



December 14, 2021

Mr. David Ornelas
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SUBJECT: VALLEY BOULEVARD AND WILLOW AVENUE VEHICLE MILES TRAVELED (VMT) ANALYSIS

Dear Mr. David Ornelas:

The following VMT Analysis has been prepared for the proposed Valley Boulevard and Willow Avenue (**Project**), which is located at the northwest corner of Valley Boulevard and Willow Avenue in the City of Rialto.

PROJECT OVERVIEW

The subject property is developed/disturbed and used for the outdoor storage of trailers, construction equipment, and construction materials. The proposed Project would result in the re-development of the property as a warehouse distribution building with approximately 492,410 square feet (sf) of building area (See Attachment A).

BACKGROUND

Changes to California Environmental Quality Act (CEQA) Guidelines were adopted in December 2018, which requires 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 the transition from LOS to VMT, the Governor's Office of Planning and Research (OPR) published its Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory). (1) It is our understanding that the City of Rialto is currently in development of City specific VMT analysis guidelines and impact thresholds based on OPR's Technical Advisory. As such, City Staff has provided Urban Crossroads with draft guidelines that the City intends to adopt. The City of Rialto Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment (LOS) (October 2021) (2) (**City Guidelines**) It is our understanding the City of Rialto utilizes the San Bernardino County Transportation Authority (SBCTA) VMT Screening Tool (**Screening Tool**). The Screening Tool allows users to select an assessor's parcel number (APN) to determine if a project's location meets one or more of the screening thresholds for land use projects identified in the City Guidelines. The City Guidelines have been utilized to prepare this VMT analysis.

VMT SCREENING EVALUATION

City Guidelines identify Projects that meet certain VMT screening criteria may be presumed to result in a less than significant transportation impact. The City Guidelines lists the following VMT screening criteria:

- Step 1: Transit Priority Area (TPA) Screening
- Step 2: Low VMT Area Screening
- Step 3: Project Type Screening

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

TPA SCREENING

Consistent with guidance identified in the City Guidelines, 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. However, the presumption may not be appropriate if a project:

- Has a Floor Area Ratio (FAR) of less than 0.75;
- Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);
- Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization); or
- Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

The Project site is not located within ½ mile of an existing major transit stop, or along a high-quality transit corridor, and would not meet the FAR threshold of 0.75 or greater. (See Attachment B)

TPA screening criteria is not met.

LOW VMT AREA SCREENING

As noted in the City Guidelines, “Residential and office projects located within a low VMT generating area may be presumed to have a less than significant impact absent substantial evidence to the contrary. In addition, other employment related uses and mixed use land use projects may qualify for the use of screening if the project can reasonably be expected to generate VMT per resident, per worker, or per

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.”).

service population that is similar to the existing land uses in the low VMT area.” The Screening Tool uses the sub-regional San Bernardino Transportation Analysis Model (SBTAM) to measure VMT performance within individual traffic analysis zones (TAZ’s) within the region. The Project’s physical location based on parcel number is selected in the Screening Tool to determine the TAZ in which the Project will reside. The Project’s TAZ VMT per employee was compared to the County of San Bernardino baseline average VMT per employee. The parcel containing the proposed Project was selected and the Screening Tool was run for Production/Attraction (PA) home-based work (HBW) VMT per employee (see Attachment B), the Project is not located within a low VMT generating zone.

Low VMT Area screening criteria is not met.

PROJECT TYPE SCREENING

The City Guidelines describe that local serving retail projects less than 50,000 square feet may be presumed to have a less than significant impact absent substantial evidence to the contrary. In addition to local serving retail, the City Guidelines also provides a list of land use projects that may be presumed to cause a less than significant impact based on size or quantity:

- 11 single family housing units
- 16 multi-family housing units
- 10,000 sf of office
- 15,000 sf of light industrial
- 63,000 sf of warehousing
- 79,000 sf of high cube transload short-term storage warehouse

The Project proposes to develop a warehouse distribution building totaling of 493,590 sf which exceeds the 63,000 sf project type screening size identified by the City Guidelines.

Project Type screening criteria is not met.

As the Project was not found to meet any of the aforementioned VMT screening criteria, a project level VMT analysis is prepared to assess the Project’s potential impact to VMT.

