

CORAL MOUNTAIN RESORT
DRAFT EIR
SCH# 2021020310

TECHNICAL APPENDICES

Vehicle Miles Traveled Evaluation
Appendix L.2

June 2021

November 2, 2020

Mr. Garret Simon
CM Wave Development, LLC
2440 Junction Place, Suite 200
Boulder, CO 81301

SUBJECT: CORAL MOUNTAIN SPECIFIC PLAN VEHICLE MILES TRAVELED (VMT) ANALYSIS

Dear Mr. Garret Simon:

The following vehicle miles traveled (VMT) analysis has been prepared for the proposed Coral Mountain Specific Plan (**Project**) in the City of La Quinta. For VMT analysis purposes, the Project consists of a master planned themed resort comprised of a wave basin, a 150-key hotel (with 1,900 square feet bar, 1,400 square feet restaurant, 4,200 square feet kitchen, 1,100 rooftop bar, 1,200 pool bar & grill, and 4,200 square feet spa), 104 attached dwelling units, 496 detached dwelling units, 60,000 square feet of retail, wave village area (with 900 square feet shape studio, 1,600 square feet surf shop, 3,000 square feet board room, 1,800 square feet surf lounge/living room, 800 square feet surf classroom, a fitness pavilion, 1,400 square feet high performance center, and 5,500 square feet beach club), the farm area (with 2,100 square feet barn, 2,500 square feet greenhouse, 1,400 square feet equipment barn, 300 square feet tool shed, 1,200 square feet family camp, 4,500 square feet gym, 2,000 square feet outfitters, and 2,000 square feet locker rooms). In addition, back of house complex consists of 9,500 square feet resort operations, 1,500 square feet wave operations, and 1,000 square feet guardhouses. The wave basin is a private facility.

Project phasing and long range future traffic conditions with Project land use changes are evaluated in the Coral Mountain Specific Plan Traffic Impact Analysis (October 27, 2020).

BACKGROUND

Changes to California Environmental Quality Act (CEQA) Guidelines were adopted in December 2018, which require 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 was implemented on 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 City of La Quinta has prepared their Vehicle Miles Traveled Analysis Policy (**City Guidelines**). (2) This analysis has been prepared based on the adopted City Guidelines.

VMT ANALYSIS METHODOLOGY

The Vehicle Miles Traveled Analysis Policy (June 2020) (**La Quinta Guidelines**) are consistent with the VMT analysis methodology recommended by OPR. As outlined in the La Quinta Guidelines, a Mixed-Use project such as Coral Mountain, which includes both residential and non-residential uses has each type of uses analyzed independently, applying the following significance thresholds for each land use component:

- For Residential Uses, VMT per resident exceeding a level of (1) 15 percent below the Citywide per resident VMT OR (2) 15 percent below regional VMT per resident, whichever is more stringent
- For Retail Uses (Includes Hotels), a net increase in the total existing VMT for the region.

PROJECT SCREENING

The La Quinta Guidelines provide details on appropriate “screening thresholds” that can be used to identify when a proposed land use project is anticipated to result in a less-than-significant impact without conducting a more detailed analysis. Screening thresholds are broken into three types:

- Transit Priority Area (TPA) Screening
- Low VMT Area Screening
- Project Type Screening

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

For the purposes of this analysis, the initial VMT screening process has been conducted using the Riverside County Transportation Analysis Model (RIVTAM).

TPA SCREENING

Consistent with guidance identified in the Technical Advisory, projects located within a Transit Priority Area (TPA) may be presumed to have a less than significant impact absent substantial evidence to the contrary. A TPA is defined as within ½ mile of:

- 1) an existing “major transit stop” (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) or
- 2) an existing stop along a “high-quality transit corridor” (a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours)

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.

The TPA screening threshold is not met.

LOW VMT AREA SCREENING

The La Quinta Guidelines also states that, “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 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 service population that is similar to the existing land uses in the low VMT area.” The sub-regional Riverside County Transportation Analysis Model (RIVTAM) is used to measure VMT performance within individual traffic analysis zones (TAZs). An estimate of the VMT in the Project’s physical location was calculated to determine the relevant TAZ’s VMT as compared to the jurisdictional average (see Attachment B). The Project is located in TAZ 4742, and would not appear to be within a low VMT generating TAZ.

