

APPENDIX 11b

VMT Analysis



VMT Analysis

for:

Airport Gateway Specific Plan Project

In the Cities of
San Bernardino and Highland

February 2021

Kimley»»Horn

VMT ANALYSIS
FOR THE
AIRPORT GATEWAY SPECIFIC PLAN PROJECT
IN THE CITIES OF SAN BERNARDINO AND HIGHLAND

Prepared by:

Kimley-Horn and Associates, Inc.
1100 W Town and Country Road, Suite 700
Orange, California 92868

February 2021

TABLE OF CONTENTS

	Page
Introduction	1
Project Overview	1
Vehicle Miles traveled Screening	2
VMT Thresholds.....	6
VMT Analysis	7
Project VMT.....	8
Project VMT per Service Population (SP).....	8
Heavy Truck VMT	8
Potential Impacts.....	8
Mitigation	9
Conclusion	10

LIST OF FIGURES

Figure 1: Vicinity Map	3
Figure 2: Specific Plan Area	4

LIST OF TABLES

Table 1: VMT Thresholds	7
Table 2: VMT Impact Evaluation	9

VEHICLE MILE TRAVELED ANALYSIS
FOR THE
AIRPORT GATEWAY SPECIFIC PLAN PROJECT
IN THE CITIES OF SAN BERNARDINO AND HIGHLAND

INTRODUCTION

Senate Bill (SB) 743 was approved by the California legislature in September 2013. SB 743 requires changes to California Environmental Quality Act (CEQA), specifically directing the Governor's Office of Planning and Research (OPR) to develop alternative metrics to the use of vehicular "level of service" (LOS) for evaluating transportation projects. OPR has updated guidelines for CEQA and written a technical advisory for evaluating transportation impacts in CEQA and set a deadline of July 1, 2020 for local agencies to update their CEQA transportation procedures. OPR has recommended that Vehicle Miles Traveled (VMT) replace LOS as the primary measure of transportation impacts. The City of San Bernardino's [Traffic Impact Analysis Guidelines](#) (August 2020) provides VMT methodology and screening for determining a project significant transportation impact under the CEQA process within the City's jurisdiction. The City of Highland refers to the San Bernardino County Transportation Authority (SBCTA) [SB 743 Vehicle Miles Traveled Implementation Study](#) (SBCTA Guidelines; February 2020) for both VMT methodology and screening.

This technical memorandum was prepared to document the VMT analysis for the Airport Gateway Specific Plan project following the City of San Bernardino Guidelines and SBCTA Guidelines.

PROJECT OVERVIEW

The Airport Gateway Specific Plan (AGSP) area covers approximately 679.2 acres, located immediately north of the San Bernardino International Airport (SBIA). The Specific Plan area is bounded generally by 6th Street and Highland Creek on the north, 3rd Street and the SBIA on the south, State Route 210 (SR-210) on the east, and Tippecanoe Avenue on the west. North of the Specific Plan area (on the north side of 6th Street) is bordered by a mix of low- and medium-density residential uses and vacant parcels, as well as several public facilities including Indian Springs High School, Cypress Elementary School, Highland Community Park and the Highland Branch Library.

The Specific Plan area includes parcels in both the City of Highland (485 acres) and the City of San Bernardino (194.2 acres). The Project site is shown in its regional setting on Figure 1. The Specific Plan area is depicted on Figure 2.

The existing uses within the Specific Plan area include single-family and multi-family residential, small-lot commercial, educational facilities, and industrial uses. Vacant parcels make up approximately 209 acres of the Specific Plan area.

The AGSP would replace the existing uses within the Specific Plan area with approximately 9.2 million square feet of Industrial Mixed Uses, consisting of industrial warehouse, high-cube logistics warehouse, tech business park, and a small amount of commercial/retail/hotel uses. Development of the Specific Plan area will be accomplished over time, as market conditions allow, and as developers are successful in assembling individual parcels into parcels large enough for the allowed uses.

Consistent with the Traffic Impact Analysis (TIA) prepared for the project, the project is estimated to generate 31,435 passenger car trips and 3,171 truck trips on a daily basis.