VMT ANALYSIS

VMT MODELING

City Guidelines identify San Bernardino Transportation Analysis Model (SBTAM) as the appropriate tool for conducting VMT analysis for land use projects in San Bernardino County. SBTAM 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. SBTAM is also consistent with the model used to develop the City’s VMT impact thresholds listed by the City Guidelines. Therefore,

the vehicle trips and average daily trip length for project-related vehicle trips are model derived from SBTAM.

VMT METRIC AND SIGNIFICANCE THRESHOLD

City Guidelines describe that Project-generated VMT should be extracted from the **origin-destination (OD) trip matrix** from the SBTAM travel demand model and include total VMT for all vehicle trips (i.e., passenger cars and trucks) and trip purposes, and include the calculation of total **VMT per service population**³ (population plus employment).

In addition, the City Guidelines also acknowledge that in some cases it may be appropriate to extract the Project-generated VMT using the **production-attraction (PA) trip matrix** from SBTAM. The guidelines describe that this may be appropriate when a project is entirely composed of retail, office or industrial land use, and there is a need to isolate home-based work (HBW) VMT for the purposes of isolating commute VMT.

Through consultation with City Staff, the Project was directed to utilize the efficiency-based metric of **VMT per employee**⁴. As a result, the Project would result in a significant Project-generated VMT impact if either of the following conditions is met for industrial projects:

- Baseline project generated VMT per employee exceeds the County of San Bernardino VMT per employee, or
- Cumulative project generated VMT per employee exceeds the County of San Bernardino VMT per employee.

However, for the purposes of fully disclosing potential VMT impacts, this analysis also includes a supplemental VMT analysis using the VMT per service population efficiency metric that includes total VMT for all vehicle trips (i.e., both passenger cars and trucks) and trip purposes divided by the Project's service population (i.e., Project employees).

PROJECT LAND USE CONVERSION

In order to evaluate Project VMT, standard land use information must first be converted into a SBTAM compatible dataset. The SBTAM 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 SBTAM. Table 1 summarizes the employment based on a fiscal report prepared for the proposed Project⁵. Employment projections provided by the Project applicant estimate up to 542 full-time equivalent employees and 639 actual employees, which includes a combination of full time, part time

³ City Guidelines; Page 24, Footnote 3

⁴ J. Schlaefli (personal communication, November 18, 2021)

⁵ Birtcher –Executive Summary of Economic Analysis; Page 3

and seasonal jobs. The more conservative estimate based on 639 actual employees has been utilized for this analysis.

TABLE 1: EMPLOYMENT ESTIMATES

Land Use	Building Area	Estimated Employees
Industrial Warehouse	492,410 sf	639

PROJECT HBW VMT CALCULATION

Adjustments to employment for the Project’s TAZ were made to the SBTAM base year (2016) and cumulative year (2040) traffic models, and each model was then run inclusive of the Project’s SED factors. The ability to capture commute trips can be achieved with the SBTAM model by using the PA trip matrices. Using these matrices, the HBW VMT was calculated for both the base year (2016) and cumulative year (2040) conditions. The HBW VMT is then normalized by dividing by the Project employees. Baseline (2021) HBW VMT has been derived using straight-line interpolation between the base year and cumulative year model results. As shown in Table 2, the Project’s baseline (2021) VMT per employee is 15.97 and cumulative (2040) VMT per employee is 15.65.

TABLE 2: PROJECT VMT PER EMPLOYEE

	Base Year (2016)	Cumulative Year (2040)	Baseline (2021)
Employees	639	639	639
VMT	10,256	10,000	10,203
VMT / Employee	16.05	15.65	15.97

PROJECT COMPARISON TO CITY OF RIALTO HBW VMT PER EMPLOYEE SIGNIFICANCE THRESHOLD

Table 3 illustrates the comparison between Project’s baseline and cumulative VMT per employee to the City’s impact threshold. SBCTA provides published VMT values for its member agencies and these values were utilized to obtain the baseline County of San Bernardino VMT per employee used by the City of Rialto as their impact threshold for HBW VMT per employee. The Project is found to not exceed the City’s impact threshold for either baseline or cumulative conditions.

