

August 15, 2022

Ms. Jerrica Harding
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SUBJECT: NEVADA STREET WAREHOUSE VEHICLE MILES TRAVELED (VMT) SCREENING EVALUATION

Dear Ms. Jerrica Harding:

The following Vehicle Miles Traveled (VMT) Screening Evaluation has been prepared for the proposed Nevada Street Warehouse development (**Project**), which is generally located north of Palmetto Avenue and east of Nevada Street in the County of San Bernardino (within the Donut Hole near the City of Redlands).

PROJECT OVERVIEW

The Project includes the development of 378,540 square foot warehouse use within a single building. (See Attachment A)

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. To aid in this transition, the Governor's Office of Planning and Research (OPR) released a Technical Advisory on Evaluating Transportation Impacts in CEQA (December of 2018) (**Technical Advisory**). (1) Based on OPR's Technical Advisory, the County of San Bernardino has adopted their own San Bernardino County Transportation Impact Study Guidelines (July of 2019) (**County Guidelines**) (2) which documents the County's VMT analysis methodology and approved impact thresholds. It is our understanding the County of San Bernardino utilizes the San Bernardino County Transportation Authority (SBCTA) VMT Screening Tool (**Screening Tool**). The Screening Tool allows users to select an assessor's parcel number (APN) to determine if a project's location meets one or more of the screening thresholds for land use projects identified in the County Guidelines. The County Guidelines have been utilized to prepare this VMT analysis. The VMT screening evaluation presented in this report has been developed based on the adopted County Guidelines.

VMT SCREENING EVALUATION

The County Guidelines provides details on appropriate screening criteria that can be used to identify a proposed land use project is anticipated to result in a less than significant impact without conducting a more detailed analysis. County Guidelines outlines screening thresholds broken into the following three types:

- Project Type Screening
- Transit Priority Area (TPA) Screening
- Low VMT Area Screening

A land use project needs only to meet one of the above screening thresholds to result in a less than significant impact.

PROJECT TYPE SCREENING

The County Guidelines identifies that local serving retail projects less than 50,000 square feet may be presumed to have a less than significant impact absent substantial evidence to the contrary. In addition to local serving retail, other types of local serving uses (e.g., day care centers, non-destination hotels, affordable housing, places of worship, etc.) may also be presumed to have a less than significant impact as their uses are local serving in nature and would tend to have shorter vehicle trips. The Project as intended does not include local serving type land uses.

Additionally, County Guidelines state that small projects that generate fewer than 110 net average daily trips (ADT) (stated in actual vehicles) are deemed to not cause a substantial increase in the total VMT and are therefore presumed to have a less than significant impact on VMT. Substantial evidence in support this daily trip threshold is documented in the County Guidelines.¹ The trip generation rates used for this analysis are based on the trip generation statistics published in the Institute of Transportation Engineer (ITE) Trip Generation Manual (11th Edition, 2021). (3) The Project is anticipated to generate 810 daily vehicle trip-ends per day. Therefore, the Project is estimated to generate daily vehicle trips exceeding the 110 daily vehicle trip threshold. (See Attachment B)

Project Type screening threshold is not met.

TPA SCREENING

Consistent with guidance identified in the Technical Advisory, County Guidelines note that projects located within a Transit Priority Area (TPA) (i.e., within ½ mile of an existing “major transit stop”² or an

¹ County Guidelines; Page 19.

² Pub. Resources Code, § 21064.3 (“Major transit stop’ means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency

existing stop along a “high-quality transit corridor”³) may be presumed to have a less than significant impact absent substantial evidence to the contrary. However, the presumption may not be appropriate if a project:

- Has a Floor Area Ratio (FAR) of less than 0.75;
- Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);
- Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization); or
- Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

Based on the Screening Tool results presented in Attachment C, the Project site is not located within ½ mile of an existing major transit stop, or along a high-quality transit corridor.

TPA screening threshold is not met.

