



TRAFFIC IMPACT ANALYSIS

Oak Creek Heritage Hotel Sedona, Arizona

Prepared for:

Sefton Engineering Consultants

R.D. Olsen Development

Kimley»»Horn

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1.0 EXECUTIVE SUMMARY

1.1 INTRODUCTION

This report documents a traffic impact analysis for a proposed hotel located approximately one-half mile north of the intersection of Schnebly Hill Road and SR-179 in Sedona, Arizona. The proposed development will consist of a hotel with 70 guest rooms, 1,874 SF of meeting space, a 7,100 SF restaurant (includes 4,600 SF sit down restaurant with an additional outdoor seating area of 2,500 SF), and a small spa with 4 service rooms. The development will also include 4 workforce housing studio apartments. The site is anticipated to be completed and opened in 2026.

1.2 REPORT PURPOSE AND OBJECTIVES

Kimley-Horn and Associates, Inc., has been retained by Sefton Engineering Consultants to perform the traffic impact analysis for the proposed development.

The purpose of this study is to address traffic and transportation impacts of the proposed development on surrounding streets and intersections. This traffic impact study was prepared based on criteria set forth by the reviewing agency, category study performing. The specific objectives of this study are:

- To evaluate lane requirements on all existing roadway links and at all existing intersections within the study area.
- To determine future level of service (LOS) for all existing intersections within the study area and recommend any capacity-related improvements.
- To determine necessary lane configurations at all new driveways within the proposed development to provide acceptable future levels of service.
- To evaluate the need for auxiliary lanes at all study area intersections.

1.3 PRINCIPAL FINDINGS AND RECOMMENDATIONS

The proposed development is estimated to generate 583 Saturday trips with 52 trips occurring during the peak Saturday hour.

- The proposed Oak Creek Heritage Hotel will be located half a mile north of the Schnebly Hill Road and SR-179 roundabout in Sedona, AZ.
- The existing daily traffic (ADT) on Schnebly Hill Road adjacent to the proposed hotel is 2,036 vehicles per day. With project trips, the estimated ADT increases to 2,619 vehicles per day.
- The project adds 52 peak hour trips to the existing 1,701 peak hour trips at the SR-179 and Schnebly Hill Road (less than 3% of total peak hour trips at the intersection are project trips).
- The traffic volumes generated by the project and assigned to Bear Wallow Lane will not impact Bear Wallow Lane intersection with Schnebly Hill Road.
- The addition of project trips increases delay at the Schnebly Hill Road / SR-179 roundabout by 4.9 seconds/vehicle. The increased delay does not change the Level of Service of the intersection or any of the intersection approaches.
- No turn lanes are warranted into the development.

2.0 PROPOSED DEVELOPMENT

2.1 SITE LOCATION

The proposed hotel is located north of the intersection of Schnebly Hill Road and SR-179 in Sedona, Arizona. The project location is shown in **Figure 1**.



Figure 1. Vicinity Map

2.2 LAND USE AND SITE PLAN

The proposed development will consist of a hotel with 70 guest rooms, 1,874 SF of meeting space, and a 4,600 SF sit down restaurant with an additional outdoor seating area of 2,500 SF. The development will also include 4 workforce housing studio apartments that range in size from 327 SF to 407 SF. The total site area is on approximately 11.58 acres.

The proposed hotel is bordered by an RV park to the north, Oak Creek and wooded area to the west, and some residential use to the east. There are commercial land uses near the site along SR-179.

The layout of the site is illustrated in **Figure 2**. The development site plan is included as **Appendix A**.

2.3 SITE ACCESSIBILITY AND CIRCULATION

Oak Creek Heritage Hotel will include four access driveways: three access points on Schnebly Hill Road, and a side access on Bear Wallow Lane. Proposed site accesses are shown in **Figure 2**.

Access A and B on Schnebly Hill Road access employee housing. Access A and Access B function as a one-way loop, with Access A for egress and Access B for ingress. Access C (full access) on Schnebly Hill Road is the main access for the hotel that will be used by the guests. Access D (full access) is anticipated to serve as an access for trash pickups and deliveries. It is not anticipated that guests will use Access D.

An internal site road will allow the valet drive guests' cars to the parking lot on the north end of the site



Figure 2. Site Plan

3.0 EXISTING CONDITIONS

3.1 STUDY AREA

The study area includes the SR-179 and Schnebly Hill Road roundabout intersection and all project accesses.

3.2 PHYSICAL CHARACTERISTICS

The existing roadway network within the study area includes SR-179, Schnebly Hill Road, and Bear Wallow Lane.

SR-179 is a state highway with one travel lane in each direction and a median divider. The speed limit is 25 miles per hour near the site.

Schnebly Hill Road is a two-lane roadway with one travel lane in each direction. The speed limit is 25 miles per hour near the site.

Bear Wallow Lane is a two-lane roadway with one travel lane in each direction. The speed limit is 5 miles per hour near the site.