TABLE 3: VMT PER EMPLOYEE COMPARISON

	Baseline	Cumulative
Regional Threshold	17.33	17.33
Project	15.97	15.65
Percent Below Threshold	-7.84%	-9.69%
Potentially Significant?	No	No

PROJECT TOTAL VMT CALCULATION

As noted previously, a supplemental VMT analysis has also been prepared to calculate total VMT for all trips (i.e., passenger cars and trucks) and trip purposes. Consistent with City Guidelines and standard VMT calculation methods, total VMT is calculated from SBTAM’s OD trip matrices and then divided by a project’s service population (SP) to derive the VMT efficiency metric VMT per SP.

Table 4 presents Project-generated total VMT calculated as the total of passenger car, light-duty, medium-duty and heavy-duty truck trips. Total trips by vehicle type is then multiplied by the average trip length for each vehicle type. For purposes of this analysis the average trip length for passenger cars and light-duty trucks (i.e., two-axle) as obtained from SBTAM is 10.18 miles. Whereas the average trip length for medium-duty and heavy-duty trucks used for this analysis was obtained from the South Coast Air Quality Management District (SCAQMD) documents for the implementation of the Facility-Based Mobile Source Measures (FBMSMs) adopted in the 2016 Air Quality Management Plan (AQMP). SCAQMD’s “Preliminary Warehouse Emission Calculations” cites 39.9-mile trip length for heavy-heavy trucks based on SCAG 2016 RTP. Therefore, a trip length of 40 miles has been conservatively utilized for both medium-duty and heavy-duty trucks.

TABLE 4: TOTAL VMT

	Base Year (2016)	Cumulative Year (2040)	Baseline (2021)
Automobile VMT	10,777	11,022	10,828
Truck VMT	27,440	27,440	27,440
Total VMT	38,217	38,462	38,268

Table 5 presents the calculation of VMT per SP, which is simply the product of total VMT for the Project divided by the Project’s SP or in this case the number of Project employees.

TABLE 5: PROJECT-GENERATED TOTAL VMT PER SP

	Base Year (2016)	Cumulative Year (2040)	Baseline (2021)
SP ⁶	639	639	639
Total VMT	38,217	38,462	38,268
Total VMT / SP	59.81	60.19	59.89

Table 6 identifies the comparison between Project’s baseline and cumulative VMT per SP to the City’s impact threshold. As noted in the City Guidelines, the City of Rialto has identified a VMT per SP significance threshold of 32.7, which is the San Bernardino County Regional Average for the SBTAM model base year 2016 condition. As the proposed Project’s baseline is 2021, the City’s impact threshold has been interpolated to reflect the correct baseline year. This interpolated value of 33.2 is achieved by using straight line interpolation between the SBTAM base year 2016 model value of 32.7 and the SBTAM

⁶ Project does not contain any residential land uses the Project SP remains employees only.

cumulative year 2040 model value of 35.3. As shown below, the Project would exceed the City’s VMT per SP impact threshold for both the baseline and cumulative conditions by 80.39% - 81.30%, respectively.

TABLE 6: PROJECT COMPARISON TO CITY OF RIALTO VMT PER SP SIGNIFICANCE THRESHOLD

	Baseline	Cumulative
Regional Threshold	33.2	33.2
Project	59.89	60.19
Percent Below Threshold	+80.39%	+81.30%
Potentially Significant?	Yes	Yes

PROJECT CUMULATIVE IMPACT ON VMT

The City Guidelines consistent with the Technical Advisory states that cumulative impacts on VMT “... metrics such as VMT per capita or VMT per employee, i.e., metrics framed in terms of efficiency (as recommended below for use on residential and office projects), cannot be summed because they employ a denominator. A project that falls below an efficiency-based threshold that is aligned with long-term goals and relevant plans has no cumulative impact distinct from the project impact. Accordingly, a finding of a less-than-significant project impact would imply a less than significant cumulative impact, and vice versa. This is similar to the analysis typically conducted for greenhouse gas emissions, air quality impacts, and impact that utilize plan compliance as a threshold of significance.”⁷ It is our understanding that a General Plan Amendment and Gateway Specific Plan (GSP) Amendment will be applied to the Project’s southern portion of the Project site. The current underlying land use for the Project site that lies within the GSP is Freeway Commercial (F-C). The Project intends to amend the southern portion of the Project site to Business Park (BP) use which would align the Project site use with the northern portion of the Project site. The current F-C allowed uses include but are not limited to Retail Commercial and Office Park, these uses are typically higher traffic generating uses. Amending the GSP to BP would reduce the overall traffic generation as compared to the currently allowed uses. By reducing the overall traffic generation, the Project retains its consistency with the Regional Transportation Plan and Sustainable Communities Strategies (RTP/SCS). As the Project is consistent with the RTP/SCS but is found to have a significant impact at the project level. The Project is also considered to have a significant cumulative impact as well.

