

# Appendix N-1

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VMT Report



October 11, 2022

Mr. Dan Fairbanks  
March Joint Powers Authority  
14205 Meridian Parkway, Suite 140  
Riverside, CA 92518

**SUBJECT: WEST CAMPUS UPPER PLATEAU VEHICLE MILES TRAVELED (VMT) ANALYSIS**

Dear Mr. Dan Fairbanks:

The following vehicle miles traveled (VMT) analysis has been prepared for the proposed West Campus Upper Plateau (**Project**) which is located on either side of Barton Street and Cactus Avenue in the March Joint Powers Authority (March JPA) and unincorporated Riverside County. (See Attachment A)

## **PROJECT OVERVIEW**

The proposed Project (see Attachment A) consists of the following uses:

- Building B – 1,250,000 square feet (SF) of high-cube fulfillment center warehouse use
- Building C – 587,000 SF of high-cube fulfillment center warehouse use
- Industrial Area – 725,561 SF of high-cube fulfillment center warehouse use
- Industrial Area – 500,000 SF of high-cube cold storage warehouse use
- Business Park Area – 1,280,403 SF of business park use
- Mixed Use Area – 160,921 SF of retail use (25%)
- Mixed Use Area – 482,765 SF of business park use (75%)
- 42.2 Acre Active Park (with sports fields)
- 35.8 Acres of Park/Open Space (trails)
- 2.84 acres of Public Facilities for future sewer lift station and electrical substation

Mixed Use Areas include a variety of complimentary land uses; including commercial, business park, office, medical, educational and vocational, research and development, and services. Residential and outdoor storage is prohibited.

## **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 new 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 2018) (**Technical Advisory**) (1). Based on OPR's Technical Advisory, the Western

Riverside Council of Governments (WRCOG) prepared a WRCOG SB 743 Implementation Pathway Document Package (March 2019) to assist its member agencies with implementation tools necessary to adopt analysis methodology, impact thresholds and mitigation approaches for VMT. To add to the previous work effort, WRCOG in February 2020 released its Recommended Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment (WRCOG Guidelines), which provides specific procedures for complying with the new CEQA requirements for VMT analysis (2). Through consultation with March JPA staff, it is our understanding that the March JPA has yet to adopt its own VMT analysis guidelines and thresholds. For the purposes of this analysis, the recommended VMT analysis methodology and thresholds identified within the Technical Advisory and WRCOG Guidelines have been used.

## **VMT ANALYSIS**

### **VMT MODELING**

WRCOG Guidelines identifies RIVCOM as the appropriate tool for conducting VMT analysis for land development projects in the March JPA. WRCOG is the developer/owner of RIVCOM and recently launched the new modeling tool for use by its member agencies in August 2021. At the time this analysis was prepared, the RIVCOM tool was in its 4<sup>th</sup> update (also referred to as version 3.0). It has been determined that this analysis would be prepared based on version 3.0 of RIVCOM.

### **VMT METRIC AND SIGNIFICANCE THRESHOLD**

As stated in the Technical Advisory, “Lead agencies can evaluate each component of a mixed-use project independently and apply the significance threshold for each project type included (e.g., residential and retail).”<sup>1</sup> Consistent with OPR’s direction in the Technical Advisory, the VMT metric for retail projects greater than 50,000 sf of gross leasable area is to utilize the metric of net change in total VMT. Therefore, for purposes of this analysis a significant impact to VMT would occur if the addition of the Project’s retail component would result in a **net increase in total VMT for the region**. For purposes of this evaluation the region is defined as a 15-mile service area from the Project site (See Attachment B). A 15-mile service area is a conservatively estimated distance from the Project as the retail component is not anticipated as a regional shopping destination but instead is anticipated to serve the surrounding communities of Riverside, Moreno Valley, Perris, etc. Additionally, large boundaries such as Riverside County or WRCOG tend to be too large of an area to accurately measure an individual project’s effect on VMT without model noise (i.e., convergence criteria) influencing the results.

For projects that are not residential nor retail land use types, the Technical Advisory identifies VMT per employee as the appropriate VMT metric for analysis. Therefore, the Project’s industrial, business park,

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<sup>1</sup> Technical Advisory; Page 17.

and non-retail mixed use land uses should be evaluated based on the metric of VMT per employee. A significant impact to VMT would occur if the addition of the Project’s industrial/business park/non-retail mixed use components would result in Project-generated **VMT per employee to exceed 15% below the WRCOG’s baseline of 29.97 VMT per employee for a regional average significance threshold of 25.47 VMT per employee.**

**PROJECT LAND USE CONVERSION**

In order to evaluate Project VMT, standard land use information must first be converted into a RIVCOM compatible input data. The RIVCOM 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 RIVCOM. RIVCOM output data can be found in Attachment C. The employment estimates are consistent with those used by the Project’s Water Supply Assessment (WSA). Table 1 presents the estimated number of Project employees by land use type used to populate the RIVCOM model.

