BCAG SB 743 Implementation – VMT Impact Screening

Case Study Testing

BACKGROUND

The CEQA Guidelines Section 15064.3 and the *Technical Advisory on Evaluating Transportation Impacts in CEQA,* California Governor's Office of Planning and Research, December 2018 (referred to as the Technical Advisory in the remainder of this document) introduced specific recommendations for VMT impact screening and analysis. Prior to this guidance, lead agencies tended to rely on CEQA exemptions or streamlining to screen or relieve projects of performing transportation impact analysis. Lead agencies may have also used vehicle trip generation triggers to determine if a project was small enough that it could be presumed to have less than significant impacts on the transportation system.

The challenge with using any screening approach is that limited evidence is typically available upon which an impact determination is made. While this accelerates the CEQA review process, the impact conclusions lack the benefit of the substantial evidence offered by a complete impact analysis. To help BCAG member agencies assess the outcomes of VMT impact screening and to understand the impact analysis steps for projects that fail screening, four case studies were evaluated. These case studies were nominated by member agencies and include a mix of project sizes and locations.

VMT IMPACT SCREENING TESTS

The Technical Advisory contains five VMT impact screening options of which the four listed below are relevant in Butte County.

1. **Small Project**: the project is estimated to generate or attract fewer than 110 daily vehicle trips.

2. **Low VMT Areas**: the project is located in a TAZ where VMT generation is 15 percent or more below the applicable land use threshold.
    a. Residential projects – 15 percent or more below the regional home-based VMT per resident.
    b. Office projects – 15 percent or more below the regional home-based work VMT per worker.

3. **Affordable Residential Development**: the project consists of 100 percent affordable housing units.

4. **Local Serving Retail**: the project is anticipated to be local serving (as opposed to regional-serving retail development) and is less than 50,000 square feet (<50 KSF) in size.

The excluded screening test is for land use projects locating within ½ mile of a high-quality transit station. Current transit stations in Butte County do not qualify for this designation.

CASE STUDY ASSESSMENT

The four case studies are briefly described below largely based on notice of preparation (NOP) or initial study information. They are also mapped on Figure 1, which shows the relationship of each project location to the low VMT residential areas in the county.

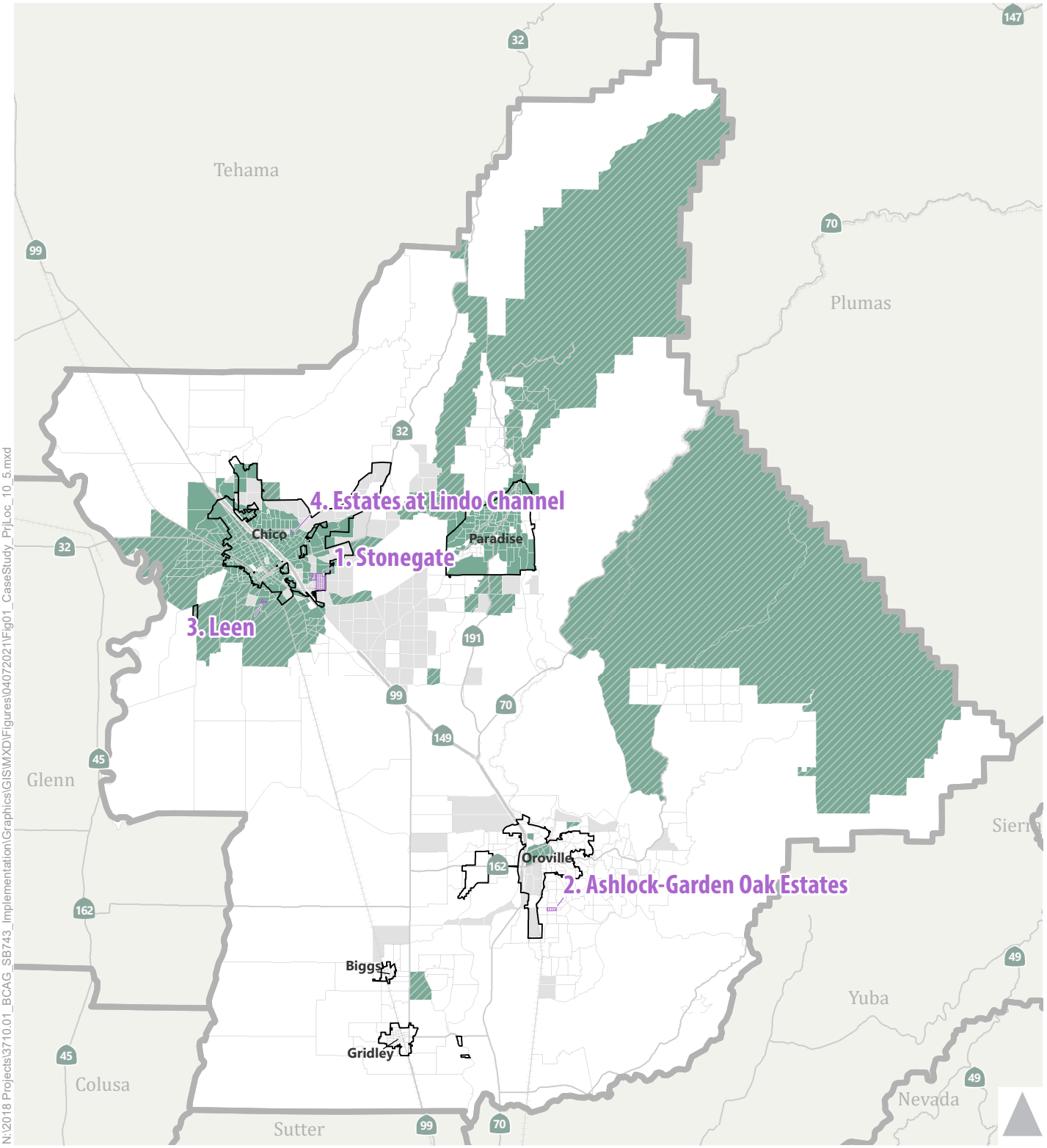
- **Case Study 1 – Stonegate:** The project includes general plan amendments and rezones to allow for the following trip generating land uses.
  - 460 single-family residential (SFR) units
  - 208 multi-family residential (MFR) units
  - 343,223 square feet of commercial (individual buildings range from 9,351-59,193 square feet)
  - 2.6-acre park