3.3 TRAFFIC VOLUMES

Turning movement counts were collected at the Schnebly Hill Road / SR-179 roundabout between 8:00 AM and 8:00 PM on Saturday, March 20, 2021. Note that turning movement counts were collected for a separate project that was completed by Kimley-Horn for the City of Sedona.

Based on the turning movement counts, the peak hour was determined to be between 10:00 AM -11:00 AM. Traffic count data are included as **Appendix B**. Existing Saturday peak hour turning movement counts are summarized in **Figure 3**.

Traffic volume on Schnebly Hill Road between 8:00 AM and 8:00 PM during data collection was 1,629 vehicles. It is anticipated that the counted 12-hour period accounts for 80% of daily traffic on the road. The anticipated daily traffic on Schnebly Hill Road is 2,036 vehicles per day.

The Saturday peak hour represents the period of highest traffic volume on the adjacent roadways due to the high tourist/visitor activity in Sedona. During the Saturday peak hour, vehicles travel to and from Uptown/West Sedona, from shopping destinations and trail heads. Traffic conditions during the Saturday peak-hour represent failing conditions with heavy congestion and high traffic delay.

According to ADOT's Traffic Data Management System (TDMS) using two monitoring stations on SR-179 (location ID 101345 and location ID 101344), 2021 experienced a traffic growth between 31% and 38% as compared to 2020. In 2022, traffic volumes on the roadway decreased by 2%. Thus 2021 traffic counts inform a conservative analysis. Data for 2023 are not currently available on TDMS.

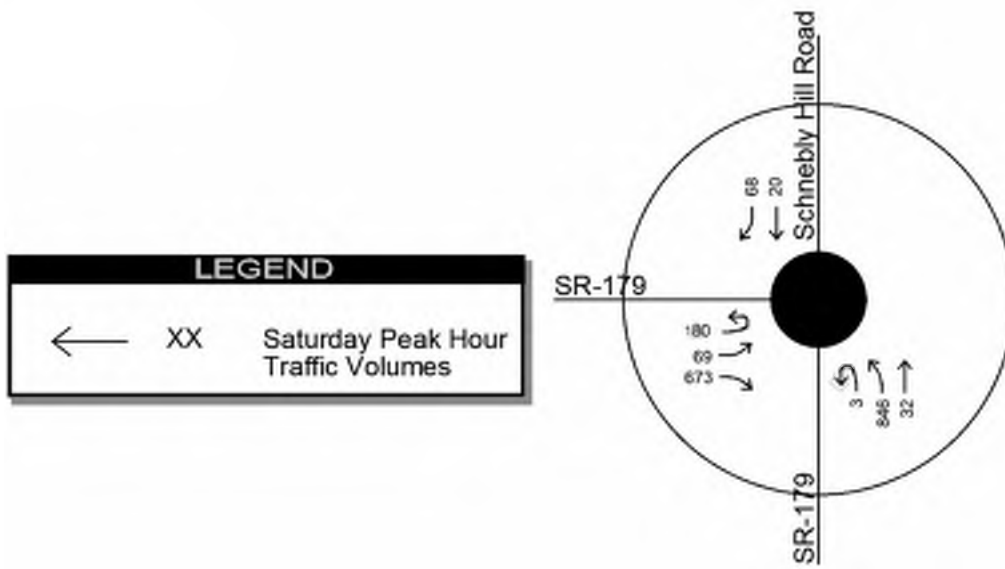


Figure 3. Existing (2021) Traffic Volumes

4.0 PROJECTED TRAFFIC

4.1 SITE TRAFFIC FORECASTS

4.1.1 TRIP GENERATION

Institute of Transportation Engineers' (ITE) *Trip Generation Manual, 11th Edition*, was used to obtain daily and peak hour trip generation average rates and inbound-outbound percentages for the proposed land uses. Rates for Land Use Code (LUC) 310 (Hotel) and LUC 220 (Low-Rise Multifamily Housing) were utilized.

ITE describes LUC 310 Hotel:

*Place of lodging that provides sleeping accommodations and supporting facilities such as a **full-service restaurant**, cocktail lounge, **meeting rooms**, banquet room, and convention facilities. A hotel typically provides a swimming pool or another recreational facility such as a fitness room.*

Another possible ITE use code is LUC 330 (Resort Hotel). ITE describes Resort Hotel as having golf courses, tennis courts, etc. However, available data is for facilities that are larger than the Oak Creek Heritage Hotel. While trip generation rates are similar for LUC 310 and 330, LUC 310 is more conservative (generates more trips). As such, LUC 310 was selected for the analysis.

LUC 310 rates were used to estimate the number of daily and peak hour trips that can be attributed to the hotel, meeting space, and restaurant proposed development. LUC 220 was used to estimate the number of daily and peak hour trips that can be attributed to the workforce housing studio apartments. Trips generated by the spa land use (4 spa rooms) are negligible as the spa is expected to mainly serve hotel guests. As the hotel restaurant is included in LUC 310 trip generation, inclusion of a separate restaurant land use is not justified.

