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HARVILL AVENUE VEHICLE MILES TRAVELED (VMT) ANALYSIS

Mr. Peter Schafer,

The following Vehicle Miles Traveled (VMT) Analysis has been prepared for the proposed Harvill Avenue (**Project**), which is located southwest corner of Water Street and Harvill Avenue in County of Riverside.

PROJECT OVERVIEW

The Project includes the development of up to 434,823 square feet of high-cube fulfillment center warehouse use within a single building. The Project is also considering another potential alternative mix of uses which includes 130,477 square feet of high-cube cold storage warehouse uses and 304,376 square feet of high-cube fulfillment center warehouse. As the VMT analysis derives its employment value from overall building square footage (as discussed later) any mix of industrial warehouse uses for the purposes of this analysis remains unaffected. Preliminary site plan can be found on Exhibit 1.

EXHIBIT 1: PRELIMINARY SITE PLAN



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 this transition, the Governor's Office of Planning and Research (OPR) released a Technical Advisory on Evaluating Transportation Impacts in CEQA (December of 2018) (**Technical Advisory**) (1). Based on OPR's Technical Advisory, the County of Riverside has recently adopted their Transportation Analysis Guidelines for Level of Service Vehicle Miles Traveled (December of 2020) (**County Guidelines**) (2). The adopted County Guidelines have been utilized to prepare this VMT analysis.

VMT SCREENING

Consistent with County Guidelines, land use projects should evaluate applicable VMT screening criteria based on their location, size, and land use type to determine if a presumption of a less than significant transportation impact can be made without the need of a full project level VMT analysis. County Guidelines list six screening criteria (see below), of which three (shown in bold) were selected for further review based on their applicability to the Project.

County Screening Criteria

- **Small Projects Screening**
- **High Quality Transit Areas (HQTA) Screening**
- Local Serving Retail
- Affordable Housing
- Local Essential Service
- **Map-Based Screening**

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

SMALL PROJECT SCREENING

The County Guidelines identify projects that generate fewer than 110 daily vehicle trips are presumed to have a less than significant impact absent substantial evidence to the contrary. Total daily vehicle trips generated by an industrial warehouse building greater than 450,000 square feet would easily exceed the County's 110 daily vehicle trip threshold.

County Guidelines also identify those projects forecasted to generate greenhouse gas (GHG) emissions below 3,000 Metric Tons of Carbon Dioxide Equivalent (MTCO₂e) per year are also assumed to cause a less than significant VMT impact.¹ County Guidelines identifies that warehouse buildings (without refrigeration) below 208,000 square feet in total building size are

¹ County Guidelines; Page 19.

expected to generate fewer than 3,000 MTCO₂e per year and would therefore be considered less than significant.

Small Project/Low GHG Emissions based screening criteria is not met.

HIGH QUALITY TRANSIT AREAS (HQTA) SCREENING

Projects located within a Transit Priority Area (TPA) (i.e., within ½ mile of an existing “major transit stop”² or an existing stop along a “high-quality transit corridor”³) 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 is not located within ½ mile of an existing major transit stop, or along a high-quality transit corridor.

HQTA screening criteria is not met.

MAP-BASED SCREENING

The Technical Advisory and County Guidelines note that “residential and office projects that locate in areas with low VMT, and that incorporate similar features (i.e., density, mix of uses, transit accessibility), will tend to exhibit similarly low VMT.”⁴ County Guidelines also state that the use of map-based screening for low VMT generating areas is also applicable for other employment uses such as the Project’s industrial development. Urban Crossroads has obtained a VMT screening map from County staff that identifies areas of low VMT. The map utilizes the sub-regional Riverside Transportation Analysis Model (RIVTAM) to measure baseline VMT performance for individual TAZ’s and compares them to the applicable impact threshold (e.g., VMT per employee for office or industrial land uses and VMT per capita for residential land uses). As shown in Attachment A, the Project resides in TAZ 3,731, which is shown to generate 17.2 VMT

² 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.”).