- **Case Study 2 – Ashlock-Garden Oak Estates:** This project involves approval of the development of a mixed-use subdivision that includes commercial lots, SFR and MFR lots, and significant open space with forested habitat. The proposed subdivision includes 118 single-family homes, 28 multi-family units on 14 duplex lots, and 4 lots (4.22 acres total) of commercial space offering approximately 40,000 square feet of total building space designed for local serving uses.

- **Case Study 3 – Leen**: The project is a tentative subdivision map to divide an approximately 18.5-acre property into 22 parcels (21 residential lots and one open space lot). The 21 clustered residential lots range in size from 0.19 to 0.75 acres.

- **Case Study 4 – Estates at Lindo Channel:** The project includes a general plan amendment and rezone to reduce the residential density for the site and a small-lot subdivision and planned development permit to divide the site into 22 SFR lots.

The first step in the case study evaluation was to perform VMT impact screening for each project. The screening results are summarized in Table 1 below.



Source: Modified Version 1.1-3.17.21 of the BCAG RTP/SCS Model

** Area may not qualify for screening due to land use context.*

Figure 1

Case Study Project Locations Compared to Low VMT Residential Zones

Table 1: Case Study Summary of VMT Impact Screening Tests

Project	Land Use	Screening Criteria				Screening Outcome
		Small Project	Low VMT Area	100% Affordable Residential	Local Serving Retail	
Case Study 1 – Stonegate	SFR Units MFR Units Commercial Park	Fail	N/A N/A N/A N/A	Fail Fail N/A N/A	N/A N/A Fail N/A(1)	**Fail** **Fail** **Fail** **N/A**
Case Study 2 – Ashlock-Garden Oak Estates	SFR Units MFR Units Commercial	Fail	Fail Fail N/A	Fail Fail N/A	N/A N/A Pass	**Fail** **Fail** **Pass**
Case Study 3 – Leen	SFR Units	Fail	Pass	Fail	N/A	**Pass**
Case Study 4 – Estates at Lindo Channel	SFR Units	Fail	Pass	Fail	N/A	**Pass**

Notes:
N/A = Not Applicable.
(1) A small local park may qualify as local serving and have the same beneficial VMT effects presumed for local serving retail.

Key highlights of the screening outcome are discussed below.

- **Case Study 1 – Stonegate** failed each of the checklist items or they were not applicable largely due to the size of the project and its location. Screening is generally designed for smaller projects except 100 percent affordable housing projects.

- **Case Study 2 – Ashlock – Garden Oak Estates** had a similar outcome to Case Study 1, but its commercial uses could qualify as local serving retail based on their size and intended uses per the project description. A potential exception to this finding may occur if the proposed general plan land use designation and zoning for the commercial uses could allow for land uses that would be high VMT generating.

- **Case Study 3 – Leen and Case Study 4 – Estates at Lindo Channel** passed screening due to their locations in low VMT areas. Both locations benefit from the proximity to other uses in the Chico area.

