



# memorandum

**DATE:** March 18, 2021  
**TO:** Kevin Tsang, PE, County of Riverside  
**FROM:** Sandipan Bhattacharjee, PE, TE, AICP, ENV-SP  
**SUBJECT:** Hemet 30 Residential – VMT Analysis

Translutions, Inc. (Translutions) is pleased to provide this memorandum discussing the Vehicle Miles Traveled (VMT) evaluation for the proposed Hemet 30 residential project (the Project). This memorandum is intended to satisfy the requirements for a VMT analysis established by the County of Riverside *Transportation Analysis Guidelines for Level of Service Vehicle Miles Traveled* (December 2020), as well as the requirements for the disclosure of potential impacts and mitigation measures per the California Environmental Quality Act (CEQA). The proposed project includes 148 single family homes and will be located on the southside of State Route 74 in unincorporated Riverside County.

## BACKGROUND AND GUIDANCE

Senate Bill 743 (SB-743), which was codified in Public Resources Code section 21099, was signed by the Governor in 2013 and directed the Governor's Office of Planning and Research (OPR) to identify alternative metrics for evaluating transportation impacts under CEQA. Pursuant to Section 21099, the criteria for determining the significance of transportation impacts must "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." Recently adopted changes to the CEQA Guidelines in response to Section 21099 include a new section (15064.3) that specifies that Vehicle Miles Traveled (VMT) is the most appropriate measure of transportation impacts. A separate Technical Advisory issued by OPR provides additional technical details on calculating VMT and assessing transportation impacts for various types of projects.

**County of Riverside Guidelines.** The County of Riverside has prepared updated *Transportation Analysis Guidelines for Level of Service Vehicle Miles Traveled* (Guidelines) for Land Use Projects in December 2020 to address changes to CEQA pursuant to SB-743 to include VMT analysis methodology and thresholds. Based on the County guidelines, significance thresholds for residential developments are based on the VMT/capita. The County has adopted the existing county-wide average VMT/capita as the threshold of significance for residential projects. The existing county-wide average VMT/capita for residential projects is 15.2 VMT/capita. A project would result in a significant project generated VMT impact if the project VMT exceeds 15.2 VMT/capita. The County of Riverside uses the following screening thresholds to identify if a detailed analysis is needed or if the project is presumed to cause a less than significant impact. A project is presumed to have a less than significant impact if:

- **Small Projects.** This applies to projects with low trip generation per existing CEQA exemptions or based on the County Greenhouse Gas Emissions Screening Tables, result in a 3,000 Metric Tons of Carbon Dioxide Equivalent (MTCO<sub>2</sub>e) per year screening level threshold. This includes conditions if the project trip generation is less than 110 trips per day per the ITE Manual or other acceptable source determined by Riverside County; or if the project's greenhouse gas (GHG) emissions are less than 3,000 Metric Tons of Carbon Dioxide Equivalent (MTCO<sub>2</sub>e) as determined by a methodology acceptable to the Transportation Department.
- **Projects Near High Quality Transit.** High quality transit provides a viable option for many to replace automobile trips with transit trips resulting in an overall reduction in VMT. To qualify for this exemption, a project has to be located within a ½ mile of an existing major transit stop; and maintain a service interval frequency of 15 minutes or less during the morning and afternoon peak commute periods.
- **Local Serving Retail.** The introduction of new Local-serving retail has been determined to reduce VMT by shortening trips that will occur. No single store on-site exceeds 50,000 square feet and the project is local – serving as determined by the Transportation Department.

- **Affordable Housing.** Lower-income residents make fewer trips on average, resulting in lower VMT overall. A high percentage of affordable housing is provided as determined by the Riverside County Planning and Transportation Departments.
- **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.
- **Map-Based Screening.** This method eliminates the need for complex analyses, by allowing existing VMT data to serve as a basis for the screening smaller developments. This screening is limited to residential and office projects. A project is presumed to have a less than significant impact if the area of development is under threshold as shown on screening map as allowed by the Transportation Department.

## ANALYSIS METHODOLOGY & RESULTS

Of the screening thresholds identified by the County, the only screening metric applicable to the project is the small project screening threshold. To identify the GHG emissions from the project, the project was included in the RivTAM and the model runs conducted. The model shows a home based VMT of 5,941 miles. Based on the County Guidelines, project trips leaving the SCAG region was calculated by identifying external trips from the adjacent zone and applying the percentages to the project trips. The external VMT was calculated to be 818 miles. The total home based VMT for the project was calculated to be 6,759 miles. The home-based trips shown in the model is 847 daily trips, resulting in a average trip length of 7.98 miles. Table A shows the calculations.

