

**VEHICLE MILES TRAVELED (VMT)  
ANALYSIS GUIDELINES**

**&**

**LOCAL TRAFFIC STUDY  
GUIDELINES**



City of Lompoc

Community Development Department  
Planning Division

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## Introduction

### *What Is a CEQA VMT Analysis?*

SB 743 (Steinberg 2013) updated the way in which transportation impacts are evaluated. Beginning July 1, 2020, all agencies analyzing the transportation impacts of new projects pursuant to the California Environmental Quality Act (CEQA) must evaluate projects by the new standard Vehicle Miles Traveled (VMT), as opposed to the prior standard Level of Service (LOS).

Guidance regarding the changes to CEQA evaluation initiated by SB 743 is contained in the following documents:

- CEQA Guidelines Revisions: Revisions to the CEQA Guidelines became effective in December 2018
- Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR's Technical Advisory), December 2018.

Consistent with these state guidelines, the City of Lompoc has adopted CEQA VMT analysis screening criteria and thresholds for determining when a VMT analysis is required and what constitutes a VMT impact under CEQA. These are described in **Section 1** of these guidelines.

The change to VMT as the basis for transportation impacts is new to all jurisdictions and agencies in California. As such, the City recognizes that these guidelines will be refined over time to reflect new data and information from public and private stakeholders.

### ***What Is a Local Traffic Study?***

In addition to the need to determine CEQA transportation impacts, the City also requires that land development projects evaluate the operations of the multi-modal circulation system serving the project to meet General Plan policies. Although the findings of a Local Traffic Study cannot be used to inform CEQA traffic impacts, they can be addressed as part of the entitlement process as a project condition of approval outside of CEQA. When a Local Traffic Study is required and what constitutes a Local Traffic Study is described in Section 2 of these guidelines.

### ***When Are a CEQA VMT Analysis and a Local Traffic Study Needed?***

A CEQA compliant VMT analysis and/or a Local Traffic Study may be required for any project at the sole discretion of the City, subject to the requirements of state law.

## **SECTION 1 – CEQA Vehicle Miles Traveled (VMT) Analysis Guidelines**

A CEQA compliant VMT analysis may be required for any project at the sole discretion of the City, subject to the requirements of state law. This section provides a series of VMT analysis guidelines designed to address anticipated questions regarding CEQA VMT studies for projects in Lompoc.

The potential for significant VMT impacts is highly dependent upon the type of development and its location. If a proposed project type is to be located in an area characterized by high VMT relative to the regional average for similar land uses, the amount of VMT, VMT/capita, VMT/employee impacts could significantly increase. If a project is located in a low or efficient VMT area with supporting land uses and/or alternative transportation mode choices available to reduce vehicle trips and/or trip lengths, a given project may have no significant VMT impact. The VMT generated by a proposed project and the sensitivity of the project vicinity to generating vehicle trips and longer trip lengths are both critical in determining the need for a VMT Analysis.

### ***I. Initial Consultation***

The following items (1-9 below) need to be confirmed through consultation with the City, prior to the submittal of any VMT analysis. The transportation consultant shall make recommendations for these items based upon engineering judgement and shall submit a letter to the Planning Division detailing their assumptions and recommendations, prior to submittal of any VMT analysis. Three weeks should be anticipated for review and comment on assumptions and recommendations by the Planning Division.

## 1. Project Description

As part of the City's typical process, the applicant will need to provide the following information to define the scope of the local transportation analysis required for the proposed project:

- Project location map
- Zoning for site
- Description of proposed land uses including:
  - Residential – number of single-family and multi-family units
  - Non-residential –gross floor area by type (i.e. retail, office, industrial, etc.)
- Proposed project features related to travel demand management (see **Appendix C – VMT Reduction Measures**)

## 2. Screening Criteria

### 2.1 *Projects Exempt for Non-VMT Reasons*

There are some non-VMT related CEQA principles that can be applied to certain projects to eliminate the need for VMT analysis. These include the following:

- The proposed activity is not a project under CEQA
- The project is exempt from CEQA
- The City's discretionary approval and/or CEQA review is focused and does not involve transportation issues.

The City will consider whether a project meets these or other non-VMT CEQA principles on a case-by-case basis.

CEQA documents adopted or certified prior to July 1, 2020 do not require additional analysis to address new laws implemented after that date, assuming a subsequent or supplemental document is not required due to changes in the project or its circumstances. When a subsequent or supplemental CEQA analysis is required, the following guidance applies:

- When an adopted ND, MND or a certified EIR requires a subsequent or supplemental CEQA analysis related to traffic (pursuant to CEQA Guidelines Section 15162) and the prior certified EIR does not include a SB 743 compliant VMT analysis, and the proposed use does not meet any of the VMT screening criteria described herein – a full VMT analysis consistent with this guidance would be required.



- When an adopted ND, MND or a certified EIR requires a subsequent or supplemental CEQA analysis related to traffic (pursuant to CEQA Guidelines Section 15162), and the prior certified EIR includes an SB 743 compliant VMT analysis, and the proposed use does not meet any of the VMT screening criteria described herein – the applicant may opt to perform a net VMT change assessment (i.e., if the land use change results in VMT lower than or equal to the total VMT of the previously approved project, the impact will be considered less than significant); or, complete a full VMT analysis consistent with this guidance.
- When an adopted ND, MND or a certified EIR requires supplemental CEQA analysis of a non-transportation related environmental issue, the City recommends the City Attorney’s office review and provide direction on a case-by-case basis.

## 2.2 VMT Screening

The requirement to prepare a CEQA transportation VMT analysis applies to all land development projects, except for those that meet at least one of the following VMT-related criteria in the numbered list below.

Projects may be screened out of VMT impacts using project size, VMT efficiency maps, transit availability, and provision of affordable housing. A project that meets at least one of the VMT screening criteria below would have a less than significant VMT impact due to project characteristics and/or location.

