways. As an exception, LOS “D” may be allowed in Community Development areas at intersections with any combination of secondary highways, major highways, arterials, urban arterials, expressways, conventional state highways or at freeway ramp intersections. LOS “E” may be allowed in designated community centers to the extent that it would support transit-oriented development and walkable communities.

Software analysis using existing traffic signal timing is not required for study intersections with the exception of Railroad Canyon Road-Diamond Drive between Lakeshore Drive-Mission Trail and Grape Street-Summerhill Drive, and Central Avenue between Dexter Avenue and Riverside Street. Caltrans or other agencies may require the use of existing signal timing for analysis on Caltrans facilities. Existing signal timing documentation for City intersections is available upon request.

B. Roadway Segment ADT Analysis

The City may require that analysis of Average Daily Traffic (ADT) on roadway segments be conducted in certain cases, such as when intersection analyses are not the controlling factor or for planning purposes or when the project requires analysis of buildout conditions. Level of service for roadway segments shall be analyzed by calculating daily vehicle-to-capacity ratios. Peak hour through traffic to lane capacity ratios are not acceptable. Roadway capacities shall be per Table 1, Daily Traffic Volume Capacity Values. Roadways that are not at the ultimate condition as shown in Table 1 are to use the roadway capacities per City of Lake Elsinore General Plan Figure 2.2.

Roadway segment LOS criteria shall be per Table 2, Daily Level of Service Criteria. Roadway segments operating at “Potentially Exceeds Capacity” levels may be acceptable if adjacent intersections are operating acceptably in the peak hour. Roadway segments operating at “Deficient” levels shall be improved with additional through lanes along the segment.

Table 1, Daily Traffic Volume Capacity Values

ROADWAY CLASSIFICATION	NUMBER OF LANES	MAXIMUM TWO-WAY TRAFFIC VOLUME (ADT)
		SERVICE LEVEL E
Collector	2	13,000
Divided Collector	2	18,000
Secondary	4	25,900
Major	4	34,100
Urban Arterial	6	53,900
Urban Arterial	8	71,800

NOTES

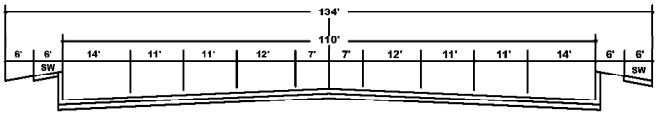
1. All capacity figures are based on optimum conditions and are intended as guidelines for planning purposes only.

2. Maximum two-way ADT values are based on the 1999 Modified Highway Capacity Manual Level of Service Tables as defined in the Riverside County Congestion Management Program. Divided Collector interpolated.

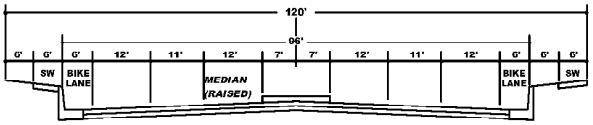
3. Two-lane roadways designated as future arterials that conform to arterial design standards for vertical and horizontal alignment are analyzed as arterials.

4. Ramp capacity is given as a one-way traffic volume.

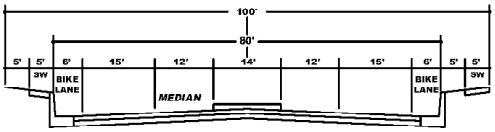
CITY OF LAKE ELSINORE PROPOSED LAND USE PLAN SCENARIO
RECOMMENDED ROADWAY CROSS-SECTIONS



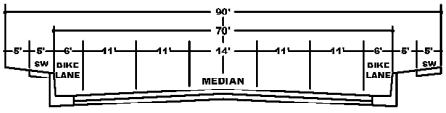
AUGMENTED URBAN ARTERIAL - STATE HIGHWAY
(8-LANE)



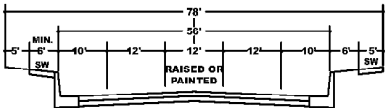
URBAN ARTERIAL HIGHWAY
(6-LANE)



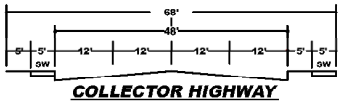
MAJOR HIGHWAY
(4-LANE)



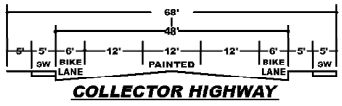
SECONDARY HIGHWAY
(4-LANE)



