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CORONA CLAY VEHICLE MILES TRAVELED (VMT) ANALYSIS

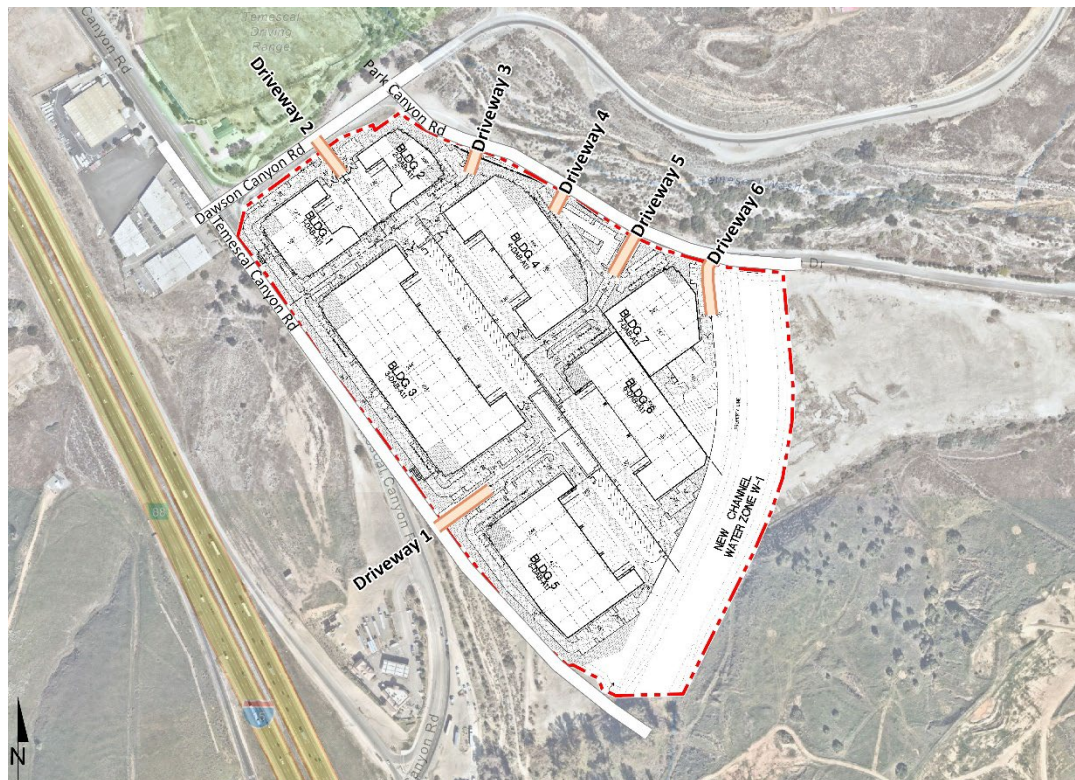
Mr. Matt Englard,

The following Vehicle Miles Traveled (VMT) Analysis has been prepared for the proposed Corona Clay (**Project**), which is located south of Dawson Canyon Road, east of Temescal Canyon Road, and west of Park Canyon Road in the County of Riverside.

PROJECT OVERVIEW

The Project consists of the development of up to a 677,718 square foot industrial park. A preliminary site plan for the proposed Project is shown on Exhibit 1.

EXHIBIT 1: PRELIMINARY SITE PLAN



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. 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 (HQTAs) Screening**
- Local Serving Retail
- Affordable Housing
- Local Essential Service
- **Map-Based Screening**

A land use project only needs to 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 business park greater than 600,000 square feet would 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 expected to generate fewer than 3,000 MTCO₂e per year and would therefore be considered less

¹ County Guidelines; Page 19.

than significant. The Project is proposing square footage above the County's available project sizes for screening purposes.