The Low VMT Area screening threshold is not met.

PROJECT TYPE SCREENING

The retail component of the Project is anticipated to serve the local area. The La Quinta Guidelines allow retail projects of less than 50,000 square feet to be screened out. Because the retail component of the Project is more than 50,000 square feet, the retail portion of the Project is not screened out. The La Quinta Guidelines identify projects that are local serving by nature, or that generate fewer than 110 daily vehicle trips be presumed to have a less-than-significant impact on VMT. Based on the Project’s trip generation (see Attachment A), the Project is not considered a local serving or small enough to not warrant assessment, therefore, the Project would not be eligible to screen out based on project type screening.

The Project Type screening threshold is not met.

Since none of the project level screening criteria were met, a project level VMT analysis has been prepared.

PROJECT VMT ASSESSMENT

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. The La Quinta Guidelines identifies RIVTAM as the appropriate tool for conducting VMT analysis for land use projects in Riverside County.

Project VMT has been calculated using the most current version of RIVTAM. Adjustments in socio-economic data (SED) (i.e., employment) have been made to a separate TAZ within the RIVTAM model to reflect the Project’s proposed population and employment uses. Separate TAZs are used to isolate the Project’s VMT.

Table 1 summarizes the service population (population and employment) estimates for the Project. It should be noted that the employment estimates have been developed from land use to employment generation factors from the Riverside County General Plan but modified for the specific Project characteristics and then confirmed with the Client. The wave basin and ancillary resort land uses are private, for use of residents and resort hotel guests. Although the Project employment is a mix of service and retail employment, the City of La Quinta guidelines are explicit indicating that the hotel land uses are categorized as retail uses for the purposes of VMT analysis.

TABLE 1: POPULATION AND EMPLOYMENT ESTIMATES

Land Use	Estimated Service Population
Residential	1,698 Residents
Hotel / Wave Basin	434 Employees
Commercial Retail	240 Employees
Hotel	300 Hotel Occupants
Total:	2,672 Service Population

Adjustments to population and employment factors for the Project TAZ were made to the RIVTAM base year model (2012) and the cumulative year model (2040). Each model was then run with the updated SED factors included for the Project TAZ.

PROJECT RESIDENTIAL VMT CALCULATION

Consistent with recommendations contained in the La Quinta Guidelines, the residential calculation of VMT is based upon the home-based project-generated VMT per population. This calculation focuses on the occupants of dwelling units within the Project land uses, whereas hotel occupants, wave basin visitors and retail patrons are evaluated separately using the boundary method discussed below. Table 2 shows the home-based VMT associated with the Project for both baseline and cumulative conditions. VMT estimates are provided for both the base year model (2012) and cumulative year model (2040), and linear interpolation was used to determine the Project’s home-based baseline (2020) VMT.

TABLE 2: BASELINE AND CUMULATIVE PROJECT RESIDENTIAL HOME-BASED VMT

	Project 2012	Project 2040	Project 2020 (interpolated)
Residents	1,698	1,698	1,698
VMT	19,437	20,642	19,773
VMT / Resident	11.45	12.14	11.64

For baseline (2020) conditions, the residential portion of the Project generates 19,773 Home-Based VMT. There are an estimated 1,698 Project residents. The result is approximately 11.64 home-based VMT / Capita for the 2020 Baseline with Project conditions. In addition, the cumulative (2040) Project scenario results in approximately 12.14 VMT / SP.

For comparison purposes, Citywide home-based VMT estimates have been also developed from the “with Project” RIVTAM model run for baseline conditions. Once total home-based VMT for the area is calculated, total area VMT is then normalized by dividing by the population as shown on Table 3.

TABLE 3: BASE YEAR CITYWIDE HOME-BASED VMT

Category	City of La Quinta
VMT	544,993
Population	42,000
VMT / Resident	12.98

The estimates of baseline residential home-based Project VMT / Capita are compared to the City of La Quinta VMT of 12.98 home-based VMT / Capita. The City of La Quinta guidelines indicate that residential VMT exceeding 15 percent below the Citywide VMT per resident (11.03 VMT / capita) represents a Project impact. The Project home-based VMT / Capita of 11.64 is greater than the City VMT / Capita threshold, and a potentially significant VMT impact is indicated.

