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TO: Jerrica Harding, T&B Planning, Inc.
FROM: Alex So, Urban Crossroads
JOB NO: 13697-03 Building 13 VMT

PLOT PLAN NO. 220008 VEHICLE MILES TRAVELED (VMT) ANALYSIS

Jerrica Harding,

Urban Crossroads, Inc. is pleased to provide the following Vehicle Miles Traveled (VMT) Analysis for the Plot Plan No. 220008 (**Project**), which is located west of Harvill Avenue between Perry Street and Martin Street in the County of Riverside.

PROJECT OVERVIEW

The Project consists of 307,616 square feet (SF) of building area on a 19.03 acre property. A preliminary site plan for the proposed Project is shown in Attachment A.

For purposes of this analysis, a total building square footage of 322,997 SF has been used to account for potential changes in building square footage that may occur during final planning and design.

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

County Guidelines describes that a project may be determined to have a less than significant impact and may be screened out of requiring a project level VMT analysis if it meets at least one of the County's VMT screening criteria. The County's adopted VMT screening criteria are described in Table 1 along with a determination of each screening criteria's applicability to the Project.

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

Screening Criteria	Description	Result
Small Projects Screening	Projects that generate fewer than 110 daily vehicle trips or projects that are below 3,000 Metric Tons of Carbon Dioxide Equivalent (MTCO _{2e}) per year.	Does not meet.
High Quality Transit Areas (HQTA) Screening	High quality transit provides a viable option for many to replace automobile trips with transit trips resulting in an overall reduction in VMT.	Does not meet.
Local Serving Retail	The introduction of new Local serving retail has been determined to reduce VMT by shortening trips that will occur.	Does not meet.
Affordable Housing	Lower-income residents make fewer trips on average, resulting in lower VMT overall.	Does not meet.
Local Essential Service	As with Local-Serving Retail, the introduction of new Local Essential Services shortens non-discretionary trips by putting those goods and services closer to residents, resulting in an overall reduction in VMT.	Does not meet.
Map-Based Screening	This method eliminates the need for complex analyses, by allowing existing VMT data to serve as a basis for the screening smaller developments. Note that screening is limited to residential and office projects.	Does not meet.
Redevelopment Project	Projects with lower VMT than existing on-site uses, can under limited circumstances, be presumed to have a non-significant impact. In the event this screening does not apply, projects should be analyzed as though there is no existing uses on site (project analysis cannot take credit for existing VMT).	Does not meet.

As the Project was not found to meet any of the applicable screening criteria, consistent with the County Guidelines a project level VMT analysis should be prepared.

VMT ANALYSIS

VMT MODELING

The County Guidelines identify 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

As stated in the County Guidelines, industrial land use projects should utilize the efficiency metric VMT per employee¹. The measure for VMT threshold listed in the County Guidelines is **existing county-wide average 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**².

PROJECT LAND USE CONVERSION

In order 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 Project in RIVTAM.

TABLE 2: EMPLOYMENT DENSITY FACTORS

Land Use	Quantity	Employment Factor ³	Project Employees
Warehouse	322,997 SF	1 employee per 1,030 SF	314

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

PROJECT’S WORK VMT CALCULATION AND COMPARISON TO IMPACT THRESHOLD

As stated previously, for industrial land uses the efficiency metric VMT per employee is used to evaluate Project Work VMT. 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 PA HBW VMT from the RIVTAM model, along with the estimated number of Project employees, and the resulting Work VMT per employee.

¹ County Guidelines; Figure 4; Page 21
² County Guidelines; Figure 6; Page 22
³ County of Riverside General Plan; Appendix E-2, Table E-2

TABLE 3: PROJECT WORK VMT PER EMPLOYEE

	Project
HBW VMT	4,618
Employees	314
Project Work VMT per Employee	14.7
County Threshold	14.2
Percent Above Threshold	+3.7%
Potentially Significant?	Yes

As shown in Table 3, Project generated Work VMT per employee exceeds the County’s adopted threshold by 3.7%.

POTENTIAL VMT REDUCTION STRATEGIES

Commute trip reduction measures have been reviewed for the purpose 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 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 TDM 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 one hundred percent 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. 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 Work VMT per employee threshold by 3.7% 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.

Respectfully submitted,

URBAN CROSSROADS, INC.



Alexander So
Senior Associate

REFERENCES

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

ATTACHMENT A
PROJECT PROPOSED SITE PLAN