VEHICLE MILES TRAVELED SCREENING

This section documents Vehicle Miles Traveled (VMT)/SB 743 considerations for the project. Both the City of San Bernardino Guidelines and SBCTA Guidelines provide details on appropriate screening thresholds that can be used to identify when a proposed land use project is anticipated to result in a less than significant impact without conducting a more detailed level analysis. Screening thresholds are broken into the following three steps:

1. Transit Priority Area (TPA) Screening
2. Low VMT Area Screening
3. Project Type Screening

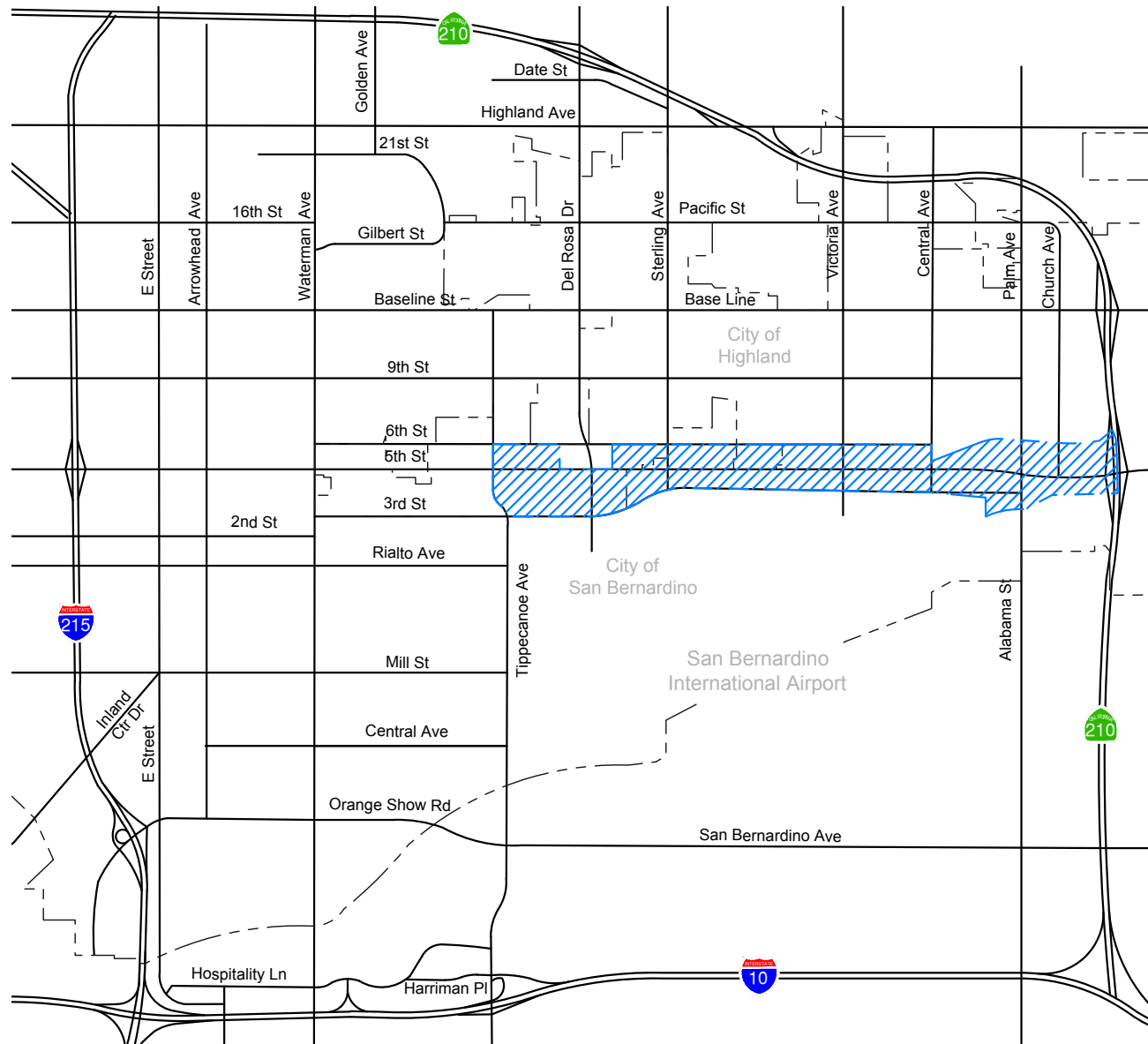
A land use project needs to only meet one of the above screening thresholds to be presumed to result in a less-than-significant impact under CEQA pursuant to SB 743.

Transit Priority Area (TPA) Screening


As described in the City of San Bernardino and SBCTA Guidelines, projects located within a half mile from an existing major transit stop or within half of a mile from an existing stop along a high-quality transit corridor can be screened out. Based on the San Bernardino County Transportation Authority (SBCTA) VMT Screening Tool, the project is not located in a Transit Priority Area (TPA). The TPA screening criteria is not met.

