MEMORANDUM

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DATE:	October 18, 2023
TO:	Tracy Zinn, T&B Planning, Inc.
FROM:	John Kain, Urban Crossroads, Inc. Marlie Whiteman, Urban Crossroads, Inc. Alex So, Urban Crossroads, Inc.
JOB NO:	13594-06 VMT

OAK VALLEY NORTH SPECIFIC PLAN VEHICLE MILES TRAVELED (VMT) ANALYSIS

Urban Crossroads, Inc. is pleased to provide the following Vehicle Miles Traveled (VMT) Analysis for the Oak Valley North Specific Plan (**Project**), which is located at south of Singleton Road at Calimesa Boulevard in the City of Calimesa.

PROJECT OVERVIEW

The VMT analysis will evaluate the following three land use scenarios:

SCENARIO 1:

- 982,232 square feet of logistics in four buildings (PA1).
- 25.62 acres of Truck/Trailer Parking Lot (PA 1).
- 223 multi-family residential units (PA 2).

SCENARIO 2:

- 982,232 square feet of parcel hub warehouse[1] in four buildings (PA 1).
- 25.62 acres of Truck/Trailer Parking Lot (PA 1).
- 223 multi-family residential units (PA 2).

SCENARIO 3:

- 982,232 square feet of logistics in four buildings (PA 1).
- 25.62 acres of Truck/Trailer Parking Lot (PA 1).
- Church with 1,200 seats (PA 2).

[1] Trip-generation statistics published by the Institute of Transportation Engineers (ITE) as provided in their Trip Generation Manual, 11th Edition (2021) for ITE land use code 156 (high-cube parcel hub warehouse)

BACKGROUND

The California Environmental Quality Act (CEQA) requires all lead agencies to adopt VMT as the measure for identifying transportation impacts for land use projects. To comply with CEQA, the City of Calimesa adopted analytical procedures, screening tools, and impact thresholds for VMT, which are documented in their Final City of Calimesa Transportation Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment (May 2020) (**City Guidelines**) (1). The adopted City Guidelines were used to prepare this VMT analysis.

VMT SCREENING

City Guidelines states that a project may have a less than significant impact and screen out of requiring a project level VMT analysis if it meets at least one of the City's VMT screening steps. The City's adopted VMT screening steps are described in Table 1 along with a determination of each screening step's applicability to the Project.

TABLE 1: SCREENING FOR LAND USE PROJECTS EXEMPT FROM VMT ANALYSIS

Screening Steps	Description	Result
1. Transit Priority (TPA) Screening	Projects located within a TPA (i.e., within a half mile of an existing major transit stop or an existing stop along a high-quality transit corridor) are presumed to have less than significant impact on VMT.	Does not meet.
2. Low VMT Area Screening	Land use projects located within a low VMT generating zone that can reasonably be expected to generate VMT per resident, per worker, or per service population that is similar to the existing land uses in the low VMT area are presumed to have a less than significant VMT impact.	Does not meet.
3. Project Type Screening	Local-Serving Retail under 50,000 square feet, Local Essential Services, and projects generating less than 110 daily vehicle trips are presumed to have a less than significant impact on VMT.	Meets for truck / trailer storage and potential church use.

SCENARIO 1, 2, AND 3 - TRAILER STORAGE COMPONENT SCREENING

The truck trailer parking lot component of the proposed Project is anticipated to provide overflow or excess trailer storage for nearby warehouses, which would be brought to the lot by trucks. This lot will generate far less than 110 daily vehicle trips, and in fact, will generate close to zero daily passenger car trips. Other than the security guard shack, no other passenger car trips are anticipated to be generated by this use. Further, the end user is unknown at this time, it is reasonable to assume that the future tenant will select this location, at least in part, as to how it affects their transportation costs. Businesses who have shipping as a significant part of their operations are sensitive to transportation costs and by extension their relative proximity to customers and suppliers.

The proposed trailer storage lot is anticipated to serve nearby warehouse and distribution facilities that would be looking to locate overflow trailer storage as close as possible to the primary warehouse or distribution facility. Thus, in addition to generating a negligible amount of vehicle trips, the trips are expected to be locally served.

SCENARIO 3 - CHURCH COMPONENT SCREENING

VMT analysis is based on typical weekday conditions. Sunday background (surrounding area) traffic is typically less than weekday traffic. The Riverside County Model (RIVCOM) does not have a Sunday component. Church attendees typically live in the nearby area. The alternative church land use is assumed to be an essential local essential service. Furthermore, local essential services such as the Church component do not have a maximum square footage threshold as described in the City Guidelines.

