

DATE: June 2, 2023
TO: Connie Anderson, T&B Planning, Inc.
FROM: Alex So, Urban Crossroads
JOB NO: 14668-01 VMT

PALMDALE LOGISTICS PARK VEHICLE MILES TRAVELED (VMT) ANALYSIS

Connie Anderson,

Urban Crossroads, Inc. is pleased to provide the following Vehicle Miles Traveled (VMT) Analysis for Palmdale Logistics Park development (**Project**), which is located on the southwest corner of Division Street and W. Avenue M in the City of Palmdale.

PROJECT OVERVIEW

The Project is proposed to consist of two warehouse buildings totaling 1,420,070 square feet (see Attachment A). Building 1 is 716,930 square feet and Building 2 is 703,140 square feet. However, for the purposes of this analysis, the Project has been evaluated assuming 1,072,275 square feet of High-Cube Fulfillment Center (Non-Sort) use (75% of the total square footage) and 357,425 square feet of General Light Industrial use (remaining 25% of the total square footage) for a total of 1,429,700 square feet.

BACKGROUND

Changes to California Environmental Quality Act (CEQA) Guidelines were adopted in December 2018, which require all lead agencies to adopt VMT as a replacement for automobile delay-based level of service (LOS) as the measure for identifying transportation impacts for land use projects. This statewide mandate went into effect July 1, 2020, consistent with Senate Bill 743 (SB 743). At the time of this analysis, the City of Palmdale has not formally adopted its own guidelines and impact thresholds, and instead currently utilizes the County of Los Angeles [Transportation Impact Analysis Guidelines](#) (July 23, 2020) (**County Guidelines**) (1) until such time that the City is able to develop their own guidelines and thresholds.

VMT SCREENING

The County Guidelines provides details on appropriate screening criteria that can be used to identify when a proposed land use project is anticipated to result in a less than significant transportation impact and are broken down into four categories. Consistent with the screening criteria identified within the County Guidelines, the criteria in bold will be evaluated further based on applicability:

- **Non-Retail Project Trip Generation Screening**
- Retail Project Site Plan Screening
- **Proximity to Transit Based Screening**
- Residential Land Use Based Screening

A land use project need only to meet one of the above screening criteria to be excused from further VMT analysis.

NON-RETAIL PROJECT TRIP GENERATION SCREENING

The County Guidelines state that development projects generating a net increase of fewer than 110 daily vehicle trips are presumed to have a less than significant impact absent substantial evidence to the contrary.

In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021) were used to estimate the trip generation for actual vehicles. The proposed Project is anticipated to generate a total of 3,684 daily vehicle trips, exceeding the 110 daily vehicle trip threshold (see Attachment B, Tables B-1 and B-2)

Non-Retail Project Trip Generation Screening criteria is not met.

PROXIMITY TO TRANSIT BASED SCREENING

The County Guidelines state that projects located within a one-half mile radius of a major transit stop or an existing stop along a high-quality transit corridor may be presumed to have a less than significant transportation impact if the Project meets the following sub-criteria:

- Has a Floor Area Ratio (FAR) of less than 0.75;
- Includes more parking than required by the County Code;
- Is inconsistent with the applicable Sustainable Communities Strategy RTP/SCS; or
- Replaces affordable residential units with a smaller number of market-rate residential units.

The proposed Project is not located within a TPA nor HQTA (See Attachment C).

TPA screening criteria is not met.

Consistent with County Guidelines, projects that do not meet screening criteria are required to prepare a project level VMT analysis.

VMT ANALYSIS

MODELING METHODOLOGY

The County Guidelines identifies the SCAG model as the appropriate tool for conducting VMT analysis for land use projects in Los Angeles County. The Southern California Association of Governments (SCAG) 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) trip-based model is a useful tool to estimate VMT as it considers interaction between different land uses based on socio-economic data such as population, households, and employment. The current SCAG model has a base year of 2012 and a forecast year of 2040 and

can be used to estimate VMT for existing year 2022 conditions. The 2040 model contains the planned transportation improvements in the RTP and growth projections in the SCS.

Urban Crossroads has obtained project generated VMT calculations for baseline 2022 conditions from Fehr and Peers, who has the SCAG model in-house and is able to provide project level model runs and VMT estimates by individual traffic analysis zones (TAZ).