For the projects that didn't pass screening, the first question is whether mitigation is available that could improve the VMT performance below the applicable screening threshold. As part of this BCAG SB 743

Implementation Study, a separate evaluation of mitigation strategies applicable to the Butte County land use and transportation context was prepared. That evaluation is a starting point for lead agencies. If sufficient mitigation is not identified, the next step in the process is to perform a complete VMT impact analysis as outlined in the next section.

PERFORMING A COMPLETE VMT IMPACT ANALYSIS

For case studies 1 and 2, a complete VMT impact analysis may be required. The final determination will be up to the lead agency. Their basic choices are either to identify the VMT impact as significant and unavoidable (SU) based on the screening assessment, which would require an EIR, or to perform a complete analysis that provides additional evidence about the project's VMT performance. The complete analysis will require more time and effort but could lead to better information about the nature of the VMT impact and help to identify effective mitigation measures. The complete analysis also provides VMT inputs that may be necessary for air quality, greenhouse gas (GHG), and energy impact analysis for the project.

If using VMT impact thresholds derived from a travel demand model (i.e., the modified version 1.1-3.17.21 of the BCAG RTP/SCS model), then a complete VMT impact analysis will be performed using the same model to ensure an apples-to-apples comparison between the threshold and the project's VMT performance. The model can be obtained from BCAG following the instructions at the website below.

- http://www.bcag.org/Planning/Transportation-Forecasting/index.html

Model applications for local land use projects are the responsibility of local lead agencies or their consultants. Applying the model will involve the following steps.

1. Review the model's static validation in the project study area. Identify whether any refinements are needed to improve the model's sensitivity in the project area or for the type of project being analyzed.

2. Make necessary refinements to the model identified in step 1, which may include adding a new traffic analysis zone (TAZ) to represent the project site. Adding a project specific TAZ simplifies the process for isolating model outputs for the project.

3. Update the model's input files to represent the project. This may include land use, demographic, socioeconomic, and transportation network input parameters.

4. Determine what scenarios are required for the environmental impact analysis. Typical scenarios could include the following.
    a. Baseline (see Methodology documentation for this study for more details)
    b. Baseline plus project
    c. Cumulative no project
    d. Cumulative plus project

For the cumulative plus project scenario, care should be taken to accurately represent the project's land use effects. Most projects will not generate new population or employment growth under cumulative conditions. Instead, project land use changes associated with typical general plan amendments and rezones will affect land use supply and the allocation of growth. As such, the cumulative scenarios should use the same control totals for population and employment growth.

5. Run the model to produce VMT inputs for environmental impact analysis. Typical VMT metrics are shown below but the final ones selected will depend on the specific impact subjects required for the project. For example, air quality, GHG, and energy impact analysis will often rely on total VMT and total VMT generated by a project while transportation impacts rely on the other efficiency metric forms.

VMT Metric	Definition	Visualization
Total VMT	All vehicle-trips (i.e., passenger and commercial vehicles) or passenger only vehicle-trips are assigned on the network within a specific geographic boundary (i.e., model-wide, region-wide, city-wide). Vehicle volume on each link is multiplied by link distance.	
Total VMT generated by a project	All vehicle-trips are traced to the zone or zones of study. This includes internal to internal (II), internal to external (IX), and external to internal (XI) trips. May use final assignment origin-destination (OD) trip tables or production (P) and attraction (A) estimates multiplied by trip lengths.	
Home-based VMT per resident	All automobile (i.e., passenger cars and light-duty trucks) vehicle-trips that start or end at the home are traced, but non-home-based trips made by residents elsewhere on the network are excluded.	

VMT Metric	Definition	Visualization
Home-based work VMT per employee	All automobile trips between home and work are traced.	

6. Compare the project's VMT performance to the applicable thresholds and determine impact significance. If a lead agency follows the Technical Advisory threshold recommendations, this will require comparing individual land use VMT performance against the applicable thresholds. For example, a mixed-use project consisting of residential and offices uses would use two separate VMT metrics. For the residential land use, the impact analysis would rely on the home-based VMT per resident metric above. The office use would apply the home-based work VMT per employee metric.

   Checking the cumulative plus project performance is important in this step. Some projects may perform worse than the threshold during screening or under baseline plus project conditions while generating lower levels of VMT under cumulative plus project conditions. This typically occurs when an area is planned for mixed-use development that has not yet matured. Over time, as development fills in and the mix of uses becomes more robust, VMT rates will decline.

7. If a significant VMT impact is identified, then mitigation measures should be developed similar to what was discussed above under the screening assessment. However, use of the model allows for more detailed testing of select VMT reduction strategies that influence the project site or surrounding area's built-environment.

Following these steps would be required for case studies 1 and 2 above and similar projects. In general, these will tend to be larger projects or projects with unique land uses not covered by screening. However, the rural and suburban land use context could result in even small to medium-sized projects having to perform complete VMT impact analysis for those lead agencies using the Technical Advisory thresholds.