The peak hour of a Saturday was used, consistent with peak traffic conditions in Sedona. Trip generation rates for the land uses are:

ITE Land Use 310:	Hotel	
Saturday rate:	Trips = 8.07*Room(s)	(50% in / 50% out)
Saturday peak rate:	Trips = 0.72*Room(s)	(56% in / 44% out)
ITE Land Use 220:	Multi-family Housing (Low-Rise)	
Saturday rate:	Trips = 4.55*Dwelling Units	(50% in / 50% out)
Saturday peak rate:	Trips = 0.41*Dwelling Units	(50% in / 50% out)

The trip generation characteristics of the site are summarized in **Table 1**.

Table 1. Project Trip Generation

ITE Land Use Code (LUC)	Intensity	Units	Saturday Daily	Saturday Peak Hour		
				In	Out	Total
310	70	Room(s)	565	28	22	50
220	4	Dwelling Units	18	1	1	2
Total			583	29	23	52

The proposed development is estimated to generate approximately 583 Saturday trips with 52 trips occurring during the peak hour. Trip generation worksheets are included as **Appendix C**.

4.1.2 TRIP GENERATION COMPARISON

The Schnebly Community Focus Area Plan includes the following community expectation for future development along Schnebly Hill Road:

Support non-residential uses (e.g., bed and breakfast, neighborhood cafe) if tied to the preservation of large land areas and generates less traffic than medium-density residential.

For medium-density residential on 11.58 acres, a total of 92 medium-density residential units could be constructed.

The Institute of Transportation Engineers' (ITE) *Trip Generation Manual, 11th Edition*, daily and peak hour trip generation average rates for land use code 210, single-family detached housing were used to estimate the number of daily and peak hour trips that could be attributed to a residential development, as shown in **Table 4**. For medium-density residential on 11.58 acres, the anticipated maximum daily trips are 935 with peak PM at 92 trips.

The comparison shows that the proposed hotel will generate fewer daily trips and fewer peak PM trips than medium-density residential land use.

Table 2. Trip Generation Summary – Single Family Detached Housing

ITE Land Use	Intensity	Units	Daily Trips	Peak Volumes	
210, Single-Family Detached Housing, Weekday	92	Residential Units	935	69 (AM)	92 (PM)
210, Single-Family Detached Housing, Saturday	92	Residential Units	885	89 (Mid-Day Peak)	

4.1.3 TRIP DISTRIBUTION

Trips projected to be generated by the development were assigned to the street network based on anticipated traffic directional distributions. It was assumed that 95% of traffic will enter through the main access on Schnebly Hill Road (Access C) and 5% will enter through the employee access on Schnebly Hill Road (Access A and B). It is not anticipated that any peak hour trips will use the side access on Bear Wallow Lane (Access D).

It was assumed that 70% of project traffic arrives/departs at the Schnebly Hill Road / SR-179 roundabout from/to the west and 30% of project traffic arrives/departs at the Schnebly Hill Road / SR-179 roundabout from/to the south, consistent with existing traffic count data. On a Saturday peak hour, most tourists and visitors travel to the hotel from locations to the west (Uptown Sedona, West Sedona, Oak Creek Canyon, etc.).

4.1.4 TRAFFIC ASSIGNMENT

Trips generated by the proposed development were assigned to the roadway network based on the trip distribution and the likely travel patterns to and from the site. **Figure 4** shows the results of the traffic assignment.

4.2 TOTAL TRAFFIC

The results of the traffic assignment were added to the existing traffic volumes shown in **Figure 3** to calculate total traffic volumes for study area intersections. These total traffic volumes are shown in **Figure 5**. The development adds 52 peak hour trips to the existing 1,701 peak hour trips at the SR-179 and Schnebly Hill Road, representing an increase of 3% of total peak hour trips at the intersection.

