

memorandum

date September 24, 2019

to Jamie Schmidt; Under Canvas

cc

from Shadde Rosenblum, Luke Evans; ESA

subject Trip Generation for Under Canvas

This memorandum documents the development of use-specific trip generation rates for Under Canvas. This evaluation was conducted because the Institute of Trip Engineers (ITE) Trip Generation Manual does not have trip generation data/rates that fit with the unique characteristics of the Under Canvas product, and the hybrid rates (i.e., hotel/campsite) developed as part of previous planning efforts may misrepresent the trip generation potential of Under Canvas.

One existing Under Canvas site was selected to evaluate existing trip generation activity during summer peak activity: Under Canvas Grand Canyon, located at 979 Airpark Lane, Williams, AZ 86046. Under Canvas Grand Canyon has a total of 70 tent sites and provides onsite dining, daily housekeeping, and other camp amenities. Consecutive three-day traffic counts (i.e., 72-hour) were conducted on Friday, August 23 through Sunday, August 25. The driveway location for pneumatic tube count placement was selected to ensure the isolation of vehicle trips associated solely with Under Canvas, so as not to capture vehicle trips associated with other nearby uses. The raw traffic counts are provided in Attachment A to this memorandum.

Once the traffic counts were processed and summarized by the traffic vendors, ESA was able to establish traffic volumes for the peak hour of activity (i.e., peak hour of generator), meaning the one-hour period of the day when the total of vehicles entering and exiting each site was highest, as well as daily traffic volumes. Since some traffic analyses require an analysis of weekday peak hour conditions, the Friday AM and PM peak hour volumes, which would occur sometime between 7:00 am and 9:00 am and between 4:00 pm and 6:00 pm, respectively, were also extracted from the data. Using the total number of occupied tents for the selected data collection dates, which was obtained from Under Canvas management, trip rates per occupied unit were calculated for each of the analyzed time periods. Finally, average trip generation rates were developed for each site for the entire 3-day period taking into account the number of occupied rooms and traffic volumes for each day. This information is shown below in Table 1.

Table 1: Grand Canyon Vehicle Volumes and Calculated Trip Rates

GRAND CANYON											
Vehicle Volumes											
		PEAK HOUR OF GENERATOR*			FRIDAY AM PEAK HOUR			FRIDAY PM PEAK HOUR			OCCUPIED
	DAILY	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL	ROOMS
FRI 8/23	129	4	18	22	4	13	17	5	3	8	34
SAT 8/24	108	7	11	18	N/A	N/A	N/A	N/A	N/A	N/A	51
SUN 8/25	80	5	10	15	N/A	N/A	N/A	N/A	N/A	N/A	37
Trip Rates (per occupied unit)											
		PEAK HOUR OF GENERATOR*			FRIDAY AM PEAK HOUR			FRIDAY PM PEAK HOUR			
	DAILY	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL	
FRI 8/16	3.79	0.12	0.53	0.65	0.12	0.38	0.50	0.15	0.09	0.24	
SAT 8/17	2.12	0.14	0.22	0.35	N/A	N/A	N/A	N/A	N/A	N/A	
SUN 8/18	2.16	0.14	0.27	0.41	N/A	N/A	N/A	N/A	N/A	N/A	
WEIGHTED AVERAGE	2.60	0.13	0.32	0.45	N/A	N/A	N/A	N/A	N/A	N/A	

*Friday 9:15AM - 10:15AM; Saturday 2:45PM-3:45PM; Sunday 9:45AM-10:45AM

The results indicate that each occupied unit generates approximately 2.6 daily one-way vehicle trips, and less than one trip per hour for the peak hour of generator, and the weekday AM and PM peak hours.