VMT METRIC AND SIGNIFICANCE THRESHOLD

When calculating VMT for a project, the VMT methodology should match the methodology used to establish the Baseline VMT metrics and impact thresholds. For industrial projects in the City of Palmdale and consistent with County Guidelines, Baseline VMT is defined as a measurement of Home-Based Work (HBW) VMT per employee, which reflects all commute trips for places of employment in North Los Angeles County. All HBW auto vehicle VMT attracted by the Project is divided by the total employment to get the efficiency metric of HBW VMT per employee.

Based on County Guidelines, the City of Palmdale utilizes the following impact threshold:

- The project's employment VMT per employee exceeding 16.8% below the existing employment VMT per employee for the North Los Angeles County area are considered to have a significant VMT impact.

The County Guidelines identifies the Baseline VMT applied in the VMT analysis should be consistent with the year of the analysis or in this case 2022. Using the SCAG model base year (2016) and cumulative year (2040), the North Los Angeles County baseline (2022) VMT was calculated using straight line linear interpolation to be to be 15.9 VMT per employee. The threshold of 16.8% below existing North County area would be **13.2 VMT per employee**.

Los Angeles County is currently updating their VMT guidelines to incorporate a Baseline VMT that reflects the entire Los Angeles County instead of separating the North and South County areas into separate baselines. Similar to the adopted thresholds the SCAG model was used to calculate the entire Los Angeles County of 13.6 HBW VMT per employee, the Project will also be compared to the entire Los Angeles County Baseline VMT for informational purposes.

PROJECT LAND USE CONVERSION

To estimate Project generated VMT, standard land use information such as total building square footage must first be converted into a SCAG travel demand forecasting model compatible dataset. The SCAG model utilizes socio-economic data (SED) (e.g., population, households and employment) instead of land use information for the purposes of vehicle trip estimation. Land use information for the Project has been converted to SED and input into the Project's TAZ to calculate Project generated HBW VMT. Table 2 summarizes the SED inputs used to reflect the Project.

TABLE 2: PROJECT EMPLOYEE ESTIMATES

Land Use	Quantity	Employment Factor ¹	Employees
Industrial	1,429,700 SF	1.18 employee per 1,000 SF	1,688

PROJECT VMT AND COMPARISON TO IMPACT THRESHOLD

HBW VMT per employee for the Project was calculated for Baseline (2022) conditions using the SCAG travel demand model and is presented in Table 3 along with the estimated number of Project employees, and the resulting HBW VMT per employee.

TABLE 3: PROJECT HBW VMT PER EMPLOYEE ADOPTED THRESHOLDS

	Project
HBW VMT	22,450
Employment	1,668
HBW VMT per Employee	13.3
County Threshold	13.2
Percent Change	+0.75%
Potentially Significant?	Yes

As shown above, the Project generates 13.3 Home-Based Work VMT per employee. In comparison to the VMT threshold of 16.8% below Baseline VMT of the North Los Angeles County, the Project is 0.75% above the currently adopted thresholds and will result in a potential VMT impact.

Table 4 presents the Project’s HBW VMT per employee compared to the entire Los Angeles County Baseline VMT. This comparison considers the revisions to the County’s definition of Baseline VMT that is currently underway and expected to be incorporated into the next version of the County’s guidelines. As shown, the HBW VMT per employee generated by the Project is compared to County’s anticipated updated threshold of 16.8% below Baseline VMT.

TABLE 4: PROJECT HBW VMT PER EMPLOYEE ANTICIPATED THRESHOLDS

	Project
HBW VMT	22,450
Employment	1,668
HBW VMT per Employee	13.3
County Threshold	13.6
Percent Change	-2.21%
Potentially Significant?	No

In comparison to the VMT threshold of 16.8% below Baseline VMT of the entire Los Angeles County, the Project is -2.21% below the anticipated updated thresholds and will result in a less than significant VMT impact.

¹ City of Palmdale 2045 General Plan Update Final EIR: Table 2-4.

