Appendix E
VMT Analysis

January 25, 2023

Mr. Randy Bowman
City of Palm Desert
73510 Fred Waring Drive
Palm Desert, CA 92260

UNIVERSITY PARK MEDICAL CENTER VEHICLE MILES TRAVELED (VMT) ANALYSIS

Dear Mr. Randy Bowman:

Urban Crossroads, Inc. is pleased to submit to City of Palm Desert this Vehicle Miles Traveled (VMT) analysis for the proposed University Park Medical Center development ("Project"), which is located south of Gerald Ford Drive, north of College Drive, and west of Technology Drive in the City of Palm Desert. It is our understanding that the Project includes an 94,700 square foot building with medical offices, an urgent care, and lab uses, as well as a 20,000 square foot outpatient surgery center building.

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 prepared their Transportation Analysis Guidelines for Level of Service, Vehicle Miles Traveled (**County Guidelines**). (2) This analysis has been prepared based on the adopted County Guidelines as the City of Palm Desert utilizes the County guidelines.

VEHICLE MILES TRAVELED (VMT) SCREENING

The County Guidelines set forth screening criteria under which Projects are not required to submit detailed VMT analysis. This guidance for determination of non-significant VMT impact is primarily intended to avoid unnecessary analysis and findings that would be inconsistent with the intent of SB 743. VMT screening criteria for development projects include the following:

- **Small Projects** with low trip generation per existing CEQA exemptions or resulting in a 3,000 metric tons of Carbon Dioxide Equivalent per year screening level threshold. Specific examples are provided for some land uses but do not address medical office uses directly. **The small project screening threshold is not met.**

- **Projects Near High Quality Transit** within ½ mile of an existing major transit stop and maintains a service interval frequency of 15 minutes or less during the morning and afternoon peak commute periods. The study area is currently served by the SunLine Transit Agency, but bus service is outside the immediate Project vicinity. Based on the current transit in the study area, the Project site is not located within ½ mile of an existing major transit stop, nor along a high-quality transit corridor. **The high quality transit screening threshold is not met.**
- **Local Essential Service** shortens non-discretionary trips by putting those goods and services closer to residents, resulting in an overall reduction in VMT. For medical / dental Projects, the office building size threshold is 50,000 square feet. **The local essential service screening threshold is not met**.
- **Map-Based Screening** eliminates the need for complex analyses by allowing existing VMT data to serve as a basis for screening smaller residential and office developments. Map-based screening is performed for residential and office developments, per the County Guidelines. A Project is presumed to have a less-than-significant impact if the area of development is under the threshold as shown on the screening map. This map-based screening eliminates the need for complex analyses by allowing existing VMT data to serve as a basis for the screening of smaller residential and office developments.