LOW VMT AREA SCREENING

As noted in the County Guidelines, “development in efficient areas of the County will reduce VMT per person/employee and is beneficial to the region.”⁴ The Screening Tool allows users to input an assessor’s parcel number (APN) to determine if a project’s location meets one or more of the screening thresholds for land use projects. The Screening Tool uses the sub-regional San Bernardino Transportation Analysis Model (SBTAM) to measure VMT performance within individual traffic analysis zones (TAZ’s) within the region. The Project’s physical location, based on parcel number, is input into the Screening Tool to determine project generated VMT. The Project was found to be located in TAZ 53825101. The parcel containing the proposed Project was selected and the Screening Tool was run for Production/Attraction (PA) Home-Based Work VMT per employee measure of VMT.

County Guidelines indicate that projects with VMT per employee lower than 4% below the existing VMT per person for the unincorporated County are considered to have a less than significant impact. Based on Screening Tool results the Project does not reside within a low VMT area. (See Attachment C)

Low VMT Area screening threshold is not met.

Based on a more detailed review of the applicable VMT screening methods, it was determined that the Project is not eligible for screening and VMT analysis should be performed.

of service interval of 15 minutes or less during the morning and afternoon peak commute periods.”).

³ Pub. Resources Code, § 21155 (“For purposes of this section, 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.”).

⁴ County Guideline; Page 19

VMT ANALYSIS

VMT MODELING

County Guidelines identify SBTAM as the appropriate tool for conducting VMT analysis for land use projects in San Bernardino County. SBTAM is a useful tool to estimate VMT as it considers interactions between different land uses based on socio-economic data such as population, households and employment. The calculation of VMT for land use projects is based on the total number of trips generated and the average trip length of each vehicle. SBTAM is also consistent with the model used to develop the County's VMT impact thresholds listed by the County Guidelines. Therefore, the vehicle trips and average daily trip length for project-related vehicle trips are model derived from SBTAM.

VMT METRIC AND SIGNIFICANCE THRESHOLD

As stated in County Guidelines, the appropriate VMT metric for employment generating industrial land uses are to be utilized for the purposes of VMT Analysis is VMT per employee⁵. The County Guidelines identifies a Project would result in a significant project generated VMT impact if the following condition is met for industrial projects:

- A project should be considered to have a significant impact if the project VMT per person/employee is greater than 4% below the existing VMT per person/employee for the unincorporated County.

SBCTA provides published VMT values for its member agencies, for the baseline (2021) Unincorporated County of San Bernardino the VMT per employee is 19.97 and a threshold of 4% below existing is 19.17.

PROJECT LAND USE CONVERSION

In order to evaluate Project VMT, standard land use information must first be converted into a SBTAM compatible dataset. The SBTAM model utilizes socio-economic data (SED) (e.g., population, households, employment, etc.) instead of land use information for the purposes of vehicle trip estimation. Project land use information such as building square footage must first be converted to SED for input into SBTAM. Adjustments in SED have been made to the appropriate TAZ within the SBTAM model to reflect the Project's proposed land uses (i.e., warehouse). Table 1 summarizes the employment estimates for the Project. It should be noted that the employment estimates are consistent with the employment density factors identified in the Southern California Association of Governments (SCAG) Employment Density Study (October 2001). (4)

⁵ County Guidelines; Page 20

TABLE 1: EMPLOYMENT ESTIMATES

Land Use	Quantity (SF)	Employment Density Factor ⁶	Estimated Employees
Warehouse	378,540	1 employee per 1,195 SF	317

PROJECT VMT CALCULATION

Adjustments to employment for the Project’s TAZ were made to the SBTAM base year traffic model, and the model was then run inclusive of the SED factors. The ability to capture commute trips can be achieved with the SBTAM model by using the Production/Attraction (PA) trip matrices exclusive of truck trips⁷. Using these matrices, the HBW VMT was calculated for the base year (existing conditions). The HBW VMT is then normalized by dividing by the Project employees. As shown in Table 2, the Project’s existing VMT per employee is 16.06.