POTENTIAL VMT REDUCTION STRATEGIES

Potential commute trip reduction strategies have been considered for the purposes of reducing Project related VMT impacts (i.e., commute trips) determined to be potentially significant. As the future building tenants are not known for the Project, the effectiveness of each commute trip reduction measures may be limited. The Project can however consider the following measures that have the potential to reduce work/commute VMT, although no quantified benefit can be taken at this time. Potential VMT reduction measures that could be implemented are as follows:

- The Project may implement a Voluntary Commute Trip Reduction (CTR) measure. The purpose of the CTR would be to encourage alternative modes of transportation such as carpooling, which would reduce VMT. A proposed CTR program for this project could include providing on-site and/or online commute information services including information on available transit and ride coordination for employees.
- Provide designated carpool/vanpool parking in desirable locations on-site could be provided, which could encourage employees to carpool/vanpool to work and reduce VMT.
- The Project could install end-of-trip facilities such as bicycle parking and lockers which could encourage employees to use alternative modes of transportation and thus reduce VMT.
- The Project could install on-site electric vehicle charging stations beyond what is required by the 2019 California Green Building Code Standards (CALGreen) at designated parking areas. Although this measure would not directly reduce VMT, it would reduce greenhouse gas (GHG) emissions.
- The Project could increase sidewalks along the Project frontage and provide connections to existing trails (if applicable) in order to improve pedestrian access. This measure could encourage employees to walk to nearby destinations and thus reduce VMT.

SUMMARY AND CONCLUSION

Based on the results of this analysis the following findings are made:

- The Project was evaluated against screening criteria as outlined in the County Guidelines. The Project was not found to meet any available screening criteria, and a VMT analysis was performed.
- The Project's VMT analysis found the Project to exceed the County's VMT per employee threshold by 0.75% using the currently adopted thresholds.
- The Project's HBW VMT per employee was also evaluated against the County's anticipated updated thresholds and that found the Project to be below the threshold by 2.21%
- Implementation of feasible VMT reduction measures would not definitively reduce Project VMT or Project VMT impacts. Therefore, even with implementation of these measures, the Project VMT impact is assumed to exceed the County VMT threshold. The Project VMT impact is therefore considered significant and unavoidable.

If you have any questions, please contact me directly at aso@urbanxroads.com.

Respectfully submitted,

URBAN CROSSROADS, INC.

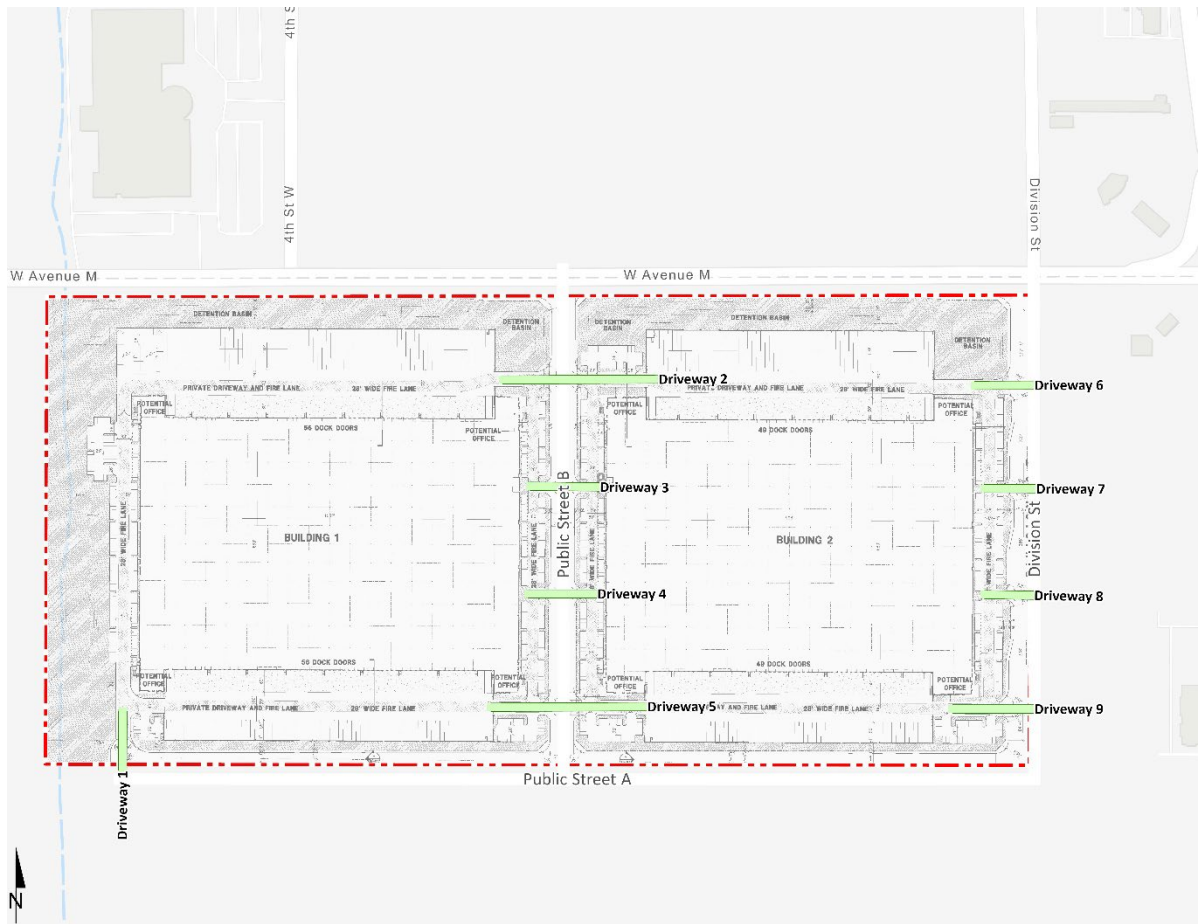
A handwritten signature in black ink, appearing to read 'Alexander So', with a long horizontal flourish extending to the right.