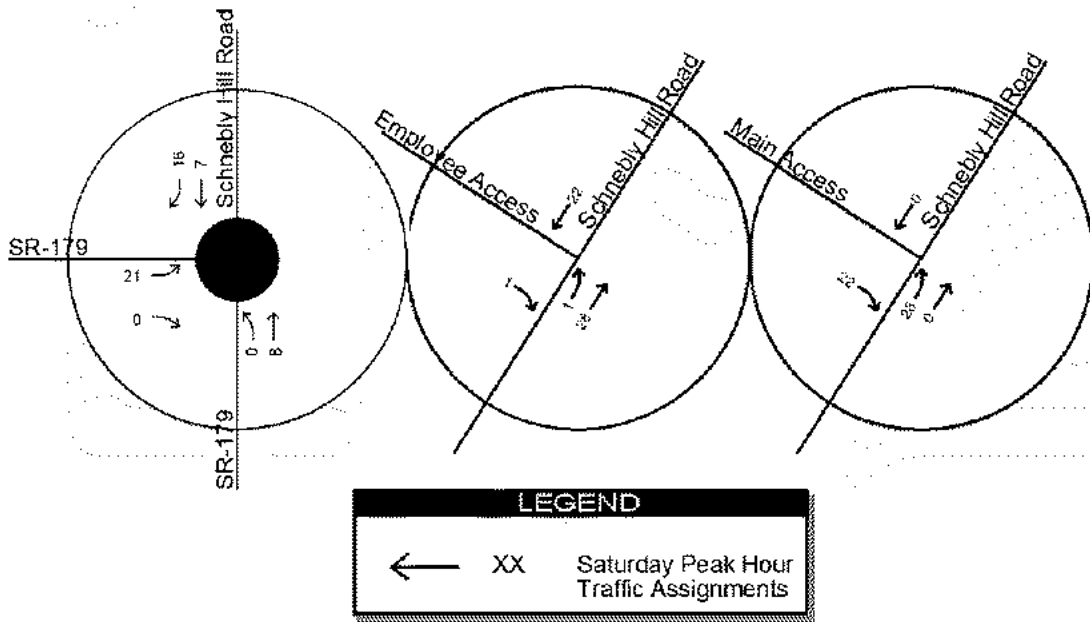


Figure 4. Traffic Assignment

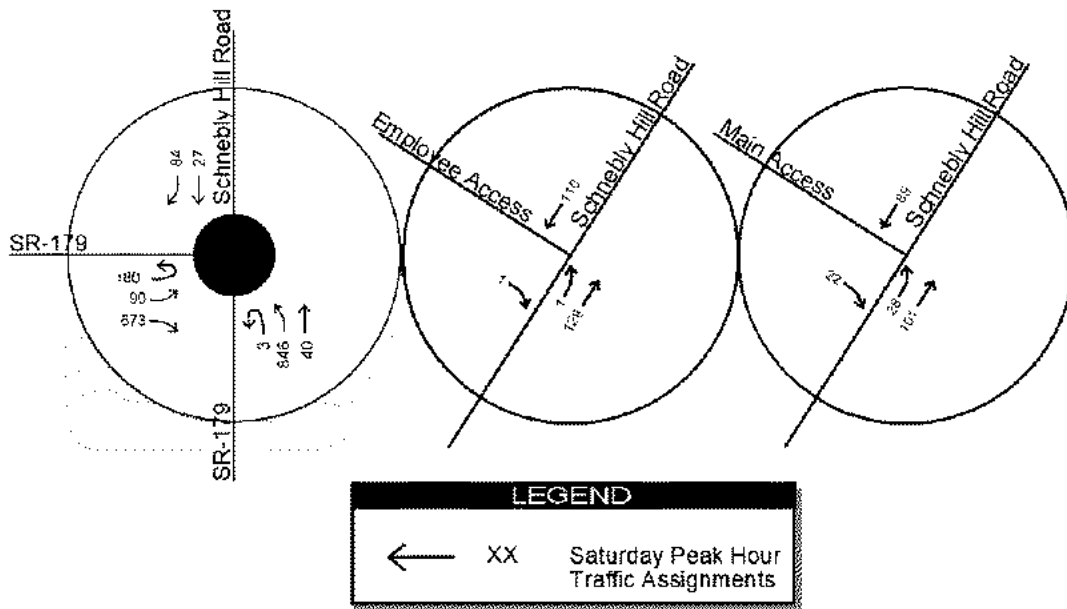


Figure 5. Total Traffic

5.0 TRAFFIC AND IMPROVEMENT ANALYSIS

5.1 LEVEL OF SERVICE ANALYSIS

Kimley-Horn previously prepared a traffic simulation model (PTV Vissim 11 analysis software) of Sedona for the Transportation Master Plan and subsequent analysis efforts. The traffic model simulates peak period conditions on a Saturday during peak visitor season. The model was used to analyze study area intersections and driveways for average delay, LOS, and 95th percentile queuing.

5.1.1 2021 TRAFFIC LEVEL OF SERVICE ANALYSIS

The SR-179 and Schnebly Hill Road roundabout intersection was evaluated in both existing and total conditions (with project traffic). Analysis results for existing conditions are shown in **Table 3** and total conditions are shown in **Table 4**.