Low VMT Area Screening

The project is located in multiple Traffic Analysis Zones (TAZ). Some TAZs are in a low VMT area, while others are not. Since the entirety of the Specific Plan area is not within a low VMT area, the Low VMT Area screening threshold is not met.

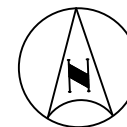


NOT TO SCALE

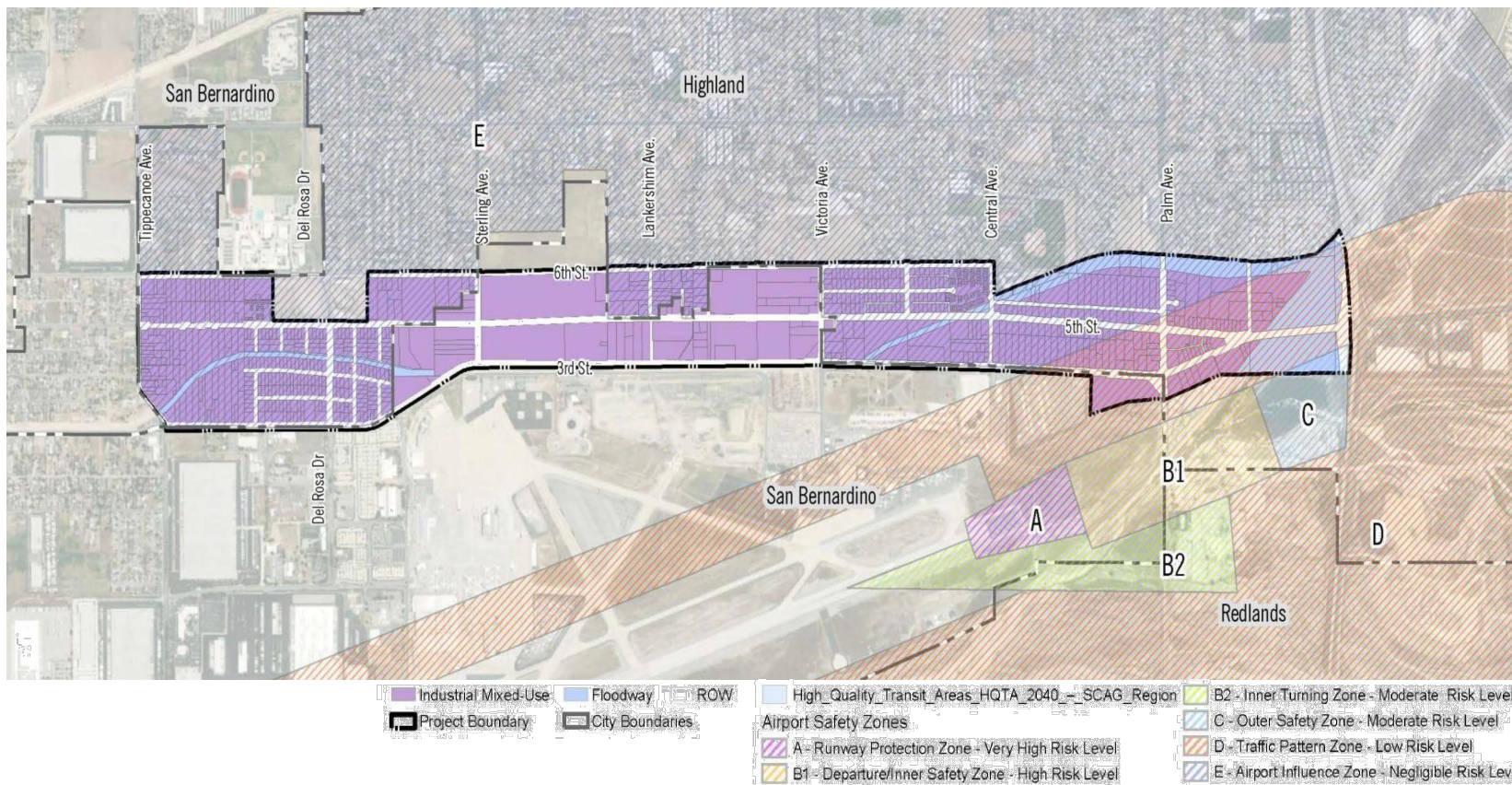
LEGEND:
 = Specific Plan Area
- - - - - = City Boundaries

**FIGURE 1
VICINITY MAP**





NOT TO SCALE



- 4 -

FIGURE 2
SPECIFIC PLAN AREA

Project Type Screening

The City of San Bernardino and SBCTA Guidelines identify that Project types falling under the screening criteria includes the following:

- Local-serving retail 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 on or adjacent college campuses
- Local-serving assembly uses, Community Institutions
- Local serving community colleges
- Affordable or supportive housing, Assisted living facilities, Senior housing
- Projects generating less than 110 daily vehicle trips

The Project Type Screening criteria for this project is not met except for the retail uses within the Specific Plan which could be considered local serving.

