

DATE: July 3, 2024
TO: Tracy Zinn, T&B Planning, Inc.
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JOB NO: 15091-03 VMT

CAJALCO COMMERCE CENTER (PPT220050) VEHICLE MILES TRAVELED (VMT) ANALYSIS

Urban Crossroads, Inc. is pleased to provide the following Vehicle Miles Traveled (VMT) Analysis for the Cajalco Commerce Center (PPT220050) (**Project**), which is south of Cajalco Road between Decker Road and Seaton Avenue, in the County of Riverside.

PROJECT OVERVIEW

The Project is proposed to consist of the development of a 1,003,510 square foot warehouse building and an active park of up to 14.94 acres. A preliminary site plan for the proposed Project is shown in 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, consistent with Senate Bill 743 (SB 743). To comply with SB 743, the County of Riverside adopted their Transportation Analysis Guidelines for Level of Service Vehicle Miles Traveled (December 2020) (**County Guidelines**) (1). The adopted County Guidelines have been utilized to prepare this VMT analysis.

PROJECT LEVEL SCREENING

Consistent with County Guidelines, land use projects should evaluate applicable VMT screening criteria based on their location, size, and land use type to determine if a presumption of a less than significant transportation impact can be made without the need of a full project level VMT analysis. County Guidelines list seven screening criteria of which four (shown in **bold**) were selected for further review based on their applicability to the Project.

- **Small Project Screening**
- **High Quality Transit Areas (HQTAs) Screening**
- Local Serving Retail
- Affordable Housing
- **Local Essential Service**
- **Map-Based Screening**
- Redevelopment Project

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

SMALL PROJECT SCREENING

The County Guidelines presume projects that generate fewer than 110 daily vehicle trips 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 High Cube Warehouse Trip Generation Study (WSP, January 2019) and Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021) were used to estimate the Project's trip generation. The Project's Trip Generation Rates and Trip Generation Summary are shown in Attachment B. Based on the calculated trip generation rates; the Project is expected to generate 2,886 trips per day thus exceeding the 110 daily vehicle trips threshold.

Small Project screening criteria is not met.

HIGH QUALITY TRANSIT AREAS (HQTAs) SCREENING

Projects located within a Transit Priority Area (TPA) (i.e., within ½ mile of an existing "major transit stop"¹ or an existing stop along a "high-quality transit corridor"²) may be presumed to have a less than significant impact absent substantial evidence to the contrary. The Project is not located in an HQTAs area (see Attachment C).

HQTAs screening criteria is not met.

LOCAL ESSENTIAL SERVICES

The introduction of new Local Essential Services shorten non-discretionary trips by putting those goods and services closer to residents, resulting in an overall reduction in VMT. Local Essential Services include public facilities such as libraries, post offices, and local or community parks. In

¹ 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 of service interval of 15 minutes or less during the morning and afternoon peak commute periods.").

² 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.").

addition to the warehouse building, the Project will include two soccer fields that will provide public recreational use to the local community.

Local Essential Services screening criteria is met for the Soccer Field component only.

MAP-BASED SCREENING

The County Guidelines note that “residential and office projects that locate in areas with low VMT, and that incorporate similar features (i.e., density, mix of uses, transit accessibility), will tend to exhibit similarly low VMT.”³ County Guidelines also state that the use of map-based screening for low VMT generating areas is applicable for other employment uses such as the Project’s industrial development. Urban Crossroads has obtained a VMT data table from County Staff for all TAZs within Riverside County that provides VMT per capita and VMT per employee for the purposes of identifying low VMT areas. The data utilizes the sub-regional Riverside Transportation Analysis Model (RIVTAM) to measure baseline VMT performance for individual TAZ’s and a comparison was made to the applicable impact threshold (e.g., VMT per employee for office or industrial land uses and VMT per capita for residential land uses). Utilizing the RIVTAM Model the parcel of the Project was identified. The Project resides in TAZ 3682, which is shown to generate 18.09 VMT per employee (Warehouse). The County threshold is 14.2 VMT per employee (Warehouse). As such, the Project’s TAZ would not qualify for low VMT area/map-based screening.

Map-Based screening criteria is not met.

The Soccer Fields meet the Local Essential Service screening criteria as they provide public recreational use closer to home thereby shortening vehicle trips of community residents. However, the Industrial component of the Project would not meet any of the aforementioned screening criteria and will require further VMT analysis.