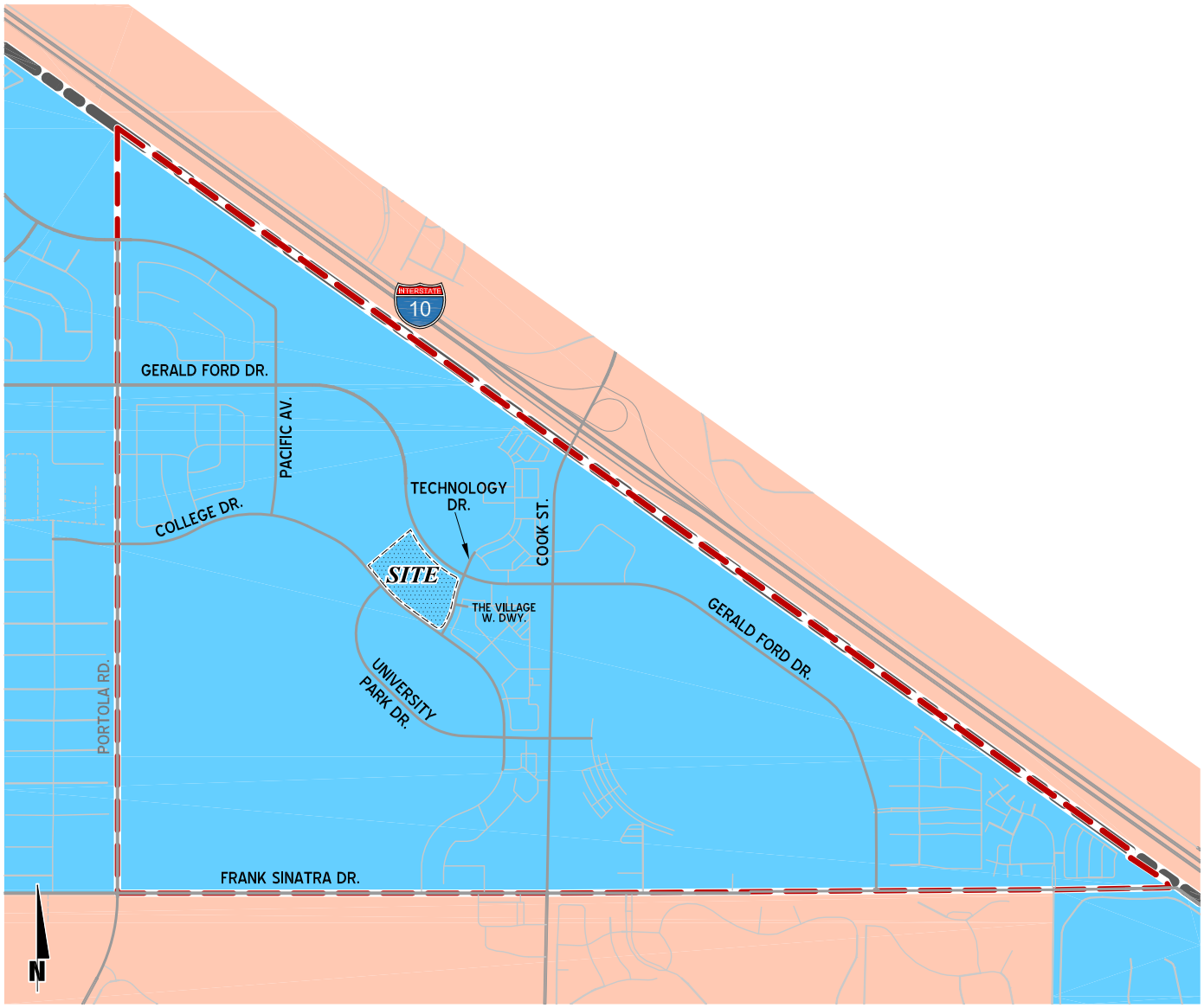
  Map-based screening is performed using the map titled: RIVTAM Model (2012) Daily Home Based Work VMT per Worker Comparison to Riverside County Average, which indicates it is based upon the County average. The map utilizes the sub-regional Riverside Transportation Analysis Model (RIVTAM) to measure current VMT performance within individual TAZ's and compares them to the applicable impact threshold (e.g., VMT per employee for office or industrial land uses). The County Guidelines define VMT per Employee as the sum of VMT for personal motorized trips made by all workers of an office or industrial development project, divided by the total number of workers at the project.

  Exhibit 1 shows the Project area on the County's VMT map combined with an overlay of the RIVTAM Traffic Analysis Zones (TAZs). The Project is located within RIVTAM TAZ 4682, which experiences 15.72 VMT / Employee. The Project TAZ Home Based Work VMT / Employee is more than the County average VMT / Employee. The Project is therefore eligible to be screened out based on map-based screening criteria. **The map-based screening threshold is not met**.

TRIP GENERATION

In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) *Trip Generation* (11th Edition, 2021) manual for the proposed land use (ITE Land Use Code: 720 – Medical/Dental Office) is used. Per ITE Trip Generation Manual, a medical-dental office building (ITE 720) is a facility that provides diagnoses and outpatient care on a routine basis but is unable to provide prolonged in-house medical and surgical care. One or more private physicians or dentists generally operate this type of facility. Therefore, ITE rates for a medical-dental office land use has also been utilized for the

EXHIBIT 1: RIVERSIDE COUNTY DAILY HOME BASED VMT PER WORKER SCREENING MAP



LEGEND:

- Less than County Average
- 0 to 15% over the County Average
- More than 15% over the County Average
- No data available
- City Limits
- Boundary for Traffic Analysis Zone (TAZ) 4682

Note:
Threshold based on County Average
Includes External Trips

outpatient surgery center portion of the Project. Table 1 presents the trip generation rates and the resulting trip generation summary for the proposed Project. As shown in Table 1, the Project is anticipated to generate a net total of 4,129 trip-ends per day with 356 AM peak hour trips and 451 PM peak hour trips.