VMT THRESHOLDS

City of San Bernardino

The City of San Bernardino Traffic Impact Analysis Guidelines (August 2020) recommends VMT thresholds set to the City of San Bernardino General Plan Buildout VMT per service population.

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 of San Bernardino General Plan Buildout VMT per service population, or
2. The cumulative project-generated VMT per service population exceeds the City of San Bernardino General Plan Buildout VMT per service population

City of Highland

The SBCTA SB 743 VMT Implementation Study (February 2020) recommends VMT thresholds set to the baseline County of San Bernardino VMT per service population.

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 baseline County of San Bernardino VMT per service population, or
2. The cumulative project-generated VMT per service population exceeds the baseline County of San Bernardino VMT per service population.

A significant cumulative impact would occur if the project is determined to be inconsistent with the RTP/SCS and causes total daily VMT within the City to be higher than the no project alternative under cumulative conditions. As the Project is consistent with both the City of San Bernardino and City of Highland's General Plan Land Use and Zoning, the baseline project-generated VMT per service population for has been considered for this analysis.

As the project does not satisfy VMT screening criteria, a VMT analysis has been conducted for the project based on the San Bernardino County Transportation Analysis Model (SBTAM), consistent with the City of San Bernardino and SBCTA Guidelines.

For purposes of this VMT assessment, the project's VMT per service population (SP) has been compared to the countywide average VMT and City of San Bernardino General Plan (GP) Buildout VMT, based on data provided by SBCTA. As a conservative approach, the lower VMT threshold was applied, which in this case, would be the City of San Bernardino GP Buildout VMT. Table 1 shows the calculated VMT thresholds for VMT per SP:

TABLE 1: VMT THRESHOLDS

Threshold Option	Countywide Average	City of San Bernardino GP Buildout	Threshold
VMT per SP	32.7	31.6	31.6

VMT ANALYSIS

A logical way to evaluate the type of land uses within the Specific Plan area is to consider the major trip purposes of the land uses in terms of their trip length and frequency. Given the description, three types of trips were broadly considered for this Specific Plan area given its context: (1) employee commute trips; (2) other trips related to the functioning of businesses and/or their employees and (3) truck trips related to shipping activities. The following discussion is provided regarding these three broad trip types.

Employee commute trips. These are the primary automobile trips associated with employment generating uses such as within the proposed Specific Plan. This Specific Plan is expected to provide additional jobs and some related trips to the area. The efficiency of VMT associated with employee commute trips has been assessed based on SBTAM, consistent with the City of San Bernardino and SBCTA guidelines.

Other trips. These are often the smallest number and shortest distance of trips for a Specific Plan area like this and include a broad range of trip types, such as, employee lunches off-site, maintenance teams for on-site infrastructure, office supply deliveries, customer trips associated with the retail uses, etc. As such their impact to the overall VMT of the site is likely minimal. As such it is not likely that they are impactful to the local transportation system and are secondary to the other two trip types discussed. The efficiency of VMT associated with other trips has also been assessed based on SBTAM, consistent with the adopted City of San Bernardino and SBCTA guidelines.

Truck trips related to shipping activities. CEQA Guidelines Section 15064.3, subdivision (a) states “For the purposes of this section ‘vehicle miles traveled’ refers to the amount and distance of automobile travel attributable to a project.” The OPR’s 2018 Technical Advisory indicates that, although heavy vehicle traffic can be included for analysis convenience, the provided analysis requirements are specific to passenger-vehicles and light duty trucks. While it may be appropriate to consider heavy vehicle traffic if directed by the lead agency, it is generally understood that Interstate commerce and related heavy vehicle traffic are regulated by the federal government as it relates to commerce. Irrespective of this and considering that the end-users within the Specific Plan are unknown at this time (so the nature of the business enterprises and its probable origins and destinations are unknown), it is reasonable to assume that the ultimate end user will select this location, at least in part, as to how it effects their transportation costs. Most often businesses who have shipping as a significant part of their operations are

sensitive to transportation costs and their relative proximity to customers and suppliers. Accordingly, it is reasonable to assume that warehouses are often located in a manner to reduce VMT given that it is in the interest of the business. It is also recognized that the project would generate Heavy Duty Truck (HDT) traffic and has been considered in this VMT assessment.