VMT ANALYSIS

MODELING METHODOLOGY

The County Guidelines identifies the Riverside County Transportation Area Model (**RIVTAM**) as the appropriate tool for conducting VMT analysis for land development projects in the County of Riverside. RIVTAM 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. RIVTAM is a travel forecasting model that represents a sub-area (Riverside County) of the Southern California Association of Governments (SCAG) regional traffic model. RIVTAM was designed to provide a greater level of detail and sensitivity in the Riverside County area as compared to the regional SCAG model.

VMT METRIC AND SIGNIFICANCE THRESHOLD

County Guidelines state that for industrial land use projects an efficiency metric VMT per employee⁴ should be used as the basis for an impact threshold. The measure for VMT threshold

³ Technical Advisory; Page 12

⁴ County Guidelines; Figure 4; Page 21

listed in the County Guidelines is **existing county-wide average Work VMT per employee** with the following significance threshold:

“A project would result in a significant project generated VMT impact if its VMT exceeds the existing county-wide average Work VMT per employee.” For the County of Riverside, the countywide average Work VMT per employee is **14.2 Work VMT per employee**⁵.

PROJECT LAND USE CONVERSION

To evaluate Project Work VMT per employee, land use information such as building square footage must first be converted into a RIVTAM compatible dataset. The RIVTAM model utilizes socio-economic data (SED) (e.g., employment estimates) instead of land use information to estimate vehicle trips. Project employees are estimated by taking total building square footage divided by an appropriate employment factor based on standard employment factors outlined by the County of Riverside’s General Plan. Table 2 presents the estimated number of employees used to represent the proposed Project in RIVTAM.

TABLE 2: EMPLOYMENT DENSITY FACTORS

Land Use	Quantity	Employment Factor ⁶	Project Employees
Warehouse	1,003,510 SF	1 employee per 1,030 SF	975

Project employment information was then coded into RIVTAM in a traffic analysis zone (TAZ) to represent the Project. The RIVTAM model was then run inclusive of the Project’s employment.

PROJECT’S WORK VMT CALCULATION AND COMPARISON TO IMPACT THRESHOLD

As stated previously, for industrial land uses the efficiency metric Work VMT per employee is used to evaluate potential impacts to VMT. Work VMT per employee is derived by dividing Project generated home-based work (HBW) VMT by the number of estimated Project employees. HBW VMT is obtained from the RIVTAM model using the Production/Attraction (PA) method for calculating VMT, which sums all weekday VMT generated by trips with at least one trip end in the study area (i.e., Project’s TAZ). Productions are land use types that generate trips (residences), and attractions are land use types that attract trips (employment). Productions and attractions are converted from person trips to vehicle trips for the purposes of calculating VMT and are then multiplied by the distance skims to calculate VMT. Table 3 presents Project generated Work VMT from the RIVTAM model, along with the estimated number of Project employees, and the resulting Work VMT per employee.

⁵ County Guidelines; Figure 6; Page 22

⁶ County of Riverside General Plan; Appendix E-2, Table E-2

TABLE 3: PROJECT WORK VMT PER EMPLOYEE

	Project
Work VMT	16,965
Employees	975
Work VMT per Employee	17.4
County Threshold	14.2
Percent Above Threshold	+22.5%
Potentially Significant?	Yes

As shown in Table 3, Project generated Work VMT per employee exceeds the County’s adopted threshold by 22.5%.

POTENTIAL VMT REDUCTION STRATEGIES

Commute trip reduction measures have been reviewed for the purpose of reducing Project Work VMT (i.e., commute trips) determined to be potentially significant. However, as the future building tenants are not known for the Project, the effectiveness of any potential commute trip reduction measure may be limited. In addition to specific tenancy considerations, locational context is also a major factor relevant to the potential application and effectiveness of commute trip reduction measures. A project may only realize a quantifiable reduction in commute VMT under the most favorable circumstances and ideal local conditions when implementing trip reduction measures. In practical terms, ideal conditions are rarely realized due to variables such as locational context limitations (i.e., non-urban areas). Additionally, to achieve ideal conditions a project must achieve a significant degree of employee participation and maximum employee eligibility, which are not generally expected. This is more difficult to presume since future building tenants are not known at this time. The Project can however consider the following measures that have the potential to reduce commute VMT, although no quantified benefit can be taken at this time. Potential VMT reduction measures that could be implemented are as follows:

- Implement a Voluntary Commute Trip Reduction (CTR) measures. 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.
- 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 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.