Alexander So
Senior Associate

REFERENCES

1. **Los Angeles County Public Works.** *Transportation Impact Analysis Guidelines.* Los Angeles : Public Works, 2020.
2. **Institute of Transportation Engineers.** *Trip Generation Manual.* 11th Edition. 2021.

**ATTACHEMENT A
PRELIMINARY SITE PLAN**



ATTACHMENT B
PROJECT TRIP GENERATION

TABLE B-1: TRIP GENERATION RATES

Land Use ¹	Units ²	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Actual Vehicle Trip Generation Rates									
General Light Industrial ³	TSF	110	0.651	0.089	0.740	0.091	0.559	0.650	4.870
Passenger Cars			0.645	0.085	0.730	0.086	0.554	0.640	4.620
2-Axle Trucks			0.001	0.001	0.002	0.001	0.001	0.002	0.042
3-Axle Trucks			0.001	0.001	0.002	0.001	0.001	0.002	0.052
4+-Axle Trucks			0.004	0.002	0.006	0.003	0.003	0.006	0.157
High-Cube Fulfillment Center (Non-Sort) ^{3,5}	TSF	155	0.122	0.028	0.150	0.062	0.098	0.160	1.810
Passenger Cars			0.112	0.018	0.130	0.057	0.093	0.150	1.580
2-Axle Trucks			0.002	0.001	0.003	0.001	0.001	0.002	0.038
3-Axle Trucks			0.002	0.002	0.004	0.001	0.001	0.002	0.048
4+-Axle Trucks			0.006	0.007	0.013	0.003	0.003	0.006	0.144

¹ Trip Generation & Vehicle Mix Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

² TSF = thousand square feet

³ Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.

Normalized % - Without Cold Storage: 16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks.