**Table A - Trip Length Calculation**

2012	Adjacent Zone (4142)	Project Zone
Households	57	134
Total Employment	7	-
Total Population (a)	97	385
Total Trips (OD) (b)	413	937
External Trips (c)	7	15
% External Trips (d = c/b)	1.6%	1.6%
Total Productions (PA) (e)	160	510
Homebased Productions (PA) (f)	129	461
% Homebased Trips (g = f/e)	80%	90%
Homebased External Trips (h = c*g)		13.8
External Trip Length (TAZ 4142) (i) *		59.3
Homebased External VMT (j = h*i)		818
Homebased Internal VMT (k)		5,941
Homebased External VMT (j)		818
<b>Total Homebased VMT (l = k+j)</b>		<b>6,759</b>
<b>Total Homebased Daily Trips</b>		<b>847</b>
<b>Average Trip Length</b>		<b>7.98</b>

This trip length was included in CalEEMod to calculate project related emissions. Consistent to the Riverside County default parameters were used for other inputs in CalEEMod. The resulting CalEEMod outputs show emissions of 2,726 metric tons of CO<sub>2</sub>e per annum. CalEEMod worksheets are included in Attachment A. Since the project GHG emissions are less than the County threshold of 3,000 MTCO<sub>2</sub>e/Year, the project falls under the threshold set by the County and the project impacts for VMT are considered to be less than significant.

## CONCLUSION

The project related GHG emissions are less than 3,000 MTCO<sub>2</sub>e/Year. Therefore, the project is screened out from a detailed VMT analysis and the impacts are presumed to be less than significant.

Hemet 30 - Riverside-South Coast County, Annual

**Hemet 30**  
**Riverside-South Coast County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	154.00	Dwelling Unit	50.00	277,200.00	440

### 1.2 Other Project Characteristics

<b>Urbanization</b>	Rural	<b>Wind Speed (m/s)</b>	2.4	<b>Precipitation Freq (Days)</b>	28
<b>Climate Zone</b>	10			<b>Operational Year</b>	2023
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MWhr)</b>	702.44	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Vehicle Trips - RIVTAM AVG TRIP LENGTH PER CELZ + EXT TRIPS

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**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.9286	0.0777	3.0442	3.8000e-003		0.2275	0.2275		0.2275	0.2275	24.3242	49.3369	73.6611	0.0750	1.6500e-003	76.0289
Energy	0.0254	0.2171	0.0924	1.3900e-003		0.0176	0.0176		0.0176	0.0176	0.0000	679.1376	679.1376	0.0225	8.2600e-003	682.1619
Mobile	0.3459	2.4821	3.9203	0.0185	1.4324	0.0105	1.4429	0.3837	9.7700e-003	0.3935	0.0000	1,714.6223	1,714.6223	0.0812	0.0000	1,716.6522
Waste						0.0000	0.0000		0.0000	0.0000	54.5132	0.0000	54.5132	3.2216	0.0000	135.0542
Water						0.0000	0.0000		0.0000	0.0000	4.7335	95.1978	99.9314	0.4901	0.0123	115.8473
<b>Total</b>	<b>2.2998</b>	<b>2.7769</b>	<b>7.0569</b>	<b>0.0237</b>	<b>1.4324</b>	<b>0.2555</b>	<b>1.6879</b>	<b>0.3837</b>	<b>0.2548</b>	<b>0.6385</b>	<b>83.5709</b>	<b>2,538.2947</b>	<b>2,621.8656</b>	<b>3.8905</b>	<b>0.0222</b>	<b>2,725.7445</b>

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3459	2.4821	3.9203	0.0185	1.4324	0.0105	1.4429	0.3837	9.7700e-003	0.3935	0.0000	1,714.6223	1,714.6223	0.0812	0.0000	1,716.6522
Unmitigated	0.3459	2.4821	3.9203	0.0185	1.4324	0.0105	1.4429	0.3837	9.7700e-003	0.3935	0.0000	1,714.6223	1,714.6223	0.0812	0.0000	1,716.6522

## 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,466.08	1,526.14	1327.48	3,752,129	3,752,129
Total	1,466.08	1,526.14	1,327.48	3,752,129	3,752,129

## 4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	7.98	7.98	7.98	40.20	19.20	40.60	86	11	3

## 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.548600	0.036250	0.186898	0.112544	0.014284	0.004806	0.017604	0.070134	0.001409	0.001147	0.004508	0.000918	0.000898

## 5.0 Energy Detail