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. Only the Soccer Field component of the Project was found to meet the Local Serving Essential Service screening criteria. However, the Industrial Component of the Project was not found to meet any of the available screening criteria and a VMT analysis was performed.
- The Project's VMT analysis found the Project to exceed the County's Work VMT per employee threshold by 22.5% and is determined to have a potentially significant transportation impact.
- As future tenants of the Project are unknown at this time, the effectiveness of commute trip reduction measures such as those listed above cannot be guaranteed to reduce Project VMT to a level of less than significant. Therefore, the Project's VMT impact is considered significant and unavoidable.

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

REFERENCES

1. **County of Riverside.** *Transportation Analysis Guidelines for Level of Service Vehicle Miles Traveled.* County of Riverside : s.n., December 2020.

ATTACHMENT A
PROPOSED 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 Cold Storage Warehouse ³	TSF	157	0.085	0.025	0.110	0.034	0.086	0.120	2.120
Passenger Cars (AM-72.7%, PM-75.0%, Daily-64.6%)			0.076	0.004	0.080	0.019	0.071	0.090	1.370
2-Axle Trucks (AM-9.5%, PM-8.7%, Daily-12.3%)			0.003	0.007	0.010	0.005	0.005	0.010	0.260
3-Axle Trucks (AM-3.0%, PM-2.8%, Daily-3.9%)			0.001	0.002	0.003	0.002	0.001	0.003	0.083
4+-Axle Trucks (AM-14.8%, PM-13.6%, Daily-19.2%)			0.005	0.011	0.016	0.008	0.008	0.016	0.407
High-Cube Fulfillment Center Warehouse ⁴	TSF	--	0.089	0.033	0.122	0.050	0.115	0.165	2.129
Passenger Cars (AM-84.4%, PM-87.3%, Daily-82.2%)			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks (AM-6.6%, PM-6.7%, Daily-7.6%)			0.004	0.004	0.008	0.005	0.006	0.011	0.162
5+-Axle Trucks (AM-9.0%, PM-6.0%, Daily-10.2%)			0.005	0.006	0.011	0.005	0.005	0.010	0.217
Soccer Complex	Fields	488	0.60	0.39	0.99	10.84	5.59	16.43	71.33
Passenger Car Equivalent (PCE) Trip Generation Rates									
High-Cube Cold Storage Warehouse ³	TSF	157	0.085	0.025	0.110	0.034	0.086	0.120	2.120
Passenger Cars			0.076	0.004	0.080	0.019	0.071	0.090	1.370
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	1.222
High-Cube Fulfillment Center Warehouse ⁴	TSF	--	0.089	0.033	0.122	0.050	0.115	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)			0.008	0.008	0.016	0.010	0.012	0.022	0.324
5+-Axle Trucks (PCE = 3.0)			0.016	0.017	0.033	0.014	0.016	0.030	0.651

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.

TABLE 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:								
High-Cube Cold Storage	150.526 TSF							
Passenger Cars:		11	1	12	3	11	14	206
2-axle Trucks:		0	1	1	1	1	2	40
3-axle Trucks:		0	0	0	0	0	0	12
4+-axle Trucks:		1	2	3	1	1	2	62
Total Truck Trips (Actual Vehicles):		1	3	4	2	2	4	114
Total Trips (Actual Vehicles) ²		12	4	16	5	13	18	320
High-Cube Fulfillment								
High-Cube Fulfillment	852.984 TSF							
Passenger Cars:		68	20	88	34	88	122	1,494
2-4axle Trucks:		3	3	6	4	5	9	138
5+-axle Trucks:		5	5	10	4	5	9	186
Total Truck Trips (Actual Vehicles):		8	8	16	8	10	18	324
Total Trips (Actual Vehicles) ²		76	28	104	42	98	140	1,818
Active Park								
Active Park	14.94 Acres	15	15	30	30	30	60	748
Passenger Cars								
Passenger Cars		94	36	130	67	129	196	2,448
Trucks								
Trucks		9	11	20	10	12	22	438
Total Trips (Actual Vehicles)²		103	47	150	77	141	218	2,886

¹ TSF = thousand square feet

² Total Trips = Passenger Cars + Truck Trips.

ATTACHMENT C
WRCOG SCREENING TOOL FOR TPA/HQTA