- 1. Small Project:** The project is a small project defined as generating less than 110 daily unadjusted trip ends using the latest ITE trip generation rates/procedures or a project-specific trip generation analysis reviewed and accepted by the City. **Table 1** shows the maximum project size that would correspond to this threshold, based on average ITE trip generation rates for selected land uses. This criterion could be applied in conjunction with the City's current guidelines that require only a trip generation memorandum for smaller projects.

**Table 1 – Project size thresholds for VMT Screening** (Generation of 110 or Fewer Daily Trips)

LAND USE	ITE CODE	SIZE THRESHOLD	DAILY TRIP GENERATION
SINGLE FAMILY RESIDENTIAL	210	11 units	104
MULTIFAMILY RESIDENTIAL - LOW RISE	220	15 units	110
MULTIFAMILY RESIDENTIAL - MID RISE	221	20.0 units	109
MULTIFAMILY RESIDENTIAL - HIGH RISE	222	24 units	107
MID-RISE RESIDENTIAL WITH 1ST FLOOR COMMERCIAL	231	32 units	110
SMALL OFFICE BUILDING	712	6,800 square feet	110
SINGLE TENANT OFFICE BLDG.	715	9,750 square feet	110

Source: ITE Trip Generation 10<sup>th</sup> Edition (<https://itetripgen.org/>)

2. **Residential Located in a VMT Efficient Area:** The project is a residential project located in a VMT “efficient area” (in an area with 15% or more below the base year regional average household VMT/capita), based on location-based screening maps prepared by the City using the SBCAG’s regional model.
3. **Office/Business/Manufacturing/Industrial Professional Employment Project Located in a VMT Efficient Area:** The project is an Office/Business/Manufacturing /Industrial project located in a VMT “efficient area” (15% or more below the base year regional average VMT/employee) based on the location-based screening maps prepared by the City using SBCAG regional model.
4. **Proximity to Transit:** A residential, retail, and office/business professional project, as well as projects that are a mix of these uses, that are located within ½ mile of an existing or planned major transit stop (or along a high quality transit corridor).
5. **Local-Serving Retail Project:** A retail (or recreational) project is local-serving if it is consistent with the land uses listed in **Appendix A** and has a gross floor area no more than 50,000 square feet.

A retail project may also be defined as local-serving if a market study demonstrates that it is based on the size of its market area. Adding retail square footage (even if it is less than the gross floor area listed above) to an existing “regional” retail shopping area is not screened out. Hotels and motels are not considered local serving retail.

6. **Locally Serving Public/Quasi-Public Facility:** The project is a locally serving public facility if it serves the surrounding community or is a public facility that is a passive use (such as communication and utility buildings, water sanitation, and waste management). Local and regional public/quasi-public facilities are listed in **Appendix A**.

- 7. Affordable Housing:** The project is affordable based on the City's criteria for affordable housing. Only the portion of the project that meets the City's criteria is screened out. For example, if the project is 100 units with all 100 being affordable housing units, a transportation VMT analysis would not be necessary. If the project is 100 units with 10 affordable housing units, transportation VMT analysis would not be necessary for the 10 affordable units but would be necessary for the remaining 90 units (unless they meet one of the other screening criteria). For purposes of applying the small project screening criteria, the applicant would only include the trip generation for the non-affordable housing portion of the project (since the affordable housing portion is screened out).
  
- 8. Mixed Use Project Screening Considerations:** The project's individual land uses should be compared to the screening criteria above. It is possible for some of the mixed-use project's land uses to be screened out and some to require further analysis. For purposes of applying the small project screening criteria, the applicant would only include the trip generation for portions of the project that are not screened out based on other screening criteria. For example, if a project includes residential and retail, and the retail component was screened out because it is locally serving; only the trip generation of the residential portion would be used to determine if the project meets the definition of a small project.
  
- 9. Redevelopment Project Screening Considerations:** The project is a redevelopment project that demonstrates that the proposed project's total project VMT is less than the existing land use's total VMT. Exception: If a project replaces affordable housing (either deed restricted or other types of affordable housing) with a smaller number of market-rate residential units, the project is not screened out and must analyze VMT impacts.

**Table 2** summarizes the criteria for a land development project to not require a VMT analysis.

<b>Table 2 – Screening Criteria for CEQA Transportation Analysis of Development Projects</b>	
<b>Type</b>	<b>Screening Criteria</b>
Located in a VMT Efficient Area	<ul style="list-style-type: none"> <li>Residential project located in an area where VMT/Capita is 15% or more below the base year <b>Regional Average</b></li> <li>Office/Business and Industrial/Warehouse projects located in an area where VMT/Employee is 15% or more below the base year <b>Regional Average</b></li> </ul>
Small Projects	<ul style="list-style-type: none"> <li>Generates less than 110 daily unadjusted trips ends</li> </ul>
Proximity to Transit <sup>1</sup>	<ul style="list-style-type: none"> <li>Located within ½ a mile of an existing or planned major transit stop or an existing stop along a high-quality transit<sup>2</sup> corridor</li> </ul>
Local-Serving Retail	<ul style="list-style-type: none"> <li>A qualifying local-serving retail use: &lt; or = 50,000 square feet</li> <li>A retail project may also be defined as local-serving if a market study demonstrates that it is based on the size of its market area.</li> </ul>
Affordable Housing	<ul style="list-style-type: none"> <li>100% affordable units based on City criteria</li> </ul>
Mixed Use Project	<ul style="list-style-type: none"> <li>Project's individual land uses should be compared to the screening criteria above</li> </ul>
Change of Use or Redevelopment Project	<ul style="list-style-type: none"> <li>Proposed project's total project VMT is less than the existing land use's total VMT</li> </ul>

<sup>1</sup> Situations where the project property-line is partially within the ½ mile buffer will be addressed by the City on case-by-case, project-by-project basis.

<sup>2</sup> Pub. Resources Code, § 21155 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.

