

ENVIRONMENT | PLANNING | DEVELOPMENT SOLUTIONS, INC.

Date: October 19, 2022
Prepared by: Meghan Macias, TE
To: City of Hesperia
Site: Mesa Linda Street Warehouse
EPD Project Number 21-139
Subject: Vehicle Miles Traveled (VMT) Analysis

This memo evaluates the potential vehicle miles traveled for the Mesa Linda Street Warehouse project, located in the City of Hesperia. The proposed project would be located on a 18.16 acres vacant site, 500 feet north of Poplar Street between Mesa Linda Street and Three Flags Avenue in the City of Hesperia. The location of the project is shown in Figure 1 – Project Location, and the project site plan is shown in Figure 2 – Project Site Plan. The project proposes to construct a total industrial building area of 408,997 SF comprising 396,997 SF of footprint and 12,000 SF of office. This memo provides a Vehicle Miles Traveled (VMT) analysis based on the requirements of the City of Hesperia TIA Guidelines, July 2020.

Background

Senate Bill (SB) 743 was signed by Governor Brown in 2013 and required the Governor’s Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative to LOS for evaluating Transportation impacts. SB743 specified that the new criteria should promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks and a diversity of land uses. The bill also specified that delay-based level of service could no longer be considered an indicator of a significant impact on the environment. In response, Section 15064.3 was added to the CEQA Guidelines beginning January 1, 2019. Section 15064.3 – Determining the Significance of Transportation Impacts states that Vehicle Miles Traveled (VMT) is the most appropriate measure of transportation impacts and provides lead agencies with the discretion to choose the most appropriate methodology and thresholds for evaluating VMT. Section 15064.3I states that the provisions of the section shall apply statewide beginning on July 1, 2020.

Vehicle Miles Traveled Screening Analysis

The City’s Traffic Impact Analysis Guidelines provides VMT screening thresholds to identify projects that would be considered to have a less-than significant impact on VMT and therefore could be screened out from further analysis. If a project meets one of the following criteria, then the VMT impact of the project would be considered less-than significant and no further analysis of VMT would be required:

1. The project is located within a Transit Priority Area (TPA).
2. The project is located in a low VMT generating area.

3. Project Type Screening (the project generates fewer than 110 daily vehicle trips or is considered a local-serving land use)

The applicability of each criterion to the project is discussed below.

Screening Criteria–1 - Transit Priority Area Screening: According to the City’s guidelines, projects located in a TPA may be presumed to have a less than significant impact. The project is not located in a TPA, therefore the project would not satisfy the requirements of Screening Criteria 1 – TPA screening.

Screening Criteria–2 - Low VMT Area Screening: The City’s guidelines include a screening threshold for projects located in a low VMT generating area. Low VMT generating area is defined as traffic analysis zones (TAZs) with a total daily VMT/Service Population (employment plus population) that is less than the County of San Bernardino VMT/Service Population (noted to be 32.7 in the guidelines). The project’s site was evaluated using the SBCTA VMT Screening Tool ([SBCTA VMT Screening Tool \(arcgis.com\)](#)). According to the results of the online tool, the Countywide VMT/Service Population of the project TAZ is higher than the County average. Therefore, the project would not meet Screening Criteria 2 – Low-VMT Area Screening.

Screening Criteria 3 –Project Type: According to the City’s guidelines, projects which generate fewer than 110 daily vehicle trips, propose local serving retail (retail projects less than 50,000 square feet) or other local serving uses would have a less than significant impact on VMT. As shown in Table 1, the project would generate more than 110 daily trips. Furthermore, the project is not a local serving use.

Because the project would not meet any of the City’s screening criteria, the project’s impact on VMT would not be considered less than significant and an analysis of VMT would be required.

Table 1: Project Trip Generation

Land Use	Units	Daily	AM Peak Hour			PM Peak Hour			
			In	Out	Total	In	Out	Total	
<u>Trip Rates</u>									
High Cube Transload and Short-Term Storage Warehouse ¹	TSF	1.40	0.06	0.02	0.08	0.03	0.07	0.10	
<u>Total Vehicle Trip Generation</u>									
Mesa Linda Street Development	408.997 TSF	573	25	8	33	11	29	41	
<u>Vehicle Mix²</u>		<u>Percent</u>							
Passenger Vehicles		69.00%	395	17	5	23	8	20	28
2-Axle Trucks		6.80%	39	2	1	2	1	2	3
3-Axle Trucks		5.50%	31	1	0	2	1	2	2
4+-Axle Trucks		18.70%	107	5	1	6	2	6	8
		100%	573	25	8	33	11	29	41
<u>PCE Trip Generation³</u>		<u>PCE Factor</u>							
Passenger Vehicles		1.0	395	17	5	23	8	20	28
2-Axle Trucks		1.5	58	3	1	3	1	3	4
3-Axle Trucks		2.0	63	3	1	4	1	3	4
4+-Axle Trucks		3.0	321	14	4	18	6	17	23
Total PCE Trip Generation			838	37	11	48	17	43	59

TSF = Thousand Square Feet

PCE = Passenger Car Equivalent

¹ Trip rates from the Institute of Transportation Engineers, *Trip Generation, 11th Edition, 2021*. Land Use Code 154 - High-Cube Transload and Short-Term Storage Warehouse.