TABLE 2: PROJECT VMT PER EMPLOYEE

	Base Year	Cumulative Year	Baseline
Employees	317	317	317
VMT	5,120	5,019	5,088
VMT / Employee	16.16	15.85	16.06

PROJECT COMPARISON TO SIGNIFICANCE THRESHOLD

Table 3 illustrates the comparison between Project’s existing VMT per employee to the County’s impact threshold. As shown, the Project would not exceed the County’s recommended impact thresholds. Therefore, the Project’s impact on VMT is less than significant.

⁶ SCAG Employment Density Study; Table II-B

⁷ CEQA Guidelines Section 15064.3, subdivision (a) states “For purposes of this section “vehicle miles traveled” refers to the amount and distance of automobile travel attributable to a project”. The OPR’s Technical Advisory indicates that, although heavy truck 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 (HDT) 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-user may not be known at this time, it is reasonable to assume that the ultimate end user will select locations, at least in part, as to how it effects their transportation costs. Accordingly, it is reasonable to assume that industrial buildings are often located in a manner to reduce VMT given that it is in the interest of the business. In most cases, Consistent with other CEQA technical studies, HDT VMT will be reflected in other applicable technical studies (e.g. Air Quality Impact Analysis, Greenhouse Gas Analysis etc.

TABLE 3: VMT PER EMPLOYEE COMPARISON

	Baseline
Regional Threshold	19.17
Project	16.06
Percent Below Threshold	-16.22%
Potentially Significant?	No

PROJECT’S CUMULATIVE EFFECT ON VMT

The County Guidelines consistent with the Technical Advisory states that for cumulative impacts on VMT “... metrics such as VMT per capita or VMT per employee, i.e., metrics framed in terms of efficiency (as recommended below for use on residential and office projects), cannot be summed because they employ a denominator. A project that falls below an efficiency-based threshold that is aligned with long-term goals and relevant plans has no cumulative impact distinct from the project impact. Accordingly, a finding of a less-than-significant project impact would imply a less than significant cumulative impact, and vice versa. This is similar to the analysis typically conducted for greenhouse gas emissions, air quality impacts, and impact that utilize plan compliance as a threshold of significance.”⁸

The Project is consistent with the County’s General Plan designation of General Light Industrial. The zoning for the Project Site and surrounding area is established by the County’s East Valley Area Plan (EVAP). The EVAP assigns the “Regional Industrial (EV/IR)” zone to the Project Site. In other words, since the Project is consistent with the County’s long-term goals and plans and the project generated VMT per employee efficiency metric as compared to the County’s impact threshold is less than significant, the Project’s cumulative effect on VMT is also presumed to be less than significant.

CONCLUSION

In summary, the Project was not found to meet any of the County’s screening criteria and a project level VMT analysis was performed. The Project’s VMT analysis findings for project generated VMT per employee was found to not exceed the County’s threshold, the Project’s impact on VMT is presumed to be less than significant at the project level and cumulatively.

⁸ Page 6 of the Technical Advisory.