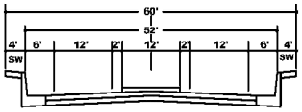
DIVIDED COLLECTOR
(2-LANE)
BIKES USE SHOULDER



COLLECTOR HIGHWAY
(4-LANE)



COLLECTOR HIGHWAY
(2-LANE)



NEW SPECIAL ROADWAY
(2-LANE)
SHOULDER/BIKE LANE
(PROPOSED FOR LAKESHORE DRIVE IN THE COUNTRY CLUB HEIGHT DISTRICT)

* BIKE LANES ARE NOT MANDATORY UNLESS SHOWN ON THE BIKEWAY CIRCULATION ELEMENT PLAN
PRECISE SIDEWALK LOCATION SUBJECT TO CITY ENGINEER APPROVAL
NOTE: CHECK THE DISTRICT PLAN OF YOUR AREA FOR ANY REQUIRED SPECIAL ROADWAY CROSS-SECTION.
ESPECIALLY THE LAKE EDGE AND COUNTRY CLUB HEIGHTS DISTRICT PLANS.
STRIPPING OF COLLECTOR HIGHWAY AS DIRECTED BY CITY ENGINEER.

DATA SOURCE: URBAN CROSSROADS

CITY OF LAKE ELSINORE
ROADWAY CROSS SECTIONS
FIGURE 2.2

Table 2, Daily Level of Service Criteria

LEVEL OF SERVICE	DAILY LEVEL OF SERVICE CRITERIA	
	INDICATES	V/C RATIO RANGE
A	Acceptable	0 to 0.80
AC	Approaching Capacity	0.81 to 1.00
PEC	Potentially Exceeds Capacity	1.01 to 1.24
D	Deficient	>1.24

C. Freeway Analysis

The City and/or Caltrans may require that freeway operation be analyzed if a project is within one mile of a state highway or if it impacts freeway facilities experiencing unstable traffic flow or congestion. Determination may be made during the scoping process or once a deficiency is identified in the analysis process. Caltrans should be consulted during the scoping phase to determine freeway analysis requirements. Freeway facility analysis shall be done per HCM6 methodologies.

D. Queuing, Coordination, Truck Turning, and Other Analysis

The City and/or other agencies may require additional specific traffic analysis to be completed in the traffic study to determine a project's traffic affects and any requirements that need to be implemented to determine General Plan consistency. Specific analysis to be required can be provided by agencies during the scoping process or during the review of the project's traffic study submittals.

E. Area to be Studied

In general, the minimum area to be studied shall include any intersection of "Collector" or higher classification street, with other "Collector" or higher classification streets, at which the proposed project will add 50 or more peak hour trips, not exceeding a 5-mile radius from the project site. In addition, project driveways and other nearby intersections may be included as required by the City. Roadway segments, if required to be analyzed, shall include all roadway segments with 500 or more daily project trips. The City or other agencies may require deviation from these requirements based on area conditions.

F. Analysis Scenarios

1. Subdivisions, Design Review, Conditional Use Permit Cases, etc.

The TIA shall include the following analysis scenarios:

a. **Existing Traffic.** Existing traffic will be counted to determine current conditions. Traffic count data shall be new or recent. Data up to one year old may be acceptable with the approval of the City. Any exception to this must be requested

and granted prior to approval of the scoping agreement. Traffic counts shall be done during standard weekdays (Tuesdays or Thursdays) when school is in session and/or weekends as required depending on the type of project. Care shall be taken when scheduling traffic counts as school bell schedules ad calendars may vary between schools and neighboring school districts. The existing peak hour factor (PHF) for each intersection from the counts shall be used in the analysis.

b. **Project Completion (existing + ambient + project).** Traffic generated by the proposed project will be calculated then added to Project Opening Year (existing + ambient) volumes to establish Project Completion conditions, and the impacts on the circulation system will be analyzed**.** The existing peak hour factor (PHF) for each intersection from the counts shall be used in the analysis. This will be the basis for determining project-specific impacts, and conditions of approval.

c. **Cumulative (existing + ambient + project + cumulative).** Traffic generated by other approved projects in the study area shall be identified and added to the Project Completion traffic identified in Scenario 3. This may also include projects that are proposed and in the review process, but not yet fully approved. A reasonable absorption rate up to 100% for cumulative project trip generation can be assumed. The peak hour factor (PHF) for each intersection may be up to 0.95 for analysis. This scenario will be analyzed, and a determination made if improvements funded through the TUMF or other approved funding mechanism (DIF, Road and Bridge Benefit District, etc.) can accommodate the cumulative traffic at the target Level of Service (LOS) identified in the General Plan. If the "funded" improvements can provide the target LOS, payment into the TUMF (or other fee structure) may be considered as cumulative measures that are required through the conditions of approval. Other improvements needed beyond the "funded" improvements (such as localized improvements to non-TUMF facilities) should be identified as such and a fair share percentage shall be provided in the report.