² Vehicle Mix from the SCAQMD Warehouse Truck Trip Study. July 17, 2017.

³ Passenger Car Equivalent (PCE) factors from San Bernardino County CMP, Appendix B - Guidelines for CMP Traffic Impact Analysis Reports in San Bernardino County, 2016

VMT Analysis Methodology

A VMT analysis was prepared using the City's guidelines for VMT analysis. The analysis was prepared by EPD using the San Bernardino County Transportation Analysis Model (SBTAM) hereafter referred to as "Model".

To analyze the project trips, a new Traffic Analysis Zone, referred to as "Zone" hereafter, was added to the SBTAM model and the employment generated by the project was added to the project zone. The potential employment of the project was generated using a population of 1,700 square feet per employee as noted in the Southern California Association of Governments, Sustainable Communities Strategy, Technical Report, September 3, 2020. Based on this data, the proposed project would have approximately 241 employees (408,997 SF / 1,700 SF per Employee). The project population and households were entered into the project Zone in both the 2016 and 2040 models.

The model includes validated scenarios for 2016 and 2040. These scenarios have been validated using existing 2016 traffic counts. Data for years between 2016 and 2040 can be extrapolated using linear interpolation between the 2016 and 2040 model output. The model was run for the base year (2016) and future year (2040) without and with-project conditions (i.e. four full model runs). VMT was then evaluated using the Origin-Destination (OD) matrices as required by the City's guidelines. The OD matrices do not include trip purpose, but are broken down by vehicle type (i.e. passenger vehicles, light heavy-duty trucks, heavy heavy-duty trucks).

As noted under the discussion of thresholds, the City threshold is based on the OD data. To determine VMT, the OD trips were multiplied by the trip lengths to determine the VMT. The OD VMT is divided by the service population (employment plus population) to determine the OD VMT per service population.

VMT Thresholds

The City's Traffic Impact Analysis Guidelines state that a project would result in a significant project generated VMT impact if either of the following conditions are satisfied:

- The baseline (2022) project generated VMT per service population exceeds the San Bernardino County Regional average baseline of 32.7 VMT per service population, or
- The cumulative project generated VMT per service population exceeds the San Bernardino County Regional average baseline of 32.7 VMT per service population, or

The project's effect on VMT would be considered significant if it resulted in the following condition:

- The baseline link-level boundary (County of San Bernardino) VMT per service population increases under the plus project condition compared to the no project condition.
- The cumulative link-level boundary (County of San Bernardino) VMT per service population increases under the plus project condition compared to the no project condition.

Project VMT Evaluation

The VMT analysis results are shown in Tables 2 through 4. As shown in Table 2, the project would have a less than significant impact on VMT in the baseline and cumulative conditions. The year 2022 project VMT per service population would be 27.7, which is 15.42 percent below the County's regional average of 32.7. The Cumulative project VMT per service population would be 23.3, which is 28.78 percent below the County's regional average of 32.7.

The project's effect on VMT would not be considered significant as the Countywide roadway VMT per service population would be reduced with the project in both the 2016 and 2040 conditions.

In summary, because the baseline and cumulative VMT per service population is below the County's regional average of 32.7 and the project would result in a lower countywide link-level VMT per service population, the project would have a less than significant impact on VMT. If you have any questions, please feel free to contact me at meghan@epdsolutions.com or at (949) 794-1186.

Table 2: VMT Analysis of Project Impact

	2016	2040	2022
Project Zone VMT	7,973	20,913	11,208
TAZ 53901101 Population	-	-	-
TAZ 53901101 Employment	241	898	405
TAZ 53901101 Service Population	241	898	405
Project VMT/SP	33.1	23.3	27.7
Baseline Threshold¹	Baseline Proj VMT/SP	% Above/Below Threshold	Baseline VMT Impact?
32.7	27.7	-15.42%	No
Cumulative Threshold¹	Cumulative Proj VMT/SP	% Above/Below Threshold	Cumulative VMT Impact?
32.7	23.3	-28.78%	No

¹ The Baseline and Cumulative Thresholds of 32.7 VMT per service population are based on the County of San Bernardino County regional average VMT per service population, which is cited on page 28 and 29 of the City's TIA Guidelines.

Table 3: 2016 Project Effect on VMT

	Without Project	With Project	VMT Impact?
Countywide Roadway VMT	52,756,997	52,761,003	
Countywide Population	2,140,539	2,140,539	
Countywide Employment	790,400	790,641	
Countywide Service Population	2,930,939	2,931,180	
Countywide VMT/SP	18.000032	17.999919	No

Table 4: 2040 Project Effect on VMT

	Without Project	With Project	VMT Impact?
Countywide Roadway VMT	80,871,734	80,694,153	
Countywide Population	2,721,775	2,721,775	
Countywide Employment	1,027,872	1,028,770	
Countywide Service Population	3,749,647	3,750,545	
Countywide VMT/SP	21.56782596	21.52	No

Figure 1: Project Location