PROJECT EMPLOYMENT IMPACT ON VMT

As noted above, the VMT analysis methodology for retail uses (including hotels) focuses on the net increase in the total existing VMT for the region. The project consists of approximately 674 employees, including 240 employees associated with the 60,000 square feet of neighborhood shopping center retail uses and 434 employees associated with the hotel and wave basin uses.

Travel activity associated with total link-level VMT was extracted from the “without Project” and “with non-residential Project” RIVTAM model run for 2012 and 2040 conditions, then interpolated for baseline (2020) conditions. This methodology is commonly referred to as “boundary method” and includes the total VMT for all vehicle trips with one or both trip ends within a specific geographic area. The “boundary method” VMT per service population for the CVAG subregion is utilized to normalize VMT into a standard unit for comparison purposes, focusing on the total population and employment in the Coachella

Valley. Once total VMT for the area is calculated, total area VMT is then normalized by dividing by the respective service population (i.e., population and employment of the Coachella Valley) as shown on Table 4.

TABLE 4: BASE YEAR SUB-REGIONAL LINK-LEVEL VMT

	Without Project Employment	With Project Employment
VMT Interacting with CVAG Area	15,173,739	15,166,580
CVAG Area Population	510,550	510,550
CVAG Area Employment	193,090	193,764
VMT / Service Population	21.56	21.53

To determine whether or not there is a significant impact using the boundary method, CVAG area VMT with the project employment is compared to without project conditions. The CVAG subregion VMT / SP without Project employment is estimated at 21.56, whereas with the Project employment, the CVAG subregion VMT is estimated at 21.53. The project’s effect on VMT (for non-residential uses) is not considered significant because it results in a cumulative link-level boundary CVAG VMT per service population decrease under the plus project condition compared to the no project condition.

PROJECT DESIGN FEATURES FOR VMT REDUCTION

Transportation demand management (TDM) strategies have been evaluated for the purpose of reducing VMT impacts determined to be potentially significant. Quantifying Greenhouse Gas Mitigation Measures, (CAPCOA) 2010 provides information on individual understand potential reduction in VMT. Of the 50 transportation measures presented by CAPCOA, approximately 41 are applicable at a building and site level. The remaining 9 measures are functions of, or depend on, site location and/or actions by local and regional agencies or funders.

CAPCOA indicates that a ten percent is the maximum reduction when combining multiple mitigation strategies for the *suburban* place type (characterized by dispersed, low-density, single-use, automobile dependent land use patterns) and requires a project to contain a diverse land use mix, workforce housing, and project-specific transit. The maximum percent reductions were derived from a limited comparison of aggregate citywide VMT performance rather than based on data comparing the actual performance of VMT reduction strategies in the place type.

Even under the most favorable circumstances, projects located within a suburban context, such as the proposed Project evaluated here, can realize a maximum 10 percent reduction in VMT through implementation of feasible TDM measures. The Project incorporates design features and attributes promoting trip reduction. Because these features/attributes are integral to the Project, and/or are regulatory requirements, they are not considered to be mitigation measures. However, the RIVTAM does not incorporate modeling of these features, so they are considered after the VMT data is extracted from the traffic model.

Project vehicle miles traveled (VMT) are reduced by the following Project design features/attributes, which are anticipated to collectively reduce Project home-based VMT by approximately 6%:

- Having different types of land uses near one another can decrease VMT since trips between land use types are shorter and may be accommodated by non-auto modes of transport. For example, when residential areas are in the same neighborhood as commercial and resort land uses, a resident does not need to travel outside of the neighborhood to meet his/her recreational and retail needs. The Project's mixed-use environment could provide for a potential reduction in Project residential VMT of 3%.
- The project will include improved design elements to enhance walkability and connectivity. Improved street network characteristics within the Project include sidewalk coverage, building setbacks, street widths, pedestrian crossings, presence of street trees, and a host of other physical variables that differentiate pedestrian-oriented environments from auto-oriented environments. The Project would provide a pedestrian access network that internally links all uses and connects to all existing or planned external streets and pedestrian facilities contiguous with the project site. The Project would minimize barriers to pedestrian access and interconnectivity. The Project includes sidewalk connections, particularly to / from the retail areas interacting with residential and resort uses on-site. The Project's implementation of this measure could provide for a potential reduction in Project residential VMT of 2%.
- The project will implement marketing strategies to optimize on-site resort and residential uses. Information sharing and marketing are important components to successful trip reduction strategies. Marketing strategies may include:
 - Resident member benefits that include use of the resort amenities
 - Event promotions
 - Publications

The Project's implementation of this measure could provide for a potential reduction in Project residential VMT of 1%.