PROJECT VMT

The calculation of vehicle miles traveled has two components – the total number of trips generated and the average trip length of each vehicle. SBTAM is a useful tool to estimate VMT as it considers the interaction between different land uses based on socio-economic data such as population, households, and employment. Project VMT was calculated using the most current version of SBTAM. Adjustments in socio-economic data (households, population, and employment) were made to the appropriate traffic analysis zone (TAZ) within the SBTAM model to reflect the project's proposed land uses.

Project VMT per Service Population (SP)

Service population is defined as the sum of population and employment. Since the Project does not have any residential component, the Project SP consists of employees only. The VMT per SP is the total VMT (including all trip purposes) divided by the number of workers derived from the SBTAM model. The VMT per SP is used to measure efficiency of VMT generated by all trip purposes. The Project VMT per SP calculated based on SBTAM is 35.0.

Heavy Truck VMT

The average trip length for heavy trucks were based on the data provided in Forecasting Metropolitan Commercial and Freight Travel (NCHRP Synthesis 384, Transportation Research Board, 2008) document. The document cites average internal trip lengths of 5.92 miles for light truck, 13.06 for medium truck, and 24.11 for heavy trucks. As a conservative measure, a trip length of 25 miles has been utilized for all trucks multiplied by the daily truck trips (3,171) estimated in the TIA based on Institute of Transportation Engineer (ITE) trip rates, resulting in a heavy truck daily VMT of 79,275.

Potential Impacts

As shown in Table 2, the project's VMT per SP would exceed the threshold. As such, the project's transportation impact is potentially significant based on the City of San Bernardino and SBCTA recommended thresholds.

TABLE 2: VMT IMPACT EVALUATION

Threshold Option	Threshold	Project VMT	Change in VMT	Potentially Significant?
VMT per SP	31.6	35.0	+3.4 (10.8%)	Yes

Mitigation

As indicated in the City of San Bernardino and SBCTA Guidelines, the following choices are available to the applicant:

- Modify the project’s built environment characteristics to reduce VMT generated by the project.
- Implement Transportation Demand Management (TDM) measures to reduce VMT generated by the project.
- 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.

Transportation demand management (TDM) strategies have been evaluated for reducing VMT impacts determined to be potentially significant. Given the jurisdiction’s suburban land use context, the following key strategies may be considered for the project.¹

- Provide pedestrian network improvements (potential VMT reduction 0.5% - 5.7%)
- Provide traffic calming measures (potential VMT reduction 0% - 1.7%)
- Implement car-sharing program (potential VMT reduction 0.3% - 1.6%)
- Increase transit service frequency/speed (potential VMT reduction 0.3% - 6.3%)
- Encourage telecommuting and alternative work schedules (potential VMT reduction 0.2% - 4.5%)
- Provide ride-share programs (potential VMT reduction 2.5% - 8.3%)

The project proposes pedestrian sidewalks along roadways within the Specific Plan area. The project site is accessible by transit via OmniTrans Bus Route 15, which has stops at the following locations within or near the Specific Plan area:

- Tippecanoe Avenue at 3rd Street
- Del Rosa Drive at 3rd Street
- Del Rosa Drive at 6th Street
- Central Avenue at 5th Street
- Palm Avenue at 5th Street

¹ Source: SB 743 Implementation Mitigation and TDM Strategy Assessment, Attachment B (Fehr & Peers, November 2019) prepared for San Bernardino County Transportation Authority (SBCTA).

The effectiveness of the above-noted TDM measures would be dependent on the ultimate building tenant(s), which are unknown at this time. Beyond project design and tenancy considerations, land use context is a major factor relevant to the potential application and effectiveness of TDM measures. More specifically, the land use context of the project is characteristically suburban. Of itself, the project's suburban context acts to reduce the range of feasible TDM measures and their potential effectiveness.

Based on available research, for projects located within a suburban context, a maximum 10% reduction in VMT is achievable when combining multiple mitigation strategies. Due to limitations of project-level approaches to reducing VMT, the City or region may consider larger mitigation programs such as VMT mitigation banks and exchanges. VMT mitigation banks and exchanges have not yet been developed or tested. SBCTA is undertaking a study to evaluate the feasibility of a VMT mitigation bank or exchange to assist lead agencies in implementing SB 743.

CONCLUSION

The project's transportation impact based on VMT is potentially significant based on City of San Bernardino and SBCTA recommended thresholds. As the efficacy of TDM measures and reduction of VMT impacts below thresholds cannot be assured, the project's VMT impact is therefore considered significant and unavoidable.