d. **Project Phasing.** Traffic conditions at each project phase completion are to be analyzed using the same approach as for the project completion year, if applicable. Traffic associated with each previous project phase shall be included in the analyses of each successive phase of the proposed project. This generally applies to large projects with development construction/occupancy spanning multiple years. Generally, phases are spaced two or more years apart. If no phasing analysis is provided, the project will be conditioned as if all project components are built at one time.

2. Land Use or Circulation General Plan Amendments or Specific Plans

Development proposals that also include a General Plan Amendment, Specific Plan, Zone Change or other approval that increases traffic beyond what was approved in the General Plan will also be required to perform a Build-out Analysis to assess long-term impacts. This analysis will determine if the Circulation Element of the General Plan is adequate to accommodate projected traffic at the target LOS, or if additional conditions of approval are necessary. The build-out year shall match the latest general plan. Roadway segments and

intersections can be assumed to be built to General Plan requirements for the analysis. A phasing plan for all Specific Plans that identifies the improvement requirements for each development phase is required.

G. Future Traffic Forecasts

1. Background Traffic for Subdivisions, Design Review, Conditional Use Permit Cases and Project Phasing

All projects within the study area that have received approvals for development (approved design reviews, approved tentative tracts, approved conditional use permits, etc.,) shall be identified, and their traffic generation included as cumulative traffic in the study. Proposed projects in the study area that have been submitted to the City for processing, but not yet approved, may also be included at the discretion of the City. The City will also specify an ambient growth rate to be applied to existing volumes to account for other general traffic growth in and around the study area. In general, the ambient growth rate is 2% per year.

The traffic from other approved or known projects shall be added to the existing traffic plus the ambient growth rate plus the proposed project to determine future projected traffic at "Opening Year" of the project, or any subsequent phase (analysis scenario 4 above).

2. Build-Out Studies for General Plan Amendments and Specific Plans

Traffic projections for Build-out scenarios shall utilize the City of Lake Elsinore's traffic model. The Engineer shall use the model projections as the basis for determining the base average daily traffic volumes for segments and turning-movement volumes for the required intersection analysis. A manual assignment of the project traffic added to the Build-out traffic may typically be used to determine total future traffic, as approved by the City.

Certain large-scale Specific Plans and General Plan Amendments have the potential to create traffic impacts that are substantially greater than the traffic projections forecasted in the City Traffic Model. For these projects, the City may request that the Build-out analysis utilize and run the City Traffic Model to develop more detailed focused model runs in order to determine the projected Build-out traffic. The following are guidelines of projects will be subject to the revised modeling requirements:

- 1,500 dwelling units or greater
- 25 acres of commercial or greater
- 150 acres of industrial or greater
- any project producing 15,000 daily trips or greater

6.2 TRAFFIC IMPACT ANALYSIS FORMAT - GENERAL PLAN CONSISTENCY

The format and required elements to be included in the TIA are specified in Exhibit D. Deviations from this format require the approval of the City. The TIA will generally include the following major components, as shown in more detail in Exhibit D and described herein:

- Level of Service analysis

- Proposed conditions of approval
- Traffic signal warrant analysis
- On-site circulation analysis
- Identification of safety and operational improvements

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

- Specific Plan signalization analysis
- General Plan conformance review
- Caltrans conformance review
- Identification of regional funding mechanisms

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.

The City can require additional analysis beyond the above major components to be added to the scoping form. Additional analysis can also be brought up in a City comment after review of a traffic study draft.

A. Level of Service Analysis

The City of Lake Elsinore General Plan identifies an established minimum Level of Service standard. These minimums may vary according to the area of the City involved. The Traffic Impact Analysis shall address whether or not the required Levels of Service will be achieved after the proposed project is constructed. Level of Service calculations shall be included with the TIA for all intersections and segments studied. For intersections or roadway links not meeting the required Level of Service, the intersection or roadway link's Level of Service must be recalculated using the proposed conditions of approval to verify that the required Level of Service will be achieved. For sites with heavy truck usage, Passenger Car Equivalents (PCE's) as approved by the City shall be utilized in the analysis. The City of Fontana's Truck Trip Generation Study and/or the ITE High Cube Warehouse Vehicle Trip Generation Analysis may be used for truck split rates and other data as approved by the City.