³ 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.”).

⁴ Page 12 of the Technical Advisory

per employee. The County threshold is 14.2 VMT per employee. As such, the Project's TAZ would not qualify for low VMT area/map-based screening.

Map-Based screening criteria is not met.

VMT ANALYSIS

VMT MODELING

The County Guidelines identifies RIVTAM as appropriate tools 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 employee⁵. The County Guidelines describe the following significance threshold for other employment (i.e., non-office) land uses:

"A project would result in a significant project generated VMT impact if its VMT exceeds the existing countywide average Work VMT per employee." For the County of Riverside, the countywide average Work VMT per employee is **14.2 Work VMT per employee**⁶.

PROJECT LAND USE CONVERSION

In order to evaluate Project Work VMT per employee, standard land use information (i.e., building square footage) must first be converted into a RIVTAM compatible dataset. The RIVTAM model utilizes socio-economic data (SED) (e.g., population, households, employment, etc.) instead of land use information for the purposes of commute VMT estimation. Project building square footage must first be converted to an appropriate employment type and employee estimate for input into RIVTAM. Table 1 presents the estimated number of employees used to represent the Project in RIVTAM.

TABLE 1: EMPLOYMENT DENSITY FACTORS

| Land Use | Quantity | Employment Factor ⁷ | Project Employees |
|-----------|------------|--------------------------------|-------------------|
| Warehouse | 452,000 SF | 1 emp/1,030 SF | 438 |

The RIVTAM model was then run inclusive of the Project's SED inputs.

⁵ County Guidelines; Figure 4; Page 21

⁶ County Guidelines; Figure 6; Page 22

⁷ County of Riverside General Plan; Appendix E-2, Table E-5

PROJECT’S VMT CALCULATION AND COMPARISON TO IMPACT THRESHOLD

As described previously, industrial land uses are to be evaluated utilizing the efficiency metric Work VMT per employee. This is obtained by dividing project-generated VMT by the Project’s employee estimate to obtain the efficiency metric of Work VMT per employee. Table 2 presents Work VMT for the Project’s TAZ for baseline conditions, the estimated number of Project employees, and the resulting efficiency metric Work VMT per employee.

TABLE 2: PROJECT VMT PER EMPLOYEE

| | Project |
|-----------------------|---------|
| Home-based Work VMT | 6,240 |
| Employment | 422 |
| Work VMT per Employee | 14.79 |

Table 3 provides a comparison between Project VMT per capita to the County’s significance threshold of 14.2 VMT per employee.

TABLE 3: PROJECT VMT PER EMPLOYEE COMPARISON

| | Baseline |
|--------------------------|----------|
| County Threshold | 14.2 |
| Project | 14.8 |
| Percent Change | +3.8% |
| Potentially Significant? | Yes |

As shown in Table 3, the Project generated VMT per employee values would exceed the County’s adopted threshold by 4%, which is potentially significant.

PROJECT’S CUMULATIVE EFFECT ON VMT

The Technical Advisory states that, “a project that falls below an efficiency-based threshold that is aligned with long-term environmental goals and relevant plans would have no cumulative impact distinct from the project impact.”⁸ In other words, since the Project generated VMT per employee efficiency metric as compared to the County’s impact threshold is potentially significant, the Project’s cumulative effect on VMT is also presumed to be potentially significant.

POTENTIAL VMT REDUCTION STRATEGIES

Transportation Demand Management (TDM) strategies in the form of 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 each commute 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.

⁸ Page 6 of the Technical Advisory.