Table 3. Existing Conditions Operational Analysis

INTERSECTION	APPROACH	TURNING MOVEMENT	DELAY (sec/veh)	AVG QUEUE LENGTH	MAX QUEUE LENGTH	APPROACH DELAY (sec/veh)	APPROACH LOS
SR-179 & Schnebly Hill Rd	NB	NBL	312.4	3,310	3,576	312.2	F
		NBT	312.2				
		NBR	0.0				
		NBU	286.9				
	SB	SBL	0.0	10	129	19.1	C
		SBT	18.0				
		SBR	19.7				
		SBU	0.0				
	EB	EBL	14.3	61	324	11.4	B
		EBT	0.0				
		EBR	9.8				
		EBU	17.8				
OVERALL INTERSECTION						134.3	F

Table 4. Total Traffic Operational Analysis

INTERSECTION	APPROACH	TURNING MOVEMENT	DELAY (sec/veh)	AVG QUEUE LENGTH	MAX QUEUE LENGTH	APPROACH DELAY (sec/veh)	APPROACH LOS
SR-179 & Schnebly Hill Rd	NB	NBL	335.2	3,380	3,576	335.0	F
		NBT	323.9				
		NBR	0.0				
		NBU	359.6				
	SB	SBL	0.0	13	129	19.9	C
		SBT	20.5				
		SBR	19.6				
		SBU	0.0				
	EB	EBL	15.2	69	324	12.4	B
		EBT	0.0				
		EBR	10.6				
		EBU	19.4				
OVERALL INTERSECTION						139.2	F

The analysis shows that the Schnebly Hill Road / SR-179 roundabout operates at LOS F in existing conditions. The addition of project trips adds 4.9 seconds of delay per vehicle to the operation of the intersection during the weekend peak hour. The addition of project traffic does not change the Level of Service of the intersection or any of the intersection approaches. As such, no off-site improvements are required.

5.2 LEFT TURN LANE WARRANT ANALYSIS

Left turn warrant analysis was completed for the proposed project driveways on Schnebly Hill Road based on ADOT TGP 245 criteria. The left-turn lane criteria are provided in **Figure 6** and summarized in **Table 5**. The posted speed limit on Schnebly Hill Road is 25 mph. Left-turn lanes into the development are not warranted based on the criteria.

Table 5. Left-Turn Lane Warrant Analysis

Access Drive	Speed (mph)	Opposing Through Volume Direction	Saturday Peak Hour		Criteria Met?
			Advancing Volume (one direction, per lane)	Left-Turn Volume	
A/B	25	Northbound	130	1	No
C	25	Northbound	101	28	No

Figure 6. Left-Turn Lane Criteria

ADOT Criteria, TGP 245

Peak Hour Traffic Volume on the Highway in Advancing Direction	Minimum Peak Hour Left-turn Traffic Volume			
	# of thru lanes per direction			
	1		2 (Undivided)*	
	< 45 MPH Posted Speed	≥ 45 MPH Posted Speed	< 45 MPH Posted Speed	≥ 45 MPH Posted Speed
≤ 200	30	15	-	-
201 - 300	12	12	40	30
301 - 400	12	12	30	25
401 - 500	12	12	25	18
501 - 600	12	12	15	12
601 - 1000	12	12	10	8
1000+	12	8	10	8

*On non-freeway divided highways, left-turn or U-turn lanes should be provided at median breaks.

- The average daily traffic (ADT) on Schnebly Hill Road adjacent to the proposed hotel is 2,036 vehicles per day. This is the existing daily traffic without project traffic. The project increases daily traffic adjacent to the hotel to 2,619 vehicles per day.
- The development will generate 583 Saturday trips with 52 of the trips occurring in the peak hour.
- The development adds 52 peak hour trips to the existing 1,701 peak hour trips at the SR-179 and Schnebly Hill Road (3% of total peak hour trips at the intersection are project trips).
- Traffic volumes assigned to Bear Wallow Lane will not impact Bear Wallow Lane intersection with Schnebly Hill Road.
- The addition of project trips increases delay at the Schnebly Hill Road / SR-179 roundabout by 4.9 seconds/vehicle. The increased delay does not change the Level of Service of the intersection or any of the intersection approaches.
- No turn lanes are warranted into the development.

Recommended improvements are summarized in **Table 5**.

Table 6. Recommendations and Implementation Responsibility

	RECOMMENDATION	RESPONSIBILITY
1	Widen Schnebly Hill Road to 26' adjacent to the development.	DEVELOPER
2	Install additional speed limit signs north of the development for vehicles headed southbound on Schnebly Hill Road.	DEVELOPER is willing to pay for additional speed limit signs on Schnebly Hill Road if directed by City of Sedona.
3	Install a speed feedback sign on southbound Schnebly Hill Road to warn motorists when they exceed the posted speed limit.	DEVELOPER is willing to pay for speed feedback sign on Schnebly Hill Road if directed by City of Sedona.
4	If traffic speeds are demonstrated to be consistently higher than the posted speed limit, a set of speed tables could be installed on Schnebly Hill Road.	DEVELOPER is willing to pay for traffic calming devices on Schnebly Hill Road if directed by City of Sedona.
5	Refresh pavement markings on Schnebly Hill Road to improve safety and visibility.	DEVELOPER is willing to pay for refreshed pavement markings on Schnebly Hill Road if directed by City of Sedona.
6	Implement a Travel Demand Management Program, as outlined in Appendix D.	DEVELOPER
7	Pedestrian Crossing of Oak Creek, to reduce conflicts between vehicles and pedestrians.	Sedona as part of the SIM Program.
8	Portal Lane Connection to provide an alternative route for vehicles exiting Tlaquepaque and making a U-turn at SR 179/Schnebly Hill Road. Removing these vehicles will reduce delay at this intersection.	Sedona as part of the SIM Program.