Although certain components of each Scenario (i.e., Trailer Storage and Church) meet screening criteria outlined in the City Guidelines, each Scenario in its entirety does not meet applicable screening criteria. As required by City Guidelines a project level VMT analysis has been prepared for each scenario.

VMT ANALYSIS

TRAFFIC MODELING METHODOLOGY

City Guidelines states that the Riverside County Model (**RIVCOM**), is the preferred tool for conducting VMT analysis for land use projects in the City of Calimesa. RIVCOM version 3.5.1 was released in March 2023 and is the most current sub-regional modeling tool for Western Riverside County. RIVCOM 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 calculation of VMT for land use projects is based on the total number of trips generated and the average trip length of each vehicle type.

VMT ANALYSIS METHODOLOGY

For the purposes of this analysis, Project generated VMT has been estimated using the Origin/Destination method and Boundary method. Consistent with City Guidelines, VMT has been presented as total VMT and VMT per service population (i.e., population and employees). Total VMT represents all VMT generated by the Project on a typical weekday. VMT per service population is an efficiency metric representing total VMT generated on a typical weekday per person who lives and/or works within the Project or travels to the Project for another purpose.

ORIGIN/DESTINATION VMT METHOD

The Origin/Destination (OD) method for calculating VMT sums all weekday VMT generated by trips with at least one trip-end in the study area (i.e., Project boundary or City boundary) and tracks those trips to their origin or destination. Origins are all vehicle trips that start in a specific traffic analysis zone, while destinations are all vehicle trips that end in a specific traffic analysis zone. The OD method accounts for all trips (i.e., both passenger cars and trucks) and trip purposes (i.e., total VMT) and therefore provides a more complete estimate of VMT.

BOUNDARY VMT METHOD

The boundary method is the sum of all weekday VMT on the roadway network within a designated boundary (i.e., City boundary or other designated geographic area). The boundary

method estimates VMT by multiplying vehicle trips on each roadway segment within the boundary by that segment's length. This approach consists of all trips, including those trips that do not begin or end in the designated boundary. Consistent with City VMT Guidelines, the City of Calimesa was used as the boundary for this assessment.

CITY OF CALIMESA VMT IMPACT CRITERIA

City Guidelines state that for purposes of determining a potentially significant impact to transportation pursuant to CEQA, a project would result in a significant project-generated impact if either of the following conditions are satisfied:

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

Additionally, the project's cumulative effect on VMT would be considered significant if it results in the following condition to be satisfied:

1. The cumulative link level boundary Citywide VMT per service population increases under the plus project condition compared to the no project condition.

To make an impact determination, the City of Calimesa's average VMT per service population was calculated using the RIVCOM model for the General Plan Buildout. Table 2 presents the resulting City of Calimesa's General Plan Buildout VMT per service population.

TABLE 2: CITY OF CALIMESA GENERAL PLAN BUILDOUT VMT PER SERVICE POPULATION

	Baseline
Service Population	33,143
VMT	1,273,048
VMT per Service Population	38.41

As shown in Table 3, the City of Calimesa's General Plan Buildout VMT per service population has been calculated as **38.41**.

SCENARIO 1 VMT ESTIMATES

To estimate OD Project generated VMT, standard land use information such as building square footage and dwelling units must first be converted into a RIVCOM compatible dataset. The RIVCOM model utilizes socio-economic data (SED) (e.g., population, households, and employment) for the purposes of vehicle trip estimation. Table 3 summarizes the SED inputs used to represent the Project. Project SED data was then coded into a separate TAZ to isolate Project generated VMT. The Project effect on VMT was performed using boundary VMT within the City of Calimesa.

TABLE 3: SCENARIO 1 - PROJECT POPULATION AND EMPLOYMENT ESTIMATES

Land Use	Quantity	Conversion Factor	Estimated SED
Logistics	982,232 SF	1,030 SF per employee[2]	954 Employees
Residential	223 DU	2.88 people per household[3]	642 Population

The VMT estimates calculated for the Project are presented in Tables 4 and 5. As shown in Table 4, the proposed Project is forecast to generate OD VMT per service population below the City's adopted impact threshold for baseline and cumulative traffic conditions and is considered to have a less than significant impact on project generated VMT.