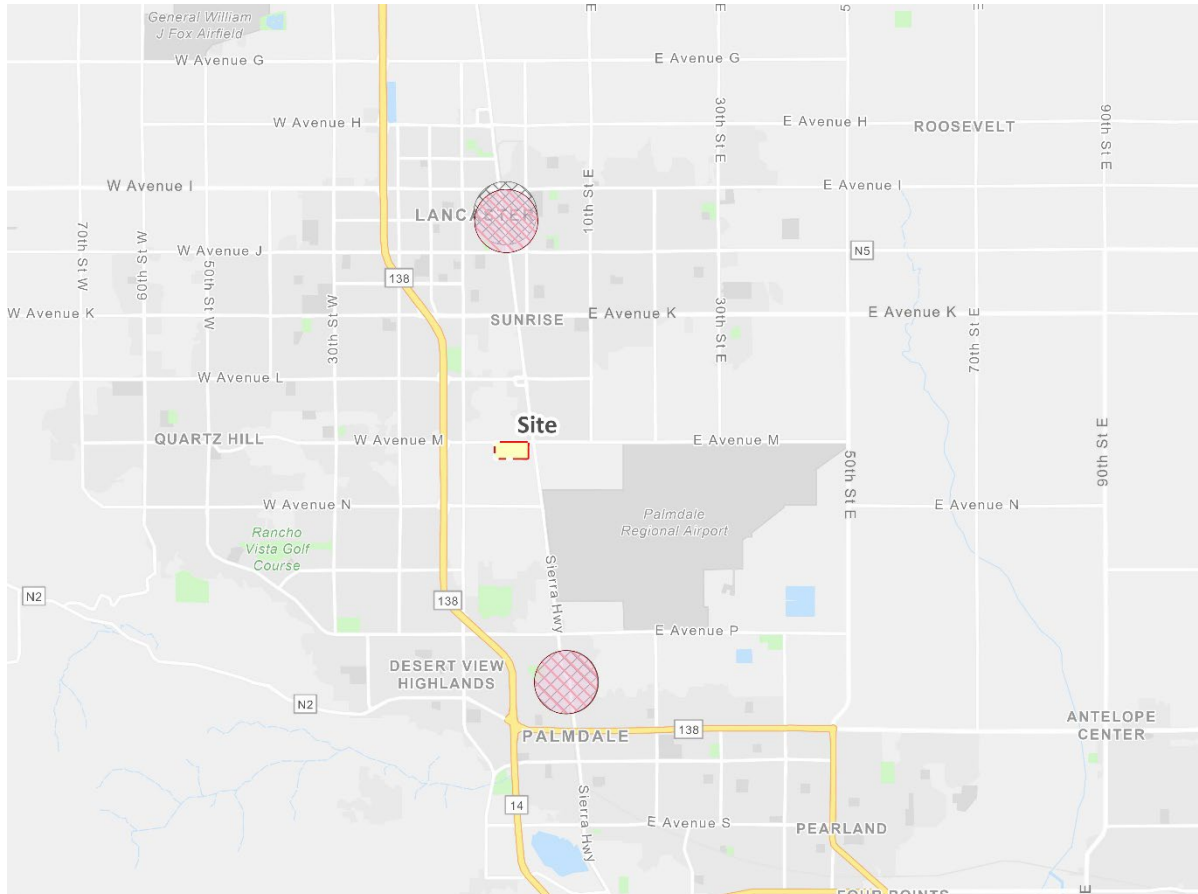
TABLE B-2: PROJECT TRIP GENERATION SUMMARY




Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Actual Vehicles:								
General Light Industrial (25%)	357.425 TSF							
Passenger Cars:		231	30	261	31	198	229	1,652
2-axle Trucks:		0	0	0	0	0	0	16
3-axle Trucks:		0	0	0	0	0	0	18
4+-axle Trucks:		1	1	2	1	1	2	56
Total Truck Trips (Actual Vehicles):		1	1	2	1	1	2	90
Light Industrial Subtotal Trips (Actual Vehicles) ²		232	31	263	32	199	231	1,742
High-Cube Fulfillment (Non-Sort) (75%)	1,072.275 TSF							
Passenger Cars:		120	19	139	61	100	161	1,694
2-axle Trucks:		2	1	4	1	1	2	42
3-axle Trucks:		2	2	4	1	1	2	52
4+-axle Trucks:		6	7	13	3	3	7	154
Total Truck Trips (Actual Vehicles):		10	10	20	5	5	10	248
Fulfillment Subtotal Trips (Actual Vehicles) ²		130	29	159	66	105	171	1,942
Total Project Trips (Actual Vehicles)²		362	60	422	98	304	402	3,684

¹ TSF = thousand square feet

² Total Trips = Passenger Cars + Truck Trips.

ATTACHMENT C
TPA SCREENING MAP



-  Transit Priority Area (TPA) in the SCAG Region for plan year 2040
-  High Quality Transit Areas (2016)
-  High Quality Transit Areas (2045)