APPENDIX

- Appendix A Site Plan
- Appendix B Traffic Volumes
- Appendix C ITE Trip Generation Information
- Appendix D Travel Demand Management Program

Appendix A

Site Plan



Appendix B

Traffic Volumes

Intersection Turning Movement
Prepared by:



N-S STREET: SR-89A DATE: 03/20/21 LOCATION: Sedona
E-W STREET: Schnebly Hill Rd Round a bout DAY: SATURDAY PROJECT#: 21-1131-011

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
8:00 AM	124	4	0	0	2	5	17	0	94	0	0	0	246
8:15 AM	110	7	0	0	2	8	9	0	99	0	0	0	235
8:30 AM	176	6	0	0	2	6	9	0	125	0	0	0	324
8:45 AM	165	3	0	0	3	5	8	0	115	0	0	0	299
9:00 AM	136	5	0	0	3	8	11	0	125	0	0	0	288
9:15 AM	181	14	0	0	2	10	8	0	138	0	0	0	353
9:30 AM	208	4	0	0	1	14	12	0	141	0	0	0	380
9:45 AM	214	15	0	0	4	23	9	0	150	0	0	0	415
10:00 AM	214	8	0	0	3	18	17	0	149	0	0	0	409
10:15 AM	218	10	0	0	8	20	13	0	176	0	0	0	445
10:30 AM	208	4	0	0	2	15	23	0	161	0	0	0	413
10:45 AM	206	10	0	0	7	15	16	0	187	0	0	0	441
11:00 AM	170	4	0	0	9	10	14	0	180	0	0	0	387
11:15 AM	191	3	0	0	5	20	20	0	191	0	0	0	430
11:30 AM	168	4	0	0	6	10	19	0	169	0	0	0	376
11:45 AM	171	3	0	0	6	13	6	0	182	0	0	0	381
12:00 PM	163	0	0	0	4	9	16	0	168	0	0	0	360
12:15 PM	175	11	0	0	10	12	12	0	165	0	0	0	385
12:30 PM	155	4	0	0	5	17	10	0	161	0	0	0	352
12:45 PM	159	5	0	0	5	18	9	0	172	0	0	0	368
1:00 PM	146	7	0	0	11	18	14	0	158	0	0	0	354
1:15 PM	176	14	0	0	4	20	8	0	168	0	0	0	390
1:30 PM	113	4	0	0	4	12	9	0	163	0	0	0	305
1:45 PM	95	2	0	0	3	12	9	0	176	0	0	0	297
2:00 PM	79	5	0	0	5	21	19	0	172	0	0	0	301
2:15 PM	113	0	0	0	3	21	8	0	133	0	0	0	278
2:30 PM	143	2	0	0	5	12	18	0	195	0	0	0	375
2:45 PM	80	5	0	0	11	11	10	0	105	0	0	0	222
3:00 PM	101	3	0	0	8	14	14	0	157	0	0	0	297
3:15 PM	82	0	0	0	5	9	5	0	150	0	0	0	251
3:30 PM	124	4	0	0	6	13	8	0	162	0	0	0	317
3:45 PM	131	6	0	0	4	15	11	0	130	0	0	0	297
4:00 PM	89	4	0	0	5	18	12	0	190	0	0	0	318
4:15 PM	144	4	0	0	3	17	17	0	185	0	0	0	370
4:30 PM	155	3	0	0	12	19	20	0	173	0	0	0	382
4:45 PM	183	5	0	0	6	8	10	0	197	0	0	0	409
5:00 PM	163	10	0	0	4	20	7	0	171	0	0	0	375
5:15 PM	133	7	0	0	6	16	8	0	182	0	0	0	352
5:30 PM	145	6	0	0	5	8	16	0	182	0	0	0	362
5:45 PM	129	4	0	0	1	13	6	0	193	0	0	0	346
6:00 PM	115	8	0	0	6	20	3	0	193	0	0	0	345
6:15 PM	125	8	0	0	1	18	1	0	177	0	0	0	330
6:30 PM	109	4	0	0	2	15	7	0	163	0	0	0	300
6:45 PM	114	4	0	0	4	16	1	0	199	0	0	0	338
7:00 PM	109	0	0	0	4	5	3	0	169	0	0	0	290
7:15 PM	101	2	0	0	3	10	3	0	140	0	0	0	259
7:30 PM	71	2	0	0	1	7	5	0	120	0	0	0	206
7:45 PM	64	3	0	0	0	3	1	0	126	0	0	0	197

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	6844	250	0	0	221	647	511	0	7677	0	0	0	16150
Approach %	96.48	3.52	0.00	0.00	25.46	74.54	6.24	0.00	93.76	####	####	####	
App/Depart	7094	/	761	868	/	7898	8188	/	0	0	/	7491	

