

**DATE:** September 5, 2023  
**TO:** Brian Hardy, Richland  
**FROM:** Alex So, Urban Crossroads  
**JOB NO:** 13266-08 VMT

## **RENAISSANCE RANCH VEHICLE MILES TRAVELED (VMT) ANALYSIS**

Urban Crossroads, Inc. is pleased to provide the following Vehicle Miles Traveled (VMT) Analysis for the Renaissance Ranch (**Project**), which is located east of Horsethief Canyon Road and south of the I-15 Freeway in the County of Riverside.

### **PROJECT OVERVIEW**

The development of the proposed Project includes the following land uses:

- 1,428,768 square feet of Light Industrial use (65.6 acres calculated assuming 0.5 floor-to-area ratio)
- 331,056 square feet of Business Park use (19.0 acres calculated assuming 0.4 floor-to-area ratio)

Land use concept plans for each condition are presented in Attachment A.

### **BACKGROUND**

Changes to California Environmental Quality Act (CEQA) Guidelines were adopted in December 2018, requiring all lead agencies to adopt VMT as a replacement for automobile delay-based level of service (LOS) as the new 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 of 2020) (**County Guidelines**) (1). The adopted County Guidelines have been utilized to prepare this VMT analysis.

### **VMT SCREENING**

County Guidelines identifies that a project may be determined to have a non-significant transportation impact if it meets one or more VMT screening criteria. Each of the screening criteria listed in the County Guidelines are described in Table 1 along with a determination of the Project's eligibility to meet each criteria.

**TABLE 1: SCREENING CRITERIA FOR DEVELOPMENT PROJECTS**

Project Type	Screening Criteria	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 <sub>2</sub> e) 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 of 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 shown in Table 1, the Project was not found to meet available screening criteria. Therefore, consistent with the County Guidelines a project level VMT analysis has been prepared.

**VMT ANALYSIS**

**VMT MODELING**

County Guidelines identifies 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 employee<sup>1</sup>. The measure for VMT threshold listed in the County Guidelines is **existing county-wide average VMT per employee** with the following threshold of significance:

“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**<sup>2</sup>.

As noted by County Guidelines, projects that cannot mitigate baseline project generated VMT to a level below the County’s impact threshold should also include a cumulative analysis.

### **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 related employment has been estimated using standard employment factors outlined in 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 <sup>3</sup>	Project Employees
Industrial	1,428,768 SF	1 employee per 1,030 SF	1,387
Business Park	331,056	1 employee per 600 SF	552

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 Project employment. 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 for both baseline and cumulative conditions.

<sup>1</sup> County Guidelines; Figure 4; Page 21

<sup>2</sup> County Guidelines; Figure 6; Page 22

<sup>3</sup> County of Riverside General Plan; Appendix E-2, Table E-2

**TABLE 3: PROJECT WORK VMT PER EMPLOYEE**

	Baseline	Cumulative
HBW VMT	42,385	38,500
Employees	1,939	1,939
Work VMT per Employee	21.8	19.9
County Threshold	14.2	14.2
Potentially Significant?	Yes	Yes

As shown in Table 3, Project generated Work VMT per employee exceeds the County's adopted threshold for both baseline and cumulative conditions.

### **SUPPLEMENTAL REGIONAL VMT ESTIMATES**

County Guidelines also require the calculation of regional VMT values for informational purposes. More specifically, County Guidelines state the following, "No Project and Plus Project conditions under both baseline and cumulative scenarios must provide total Regional VMT values. Note that Regional VMT values are for informational purposes and are not used as the basis for the determination of a significant impact."<sup>4</sup> Results can be found in Attachment B.

### **VMT REDUCTION**

Potential commute trip reduction measures have been considered for the purpose of reducing Project related Work VMT impacts (i.e., commute trips) determined to be potentially significant. As future tenants are not known for the Project, the effectiveness of potential commute trip reduction measures may be limited. The following measures have the potential to reduce commute VMT, although no quantified benefit is taken at this time:

- Future building tenants could implement a Voluntary Commute Trip Reduction (CTR) program. The purpose of the CTR program would be to encourage alternative modes of transportation such as carpooling, which would help to reduce commute VMT. Such a program would likely include on-site and/or online commute information services such as available transit and ride coordination for employees.
- Future building design features could provide designated carpool/vanpool parking in desirable locations to encourage employees to carpool/vanpool to work that can lead to reduced commute VMT depending on the level of participation by tenants.
- Future building designs could include end-of-trip facilities such as bicycle parking, lockers, etc., which could encourage employees to use alternative modes of transportation and thus reduce VMT.
- Future building designs could include 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.