The City's Level of Service standards, as published in the City's General Plan are included in the attached Exhibit E.

B. Proposed Conditions of Approval

All studies that propose increasing the number of travel lanes on a road or intersection, either beyond existing conditions or for General Plan conditions beyond what is planned for that level of roadway shall clearly identify the impacts associated with such a change. Identification of funding mechanisms available to fund the improvements and exhibits showing the lane configuration must be provided in the report.

The exhibits illustrating the improvements must be to scale but conceptual in nature (not engineering drawings). The concept illustrations must depict, in addition to existing and required right-of-way, any physical barriers that might preclude making the needed improvements. Barriers that may preclude making the improvements, such barriers as

railroads, major drainage structures, power lines, and others must be identified. Any other features that might render the improvements infeasible must also be identified. The objective is to ensure that when Conditions of Approval are written, there will be every expectation that the required improvements can, in fact, be made.

Concept illustrations, as described above, shall be prepared for the following instances:

- All improvements, whether on-site or off-site, necessary to reduce identified traffic levels that exceed General Plan requirements under Existing plus Ambient Growth plus Project conditions;

- All improvements abutting the proposed project and that are necessary to reduce identified traffic levels that exceed General Plan requirements under Existing plus Ambient Growth plus Cumulative Projects plus Project conditions;

- All improvements where the required improvements exceed the number of lanes, under any traffic scenario, that would typically be developed at full implementation of roadways per the General Plan and the standards for the applicable roadway classification.

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. If additional right-of-way must be acquired, either adjacent to the project or off-site, the project proponent must follow the following procedures:

- When alternate access is required and the alternate access is off-site, or when any other public improvement is required or proposed off-site, the land divider shall do each of the following as part of the tentative map review:
    a. Provide any studies or information required to adequately evaluate the environmental impacts of constructing the off-site improvement/alignment; and,
    b. Show all proposed centerline, approximate gradients and radii on the tentative map in addition to other factors such as street widths, pavement surface, etc. for the off-site improvement/alignment; and,
    c. Provide mailing labels showing the addresses of property owners that are adjacent to the off-site improvement/alignment for hearing notification purposes; and,
    d Provide written assurance(s) from the owner(s) of the property underlying the offsite improvement/alignment that sufficient right-of way to construct will be provided. A formal agreement or offer of dedication is not necessary to satisfy this requirement, but the owner's willingness to cooperate must be communicated in a form acceptable to the Engineering Department.

In the event that the land divider does not satisfy one or more of the requirements set forth in the above paragraphs a., b., or c., and no exception is granted, the tentative map shall be redesigned such that the off-site improvement/alignment is no longer required. If the land divider refuses or is unable to redesign, project review staff shall recommend to the appropriate hearing body that the tentative map be denied. In the event that the land divider does not satisfy the requirement set forth in this paragraph, project review staff shall note in its report the potential need to institute eminent domain proceedings and the appropriate Advisory Agency or Appeal Board may, in its discretion, act on the tentative map as designed or require that the map be redesigned to eliminate the off-site improvement/ alignment.

C. Traffic Signal Warrant Analysis

The Engineer shall review all 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, opening year with and without project, cumulative, etc.) The signal warrant analysis shall utilize the Caltrans peak-hour warrants (Warrant 3). The warrant analysis worksheets shall be included in the study appendices. Warrant outputs from traffic analysis software programs are acceptable.

D. On-site Circulation and Parking

The TIA shall examine the proposed on-site circulation for the project and address its adequacy. This includes identifying the desired level of traffic control and adequate vehicle storage space at project driveways and/or intersections. Queueing analysis at project driveways or study intersections may be required on the scoping agreement or after review of a traffic study draft.

On-site parking availability shall be analyzed for all residential, commercial, and industrial projects unless otherwise agreed upon by the City. Available parking shall be per the City's Municipal Code. Shortages in required parking can be addressed by providing active transportation facilities, shared-ride pickup/drop-off areas, and/or be near a transit stop as approved by the City. Working with the City's planning department prior to beginning of the traffic study to work out parking requirements is highly recommended.