TABLE 1: PROJECT TRIP GENERATION SUMMARY

Trip Generation Rates[1]

Land Use	ITE LU Code	Quantity[2]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Medical-Dental Office	720	114.7 TSF	2.45	0.65	3.10	1.18	2.75	3.93	36.00

Trip Generation Results

Land Use	ITE LU Code	Quantity[2]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Medical-Dental Office	720	94.7 TSF	232	62	294	112	260	372	3,409
Outpatient Surgery Center[3]	720	20 TSF	49	13	62	24	55	79	720
TOTAL			281	75	356	136	315	451	4,129

[1] Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition (2021).
[2] TSF = Thousand Square Feet
[3] For analysis purposes, ITE 720 rates are utilized for outpatient surgery center land use.

PROJECT VMT ASSESSMENT

The VMT projections are based upon the Riverside County Transportation Analysis Model (RIVTAM). 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 Riverside County Guidelines identify RIVTAM as the appropriate tool for conducting VMT analysis for land use projects.

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 within the RIVTAM model to reflect the Project's proposed employment.

Table 2 summarizes the employment estimates for the Project. The employment estimates have been developed from medical office square footage land use to employment factors used for similar projects. For medical office, 3.00 employees per thousand square feet result in 284 employees. For surgery center, 3.95 employees per thousand square feet result in 79 employees.

TABLE 2: SOCIO-ECONOMIC VARIABLE ESTIMATES

Socio-Economic Variable	Quantity
Employees	363

Adjustments to household and population data 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 IMPACT ON VMT

Per the County Guidelines, the introduction of new local essential services (such as medical/dental offices) shortens non-discretionary trips by putting those goods and services closer to residents. Therefore, the local essential services are evaluated by calculating the net regional change in VMT.

Travel activity associated with total link-level VMT was extracted from the "without Project" and "with Project" RIVTAM run for 2012 and 2040. 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 for the City is utilized to determine the change in overall VMT effect of the Project which is not necessarily locally-serving. A comparison of City total VMT without and with the Project is shown on Table 3. Attachment A contains supporting model output data.

TABLE 3: BASE YEAR CITYWIDE LINK-LEVEL VMT

Category	2012	2040	2022
City VMT Without Project	934,309	1,345,841	1,081,285
City SP Without Project	85,236	128,280	100,608
City VMT/SP Without Project	10.96	10.49	10.75
City VMT With Project	934,653	1,347,169	1,081,459
City SP With Project	85,598	128,643	100,971
City VMT/SP With Project	10.92	10.47	10.71

To determine whether or not there is a significant impact using the boundary method, the City of Palm Desert VMT with the project employment is compared to without project conditions. The City VMT without Project is estimated at 1,081,285, whereas with the Project employment, the City VMT is estimated at 1,081,459. The project's effect on VMT is considered potentially significant without reductions because it results in a cumulative link-level boundary County VMT increases under the plus project condition compared to the no project condition.

PROJECT VMT REDUCTION

Project VMT is based upon the home-based work project-generated VMT per employee. Table 4 shows the home-based work 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 work baseline (2022) VMT.

TABLE 4: PROJECT HOME-BASED WORK GENERATED VMT

Category	2012	2040	2022
VMT	9,003	8,104	8,682
6% VMT for Virtual Appointments			-521

For baseline (2022) conditions, the Project generates 8,682 Home-Based Work VMT. According to the County Guidelines, a 6% VMT reduction can occur when resources allow patients to access healthcare services or communicate with healthcare staff through online or off-site programs. Therefore, a reduction of 521 VMT occurs due to virtual appointments. Based on the raw model results, the project would cause a net increase in VMT. However, a post-processing adjustment of 6% is applied to the project's VMT generation based on an expectation that the project would experience an increased level of virtual appointments than would be reflected in the RivTAM model that was used to estimate trip generation for the project.