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

Respectfully submitted,

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Alex So
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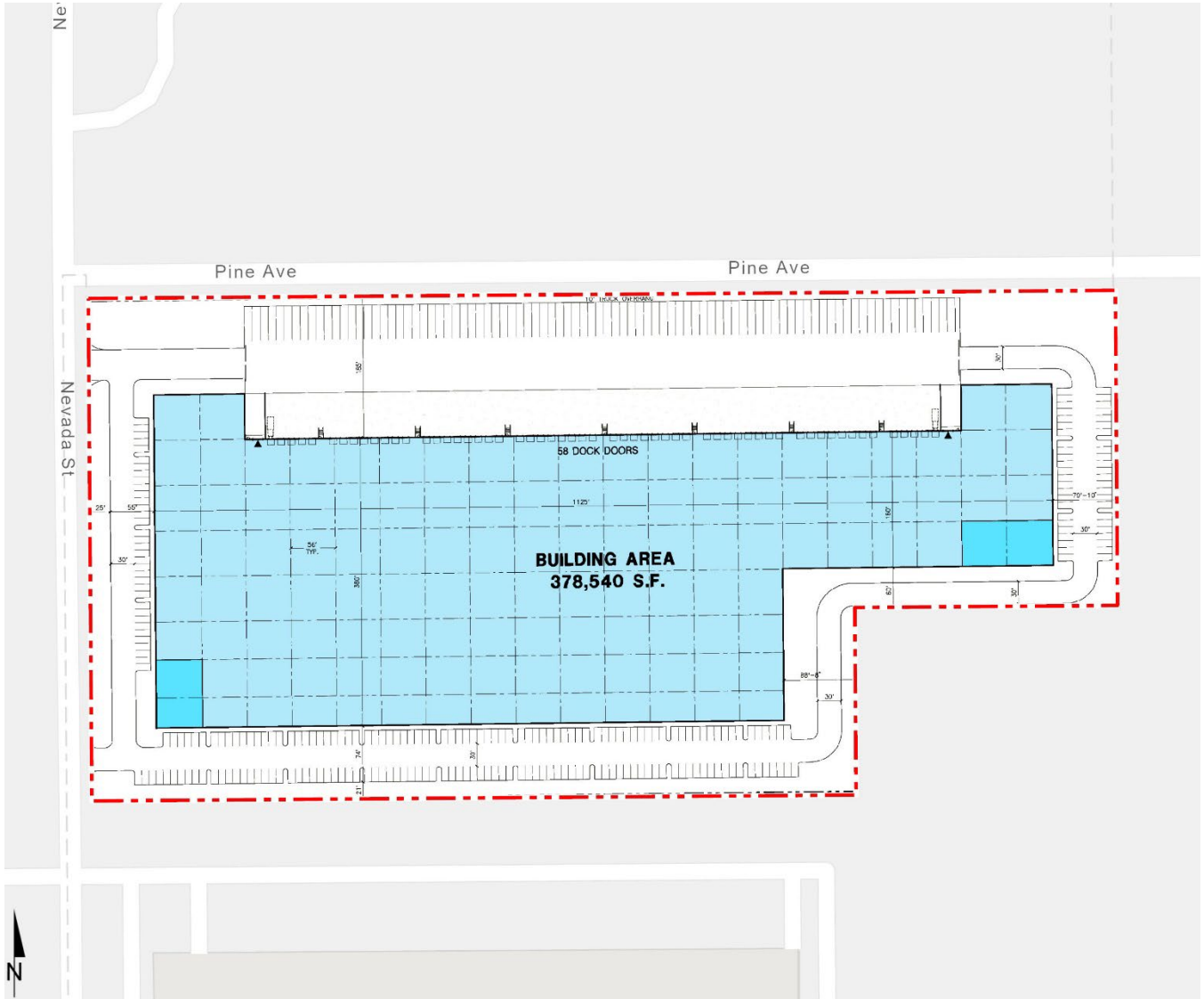


Charlene So
Principal, P.E.

REFERENCES

1. **Office of Planning and Research.** *Technical Advisory on Evaluating Transportation Impacts in CEQA.* State of California : s.n., December 2018.
2. **San Bernardino County.** *Transportation Impact Study Guidelines.* July 2019.