E Safety and Operational Analysis

The TIA shall examine existing roadway conditions 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, the following:

- Need for separate turning lanes
- Intersections needing future sight distance studies
- Realignment of roadway segments or intersections
- Parking restrictions
- Measures to reduce cut-through project traffic in adjacent residential areas

- Potential impacts to adjacent schools and businesses
- Queue lengths and impacts to adjacent intersections
- Need for signal interconnect systems
- Traffic calming measures in residential, school, or commercial areas

F. General Plan Conformance

The TIA shall identify if the roadway system proposed in the Circulation Element of the General Plan is adequate to accommodate traffic from the project, or if changes to the General Plan are proposed as part of the project approval.

G. Regional Funding Mechanisms

Identify if the project identified in a City fee program, or is located within an existing Road and Bridge Benefit District (RBBD), Assessment District, Western Riverside Council of Governments' Transportation Uniform Mitigation Fee (TUMF), or identified in another regional funding mechanism.

H. Fair Share Contributions

Cumulative deficiencies for intersections or roadway segment should include a fair-share contribution toward achieving acceptable levels of service. If a cumulatively-deficient location is included in an existing traffic impact fee program (such as TUMF), payment of those fees would constitute an appropriate contribution.

Fair share contribution percentage for improvements where the project is not directly responsible should be calculated by the following formula:

$$\text{Fair share percentage} = \frac{\text{project trips}}{\text{project trips + future development trips}}$$

The project will be responsible for the highest fair share percentage of the peak hours at each facility. For example, if a project results in an AM peak hour fair share of 15% and a PM peak hour fair share of 20%, the project will be responsible for the 20% fair share.

I. Special Uses

- **Truck Intensive Uses (Conditional Use Permits, Surface Mining Permits, etc.)**

  In addition to the standard TIA requirements, or if the standard TIA requirements are waived, projects that are "truck intensive" (warehouses, surface mining permits, 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.

  The City may accept trip generation rates and/or truck trip splits from the Fontana Truck Trip Generation Study, 2003, and/or the ITE High Cube Warehouse Vehicle Trip Generation Analysis, 2016, for truck intensive projects. PCE rates may also be required for all truck intensive projects. PCE rates are as follows:

- Large 2-axle vehicles – 1.5
- 3-axle trucks – 2.0
- 4+axle trucks – 3.0

- **Unique Land Uses and Special Event Uses**

  Unique land uses that do not exhibit typical trip generation characteristics may require additional analysis. Examples of such uses would be land uses not in the ITE Trip Generation Manual. Traffic counts at three similar locations in southern California may be required to determine trip generation rates.

  Special event land uses that do not exhibit typical trip generation characteristics may require additional analysis, including weekend and off-peak scenarios. Examples of such uses would be sports stadiums, racetracks, weekend events, or uses that exhibit substantial traffic peaking associated with special events that are scheduled on a periodic basis. Traffic counts at three similar locations in southern California may be required to determine trip generation rates and traffic characteristics. The traffic analysis for periodic uses shall include a traffic management plan to control traffic impacts associated with the special events as needed. Adequate circulation shall be provided to the site and all impacts shall be alleviated to the maximum extent possible.

  The following types of traffic effects are considered exceed General Plan standards:

  1) When existing traffic conditions (Analysis Scenario 1) exceed the General Plan target LOS.

  2) When project traffic, when added to existing traffic (Analysis Scenario 2 and 3), will deteriorate the LOS to below the target LOS and impacts cannot be reduced to meet General Plan requirements through project conditions of approval.

  3) When cumulative traffic (Analysis Scenario 4) exceeds the target LOS, and impacts cannot be reduced through the TUMF network (or other funding mechanism), project conditions of approval, or other implementation mechanisms.

7.0 SUBMITTAL REQUIREMENTS AND PROCEDURE

A scoping agreement for traffic impact study form must be submitted for approval prior to preparation of the traffic study. The scoping agreement form shall be completed and submitted along with the required initial fee to be estimated by the City, depending on the complexity of the project.

(a) The project scoping form must indicate whether or not the project is part of a Specific Plan (SP) and, if part of an SP, must provide a listing of other approved and active projects within the SP, and whether or not an SP amendment is proposed.

(b) The scoping form must also show the land use designation per the City General Plan and the proposed land use designation. The scoping form provides space to show this information.