In summary, travel demand modeling of VMT for the Project based upon City of La Quinta guidelines indicates a potential impact for residential uses while also indicating the Project's non-residential uses do not exceed VMT thresholds. Project design features taken into account after the modeling process reduce residential VMT from 11.64 VMT / resident to 10.94 VMT per resident, which is less than the City's VMT residential threshold. The unique mixed-use characteristics of the Project, combined with walkability and connectivity design elements, optimize on-site interaction and result in a lower VMT than standalone uses.

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November 2, 2020
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If you have any questions, please contact us at (949) 375-2435 for John or (714) 585-0574 for Marlie.

Respectfully submitted,

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Principal



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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. **City of La Quinta.** *Vehicle Miles Traveled Analysis Policy.* June 23, 2020.
3. **County of Riverside.** *Appendix E: Socioeconomic Build-Out Assumptions and Methodology.* County of Riverside : s.n., April 2017.

Attachment A
Project Trip Generation

TABLE 4-3: PROJECT BUILDOUT (2026) TRIP GENERATION SUMMARY

Trip Generation Rates ¹									
Land Use	ITE LU Code	Quantity ²	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Single Family Detached	210	496 DU	0.19	0.55	0.74	0.62	0.37	0.99	9.44
Multifamily Housing (Low-Rise)	220	104 DU	0.11	0.35	0.46	0.35	0.21	0.56	7.32
Resort Hotel	330	150 RM	0.27	0.10	0.37	0.20	0.27	0.47	7.87
Shopping Center	820	60 TSF	0.58	0.36	0.94	1.83	1.98	3.81	37.75
Wave Pool Facility	-. ⁴	12 AC	1.20	0.80	2.00	2.40	1.60	4.00	50.00

Trip Generation Results									
Land Use	ITE LU Code	Quantity ²	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Single Family Detached	210	496 DU	94	273	367	308	184	492	4,682
Multifamily Housing (Low-Rise)	220	104 DU	11	36	47	36	22	58	761
<i>Internal to Retail/Resort</i>			(10)	(20)	(30)	(40)	(29)	(69)	(595)
Residential External Trips			95	289	384	304	177	481	4,848
Shopping Center	820	60 TSF	35	22	57	110	119	229	2,265
<i>Pass-By (25%)</i>			(7)	(7)	(14)	(28)	(28)	(56)	(566)
<i>Internal to Residential/Resort</i>			(9)	(7)	(16)	(21)	(35)	(56)	(448)
Shopping Center External Trips			19	8	27	61	56	117	1,251
Resort Hotel	330	150 RM	41	15	56	30	41	71	1,181
<i>Internal to Residential/Retail</i>			(14)	(10)	(24)	(15)	(21)	(36)	(416)
Resort Hotel External Trips			27	5	32	15	20	35	765
Wave Pool Facility	-. ⁴	12 AC	14	10	24	29	19	48	600
<i>Internal to Residential/Retail/Resort</i>			(12)	(8)	(20)	(26)	(17)	(43)	(470)
Wave Pool Facility External Trips			2	2	4	3	2	5	130
Project Subtotal			195	356	551	513	385	898	9,489
<i>Internal Capture Subtotal</i>			(45)	(45)	(90)	(102)	(102)	(204)	(1,929)
<i>Pass-By (Shopping Center)</i>			(7)	(7)	(14)	(28)	(28)	(56)	(566)
Project Total External Trips			143	304	447	383	255	638	6,994

¹ Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, 10th Edition (2017).

² DU = Dwelling Unit; RM = Occupied Room; TSF = Thousand Square Feet

³ Pass-By Source: Shops at Coral Mountain TIA, prepared by Urban Crossroads, Inc. (November 2009).

⁴ Since ITE does not have trip rates for a wave pool facility, similar use based on SANDAG's recreation park (developed) peak hour and daily rates are utilized.