### 2.3 *Transportation Project Screening*

OPR's technical advisory presents a list of infrastructure projects that are not considered to be VMT-inducing, and therefore result in a less-than-significant impact. Project types that would not result in increased vehicle travel have a less than significant impact and can be screened out from performing VMT analysis. These types of projects include:

- New or enhanced transit, bicycle and pedestrian facilities
- Rehabilitation/maintenance projects that do not add motor vehicle capacity
- Intersection traffic signal improvements and intersection turn-lane configuration changes
- Additional capacity on local/collector streets if conditions are substantially improved for alternative? Or explain what is meant by active transportation modes
- Installation of roundabouts and traffic calming devices

A full specific list of screened-out projects is shown in **Appendix B**.

New local two-lane roadways functionally classified as "Local" or "Local Collector" that are intended to provide access to new development would be assumed to be implemented with new land development projects and thus be part of the land development VMT screening and, if needed, VMT analysis. These new local roadways would not require a separate VMT analysis.

### 3. Significance Thresholds

#### 3.1 Development Projects

Development projects that do not meet the screening criteria in Section 2.2 must include a detailed evaluation of the VMT produced by the project. The significance thresholds and specific VMT metric used to measure VMT are described by land use type in **Table 3**.

<b>Table 3 – VMT Thresholds of Significance for Development Projects</b>	
<b>Land Use Type</b>	<b>Threshold for Determination of a Significant VMT Impact<sup>1</sup></b>
Residential	15% below Baseline Regional Average of VMT/Capita Regional VMT/Capita: 16.77 x .85 = <b>14.3 VMT/Capita</b>
Office/Business Professional Employment	15% below Baseline Regional Average of VMT/Employee Regional VMT/Employee: 10.14 x .85 = <b>8.6 VMT/Employee</b>
Industrial/Warehouse/Manufacturing Employment	15% below Baseline Regional Average of VMT/Employee Regional VMT/Employee: 10.14 x .85 = <b>8.6 VMT/Employee</b>
Regional Retail	No net increase in total regional VMT
Regional Recreational	No net increase in total regional VMT
Regional Medical/Hospital	No net increase in total regional VMT
Regional Public Facilities	Does not contain regional public uses
Mixed Use	Analyze each land use individually per above categories
Redevelopment	Apply the relevant threshold based on proposed land use
Notes:	1. Projects that exceed these thresholds would have a significant impact under CEQA.

### 3.2 *New Specific Plans*

For new Specific Plans or other large multi-use development plans, the significance thresholds presented in **Table 3** apply as follows:

- Residential – Aggregate all residential land uses and compare the resulting VMT/Capita to the regional average. The threshold is 15% below the regional average Resident VMT/Capita per **Table 2 and Table 3**.
- Office/Business/Manufacturing/Industrial Employment – Aggregate all office/business/Manufacturing/Industrial land uses and compare the resulting VMT/Employee to the regional average. The threshold is 15% below the regional average Employee VMT/Employee per **Table 2 and Table 3**.
- Retail, Public Facilities, Recreational Facilities, and Medical/Hospital Facilities – Evaluate the effect that adding these land uses has on regional VMT (i.e., net VMT change).



### 3.3 *Non VMT Significance Criteria*

In addition to the VMT-based “thresholds of significance” listed in **Table 3**, a project may have a significant CEQA transportation impact if it conflicts with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. Potential examples of the latter could include one or more of the following:

- Eliminates or adversely affects an existing bikeway or pedestrian facility in a way that would discourage its use; or
- Interferes with the implementation of a planned bikeway; or
- Fails to provide adequate access for bicyclists and pedestrians, resulting in unsafe conditions, including unsafe bicycle/pedestrian, bicycle/motor vehicle, or pedestrian/motor vehicle conflicts.
- Eliminates or adversely affect existing transit access, service, or operations; or
- Interferes with the implementation of planned transit service
- Substantially increases hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)

### 3.4 *Transportation Projects*

As discussed in Section 2.3 and **Appendix B** there are a variety of transportation projects that are not considered to be VMT-inducing and would be presumed to have a less than significant impact on transportation. These types of projects would not require a detailed VMT analysis. For these project types, the presumption of a less than significant impact would apply even if the project was not in the General Plan or a Specific Plan.

## 4. Analysis Methodology

### 4.1 Selection of Analysis Tools for Estimating VMT

The SBCAG regional travel demand model (RTDM) was utilized to estimate trip-based Work and Residential Baseline VMT for the incorporated areas of the City. The SBCAG RTDM is a traditional 4-Step travel demand model that runs in the TransCAD software platform. The model generates trips based on the land uses and where people will live, work, study and shop, taking into account forecasted population growth.

The model generates and tracks all trip types by all modes originating or ending in each jurisdiction within Santa Barbara County (considered “internal” trips), as well as all trips (not separated by trip purpose) from or into Ventura and San Luis Obispo Counties (considered “External” trips). The use of the SBCAG RTDM for evaluation of VMT is limited to the boundary of the three counties.

The regional average VMT/Capita and VMT/Employee provide the basis for project-level and plan-level analysis. As part of the City’s “SB 743 Implementation Study” a VMT Sketch Planning Tool was developed to provide an easy-to-use analysis tool for determining VMT impacts. The tool was informed through the use of the SBCAG RTDM (80+ model runs) and can quickly determine if a proposed development project results in a VMT impact or not.

The two recommended methods for project-level VMT estimation:

**Method 1:** Use of the City’s VMT Sketch Planning tool for geographic screening and VMT analysis. This approach is applicable to residential uses as well as office/commercial/manufacturing/industrial uses.

**Method 2:** For retail projects, regional private/quasi-public projects (e.g., hospitals), transportation infrastructure projects, large and/or complex or atypical developments, use of SBCAG’s RTDM is recommended.

## 4.2 VMT Metrics –Development Projects

This section describes how each of the key metrics (VMT/Capita and VMT/Employee) used in the VMT analysis for CEQA transportation impacts should be calculated.

### **VMT/Capita**

VMT/Capita is used to evaluate residential projects. It includes all home-based vehicle trips (both work/commute vehicle tours and non-work vehicle trips) that start and end at residential units. The VMT from these trips should be summed to the home location (Trip Production). The VMT for all home-based trips is then summed in a particular area and divided by the total population of that area to arrive at VMT/Capita.