(c) The scoping agreement must include the following information in addition to or as elaboration of the information on the scoping form:

- A description of the intended land uses and quantities
- A legible site plan showing:
    i. Existing and proposed driveway locations on site;
    ii. Existing and proposed driveways on adjacent properties;
    iii. Existing and proposed driveways on the opposite side of the street frontage, extended 300 feet on either side of the project extremities;
    iv. Access control for proposed driveways (full access, right in-right-out, left-in, etc.).
- A figure showing study intersections and roadways.
- A figure showing expected trip distribution for the project. Projects with substantial truck trips or other unique factors may require separate distributions for each type of vehicle or land use.

(d) An estimate of the trip generation for the project based on ITE Trip Generation Manual rates or other approved source.

(e) The expected trip distribution for the project. This may be left blank in favor of distribution figures.

(f) The list of roadway segments to be analyzed, if needed.

(g) The list of intersections to be analyzed.

(h) Any other information in support of the scoping form.

a) Upon approval of the scoping agreement and completion of the traffic study report, submit the Traffic Impact Study report directly to the City planner responsible for the project. Submittals shall be electronic in pdf form and Microsoft Word format upon request. The City may request hard copies of the report if needed. Clearly identify the project case number on the cover of the report. The approved scoping agreement and cumulative projects list as provided by the City shall be included in the appendix of the traffic impact study.

b) If revisions to the Traffic Impact Study are necessary, re-submit complete electronic copies along with a copy of the comments provided by the City.

c) Traffic Impact Studies must be submitted to the City within six months after the Scoping Agreement is signed by the Department. If not, the Scoping Agreement may be considered void, and a new one may be required.

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. Traffic Impact Analysis Format

E. Level of Service Standards (from General Plan)

F. VMT Forecasting Information

EXHIBIT A

TRAFFIC IMPACT ANALYSIS EXEMPTIONS

The following types of development proposals are generally exempt from Traffic Impact Analysis requirements:

1. Design Review and Conditional Use Permit Cases for projects of one acre or less.

2. Preschools, Elementary Schools and Middle Schools.

3. Churches, Lodges, Community Centers, Neighborhood Parks and Community Parks.

4. Any use which can demonstrate, based on the most recent edition of the Trip Generation Manual published by the Institute of Transportation Engineers (ITE) or other approved trip generation data, trip generation of less than 50 vehicle trips during the AM or PM peak hour.

These exemptions will apply **in most cases**; however, the City reserves the right to require a full traffic impact analysis or a focused 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 some 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 that is likely to generate public controversy.

c. The presence of a nearby substandard intersection or roadway segment. 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 City to be reasonable and rational.

Exhibit B

SCOPING AGREEMENT FOR TRAFFIC IMPACT STUDY

This letter acknowledges the City of Lake Elsinore requirements for traffic impact analysis of the following project. The analysis must follow the City of Lake Elsinore Traffic Study Guidelines dated May 2020.

Case No. (i.e. TR, PM, CUP, PP)
Related Cases -
SP No. *Provide SP No. and list of other approved or active projects within the SP.*
EIR No.
GPA No.
CZ No.
Project Name:
Project Address:
Project Description:

	Consultant	Developer
Name:		
Address:		
Telephone:		

A. Trip Generation Source: (ITE 10th Edition + Supplement or other)

Current GP Land Use _____ Proposed Land Use _____
Current Zoning _____ Proposed Zoning _____

	Current Trip Generation			Proposed Trip Generation (PCE)		
	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)

Internal and Pass-By trip allowance percentages shall be per NCHRP 684 and the ITE Trip Generation Manual. The pass-by trips at adjacent study area intersections and project driveways shall be indicated on a report figure. Internal trips that use external streets shall be indicated on a report figure.

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

C. Background Traffic

Project Build-out Year: _____ Annual Ambient Growth Rate: ____%
Phase Year(s), if needed: _____
Other area projects to be analyzed: (to be provided by the City planning department)
Model/Forecast methodology

Exhibit B – Scoping Agreement – Page 2

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

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

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

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

E. Other Jurisdictional Impacts

Is this project within one-mile radius of another jurisdiction or a State Highway? ☐ Yes ☐ No

If so, name of Agency: _____

F. Site Plan (please attach figure)

G. Specific issues to be addressed in the Study (in addition to the standard analysis described in the Guideline) (To be filled out by City)

_____
_____
_____

H. Existing Conditions

Traffic count data must be new or recent within 1 calendar year. Provide traffic count dates if using other than new counts. Date of counts:_____

I. Traffic Study Requirements

Traffic Study Required: ___ _____
Focused Study Required: ___ _____
Except from Analysis: ___ _____