TABLE 4: SCENARIO 1 - PROJECT GENERATED VMT

	Baseline	Cumulative
Service Population	1,596	1,596
Total OD VMT	53,756	54,010
OD VMT per Service Population	33.68	33.84
City Threshold	38.41	38.41
Potentially Significant?	No	No

Table 5 presents boundary VMT and boundary VMT per service population estimates for the cumulative condition. The boundary VMT per service population is found to decrease in the With Project scenario under the cumulative condition. Therefore, the Project's Cumulative Effect on VMT is considered less than significant as the boundary VMT per service population decreased within the City Boundary in the With Project scenario.

TABLE 5: SCENARIO 1 - CUMULATIVE BOUNDARY VMT

	City Boundary	
Cumulative	No Project	With Scenario 1
Service Population	33,152	34,748
Boundary VMT	801,773	827,194
VMT per Service Population	24.18	23.81
Change in VMT per Service Population	-0.37	

SCENARIO 2 VMT ESTIMATES

Table 6 summarizes the SED inputs used to represent the Scenario 2 (i.e., PA1 Parcel Hub Mix). Scenario 2 SED data was then coded into a separate TAZ to isolate Scenario 2 generated VMT. The Scenario 2 Cumulative Effect on VMT was performed using boundary VMT within the City of Calimesa.

[2] Employee Density Factor was obtained from the County of Riverside General Plan Appendix E-2: Socioeconomic Build-Out Assumptions and Methodology (see Table E-5, Commercial Employment Factors, Page 2, Light Industrial).
[3] Population Density Factor was obtained from the County of Riverside General Plan Appendix E-2: Socioeconomic Build-Out Assumptions and Methodology (see Table E-2, Average Household Size by Area Plan, Page 2, The Pass Planning Area).

TABLE 6: SCENARIO 2 - POPULATION AND EMPLOYMENT ESTIMATES

Land Use	Quantity	Conversion Factor	Estimated SED
High-Cube Parcel Hub	982,232 SF	300 SF per employee[4]	3,274 Employees
Residential	223 DU	2.88 people per household	642 Population

The VMT estimates calculated for Scenario 2 are presented in Tables 7 and 8. As shown in Table 7, Scenario 2 is forecast to generate OD VMT per service population above the City's adopted impact threshold for baseline and cumulative traffic conditions and is considered to have a significant impact on project generated VMT.

TABLE 7: SCENARIO 2 - PROJECT GENERATED VMT

	Baseline	Cumulative
Service Population	3,916	3,916
Total OD VMT	162,742	157,663
OD VMT per Service Population	41.56	40.26
City Threshold	38.41	38.41
Potentially Significant?	Yes	Yes

Table 8 presents boundary VMT and boundary VMT per service population estimates for the cumulative condition. The boundary VMT per service population is found to decrease in the With Scenario 2 under the cumulative condition. Therefore, the Scenario 2 cumulative effect on VMT is considered less than significant as the boundary VMT per service population decreased within the City Boundary in the With PA1 Parcel Hub Mix scenario.

TABLE 8: SCENARIO 2 - CUMULATIVE BOUNDARY VMT

	City Boundary	
Cumulative	No Project	With Scenario 2
Service Population	33,152	37,068
Boundary VMT	801,773	835,850
VMT per Service Population	24.18	22.55
Change in VMT per Service Population	-1.63	

SCENARIO 3 VMT ESTIMATES

Table 9 summarizes the SED inputs used to represent Scenario 3, which includes the same type and amount of Warehouse as the Proposed Project but does not include the residential component. Scenario 3 SED data was then coded into a separate TAZ to isolate Scenario 3 generated VMT. The Scenario 3 Cumulative Effect on VMT was performed using boundary VMT within the City of Calimesa.

[4] The employee conversion factors were adjusted to be consistent with the intensity of ITE Trip Generation Rate for land use code 156 (high-cube parcel hub warehouse).

TABLE 9: SCENARIO 3 - POPULATION AND EMPLOYMENT ESTIMATES

Land Use	Quantity	Conversion Factor	Estimated SED
Logistics	982,232 SF	1,030 SF per employee	954 Employees

The VMT estimates calculated for Scenario 3 are presented in Tables 10 and 11. As shown in Table 10, Scenario 3 is forecast to generate OD VMT per service population above the City's adopted impact threshold for baseline and cumulative traffic conditions and is considered to have a significant impact on project generated VMT.

