

TECHNICAL MEMORANDUM

DATE: April 3, 2025
TO: Kevin Tsang, County of Riverside
FROM: Alex So, Urban Crossroads, Inc.
JOB NO: 16456-01 VMT

SUBJECT: KELLER CROSSING SPECIFIC PLAN 380 AMENDMENT NO. 1, TTM NO. 38163 VEHICLE MILES TRAVELED (VMT) ANALYSIS

Urban Crossroads, Inc. has completed the following Vehicle Miles Traveled (VMT) Analysis for the Keller Crossing Specific Plan 380 Amendment No. 1, TTM No. 38163 (Project), which is located at on the northwest corner of Winchester Road (SR-79) and Keller Road in the unincorporated County of Riverside.

PROJECT OVERVIEW

The Project includes the development of 694 total dwelling units, which consists of 366 single-family detached residential dwelling units, 221 multi-family (low-rise) residential dwelling units, 80 senior adult housing - detached units, and 8.79 acres of Active Park use. A Project site plan can be found in Attachment A.

BACKGROUND

The California Environmental Quality Act (CEQA) requires all lead agencies to adopt VMT as the measure for identifying transportation impacts for land use projects. To comply with CEQA, the County of Riverside adopted analytical procedures, screening tools, and impact thresholds for VMT, which are documented in the Transportation Analysis Guidelines for Level of Service Vehicle Miles Traveled (December 2020) (County Guidelines) (1). The currently adopted County Guidelines have been used to prepare this VMT assessment.

VMT SCREENING

County Guidelines state that a project may be determined to have a less than significant impact and screen from the need to prepare a project-level VMT analysis if it meets at least one of the County's adopted screening criteria. VMT screening criteria are described in Table 1 along with a determination of the Project's eligibility for each screening criterion.

TABLE 1: SCREENING FOR LAND USE PROJECTS EXEMPT FROM VMT CALCULATIONS

Screening Criteria	Description	Result
Small Projects	Projects that generate fewer than 110 daily vehicle trips or projects that are below 3,000 Metric Tons of Carbon Dioxide Equivalent (MTCO _{2e}) per year.	Does not meet.
High Quality Transit Areas (HQTAs)	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.	Not Applicable.
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.	Not Applicable.
Map-Based	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).	Not Applicable.

As the Project was not found to meet any of the applicable screening criteria, consistent with the County Guidelines, a project-level VMT analysis has been prepared.

TRAFFIC MODELING METHODOLOGY

As of the time of study preparation, County Guidelines continues to identify the Riverside Transportation Analysis Model (**RIVTAM**) as the appropriate tool for conducting VMT analysis for land development projects in unincorporated Riverside County. RIVTAM estimates VMT based on interaction between different land uses from socio-economic data such as population, households, and employment. RIVTAM is a travel demand forecasting model that represents a sub-area (Riverside County) of the Southern California Association of Governments (SCAG) 2012 Regional Transportation Plan (RTP) 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 ANALYSIS METHODOLOGY

For the purposes of this analysis, Project-generated VMT has been estimated using the Production/Attraction (PA) method. Consistent with County Guidelines, VMT has been presented as home-based (HB) VMT per capita. HB VMT per capita is an efficiency metric representing VMT generated exclusively from HB trips on a typical weekday per resident. County Guidelines note that VMT per capita should be used to evaluate residential projects (i.e., single family, multi-family housing).

PRODUCTION/ATTRACTION VMT METHOD

The Production/Attraction (PA) method for calculating VMT sums all weekday VMT with at least one trip-end in the study area (i.e., Project Traffic Analysis Zone) by trip purpose. Productions are land use types that generate trips (residences), and attractions are land use types that attract trips (employment). The PA method allows Project VMT to be evaluated based on trip purpose, which is consistent with both the Office of Planning and Research (OPR) Technical Advisory and County Guidelines. Although the PA matrices do not include external trips that have one trip-end outside of the model boundary, County Guidelines (Appendix E) require an additional step in the calculation procedures to account for external trips.

ANALYSIS SCENARIOS

Consistent with County Guidelines, the VMT analysis was conducted for the following existing and cumulative scenarios:

- Existing Conditions – RIVTAM base year (2012) traffic model conditions.
- Existing Plus Project Conditions – RIVTAM base year (2012) traffic model plus the proposed Project land uses.
- Cumulative No Project Conditions – RIVTAM cumulative model (2040) without the proposed Project land use changes (i.e., adopted land use assumptions).
- Cumulative Plus Project Conditions - RIVTAM cumulative model (2040) plus the proposed Project land use changes.

VMT METRIC AND SIGNIFICANCE THRESHOLD

As stated in the County Guidelines, residential land use projects should be evaluated based on the efficiency metric VMT per capita¹. The County Guidelines describes the following VMT significance threshold for residential land use projects:

- A project would result in a significant project-generated VMT impact if its VMT per capita exceeds the existing countywide average VMT per capita. As stated in the County Guidelines, the Riverside Countywide average **VMT per capita is 15.2**².