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

HIGH QUALITY TRANSIT AREAS (HQTAs) 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 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 data table from County Staff for all TAZs within Riverside County that identifies VMT per capita and VMT per employee for the purposes of identifying of low VMT areas. The data utilizes the sub-regional Riverside Transportation Analysis Model (RIVTAM) to measure baseline VMT performance for individual TAZ's and a comparison was made to the applicable impact threshold (e.g., VMT per employee for office or industrial land uses and VMT per capita for residential land uses). Utilizing the

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 Technical Advisory; Page 12

Western Riverside Council of Governments (WRCOG) Screening tool the parcel of the Project was identified. The Project resides in TAZ 3309, which is shown to generate 14.66 VMT 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 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 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 employee⁶**.

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	677,718 SF	1 employee per 1,030 SF	658

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

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

PROJECT'S WORK 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 WORK VMT PER EMPLOYEE

	Project
Home-based Work VMT	13,425
Employment	658
Work VMT per Employee	20.4

Table 3 provides a comparison between Project VMT per employee 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	20.4
Percent Change	+43.7%
Potentially Significant?	Yes

As shown in Table 3, Project generated Work VMT per employee exceeds the County's adopted threshold by 43.9%, which is potentially significant.

PROJECT'S TOTAL VMT CALCULATION AND COMPARISON TO IMPACT THRESHOLD

For the purposes of fully disclosing potential VMT impacts, this analysis also includes a supplemental VMT evaluation measuring Project total VMT for all vehicle types (i.e., both passenger cars and trucks) and all trip purposes. Total VMT is estimated utilizing total vehicle trips consistent with the Project's greenhouse gas analysis multiplied by the average trip length for each vehicle type. Average vehicle trip length for passenger cars has been obtained from RIVTAM's Origin/Destination (OD) trip matrices. The OD method for calculating VMT sums all weekday VMT generated by trips with at least one trip end in the study area and tracks those trips to their estimated origins/destinations. For the purposes of this analysis the average trip length for passenger cars as obtained from RIVTAM is 17.91 miles. Whereas the average trip length for light heavy-duty trucks (LHDT), medium heavy-duty trucks (MHDT) and heavy heavy-duty trucks (HHDT) used for this analysis has been obtained from the South Coast Air Quality Management District's (SCAQMD) Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce emissions (WAIRE) Program (May 2021) (3). SCAQMD's rule 2305 is based on a 15.3-mile trip length for LHDT, 14.2-mile trip length for MHDT and 39.9-mile trip length for HHDT.

TABLE 4: PROJECT TOTAL VMT

	Project
Automobile VMT	33,957
Truck VMT	11,795
Total VMT	45,752

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 service population (SP) or in this case the number of Project employees.

TABLE 5: PROJECT TOTAL VMT PER SP

	Project
SP	658
Total VMT	45,753
Total VMT per SP	69.5

Table 6 identifies a comparison between Project's total VMT per SP to an applicable impact threshold. Although not specified by County Guidelines, consistent with impact thresholds already in use by the County, it is reasonable to assume that a project with a total VMT per SP that exceeds the existing jurisdictional average total VMT per SP would result in a potentially significant impact, consistent with thresholds identified in the WRCOG Recommended Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment (January 2020) (4). For the purposes of this evaluation, the jurisdictional average total VMT per SP for baseline conditions is 37.87, which has been obtained from information published by WRCOG for the Unincorporated WRCOG region (See Attachment A).

TABLE 6: PROJECT VMT PER SP COMPARISON

	Baseline
Regional Threshold	37.9
Project	69.5
Percent Above Threshold	+83.4%
Potentially Significant?	Yes

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.

⁸ Page 6 of the Technical Advisory.

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.

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 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 43.7% and is determined to have a potentially significant transportation impact.
- In addition, Project total VMT was also found to exceed the Unincorporated WRCOG region baseline average total VMT per SP by 83.4%, which also results in potentially significant transportation impact. Although not specified by County Guidelines, consistent with impact thresholds already in use by the County, it is reasonable to assume that a project with a total VMT per SP that exceeds the existing jurisdictional average total VMT per SP would result in a potentially significant impact.
- As future tenants of the Project are unknown at this time, the effectiveness of mitigation 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,

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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.
3. **SCAQMD.** *Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce emissions (WAIRE) Program.* May 2021.
4. **WRCOG.** *Recommended Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment .* January 2020.

ATTACHMENT A
WRCOG SCREENING TOOL