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Attachment B
Low VMT Area Screening Calculations

RivTAM

4742 HB VMT

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Vehicle Flow OD Method

	Base Year (2012)
	TAZ 4742
Total	390
Automobiles	363
Trucks	26

OD Method Vehicle Miles Traveled

	Base Year (2012)
	TAZ 4742
VMT OD Total	5,119
VMT OD Automobiles	4,114
VMT OD Trucks	1,005

Trip Length

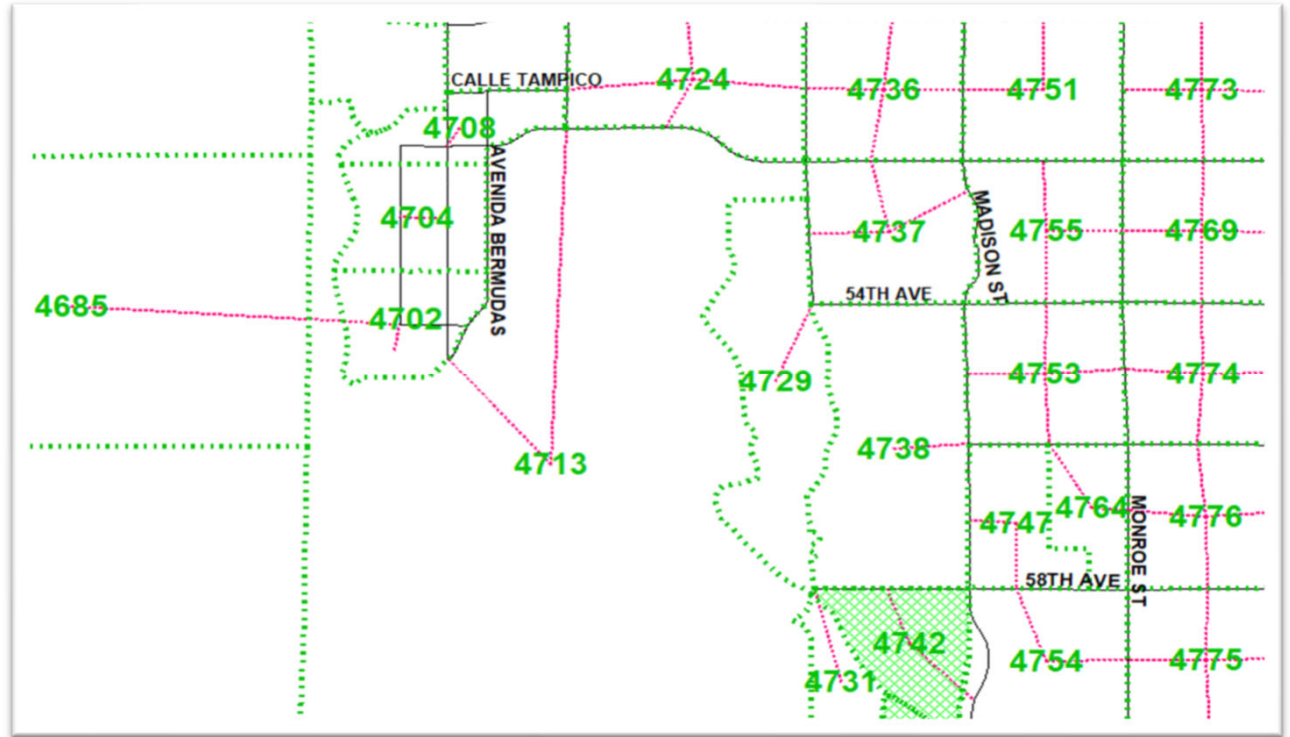
	Base Year (2012)
	TAZ 4742
Total	13.14
Automobiles	11.32
Trucks	38.42

Vehicle Flow PA Method

	Base Year (2012)
	TAZ 4742
HB	3

PA Method Vehicle Miles Traveled

	Base Year (2012)
	TAZ 4742
VMT HB	72



Trip Length

	Base Year (2012)
	TAZ 4742
Total	22.73

SED

	Base Year (2012)
	TAZ 4742
Pop	3
SP	53

Summary

TAZ 4742 - No Project 2012	
OD VMT/SP	PA HB VMT/POP