PROJECT VMT ESTIMATES

In order to evaluate project-generated VMT, standard land use information such as dwelling units must first be converted into a RIVTAM-compatible dataset. The RIVTAM model utilizes socio-economic data (SED) (e.g., households and population) instead of land use information for the purposes of vehicle trip estimation. Table 2 presents the Project's SED information added to the Project's TAZ (TAZ 4080) within the RIVTAM model. The RIVTAM model was then run inclusive of the Project's SED inputs.

¹ County Guidelines; Figure 4; Page 21

² County Guidelines; Figure 6; Page 22

TABLE 2: POPULATION ESTIMATES

Land Use	Quantity	Conversion Factor	Population
Residential	614 DU	3.17 people per household ¹	1,947
Age-Restricted Residential	80 DU	2.11 people per household ²	169

¹County of Riverside General Plan Appendix E-2: Socioeconomic Build-Out Assumptions and Methodology (see Table E-2, Average Household Size by Area Plan, Page 2)

²National Association of Home Builders (NAHB) Approving 55+ Housing: Facts That Matter.

PROJECT-GENERATED VMT

As described previously, County Guidelines requires that residential land uses be evaluated utilizing the efficiency metric VMT per capita. VMT per capita is calculated by first obtaining HB VMT from the PA matrices and skim distance matrices and then dividing by the Project's population (i.e., residents) from the RIVTAM base year model. In addition, to calculate daily trips that originate or have destinations in areas outside of the County (external trips), a calibrated average trip length was applied to Project TAZ 4080 and multiplied by the number of external trips to and from that TAZ to determine the total external VMT generated by the Project TAZ 4080. Table 3 presents baseline PA HB VMT, resulting in baseline PA HB VMT per capita values for the Project, and a comparison to the County's significance threshold of 15.2 VMT per capita.

TABLE 3: PROJECT VMT PER CAPITA

	Baseline
Population	2,116
PA HB VMT	68,135
VMT Per Capita	32.2
County Threshold	15.2
Exceeds Threshold?	Yes

Project-generated HB VMT per capita is above the County's significance threshold.

VMT REDUCTION STRATEGIES

As required by the County Guidelines, transportation demand management (TDM) strategies should be considered for the purpose of reducing VMT impacts, which are determined to be potentially significant. The effectiveness of TDM strategies to reduce VMT as described by County Guidelines are derived from the Quantifying Greenhouse Gas Mitigation Measures (CAPCOA, 2010) (CAPCOA). However, subsequent to the adoption of County Guidelines, CAPCOA has recently published an update to their VMT reduction measure guidance titled Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (CAPCOA, 2024) (**2024 Handbook**), which now supersedes the previous CAPCOA document. This 2024 Handbook has instead been used for this assessment.

Consistent with VMT reduction measures described within the 2024 Handbook, the following were found to be applicable to the Project and, if implemented as Project design features, could contribute towards a small reduction in Project-generated VMT:

- Provide pedestrian and bicycle network improvements within the development connecting to existing off-site facilities.
- Where applicable, ensure design of key intersections and roadways encourage the use of walking, biking, and transit.
- Collaborate with the Riverside Transit Authority (RTA) to determine the feasibility of providing new or re-routing existing transit services to the site.

Based on the results of this analysis, a 52.8% reduction in Project-generated HB VMT would be needed to achieve a less than significant impact. However, due to the scale of application and location of the Project, the addition of the aforementioned design features would likely result in a modest decrease (under 5%) in VMT and be unable to reduce Project-generated VMT below the County's impact threshold.

CUMULATIVE ANALYSIS

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 supplemental cumulative analysis.

Similar to the baseline analysis, the County Guidelines requires that residential land uses be evaluated utilizing the efficiency metric PA HB VMT per capita utilizing the cumulative year model. Table 4 presents cumulative PA HB VMT, resulting in cumulative PA HB VMT per capita values for the Project, and a comparison to the County's significance threshold of 15.2 VMT per capita.

TABLE 4: CUMULATIVE PLUS PROJECT VMT PER CAPITA RESULTS

	Cumulative
Population	2,116
PA HB VMT	59,036
VMT per Capita	27.9
County Threshold	15.2
Exceeds Threshold?	Yes

Consistent with baseline VMT analysis results, the cumulative Project-generated VMT per capita also exceeds the County's impact threshold.

CONCLUSION

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

- The Project was evaluated against the County's applicable VMT screening criteria and was found to not meet any of the available screening criteria; a VMT analysis was then prepared consistent with County requirements.
- The VMT analysis results indicates that Project-generated PA HB VMT per capita would exceed the County's VMT impact threshold for both baseline and cumulative conditions, even with the inclusion of feasible design features intended to reduce project-generated VMT.

If you have any questions, please contact me directly at 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 1: PROJECT SITE PLAN