Trips that do not begin or end at home (called Non-Home-Based trips) are not included in the VMT/Capita estimates.

### **VMT/Employee**

VMT/Employee is used to evaluate office/manufacturing/industrial employment projects. It includes all work/commute vehicle trips that start and end at employment location (Traffic Analysis Zone). The VMT from these trips are summed to the employment location of the trip (Attraction). The VMT for each employment location is then summed for all employment locations in a particular area and divided by the total employment of that area to arrive at VMT/Employee.

### 4.3 *Methods for Estimating VMT – Development Projects*

Project-level VMT analysis for Method 1 should use the City's VMT Sketch Planning tool, which is based on SBCAG's regional model. The VMT Tool will be run by the City's Planning and/or Public Works Department staff (not the applicant).

Based on the input information above, the City will provide the results of the analysis (screen and VMT analysis results). The City will not provide the VMT Sketch Planning tool for use by the applicant.

#### **Method 1 Analysis**

Method 1 involves the following basic steps:

- The Applicant shall provide the City the following information for residential projects: Project Parcel Number/s; Number of units; Number of non-market based units if applicable; and, the anticipated number of inhabitants.
- The Applicant shall provide the City the following information for non-residential projects: Project Parcel Number/s; and, the number of employees anticipated to be employed by the project.
- The City will execute the VMT Sketch Planning Tool based on the information provided above and report back to the applicant the results and screenshots of the output.
- If a significant transportation VMT impact is identified, candidate mitigation measures will be provided but it will be the responsibility of the applicant to estimate the VMT reduction benefits of the selected mitigation measures.

## **Method 2 Analysis**

Project-level VMT analysis for Method 2 should use the most recently updated SBCAG travel demand model.

The City will be responsible for the following information:

- Base year VMT screening maps by land use type that display VMT/Capita and VMT/Employee as a percent of the regional average.

The Applicant will be responsible for coordinating with SBCAG to receive the following information:

- Prior to performing any modeling using the City's travel model, SBCAG requires execution of a Model Users Agreement (available upon request).
- SBCAG model input and executable files to run the base year and out-year version of SBCAG's adopted travel demand model.
- Model scripts that can be used with the SBCAG travel demand model to estimate VMT/Capita and VMT/Employee for project-level analysis

The City will not provide the TransCAD software needed to run SBCAG's regional model nor manuals on how to use this software.

#### *4.4 Method for Estimating VMT – Transportation Projects*

For infrastructure projects that require a VMT analysis, the SBCAG regional travel demand model should be applied to compare the with- and with-out project total VMT. Effects of new roadway capacity on induced travel are accounted for, as the SBCAG model estimates changes in origins/destinations, travel modes and travel routes in iterative model runs to reach a final traffic forecast. The SBCAG model is sensitive to changes in congested travel times by auto based on roadway capacity and estimated volumes, as well as the changes in travel times of alternative modes (walking, biking and transit) for all possible origin/destination pairs in the region. Long-term changes in land use are the result of transportation projects and this effect on induced VMT should be addressed through a no-build land use scenario or other methods described in the Caltrans Traffic Analysis Framework guidance document.

## 5. Mitigation

If a project is found to have a significant transportation VMT impact, it must identify feasible mitigation measures that could avoid or substantially reduce an impact to less than significant. Depending on the project type, this means reducing the project's VMT, VMT/Capita and/or VMT/Employee. Typically, these VMT metrics are reduced by implementing strategies that achieve one of the following:

- Reducing the number of automobile trips generated by the project or by the residents or employees of the project.
- Reducing the distance that people drive.

**Appendix C** lists VMT reduction strategies that could be considered for mitigating a significant transportation VMT impact. Strategies that reduce single occupant automobile trips or reduce travel distances are called Transportation Demand Management (TDM) strategies. The City coordinates with SBCAG's Traffic Solutions Office to assist employers and commuters alike to find alternatives to driving alone. As such, not all mitigation measures are physical improvements to the transportation network. A sample mitigation measure might include telework options for employees to reduce vehicular travel. Examples of other mitigation measures based on OPR's Technical Advisory are shown in **Appendix C**.

An analysis with supporting evidence must demonstrate the effectiveness of the proposed mitigation measure(s) at reducing the identified significant transportation VMT impact (i.e. reducing VMT/Capita, VMT/Employee and/or total VMT).



## **SECTION 2 – Local Traffic Study Guidelines**

### ***When Is A Traffic Study Needed?***

Aside from the CEQA transportation VMT analysis, the City may require the preparation of a circulation/operations analysis (Local Traffic Study) for a land development project. The purpose of this analysis is to forecast, analyze, and describe how a development will affect existing and future circulation infrastructure for all users of the transportation system, including vehicles, bicycles, pedestrians and transit. The circulation/operations analysis assists transportation engineers and planners in both the City and the development community when making land use, infrastructure planning, and other development decisions. This analysis quantifies the expected changes in transportation conditions and evaluates the efficacy of potential improvements, if warranted.

The circulation/operations analysis, which includes a traditional LOS-based traffic analysis of development projects, is separate from the transportation impact analysis using VMT conducted as part of the environmental (CEQA) project review process. The purpose of the circulation/operations analysis is to ensure that all projects provide a fair share of infrastructure improvements or buy-in to existing infrastructure in order to accommodate their multimodal transportation demands.

Although a Local Traffic Study (LTS) may be required for any project at the sole discretion of the City, an LTS will be required when there is the potential for the project to create a significant number of traffic conflicts under future conditions. The potential for traffic conflicts will depend upon the trip generation of the project, as well as the congestion in the area surrounding the project site. Typically, a project which generates fewer than 25 peak hour trips will not be expected to significantly contribute to traffic congestion, whereas a project which generates more than 50 peak hour trips will generally be considered a potentially significant trip generator. Example land use quantities required to generate 25 and 50 peak hour trips are shown in Table 2.A for a few select land use categories. The City will determine each project's trip generation based upon the standards and data the City deems applicable at the time of analysis.