**ATTACHMENT A:
PROJECT SITE PLAN**



ATTACHMENT B
PROJECT TRIP GENERATION

TABLE 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									
High-Cube Fulfillment Center Warehouse	TSF	-- ⁴	0.094	0.028	0.122	0.046	0.119	0.165	2.129
Passenger Cars			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks			0.006	0.002	0.008	0.003	0.008	0.011	0.162
5+Axle Trucks			0.008	0.003	0.011	0.003	0.007	0.010	0.217
High-Cube Cold Storage Warehouse ³	TSF	157	0.085	0.025	0.110	0.034	0.086	0.120	2.120
Passenger Cars			0.062	0.018	0.080	0.025	0.065	0.090	1.665
2-Axle Trucks			0.003	0.007	0.010	0.005	0.005	0.010	0.260
3-Axle Trucks			0.001	0.002	0.003	0.002	0.001	0.003	0.083
4+Axle Trucks			0.005	0.011	0.016	0.008	0.008	0.016	0.113
Passenger Car Equivalent (PCE) Trip Generation Rates⁵									
High-Cube Fulfillment Center Warehouse	TSF	-- ⁴	0.094	0.028	0.122	0.046	0.119	0.165	2.129
Passenger Cars			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks (PCE = 2.0)			0.012	0.004	0.016	0.006	0.016	0.022	0.324
5+Axle Trucks (PCE = 3.0)			0.025	0.008	0.033	0.008	0.022	0.030	0.651
High-Cube Cold Storage Warehouse ³	TSF	157	0.085	0.025	0.110	0.034	0.086	0.120	2.120
Passenger Cars			0.062	0.018	0.080	0.025	0.065	0.090	1.665
2-Axle Trucks (PCE = 1.5)			0.005	0.011	0.016	0.008	0.008	0.016	0.390
3-Axle Trucks (PCE = 2.0)			0.002	0.005	0.007	0.004	0.003	0.007	0.165
4+Axle Trucks (PCE = 3.0)			0.015	0.034	0.049	0.024	0.025	0.049	0.338

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 % - With Cold Storage: 34.7% 2-Axle trucks, 11.0% 3-Axle trucks, 54.3% 4-Axle trucks.

⁴ Vehicle Mix Source: [High Cube Warehouse Trip Generation Study](#), WSP, January 29, 2019.

Inbound and outbound split source: ITE [Trip Generation Manual](#), Eleventh Edition (2021) for ITE Land Use Code 154.

⁵ PCE factors: 2-axle = 1.5; 3-axle = 2.0; 4+axle = 3.0.