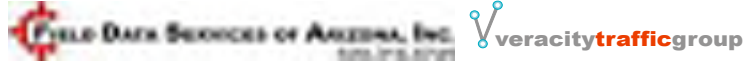
AM Peak Hr Begins at: 1000 AM

PEAK	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	846	32	0	0	20	68	69	0	673	0	0	0	1708
Approach %	96.36	3.64	0.00	0.00	22.73	77.27	9.30	0.00	90.70	####	####	####	

PEAK HR. FACTOR:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	0.963			0.786			0.914			0.000			0.960

CONTROL: Round a bout
COMMENT 1:
GPS: 34.861979, -111.761630

Intersection Turning Movement
Prepared by:



N-S STREET: **SR-89A** DATE: **03/20/21** LOCATION: **Sedona**
 E-W STREET: **Schneby Hill Rd Round a bout** DAY: **SATURDAY** PROJECT# **21-1131-011**

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	0	1	0	0	1	0	0	1	0	0	0	0	
8:00 AM	0	0	0	0	0	0	21	0	0	0	0	21	
8:15 AM	2	0	0	0	0	0	17	0	0	0	0	19	
8:30 AM	3	0	0	0	0	0	15	0	0	0	0	18	
8:45 AM	0	0	0	0	0	0	22	0	0	0	0	22	
9:00 AM	0	0	0	0	0	0	28	0	0	0	0	28	
9:15 AM	1	0	0	0	0	0	25	0	0	0	0	26	
9:30 AM	0	0	0	0	0	0	25	0	0	0	0	25	
9:45 AM	1	0	0	0	0	0	32	0	0	0	0	33	
10:00 AM	0	0	0	0	0	0	26	0	0	0	0	26	
10:15 AM	0	0	0	0	0	0	23	0	0	0	0	23	
10:30 AM	0	0	0	0	0	0	35	0	0	0	0	35	
10:45 AM	0	0	0	0	0	0	33	0	0	0	0	33	
11:00 AM	0	0	0	0	0	0	52	0	0	0	0	52	
11:15 AM	2	0	0	0	0	0	27	0	0	0	0	29	
11:30 AM	3	0	0	0	0	0	40	0	0	0	0	43	
11:45 AM	0	0	0	0	0	0	49	0	0	0	0	49	
12:00 PM	1	0	0	0	0	0	47	0	0	0	0	48	
12:15 PM	0	0	0	0	0	0	30	0	0	0	0	30	
12:30 PM	2	0	0	0	0	0	54	0	0	0	0	56	
12:45 PM	3	0	0	0	0	0	29	0	0	0	0	32	
1:00 PM	2	0	0	0	0	0	29	0	0	0	0	31	
1:15 PM	1	0	0	0	0	0	34	0	0	0	0	35	
1:30 PM	1	0	0	0	0	0	45	0	0	0	0	46	
1:45 PM	2	0	0	0	0	0	41	0	0	0	0	43	
2:00 PM	0	0	0	0	0	0	36	0	0	0	0	36	
2:15 PM	0	0	0	0	0	0	39	0	0	0	0	39	
2:30 PM	1	0	0	0	0	0	16	0	0	0	0	17	
2:45 PM	0	0	0	0	0	0	23	0	0	0	0	23	
3:00 PM	2	0	0	0	0	0	36	0	0	0	0	38	
3:15 PM	0	0	0	0	0	0	33	0	0	0	0	33	
3:30 PM	0	0	0	0	0	0	42	0	0	0	0	42	
3:45 PM	1	0	0	0	0	0	21	0	0	0	0	22	
4:00 PM	0	0	0	0	0	0	38	0	0	0	0	38	
4:15 PM	0	0	0	0	0	0	39	0	0	0	0	39	
4:30 PM	0	0	0	0	0	0	38	0	0	0	0	38	
4:45 PM	1	0	0	0	0	0	28	0	0	0	0	29	
5:00 PM	2	0	0	0	0	0	23	0	0	0	0	25	
5:15 PM	1	0	0	0	0	0	38	0	0	0	0	39	
5:30 PM	7	0	0	0	0	0	40	0	0	0	0	47	
5:45 PM	1	0	0	0	0	0	32	0	0	0	0	33	
6:00 PM	2	0	0	0	0	0	41	0	0	0	0	43	
6:15 PM	1	0	0	1	0	0	42	0	0	0	0	44	
6:30 PM	4	0	0	0	0	0	28	0	0	0	0	32	
6:45 PM	2	0	0	0	0	0	27	0	0	0	0	29	
7:00 PM	1	0	0	0	0	0	37	0	0	0	0	38	
7:15 PM	5	0	0	0	0	0	29	0	0	0	0	34	
7:30 PM	4	0	0	0	0	0	29	0	0	0	0	33	
7:45 PM	0	0	0	0	0	0	28	0	0	0	0	28	