**Table 2.A – Example Land Use Quantities Required to  
Generate 25 and 50 Peak Hour Trips<sup>a</sup>**

Land Use Category	Land Use Quantity to Generate 25 PM Peak Hour Trips <sup>b</sup>	Land Use Quantity to Generate 50 PM Peak Hour Trips <sup>c</sup>
210 - Single Family Residential	25 DU	50 DU
220 - Multi-Family Residential	45 DU	89 DU
710 - General Offices	22 TSF	43 TSF
720 - Medical-Dental Offices	7.2 TSF	14.5 TSF
850 - Supermarket	2.7 TSF	5.4 TSF
931 - Quality Restaurant	3.2 TSF	6.4 TSF

Notes: a. Based upon ITE *Trip Generation* 10th Edition average rate.

b. DU = Dwelling Units; TSF = Thousand Square Feet.

c. Fast food restaurants and banks typically generate more than 50 peak hour trips

The potential for significant traffic conflicts is highly dependent upon the circulation system in the project vicinity. If the project access is through a congested intersection, a relatively small trip generator could significantly increase the potential for traffic conflicts. If a project is located in a congestion free area with many alternative routes available to disperse project traffic, a relatively large trip generator may have no significant impact. The trip generation of the project and the sensitivity of the project vicinity to additional traffic are both critical indetermining the need for a traffic study.

### ***Graduated Significance Thresholds***

Many jurisdictions have established significance thresholds which depend upon the level of service of the impacted intersections. For example, if a proposed project utilizes almost all of the capacity of an underutilized intersection, such that the intersection will still operate within the design capacity, the project can be required to contribute to the improvement of that intersection. The improvements would provide additional capacity at that intersection for future development.

Significance thresholds may be used to establish a minimum number of trips through an intersection necessary to generate an impact that is considered significant. Therefore, a small project that adds only a few trips to an intersection currently operating beyond its design capacity, would not generate an impact that is considered significant. This would allow very small projects or projects located far from congested intersections to not be held responsible for mitigation.

Although graduated significance thresholds are advisable in some jurisdictions, they do not appear to be particularly appropriate for future development in Lompoc. Based upon the regional modeling, only one intersection ("H" Street & Central Avenue) appears to be difficult to mitigate under General Plan buildout conditions. Therefore, only large projects would exceed the graduated significance thresholds at existing intersections, and few projects of this magnitude are anticipated in Lompoc.

# Attachment A –Minimum Requirements for Local Traffic Studies

## TRAFFIC STUDY OUTLINE

### 1. Executive Summary

- a. Existing traffic conditions
- b. Future traffic conditions with and without project
- c. Circulation mitigation measures for all anticipated transportation modes

### 2. Project Location and Description

- a. Describe the project location in terms of its regional and local setting.
- b. Describe the proposed project, including the timing of development. Provide phasing of project, if proposed.

### 3. Existing Conditions

- a. Describe the surrounding street system.
- b. Provide peak *hour and* daily traffic volumes.
- c. Describe City standards for level of service.
- d. Evaluate peak hour and daily Levels of service.
- e. Address relevant circulation plans.
- f. Address traffic signal warrants.

#### **4. Circulation Impact Analysis**

- a. Provide trip generation associated with the project and cumulative projects.
- b. Adjust for trip overlap, redevelopment trip credits for existing facilities to be removed, or pass-by trips, as appropriate.
- c. Distribute trips based upon existing traffic counts, future land uses, and knowledge of local circulation patterns.
- d. Evaluate ambient+cumulative traffic conditions (without project) for project build-out year (or phases, as appropriate).
- e. Evaluate ambient+project+cumulative traffic conditions for project build-out year (or phases, as appropriate).

#### **(If the project is a Zone Change or General Plan Amendment)**

- f. Evaluate General Plan buildout without project traffic conditions.
- g. Evaluate General Plan buildout-plus-project traffic conditions.

#### **5. Conditions of Approval**

- a. Identify all recommended circulation Conditions of Approval necessary to adequately address project-related traffic operational or safety issues for all anticipated transportation modes and describe implementation of TSM/TDM measures as they are incorporated into conditions of approval.

#### **Appendices (e.g., traffic counts, LOS worksheets, etc.)**

- 1. At the discretion of the City, the final report shall be stamped by a California Registered Traffic Engineer or a California Registered Civil Engineer with adequate experience in transportation engineering.

## Attachment B – Local Traffic Study Guidelines

### ***I. Initial Consultation***

The following items need to be confirmed *through* consultation with the City prior to the submittal of any traffic study. The consultant will make recommendations, based upon engineering judgement and will submit a letter to City staff detailing their assumptions and recommendations for conditions of approval, prior to submittal of any traffic study. Three weeks should be anticipated for review and comment on assumptions and recommendations by the Planning Division and Engineering Division.

**Study Area and Key Intersections** - Designate a study area which includes the area and street network potentially affected by the project and identify those intersections that are to be specifically addressed in the analysis.

**Traffic Count Data** - Specify where peak hour intersection turn movement counts and 24-hour roadway segment counts are needed, and the time periods during which traffic constraints may occur (AM, Noon, PM, daily, weekday, weekend).

**Phases** - To identify when required, the traffic study may need to address intermediate development phases. Without a phased analysis, traffic remediation improvements will generally be required upon initial development of the project.

**Cumulative Projects** - To evaluate the ambient conditions upon project build-out, future traffic conditions will need to be addressed by including known cumulative projects and/or a traffic growth rate approved by the City. Cumulative projects will be provided by the City of Lompoc, Planning Division.

**Trip Generation** - Must be based upon the latest edition of the ITE "Trip Generation" manual. If the proposed land uses are not clearly defined by ITE "Trip Generation", a consensus of appropriate trip generation rates is required with City staff.

**Traffic Assignment** - Must be based upon existing traffic counts, future land uses, and knowledge of local travel patterns.

**Alternatives** - If key circulation issues are not fully determined, the City may require the traffic study to address circulation alternatives.