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<sup>4</sup> County Guidelines; Page 33

- Future building designs could include sidewalks along Project frontage providing connections to existing trails and external pedestrian networks in order to improve pedestrian access. This measure could encourage employees to walk to nearby destinations and thus reduce VMT.

## **SUMMARY**

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

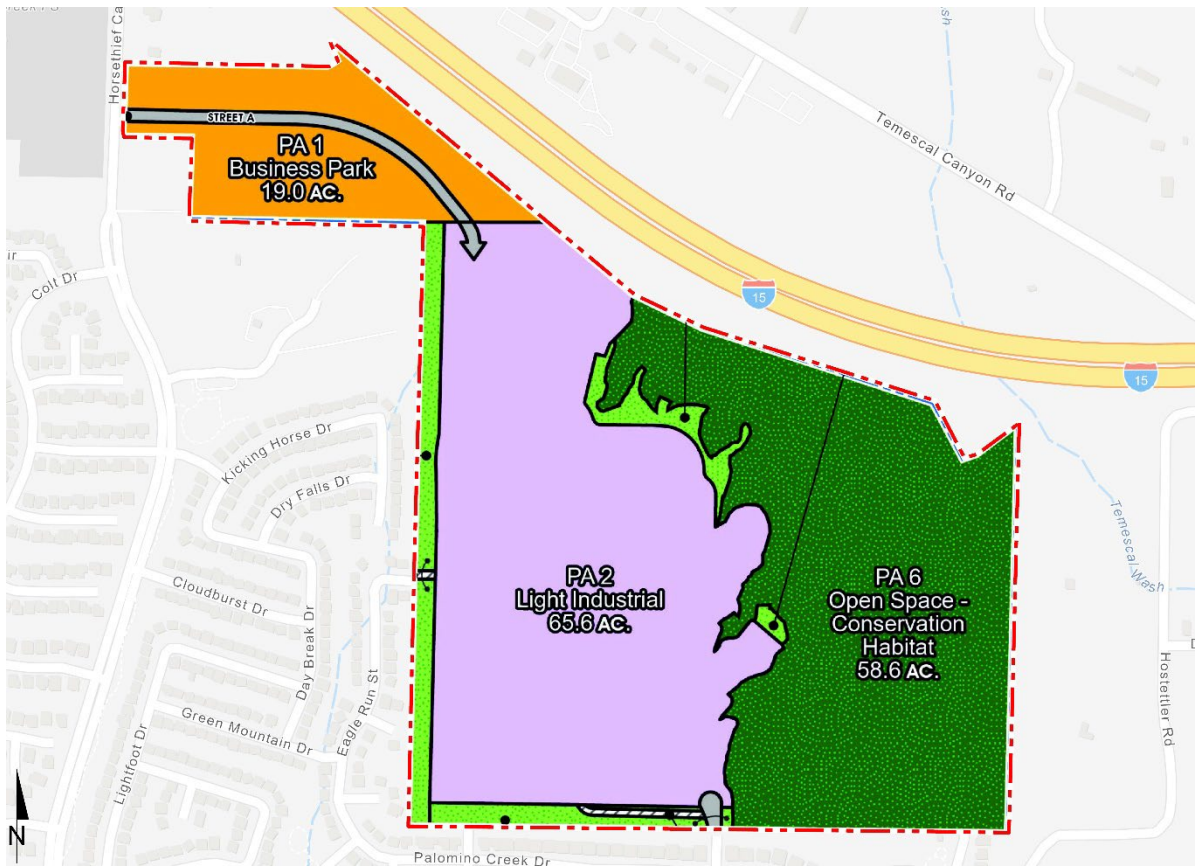
- The Project was evaluated against screening criteria as outlined in the County Guidelines. The Project was not found to meet any available screening criteria, and a VMT analysis was performed.
- The results of the VMT analysis indicates that the Project exceeds the County's Work VMT per employee threshold for both baseline and cumulative conditions and is therefore 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](mailto: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**  
**PRELIMINARY LAND USE PLAN**



**ATTACHMENT B**  
**CUMULATIVE EFFECT ON VMT RESULTS**

**TABLE B-1: REGIONAL VMT ESTIMATES**

Scenario	Baseline		Cumulative	
	No Project	Plus Project	No Project	Plus Project
Regional VMT	53,661,883	53,768,581	92,508,071	92,536,829