TABLE 10: SCENARIO 3 - PROJECT GENERATED VMT

	Baseline	Cumulative
Service Population	954	954
Total OD VMT	46,586	46,806
OD VMT per Service Population	48.83	49.06
City Threshold	38.41	38.41
Potentially Significant?	Yes	Yes

Table 11 presents boundary VMT and boundary VMT per service population estimates for the cumulative condition. The boundary VMT per service population is found to increase in the With Scenario 3 under the cumulative condition. Therefore, Scenario 3's Cumulative Effect on VMT is considered significant as the boundary VMT per service population increased within the City Boundary With Scenario 3.

TABLE 11: SCENARIO 3 - CUMULATIVE BOUNDARY VMT

	City Boundary	
Cumulative	No Project	With Scenario 3
Service Population	33,152	34,106
Boundary VMT	801,773	827,228
VMT per Service Population	24.18	24.25
Change in VMT per Service Population	0.07	

REDUCTION OF POTENTIAL VMT IMPACTS

Transportation demand management (TDM) strategies have been evaluated for the purpose of reducing VMT impacts determined to be potentially significant. The Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (CAPCOA, 2021) provides information on individual measures for potential reduction in VMT.

The mix of Project land uses to provide housing and jobs in close proximity is anticipated to capture some trips and VMT within the Project. A mix of uses in close proximity provides improved destination accessibility and an opportunity for non-motorized travel.

Based upon the City Guidelines, VMT reduction measures include modification of the project's built environment characteristics to reduce VMT generated by the Project, implementation of

transportation demand management (TDM) measures to reduce VMT generated by the Project, and/or participation in a VMT fee program or mitigation exchange program if they exist.

MODIFICATION OF THE PROJECT BUILT ENVIRONMENT

Design elements to enhance walkability and connectivity, such as a bicycle / pedestrian path between residential and employment uses (high-cube warehousing or parcel hub warehousing), could potentially reduce Project VMT. Project implementation of a multi-use trail along the east side of Calimesa Boulevard will facilitate a slight reduction in Project-generated VMT by providing connection options for residents, employees, and visitors to both the Project and surrounding land uses.

TRANSPORTATION DEMAND MANAGEMENT (TDM) MEASURES

TDM is a general term for strategies that increase overall transportation system efficiency by encouraging a shift from single-occupant vehicle (SOV) trips to non-SOV modes or shifting auto trips out of peak periods. TDM measures reduce auto vehicle miles traveled by providing incentives and information to encourage and help individuals modify their travel behavior. The cumulative impact of modifications to the Project built environment and TDM strategies can maximize the potential for VMT reduction.

Examples of TDM strategies include commute trip reduction programs (employer-sponsored vanpool / ride sharing), and parking management strategies (priority parking spaces for carpools).

In conjunction with car-sharing incentives, a set amount of free taxi rides or use of car-share vehicles for unplanned trips home should be provided in order to assure car-sharing users of the ability to travel in an emergency (e.g., working late past scheduled commute times, or carpool passenger with sick child at school).

Designating a certain percentage of desirable parking spaces for ridesharing vehicles and designating adequate passenger loading and unloading and waiting areas for ridesharing vehicles will provide incentives for use of the employer car-sharing program.

CONCLUSION

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

- The 3 Project scenarios were evaluated against screening criteria as outlined in the City Guidelines. Only the Project's truck/trailer parking and alternative church components meet the Project Type Screening criteria. However, the remaining components (i.e., industrial and/or residential) were not found to meet any available screening criteria, and a VMT analysis was performed.
- The Scenario 1 (High-Cube Warehouse) VMT analysis found Scenario 1 and the Scenario 1's Cumulative Effect to be below the City's impact threshold. Scenario 1 is determined to have a less than significant project generated transportation impact.
- The Scenario 2 (Parcel Hub Warehouse) VMT analysis found Scenario 2 to be above the City's impact threshold. The Project is determined to have a significant project generated transportation impact.

- The Scenario 3 (Church Alternative) VMT analysis found Scenario 3 to be above the City's impact threshold. The Project is determined to have a significant project generated transportation impact.

If you have any questions, please contact us directly at jkain@urbanxroads.com for John or mwhiteman@urbanxroads.com for Marlie.

REFERENCES

1. **City of Calimesa.** *Final City of Calimesa Transportation Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment.* City of Calimesa : s.n., May 2020.