VMT REDUCTION STRATEGIES

Transportation Demand Management (TDM) strategies in the form of commute trip reduction program measures have been reviewed for the purpose of reducing Project related VMT impacts (i.e., commute trips) determined to be potentially significant. The level of effectiveness of each trip reduction measure has been determined based on the Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (CAPCOA, 2021) (**2021 Handbook**). As the ultimate building tenants are not known for the Project, the effectiveness of each of the commute

⁷ OPR’s Technical Advisory; Page 6

trip reduction measures 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. The three locational contexts identified by the 2021 Handbook are suburban, urban, and rural.⁸ The locational context of the Project is characteristically suburban.

Under the most favorable circumstances a project can realize a maximum reduction of 45% in commute VMT through implementation of the trip reduction program measures listed below.⁹ The proposed Project would require a minimum reduction of approximately 81% to achieve a less than significant impact. The 2021 Handbook lists the following trip reduction measures. These measures can be implemented individually or grouped together to create either a voluntary or mandatory commute trip reduction (CTR) program.

- T-6 – Implement Commute Trip Reduction Marketing (*up to 4.0% reduction*)
- T-7 – Provide Ridesharing Program (*up to 8% reduction*)
- T-8 – Implement Subsidized or Discounted Transit Program (*up to 5.5% reduction*)
- T-9 – Provide End-of-Trip Facilities (*up to 4.4% reduction*)
- T-10 – Provide Employer-Sponsored Vanpool (*up to 20.4% reduction*)
- T-11 – Price Workplace Parking (*up to 20.0% reduction*)
- T-12 – Implement Employee Parking Cash-Out (*up to 12.0% reduction*)

Other regional transportation measures that may reduce VMT include but are not limited to improving/increasing access to transit, increasing access to common goods and service, or orientating land uses towards alternative transportation. These regional transportation measures may be infeasible at the project level but will generally be implemented as the surrounding communities develop. There is no means, however, to quantify any VMT reductions that could result. Additionally, the effectiveness of any CTR program measures listed above are dependent on as yet unknown building tenant(s); and as noted above, VMT reductions from various CTR measures in some cases cannot be guaranteed.

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

Respectfully submitted,

URBAN CROSSROADS, INC.