## ***II. Details for the Traffic Study Guidelines***

**Section 1a** - Summarize the existing key traffic issues in the project vicinity. Identify any traffic constraints or facilities which currently need to be improved. Characterize the operation of traffic in the project vicinity in terms of levels of service.

**Section 1b** - Summarize the future key traffic operational and safety issues in the project vicinity. Identify any traffic constraints or facilities which will need to be improved to insure consistency with General Plan policies with or without the project. Characterize the operation of traffic in the project vicinity in terms of levels of service (LOS).

Required Table - (1) an intersection summary table which addresses the operation of the key intersections for existing conditions and each of the future scenarios

**Section 1c** - List all remedial measures necessary to address project-related General Plan policy consistency issues. Describe those that may be infeasible.

**Section 2a** - Provide a description of the location of the proposed project in terms of its regional and local setting.

Required Figure - (1) a regional location map which shows the project site in its regional context; (2) a vicinity map which shows the project site and the relevant study area including all key intersections to be analyzed.

**Section 2b** - Provide a description of the proposed project and project alternatives. Identify the existing and future zoning and General Plan land use designations. Discuss the phasing and build-out dates. Discuss the proposed project access.

Required Table - (1) a quantitative summary of the proposed project (land use quantities) for each phase and alternative.

Required Figure - (1) a detailed map showing the proposed project land uses (e.g. siteplan).



**Section 3a** - Provide a description of the streets within the study area. Provide the road classification and include the number of lanes, whether each roadway is divided or undivided, travel speed, improvements, and other relevant information.

Required Figure - (1) a detailed map of the study area showing the number of lanes, divided or undivided, traffic control devices, and project site.

**Section 3b** - Provide details of the traffic count data including data from Caltrans, City counts, and any supplemental counts required for the traffic study. Generally, peak period counts should be broken down in 15-minute intervals *over a 2-hour count* period to bracket the peak hour and included in the Appendix. Unless otherwise agreed upon by City Engineering Division, the AM Peak Hour study period is 7 a.m. – 9 a.m. and PM Peak Hour study period is 4 p.m. to 6 p.m.

Required Figures - (1) a map showing the daily traffic count data; (2) a map showing the a.m. and p.m. peak hour turning movement count data at the key intersections (may be combined with the daily counts for a small study area).

**Section 3c** - Provide a description of the relationship of level of service to traffic flow. Present the City standards for the level of service of intersections and roadway links.

Required Table - (1) a summary of the daily and peak hour level of service standards.

**Section 3d** - Evaluate the significance of the a.m. and p.m. peak hour and *daily* volumes by utilizing the appropriate methodology and comparing them to City standards. Signalized intersection and unsignalized intersection analyses should be based upon the methodology from the most recent Highway Capacity Manual, subject to the discretion of the City. Daily link volumes should be addressed utilizing a volume-to-capacity analysis based upon the daily capacities provided in the Circulation Element.

Required Tables – (1) a summary of the daily volume-to-capacity ratios for roadways in the study area.; (2) the number of lanes for each turning movement assumed in the analysis(can be shown in a figure); (3) a summary of a.m. and p.m. peak hour intersection utilization and level of service (can be shown in a figure).

**Section 3e** – Describe the relevant circulation plans and policies that affect the project site. Describe the classification of the roadways in the study area. Identify any roadway improvements that are proposed in the study area, the funding mechanism and scheduled completions date. Identify any bikeways that are proposed adjacent to or through the site. Discuss the availability of public transit for the project site. Evaluate existing and anticipated pedestrian and bicycle activity within the study area. Identify any safety-related issues involving conflicts between motor vehicles, bicyclists, and pedestrians and identify suitable project-related safety improvements or treatments that address the identified issues.

Required Figures – (1) a map showing the relevant circulation plans for the area (e.g. master planned circulation system or bikeways); (2) a graphic showing typical cross-sections for master planned roadways.

**Section 3f** – Evaluate the intersections in the study area as to their potential need for signalization based upon available count information utilizing planning level daily signal warrants from Caltrans.

**Section 4a** – Evaluate the trip generation for the proposed project and cumulative projects utilizing factors from the latest edition of 11'E *Trip Generation* or any factors developed through coordination with City staff.

Required Tables – (1) a quantitative summary of the trip generation for the proposed project for each phase and alternative; (2) a quantitative summary of the trip generation for cumulative projects.

**Section 4b** – Provide a discussion of the proposed use of trip overlap, redevelopment trip credits, or pass-by trips adjustment factors. Any use of trip overlap, redevelopment trip credits, or pass-by trips must be approved by City staff prior to use. Pass-by trips may not exceed 10% of the volume on the adjacent streets.

Required Table - (1) a quantitative summary which explicitly shows the adjustments to the trip generation made to reflect trip overlap and pass-by trips.

**Section 4c** - Distribute project-related trips based upon existing counts at similar uses, knowledge of future land uses, and knowledge of local circulation patterns. City review of the project distribution is required prior to completion of the traffic study. Different project distributions may be required for different scenarios.

Required Figures - (1) a detailed map showing the percentage of project-related traffic and project-related daily traffic volumes along roadways in the study area; (2) a detailed map showing peak hour project-related turning movements through the key intersections in the study area. (Additional figures may be required to show the project traffic assignment for different scenarios.)

**Section 4d** - Develop ambient+cumulative peak hour and daily traffic volumes for the project build-out year (and intermediate phases if applicable). The ambient volumes can be determined by utilizing a growth rate for each key intersection determined by comparing existing and General Plan build-out traffic volumes (assume General Plan build-out will occur by 2015). Any specific cumulative developments identified by City staff may need to be added to the ambient volumes. Evaluate the significance of the ambient traffic volumes by utilizing the appropriate methodology and comparing the results to City standards.

Required Table - (1) a summary of the operation and levels of service of the key intersections and roadway links in the study area with ambient traffic volumes in the project build-out year (and intermediate phases, if applicable).

Required Figure - (1) a detailed map showing ambient+cumulative peak hour and daily traffic volumes along roadways in the study area upon project build-out (and intermediate phases, if applicable).