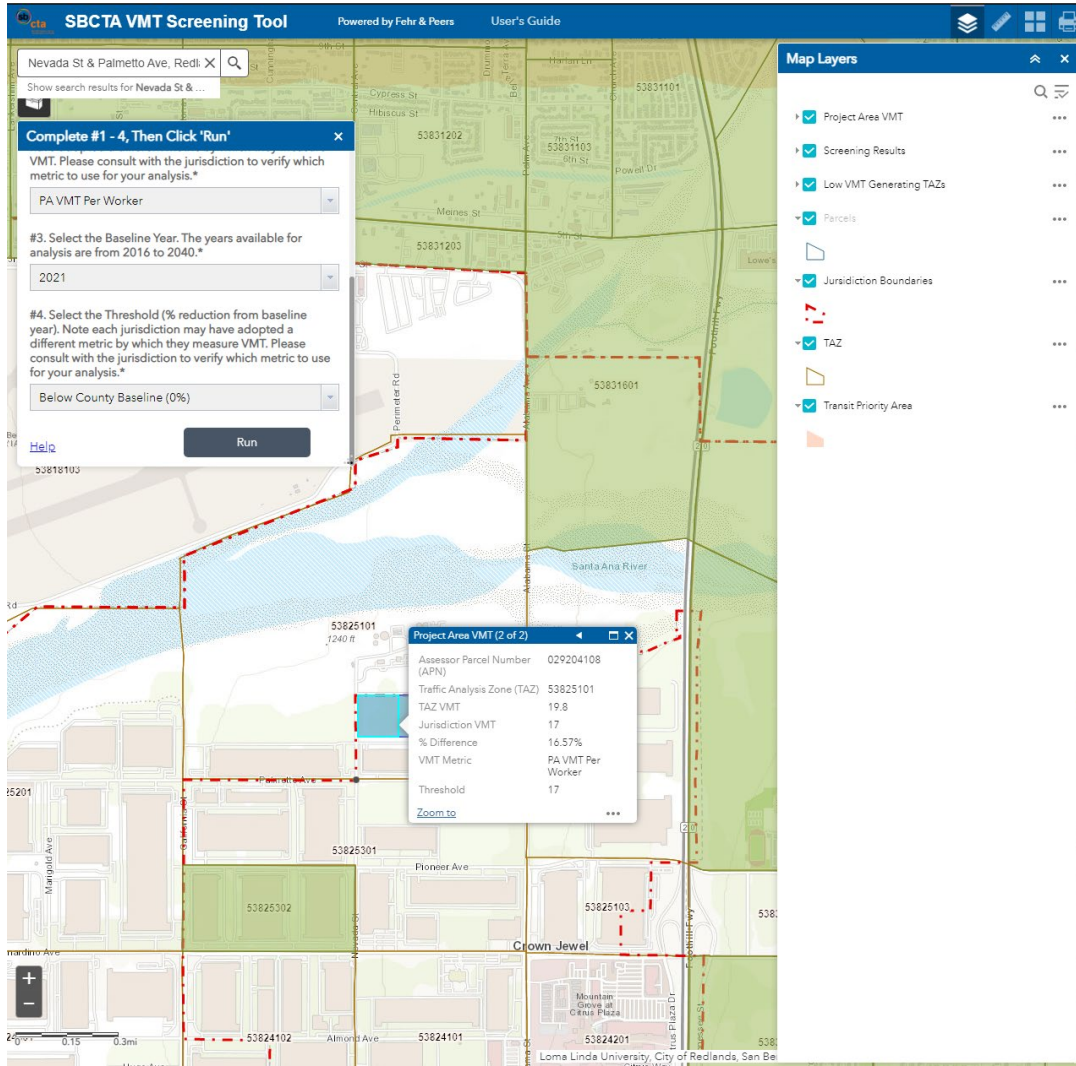
TABLE 2: TRIP GENERATION SUMMARY

Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Actual Vehicles:								
High-Cube Cold Storage	94.635 TSF							
Passenger Cars:		6	2	8	2	6	8	158
2-axle Trucks:		0	1	1	0	1	1	26
3-axle Trucks:		0	0	0	0	0	0	8
4+-axle Trucks:		0	1	1	1	1	2	12
Total Truck Trips (Actual Vehicles):		0	2	2	1	2	3	46
Total Trips (Actual Vehicles)²		6	4	10	3	8	11	204
High-Cube Fulfillment	283.905 TSF							
Passenger Cars:		23	7	30	11	29	40	498
2-4axle Trucks:		2	1	3	1	2	3	46
5+-axle Trucks:		2	1	3	1	2	3	62
Total Truck Trips (Actual Vehicles):		4	2	6	2	4	6	108
Total Trips (Actual Vehicles)²		27	9	36	13	33	46	606
Passenger Cars		29	9	38	13	35	48	656
Trucks		4	4	8	3	6	9	154
Total Trips (Actual Vehicles)²		33	13	46	16	41	57	810

¹ TSF = thousand square feet

² Total Trips = Passenger Cars + Truck Trips.

**ATTACHMENT C:
SCREENING TOOL**



SBCTA Published VMT per Worker Values for SBTAM Base Year and Cumulative year

	SBTAM Base Year - 2016		SBTAM Horizon Year - 2040	
GEOGRAPHY	VMT Summary HBW		VMT Summary HBW	
	HBW VMT	HBW VMT per Worker	HBW VMT	HBW VMT per Worker
Unincorporated County	1,321,314	19.49	2,235,324	20.97

Note: Base year and Cumulative year was interpolated to Baseline 2021 year. The County of San Bernardino has adopted a 4% below baseline Unincorporated County is 19.17 HBW VMT per Worker.