Alexander So
Senior Analyst

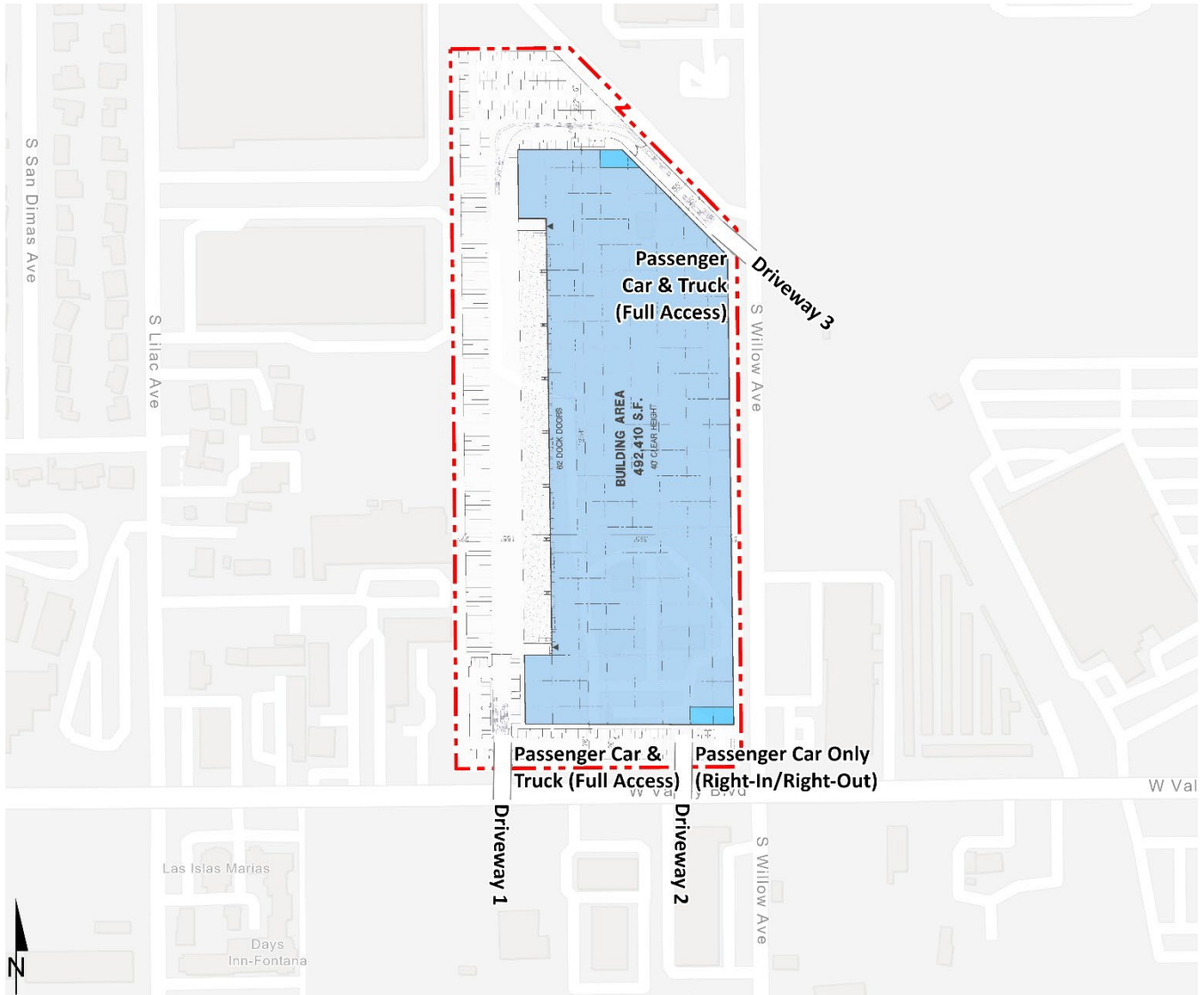
⁸ 2021 Handbook; Page 43

⁹ 2021 Handbook; Page 61

REFERENCES

1. **Office of Planning and Research.** *Technical Advisory on Evaluating Transportation Impacts in CEQA.* State of California : s.n., December 2018.
2. **City of Rialto.** *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment (LOS).* October 2021.

**ATTACHMENT A:
PRELIMINARY SITE PLAN**



**ATTACHMENT B:
SBCTA SCREENING TOOL**

SBCTA VMT Screening Tool Powered by Fehr & Peers User's Guide

W Valley Blvd & S Willow Ave, RI X

Show search results for W Valley Blvd...

Complete #1 - 4, Then Click 'Run'

VMT. Please consult with the jurisdiction to verify which metric to use for your analysis.*

PA VMT Per Worker

#3. Select the Baseline Year. The years available for analysis are from 2016 to 2040.*

2021

#4. Select the Threshold (% reduction from baseline year). Note each jurisdiction may have adopted a different metric by which they measure VMT. Please consult with the jurisdiction to verify which metric to use for your analysis.*

Below County Baseline (0%)

[Help](#) **Run**

Map Layers

- Project Area VMT
- Screening Results
- Low VMT Generating TAZs
- Parcels
- Jurisdiction Boundaries
- TAZ
- Transit Priority Area

Project Area VMT (2 of 2)

Assessor Parcel Number (APN)	013218101
Traffic Analysis Zone (TAZ)	53752101
TAZ VMT	17.1
Jurisdiction VMT	17
% Difference	0.91%
VMT Metric	PA VMT Per Worker
Threshold	17

[Zoom to](#)

0 100 200ft

County of Riverside, San Bernardino County, Bu