**Section 4e** - Develop ambient+cumulative+project peak hour and daily traffic volumes for the project build-out year (and intermediate phases if applicable) by adding project-related traffic to the ambient+cumulative traffic volumes. Evaluate the significance of the ambient+project traffic volumes by utilizing the appropriate methodology and comparing the results to City standards.

Required Table - (1) a summary of the operation and levels of service of the key intersections and roadway links in the study area with ambient+cumulative+project traffic volumes upon project build-out (and intermediate phases, if applicable).

Required Figure - (1) a detailed map showing ambient+cumulative+project peak hour and daily traffic volumes along roadways in the study area upon project build-out (and intermediate phases, if applicable).

**Section 4f** - If the proposed project is a zone change or General Plan Amendment that has a greater trip generation than planned for this location, the traffic study needs to evaluate peak hour and daily traffic volumes upon General Plan buildout without project-related traffic. General Plan buildout peak hour volumes have been determined for twenty key intersections and included in the technical background study for the Circulation Element of the General Plan. For other intersections, General Plan buildout peak hour volumes can be determined by factoring up existing counts by existing daily volumes and modeled General Plan buildout daily volumes. Through coordination with City staff, the trip generation allocated for the project site must be subtracted from the General Plan buildout volumes to determine the General Plan buildout without project volumes.

Required Table - (1) a summary of the operation and levels of service of the key intersections and roadway links in the study area with General Plan buildout without project traffic volumes.

**Section 4g** - After the approved General Plan buildout peak hour and daily volumes have been determined, the impact of the project under General Plan buildout conditions can be determined by assigning the difference between the proposed project trip generation and the trip generation master planned for the site to the circulation system within the study area.

Required Table - (1) a summary of the operation and levels of service of the key intersections and roadway links in the study area with General Plan buildout with project traffic volumes.

Required Figure - (I) a detailed map showing General Plan buildout+project peak hour and daily traffic volumes along roadways and at key intersections within the study area.

**Section 5** - Summarize the operational and/or safety improvements necessary for the project to be consistent with General Plan polices. The identified remediation improvements should address all travel modes. Coordinate with City staff, if necessary, to determine the feasibility of the proposed improvements. Identify how the project utilizes Transportation System Management (TSM) and Transportation Demand Management (TDM) to meet Goal 3 and Policies 3.1 through 3.7of the Circulation Element.

Required Figure - (1) a detailed map showing the operational and/or safety improvements necessary to meet appropriate General Plan policies.

**Appendix** - Include all assumptions and calculations utilized in the analysis.

## APPENDIX A – VMT Analysis Land Use Designations

For the purpose of defining the type of VMT analysis that is required for CEQA transportation impacts, the land use designations that fit within residential, office/business professional employment, industrial employment, local-serving retail and local-serving public facilities categories are provided in **Table A-1** below.

<b>Table A-1 - Land Use Designations and Specific Land Uses for VMT Analysis</b>
<b>Residential</b>
Very Low Density Residential (VLDR)
Low Density Residential (LD/LDR)
Medium Density Residential (MD/MDR)
High Density Residential (HDR)
Mixed Use (MU)
Retirement/age-restricted housing
Residential care home/facility
<b>Office/Business Professional Employment</b>
Neighborhood Commercial (NC)
Office Commercial (OC)
Hospital / Medical Facilities
<b>Industrial Employment</b>
Business Park (BP)
Industrial (I)
Industrial (I)
<b>Retail: May be screened out as local-serving based on size or market study.</b>
General Commercial (GC) that do not include regional uses
Neighborhood Commercial (NC)

**Table A-1 - Land Use Designations and Specific Land Uses for VMT Analysis**

<b>Regional Retail and Recreational – Not Local Serving</b>
General Commercial (GC) that includes regional uses
Hotels and Motels
Outdoor commercial recreation
Entertainment venues and Events
<b>Public/Quasi-Public Facilities - Local Serving</b>
Public K-12 schools (elementary school, middle school, and high school and District Offices / Maintenance Yard / Cafeteria)
Day care centers
Library
Post Office
Neighborhood parks
City Hall
Open Spaces
Police and Fire stations
Utility substations
Corporation Yard
Solid Waste Yard
Landfill
Purchasing / Electric Yard
Water Plant and Wastewater Reclamation Plant

**Table A-1 - Land Use Designations and Specific Land Uses for VMT Analysis**

<b>Regional Public/Quasi-Public Facilities – Regional Serving</b>
Airport
Transit Center and Transit Yard / Offices
University/college
Community college
Private schools (elementary school, middle school, and high school)
Religious institutions
County Courts, Offices and Recreational Center
Animal Shelter
Community Recreation Centers
Clubs, lodges, and private meeting halls
Theaters and Auditoriums
Museums and Historic Sites
Regional Parks



## **APPENDIX B – VMT Neutral Infrastructure Projects**

OPR's Technical Advisory identifies several infrastructure projects that would not likely lead to a substantial or measurable increase in vehicle travel, and therefore generally should not require an induced travel analysis. Presumed VMT neutral infrastructure projects include:

1. Rehabilitation, maintenance, replacement, safety, and repair projects including ITS field elements such as cameras, message signs, detection, or signals; tunnels; transit systems; and assets that serve bicycle and pedestrian facilities and that do not add additional motor vehicle capacity
2. Roadside safety devices or hardware installation such as median barriers and guardrails
3. Roadway shoulder enhancements to provide "refuge area," dedicated space for use only by transit vehicles, to provide bicycle access, or to otherwise improve safety, but which will not be used as automobile vehicle travel lanes
4. Addition of an auxiliary lane of less than one mile in length
5. Intersection channelization (installation, removal, or reconfiguration of traffic lanes that are not for through traffic, such as turn pockets, turn lanes, or emergency breakdown lanes)
6. Addition of roadway capacity on local or collector streets provided the project also substantially improves conditions for pedestrians, cyclists, and, if applicable, transit
7. Conversion of existing general-purpose lanes (including ramps) to managed lanes or transit lanes, or changing lane management in a manner that would not substantially increase vehicle travel
8. Addition of a new lane that is permanently restricted to use only by transit vehicles
9. Reduction in number of through lanes
10. Grade separation to separate vehicles from rail, transit, pedestrians or bicycles, or to replace a lane in order to separate preferential vehicles (e.g., HOV, HOT, or trucks) from general vehicles
11. Installation, removal, or reconfiguration of traffic control devices, including Transit Signal Priority (TSP) features