Data from the RivTAM model was used to estimate the project's total VMT generation, then 6.0% of that total VMT is subtracted from the total VMT results of the model. Riverside County recognized the need for this adjustment and included a 6.0% reduction in VMT generation for healthcare services to account for virtual appointments. The County guidelines include this adjustment in a list of Travel Demand Management (TDM) strategies to reduce project VMT. However, due to the recent increase virtual appointments, this VMT reduction is considered necessary to accurately represent the true VMT characteristics of medical facilities. The underlying RivTAM and ITE methodologies are not considered to reflect this increase in virtual appointments. It is expected that the VMT reduction due to virtual appointments will occur naturally without any need for the project to incorporate special features or strategies.

The VMT calculations for With Project With Virtual Appointments are shown in Table 5. As shown in Table 5, With Virtual Appointments, there is a VMT / SP decrease and therefore no impact occurs.

TABLE 5: BASE YEAR CITYWIDE LINK-LEVEL VMT

Category	2022
City VMT Without Project	1,081,285
City SP Without Project	100,608
City VMT/SP Without Project	10.75
City VMT With Project With Virtual Appointments	1,080,938
City SP With Project With Virtual Appointments	100,971
City VMT/SP With Project With Virtual Appointments	10.71

FINDINGS/CONCLUSIONS

The Project effect on VMT has been reviewed and With Virtual Appointments, there is a VMT decrease and therefore no impact occurs.

Urban Crossroads, Inc. is pleased to submit this letter documenting the University Park Medical Center Vehicle Miles Traveled (VMT).If you have any questions, please contact John Kain at (949) 375-2435 or Marlie Whiteman at (714) 585-0574.

Respectfully submitted,

URBAN CROSSROADS, INC.

John Kain, AICP
Principal

Marlie Whiteman, PE
Senior Associate

Attachment A: RIVTAM Output

	2012			2040		
TAZ	Without Project	With Project	Difference	Without Project	With Project	Difference
4643	16,726.83	16,694.24	37.82	24,049.24	24,000.56	8.60
4652	46,138.30	45,925.10	-19.50	48,755.40	48,731.30	92.21
4655	36,887.03	36,691.06	-41.22	38,414.82	38,375.26	52.03
4660	9,637.08	9,605.26	8.69	14,626.52	14,581.85	-9.87
4662	31,611.14	31,530.84	52.69	45,473.56	45,238.91	-126.68
4663	22,368.84	22,282.34	7.48	37,872.65	37,789.01	6.56
4664	33,100.55	33,103.86	142.93	51,755.72	51,643.30	10.84
4665	34,155.19	34,002.82	-8.96	47,835.15	47,828.91	107.92
4666	72,004.33	71,775.10	73.50	76,639.39	76,476.52	19.66
4668	27,787.42	27,687.12	16.47	31,775.33	31,736.15	36.57
4671	76,482.03	76,379.27	219.39	98,895.68	98,860.15	200.42
4672	22,188.52	22,376.06	281.92	82,821.43	83,221.29	598.49
4676	28,727.73	29,218.42	613.92	46,776.05	46,963.12	299.16
4677	12,672.07	12,639.82	21.06	23,081.05	23,067.47	41.47
4678	22,088.76	21,975.06	-21.01	39,100.98	38,825.71	-182.61
4679	69,765.74	69,507.40	34.83	82,908.06	82,916.96	206.81
4680	27,764.72	27,644.69	-3.43	40,763.82	40,759.84	93.30
4681	19,971.55	19,866.91	-20.85	45,018.76	44,975.77	64.35
4682	53,412.87	55,249.57	2,069.73	98,341.85	100,321.01	2,218.59
4683	10,279.80	10,261.72	25.21	12,882.25	12,873.25	21.72
4684	32,712.15	32,656.12	81.71	46,204.67	46,119.76	25.17
4689	18,778.55	19,002.39	303.99	30,680.92	30,891.49	284.30
4690	49,866.99	49,767.79	110.71	64,554.45	64,599.50	199.23
4696	56,611.25	56,407.52	34.18	81,374.25	81,202.06	21.61
4697	32,074.60	32,187.39	248.54	42,785.33	42,877.10	194.10
4700	5,279.52	5,257.71	0.36	6,170.00	6,153.51	-1.80
4703	56,903.14	56,681.07	16.99	75,851.47	75,734.68	63.97
4707	8,312.78	8,276.09	-1.78	10,431.75	10,404.89	-2.02
Palm Desert	**934,309.48**	**934,652.77**	**4,285.39**	**1,345,840.54**	**1,347,169.33**	**4,544.08**