**TABLE 1: EMPLOYMENT ESTIMATES**

Land Use	Building Area	Estimated Employees
Industrial	3,062,561 SF	2,000 Industrial Employees
Business Park <sup>2</sup>	1,763,168 SF	340 Service Employees
Retail	160,921 SF	255 Retail Employees

The RIVCOM model was then run inclusive of the Project’s SED inputs.

**PROJECT RETAIL VMT CALCULATION AND COMPARISON TO SIGNIFICANCE THRESHOLD**

As described previously, retail land uses are evaluated utilizing the VMT metric of total VMT<sup>3</sup>. RIVCOM was used to calculate the baseline total link-level VMT for both “No Project” and “With Project” model runs. This calculation is commonly referred to as the “boundary method” and includes the total VMT for all vehicle trips with one or both trip ends within a specific geographic area – in this case 15-mile service area surrounding the Project site. As shown in Table 2, the addition of the Project results in a net decrease to total VMT, which falls below the OPR significance threshold.

<sup>2</sup> Includes 75% of “Business Park” Mixed Use Area.

<sup>3</sup> Technical Advisory; Page 16.

**TABLE 2: NET CHANGE IN TOTAL VMT FOR THE REGION**

	15-mile Region
Total VMT for No Project	43,167,218
Total VMT for With Project	43,039,938
+/- to VMT	-127,280
Percent Change	-0.29%
Potentially Significant	No

**PROJECT NON-RETAIL VMT CALCULATION AND COMPARISON TO IMPACT THRESHOLD**

The Technical Advisory identifies that for land uses other than residential and retail, the measure of VMT should be VMT per employee. RIVCOM was utilized to calculate Project-generated VMT for the non-retail land uses and that value was then divided by the Project’s employment estimate to derive Project-generated VMT per employee. Project-generated home-based work (HBW) VMT was then calculated for both the base year model (2018) and cumulative year model (2045), and linear interpolation was used to determine the Project’s baseline (2022) HBW VMT. Table 3 HBW VMT as calculated from RIVCOM for the Project’s non-retail land uses, the number of Project non-retail employees and Project non-retail VMT per employee.

**TABLE 3: NON-RETAIL VMT PER EMPLOYEE**

	Project Non-Retail
VMT	58,874
Non-Retail Employment	2,340
VMT per Employee <sup>4</sup>	24.12

Table 4 provides a comparison between Project VMT per employee to the WRCOG significance threshold of 25.47. The Project’s non-retail VMT per employee was found to be below the WRCOG significance threshold by 5.3%. Therefore, the Project’s impact on VMT is less than significant.

<sup>4</sup> HBW VMT per Employee is a measure of all auto trips between home and work and does not include heavy duty truck trips or freight, which is consistent with OPR guidance.

**TABLE 4: PROJECT NON-RETAIL VMT PER EMPLOYEE COMPARISON**

	VMT per Employee
WRCOG Threshold	25.47
Project	24.12
Difference	-1.35
Percent Change	-5.30%
Potentially Significant	No

## CONCLUSION

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

- The Project’s retail land uses were found to decrease total VMT in the 15-mile service area by 127,280 or about 0.29%. The Project’s retail land uses are determined to have a less than significant transportation impact for the retail uses.
- The Project’s non-retail land uses were found to be below the WRCOG region VMT per employee threshold by 5.30%. The Project’s non-retail employment uses are determined to also have a less than significant impact.
- The Project’s impact on VMT is considered less than significant.

If you have any questions, please contact me directly at [aso@urbanxroads.com](mailto:aso@urbanxroads.com).

Respectfully submitted,

URBAN CROSSROADS, INC.



Alex So  
Senior Associate

## REFERENCES

1. **Office of Planning and Research.** *Technical Advisory on Evaluating Transportation Impacts in CEQA.* State of California : s.n., December 2018.
2. **Western Riverside Council of Governments (WRCOG).** *Recommended Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment.* February 13, 2020.