12. Installation of traffic metering systems, detection systems, cameras, changeable message signs and other electronics designed to optimize vehicle, bicycle, or pedestrian flow
13. Timing of signals to optimize vehicle, bicycle, or pedestrian flow
14. Installation of roundabouts or traffic circles
15. Installation or reconfiguration of traffic calming devices
16. Adoption of or increase in tolls
17. Addition of tolled lanes, where tolls are sufficient to mitigate VMT increase
18. Initiation of new transit service
19. Conversion of streets from one-way to two-way operation with no net increase in number of traffic lanes
20. Removal or relocation of off-street or on-street parking spaces
21. Adoption or modification of on-street parking or loading restrictions (including meters, time limits, accessible spaces, and preferential/reserved parking permit programs)
22. Addition of traffic wayfinding signage
23. Addition of new or enhanced bike or pedestrian facilities on existing streets/highways or within existing public rights-of-way
24. Addition of Class I bike paths, trails, multi-use paths, or other off-road facilities
25. Installation of publicly available alternative fuel/charging infrastructure
26. Addition of passing lanes, truck climbing lanes, or truck brake-check lanes in rural areas
27. Maintenance, placement or removal of utility lines through trenching, or directional drilling.
28. Construction, or improvement of sidewalks and ramps.
29. Storm drain curb inlet or culvert improvements, or construction.
30. Storm water conveyance construction or repair (v-ditches, channels, curb and gutter, etc.)
31. Street maintenance and improvement associated with existing railway lines and surrounding pavement.
32. Bridge replacement and maintenance

## APPENDIX C – VMT Analysis: VMT Reduction Measures

<b>Table C-1 - Example VMT Reduction Measures</b>	
Category	Measure
Parking	<ul style="list-style-type: none"> <li>• Limit or eliminate parking supply</li> <li>• Zone for and encourage pedestrian oriented retail</li> <li>• Zone for and encourage mixed residential &amp; retail use development</li> <li>• Implement shared parking agreements, based on time of use and proximity</li> <li>• Unbundle parking costs</li> <li>• Provide parking cash-out programs</li> <li>• Price workplace parking</li> </ul>
Transit	<ul style="list-style-type: none"> <li>• Improve or increase access to transit</li> <li>• Reduce transit headways</li> <li>• Implement neighborhood shuttle</li> <li>• Implement central shopping and/or wine / cannabis shuttle</li> <li>• Implement emergency ride home program</li> <li>• Provide partially or fully subsidized transit passes</li> <li>• Implement Yellow Bike program (Shared bike)</li> </ul>
ITS	<ul style="list-style-type: none"> <li>• Deploy management strategies (e.g., pricing, vehicle occupancy requirements) on roadways or roadway lanes.</li> <li>• Implementing or funding intelligent transportation systems (ITS) strategies to improve passenger throughput on existing lanes.</li> </ul>
Education and Encouragement	<ul style="list-style-type: none"> <li>• Provide incentives or subsidies that increase the use of modes other than a single-occupancy vehicle</li> <li>• Voluntary travel behavior change program</li> <li>• Promotions and marketing</li> </ul>
Commuter Trip Reductions	<ul style="list-style-type: none"> <li>• Provide certified local jobs</li> <li>• Implement or provide access to a commuter reduction program</li> </ul>

**Table C-1 - Example VMT Reduction Measures**

Category	Measure
	<ul style="list-style-type: none"><li>• Provide telework options</li><li>• Support for Charlotte's Web to visit children in various areas of town</li><li>• Reduce need to travel for information by providing high-quality high-speed broadband internet service</li><li>• Provide on-site amenities at places of work, such as priority parking for carpools and vanpools, secure bike parking, showers and locker rooms, and bicycle repair services, daycare and after school transportation to the site, on-site coffee shop, cafeteria or regular food truck visits.</li><li>• Employer or association-sponsored vanpool, circulator, or shuttle</li><li>• Provide a variety of residential sizes and types</li><li>• Encourage redevelopment of existing structures and infill parcels</li><li>• Protect rural interface lands with conservation easements and Williamson Act protections</li><li>• Support Lompoc Boys and Girls Club Student afterschool transportation program.</li><li>• Rideshare program</li><li>• Provide employee transportation coordinators at employment sites</li><li>• Provide a guaranteed ride home service to users of non-auto modes</li></ul>

**Table C-1 - Example VMT Reduction Measures**

Category	Measure
Shared Mobility	<ul style="list-style-type: none"> <li>• Provide car-sharing, bike sharing, and ride-sharing programs</li> <li>• Shift single occupancy vehicle trips to carpooling or vanpooling by providing ride-matching services or shuttle services</li> <li>• Other shared mobility devices</li> <li>• School carpool program</li> </ul>
Active Transportation/ Neighborhood Enhancement	<ul style="list-style-type: none"> <li>• Orient the project toward transit, bicycle, and pedestrian facilities</li> <li>• Improve pedestrian or bicycle networks</li> <li>• Include outdoor bike parking</li> <li>• Include secure bike parking and showers</li> <li>• Shared use paths/paseos</li> </ul>
Project Changes	<ul style="list-style-type: none"> <li>• Locate the project in an area of the region that already exhibits low VMT.</li> <li>• Locate the project near transit.</li> <li>• Increase project density.</li> <li>• Increase the mix of uses within the project or within the project's surroundings.</li> <li>• Increase connectivity and/or intersection density on the project site.</li> <li>• Increase access to common goods and services, such as groceries, schools, and daycare.</li> <li>• Incorporate affordable housing into the project.</li> <li>• Incorporate a neighborhood electric vehicle network.</li> </ul>