Recommended by:

_____ _____
Consultant's Representative Date

Approved Scoping Agreement:

_____ _____
City of Lake Elsinore Engineering Department Date

Scoping Agreement Submitted on _____

Revised on _____

Exhibit C

SIGNALIZED INTERSECTION ANALYSIS INPUT PARAMETERS

PARAMETER	VALUE
Base Saturation Flow Rate	1900 passenger cars/hr/ln
Heavy Vehicle factor	Determine % heavy vehicle in existing traffic stream based on count data or consultation with City. Generally, 2% heavy vehicle percentage is acceptable. Projects with truck intensive uses must convert project trips to passenger car equivalents (PCE). Truck intensive uses include heavy industrial, warehousing or as determined by the City. Projects near truck intensive areas may be required to use PCE for existing volumes.
Grade	Include as appropriate
Exclusive left turn lane	peak hour volume > 100
Dual left turn lanes	peak hour volume > 300
Protected Left Turn Phasing	Left turn volume > 240 vph
Minimum green time	7 seconds each movement in areas of light pedestrian activity. In areas of heavy pedestrian activity, the minimum green shall be calculated based on the methodology in the HCM.
Pedestrian FDW Time	Crosswalk length (bottom of ramp to bottom of ramp) divided by 3.5 feet per second.
Cycle length	60 sec to 120 sec unless otherwise approved by the agency
Platoon Ratio	1.00 unless otherwise approved by the City
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	Protected	3	12
Permitted	Permitted	2	8

*Any deviation from these parameters requires prior approval from City of Lake Elsinore. Refer to HCM6 for any default values not specifically identified here.

Intersection analyses should be conducted utilizing acceptable software based on HCM6 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. In cases where traffic is added from a sizable 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 0.95 shall be applied to project buildout traffic conditions.

Exhibit D

Traffic Impact Analysis – General Plan Consistency Format

The Traffic Impact Analysis shall generally include the following items, unless waived by the City.

I. Introduction

A. Purpose of the TIA and Study Objectives

B. Site location and study area exhibit

C. Development project identification - City Project Number and related case numbers, i.e. S.P.A. amendment number, E.I.R. 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)

5) Proposed project opening year

6) Any proposed project phasing

7) Indicate if project is within another agency's boundaries

II. Area Conditions

A. Identify Study Area and Intersections

B. Existing traffic controls and intersection geometrics exhibit

C. Descriptions of existing roads (number of lanes, classification, bicycle facilities, sidewalks, parking, etc.)

D. Existing traffic volumes - AM and PM peak hour turning movements and daily roadway links, if required

E. Existing delay and Level of Service at study intersections/roadway links

F. Provide copy of the City's General Plan Circulation Element figure and cross sections figure

F. Indicate if Transit service is available in the area and along which routes

III. Projected Future Traffic

A. Project Traffic and Project Phasing (each study year)

1. Ambient growth rate

2. Project Trip generation - (the latest edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual. Other sources require prior approval by the City.

3. Project Trip distribution and assignment figures

4. Other factors affecting trip generation (identify any factors used to adjust trip generation, such as pass-by trips, internal trips, or modal choice. Use of any trip reduction factors require prior approval by the City and should be based on accepted traffic engineering documentation such as trip generation manual

5. Project peak hour turning movement traffic

6. Project daily volumes on roadway links, if required

7. Project completion or phase completion traffic volumes

D. Cumulative Traffic (background)

1. Ambient growth rate

2. Identify location of other approved or proposed development projects and provide figure

3. Trip generation table for other approved projects

4. Trip assignment figure of other approved development projects

5. Total background peak hour turning movement volumes

IV. Traffic Analysis

A. Capacity and Level of Service and Improvement Analysis

1. Delay and Level of Service for existing traffic conditions without project, with existing improvements

2. Delay and Level of Service at study years with project, with existing and committed improvements (funded for construction)

3. Delay and Level of Service at study years with additional improvements (if required to achieve the General Plan required Level of Service)

4. Delay and Level of service under Cumulative conditions, with existing and committed improvements (funded for construction) and without and with additional improvements

V. Findings and Recommendations

A. Traffic Impacts and Level of Service Analysis

1. Proposed measures to achieve LOS at impacted intersections. Identify if improvements are scheduled for construction, funded for future implementation by a regional mechanism, or not funded.