A project can only realize a quantifiable reduction in commute VMT under the most favorable circumstances and ideal local conditions when implementing trip reduction program measures. In practical terms, ideal conditions are rarely realized due to variables such as a project's locational context limitation (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 work/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.
- Provide designated carpool/vanpool parking in desirable locations on-site could be provided, which could encourage employees to carpool/vanpool to work and reduce VMT.
- 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 install 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.
- 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's was evaluated against screening criteria as outlined in the County Guidelines. The Project was not found to meet any available screening criteria, and a model based VMT analysis was performed.
- The Project's VMT analysis found the Project to exceed the County's VMT per employee threshold by 3.8%. The Project is determined to have a potentially significant transportation impact.
- Since the future tenants are unknown at this time, inclusion of any VMT reduction measures for employees cannot be guaranteed or meaningfully quantified. As such, the Project would result in a significant and unavoidable impact with respect to VMT. No additional feasible reduction measures (beyond those identified above) exist that can be implemented at this time.

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

Respectfully submitted,

URBAN CROSSROADS, INC.

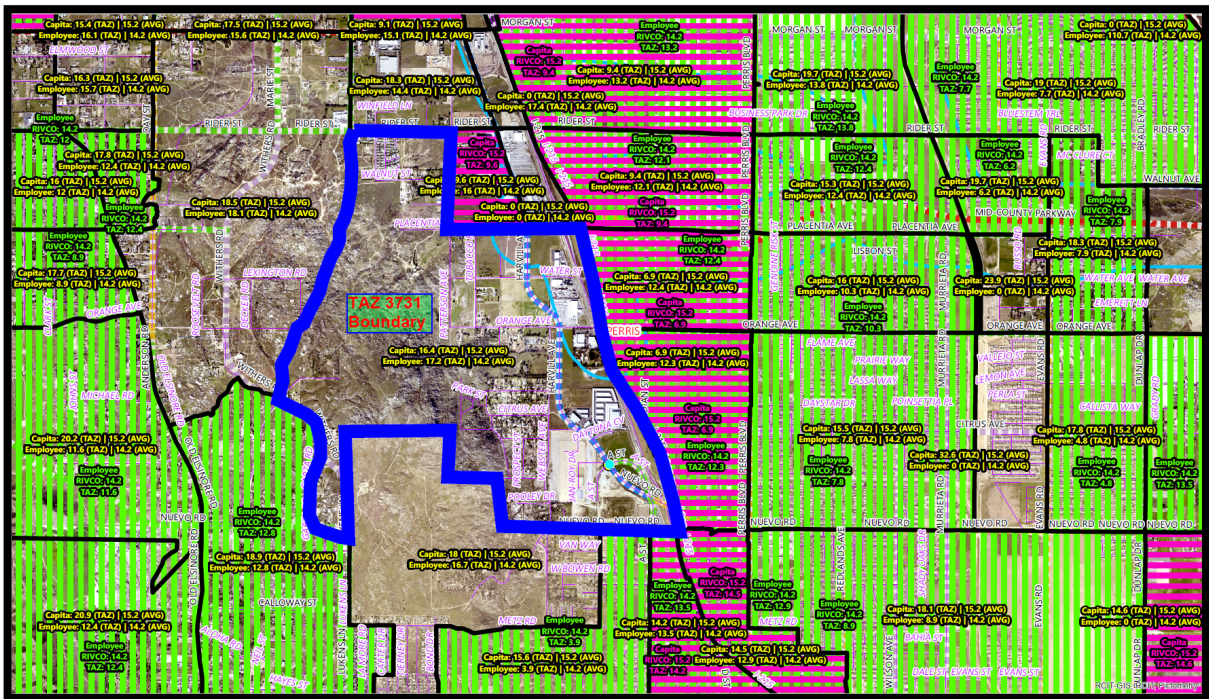
A handwritten signature in black ink, appearing to read 'ASO', with a long horizontal flourish extending to the right.

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

ATTACHMENT A
MAP-BASED VMT SCREENING RESULTS



NOTE: This map indicates VMT generated by land use assumptions contained within individual traffic analysis zones (TAZs) in the RIVTAM base year model as compared to the applicable County threshold.