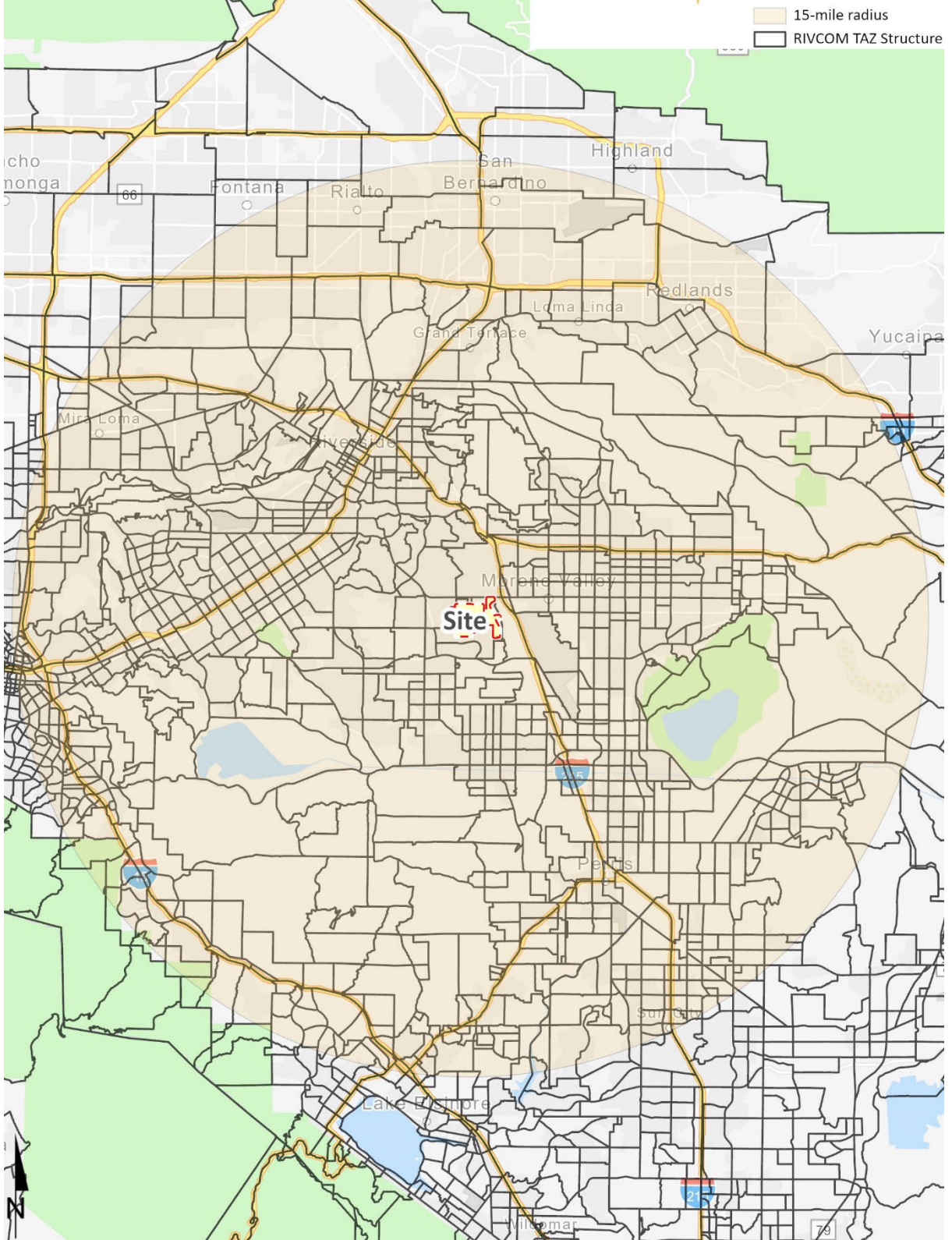


**ATTACHMENT A  
PROJECT SITE PLAN**



**ATTACHMENT B**  
**15-MILE BOUNDARY AREA**

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**ATTACHMENT C**  
**RIVCOM OUTPUTS**

**TABLE B-1: 2018 RIVCOM OUTPUT**

TAZ	2749	3190
Daily_Home-Based (incl. IEHB) Prod VMT	0	9989.152344
Daily_HBW (incl. EIHBW) Attr VMT	61107.58203	8364.871094
Daily_Total Auto OD From VMT	33424.32422	21987.28125
Daily_Total Auto OD To VMT	35742.17578	23155.04102
Daily_Total Auto OD Intra VMT	1.56797	22.198938
Daily_Total Truck OD From VMT	788.576965	1914.549194
Daily_Total Truck OD To VMT	787.499084	1912.748291
Daily_Total Truck OD Intra VMT	0.217499	0.972057
Daily_Total OD From VMT	34212.90234	23901.83008
Daily_Total OD To VMT	36529.67578	25067.78906
Daily_Total OD Intra VMT	1.785468	23.170996
Daily_Total_TripLen	21.461998	11.228536
Population	0	498
Employment	2340	271
Enrollment	0	0

**TABLE B-2: 2045 RIVCOM OUTPUT**

TAZ	2749	3190
Daily_Home-Based (incl. IEHB) Prod VMT	0	10865.54883
Daily_HBW (incl. EIHBW) Attr VMT	95246.16406	18716.92383
Daily_Total Auto OD From VMT	63396.12109	28333.44531
Daily_Total Auto OD To VMT	71327.73438	29868.60156
Daily_Total Auto OD Intra VMT	12.964943	19.03054
Daily_Total Truck OD From VMT	744.898621	2004.05127
Daily_Total Truck OD To VMT	747.685059	2005.03894
Daily_Total Truck OD Intra VMT	0.215006	1.143409
Daily_Total OD From VMT	64141.01563	30337.49609
Daily_Total OD To VMT	72075.42188	31873.64258
Daily_Total OD Intra VMT	13.179949	20.173948
Daily_Total_TripLen	16.874808	11.918411
Population	0	562
Employment	3646	672
Enrollment	0	0