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

C. Circulation recommendations

1. On-site

2. Area wide - provide exhibit showing roadway improvements and signal locations

3. Phasing (if appropriate)

E. Safety and operational improvements

F. Specific Plan signalization analysis (for Specific Plans only)

G. General Plan Conformance (for Specific Plans and General plan amendments only)

H. Identify existing or proposed Regional funding mechanisms

Exhibit E

Level of Service Standards

Riverside County has established, as a countywide target, an LOS “C” on all County-maintained roads and conventional state highways. As an exception, LOS “D” may be allowed in Community Development areas at intersections with any combination of secondary highways, major highways, arterials, urban arterials, expressways, conventional state highways or at freeway ramp intersections. LOS “E” may be allowed in designated community centers to the extent that it would support transit-oriented development and walkable communities.

Exhibit F

VMT Forecasting Information

Most trip-based models generate daily person trip-ends for each TAZ across various trip purposes (Home-Based Work (HBW), Home-Based Other (HBO), and Non-Home Based (NHB), for example) based on population, household, and employment variables. This may create challenges for complying with the VMT guidance because trip generation is not directly tied to specific land use categories. The following methodology addresses this particular challenge among others.

Production and attraction trip-ends are separately calculated for each zone, and, generally, production trip-ends are generated by residential land uses and attraction trip-ends are generated by non-residential land uses. OPR's guidance addresses residential, office, and retail land uses. Focusing on residential and office land uses, the first step to forecasting VMT requires translating the land use into model terms, the closest approximations are:

- Residential: home-based production trips
- Office: home-based work attraction trips

Note that this excludes all non-home-based trips including work-based other and other-based other trips.

The challenges with computing VMT for these two types of trips in a trip-based model are 1) production and attraction trip-ends are not distinguishable after the PA to OD conversion process and 2) trip purposes are not maintained after the mode choice step. For these reasons, it not possible to use the VMT results from the standard vehicle assignment (even using a select zone re-assignment). A separate post-process must be developed to re-estimate VMT for each zone that includes trip-end types and trip purposes. Two potential approaches to tackle this problem are described below.

1.0 Quick and Easy

This approach uses standard model output files and requires minimal custom calculations. It is based on a regional MPO trip-based model with peak (PK) and off-peak (OP) skims and person trip production-attraction (PA) matrices.

- Calculate custom vehicle trip PA matrices from PK and OP person trip matrices
    - Keep trip purposes and modes separate
    - Use average vehicle occupancy rates for drive-alone and shared ride trips
- Use the final congested drive-alone PK and OP skim matrices to estimate trip length between zones
- Multiply the skim matrices by vehicle trip matrices to estimate VMT
- Sum the PK and OP results to estimate daily VMT and aggregate mode trip purpose and mode
- Calculate automobile VMT for individual TAZs using marginal totals:
    - Residential (home-based) - row total
    - Office (home-based work) - column total

2.0 Detailed and Complicated

The quick and easy process described above simplifies the approach but does not account for different congestion patterns throughout the day (AM, MD, PM, and NT), the direction of travel (all productions are origins and all attractions are destinations), or the benefits of exclusive lanes (HOV or HOT lanes). This more detailed approach attempts to address these limitations and better estimate the VMT produced by the vehicle assignment model.

- Re-skim final loaded congested networks for each mode and time period
- Run a custom PA to OD process that replicates actual model steps, but:
    - Keeps departure and return trips separate
    - Keeps trip purpose and mode separate
    - Converts person trips to vehicle trips based on auto occupancy rates and isolates automobile trips
    - Factors vehicle trips into assignment time periods
- Multiply appropriate distance skim matrices by custom OD matrices to estimate VMT
- Sum matrices by time period, mode, and trip purpose to calculate daily automobile VMT
- Calculate automobile VMT for individual TAZs using marginal totals:
    - Residential (home-based) - row of departure matrix plus column of return matrix
    - Office (home-based work) - column of departure matrix plus row of return matrix

3.0 Appropriateness Checks

Regardless of which method is used, the number of vehicle trips from the custom PA to OD process and the total VMT should match as closely as possible with the results from the traditional model process. The estimated results should be checked against the results from a full model run to understand the degree of accuracy. Note that depending on how each model is setup, these custom processes may or may not include IX/XI trips, truck trips, or special generator trips (airport, seaport, stadium, etc.).

When calculating VMT for comparison at the study area, citywide, or regional geography, the same methodology that was used to estimate project-specific VMT should be used. The VMT for these comparisons can be easily calculated by aggregating the row or column totals for all zones that are within the desired geography.