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	59	0	0	1	0	0	1562	0	0	0	0	0	1622
Approach %	100.00	0.00	0.00	100.00	0.00	0.00	100.00	0.00	0.00	####	####	####	
App/Depart	59	/	1562	1	/	0	1562	/	1	0	/	59	

AM Peak Hr Begins at: 1145 AM

PEAK	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	3	0	0	0	0	0	180	0	0	0	0	0	183
Approach %	100.00	0.00	0.00	####	####	####	100.00	0.00	0.00	####	####	####	

PEAK HR. FACTOR:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
		0.375		0.000			0.833			0.000			0.817

CONTROL: **Round a bout**
 COMMENT 1:
 GPS: **34.861979, -111.761630**

Appendix C

ITE Trip Generation Information

Hotel (310)

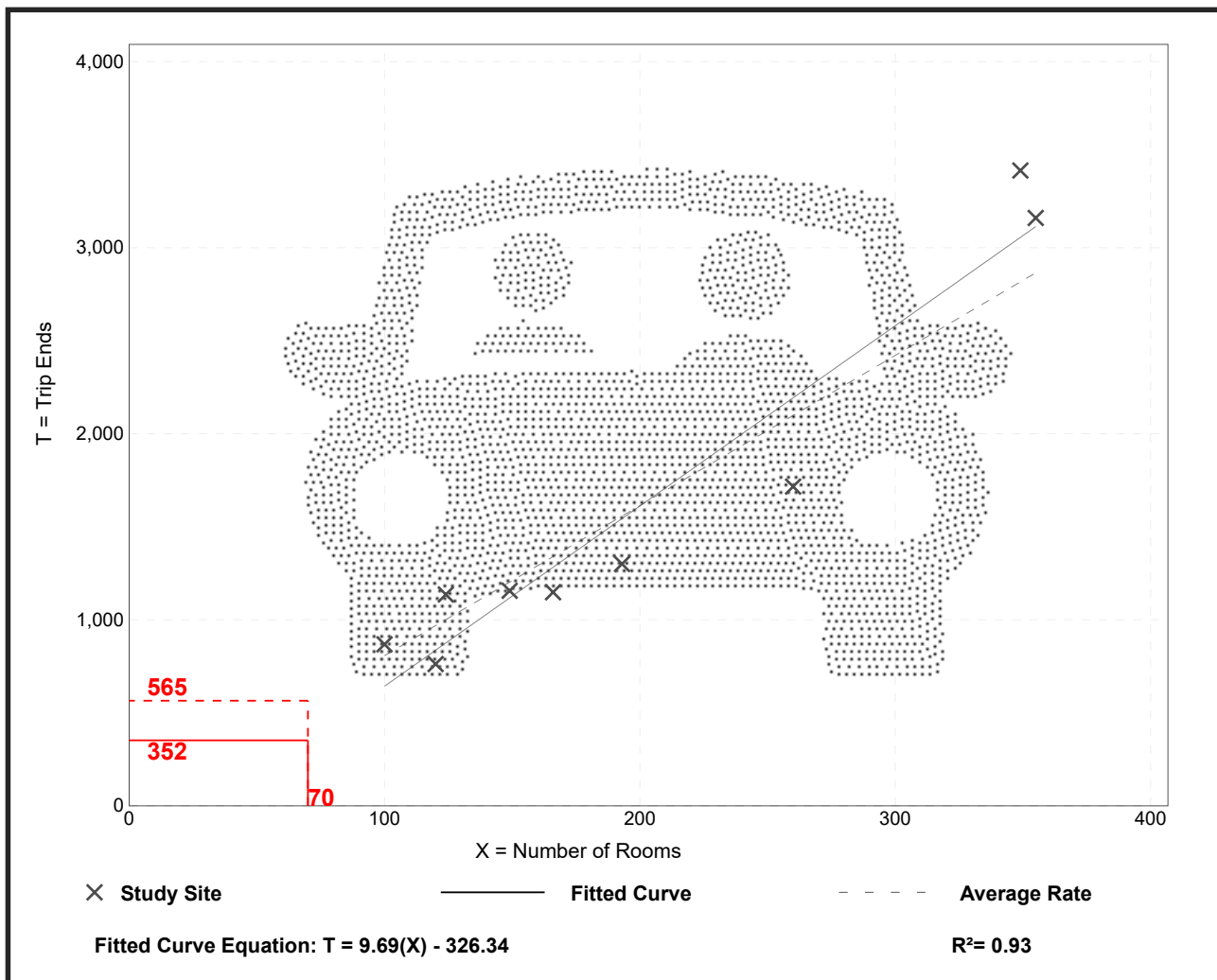
Vehicle Trip Ends vs: Rooms
On a: Saturday

Setting/Location: General Urban/Suburban
Number of Studies: 9
Avg. Num. of Rooms: 202
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
8.07	6.35 - 9.79	1.35

Data Plot and Equation



Hotel (310)

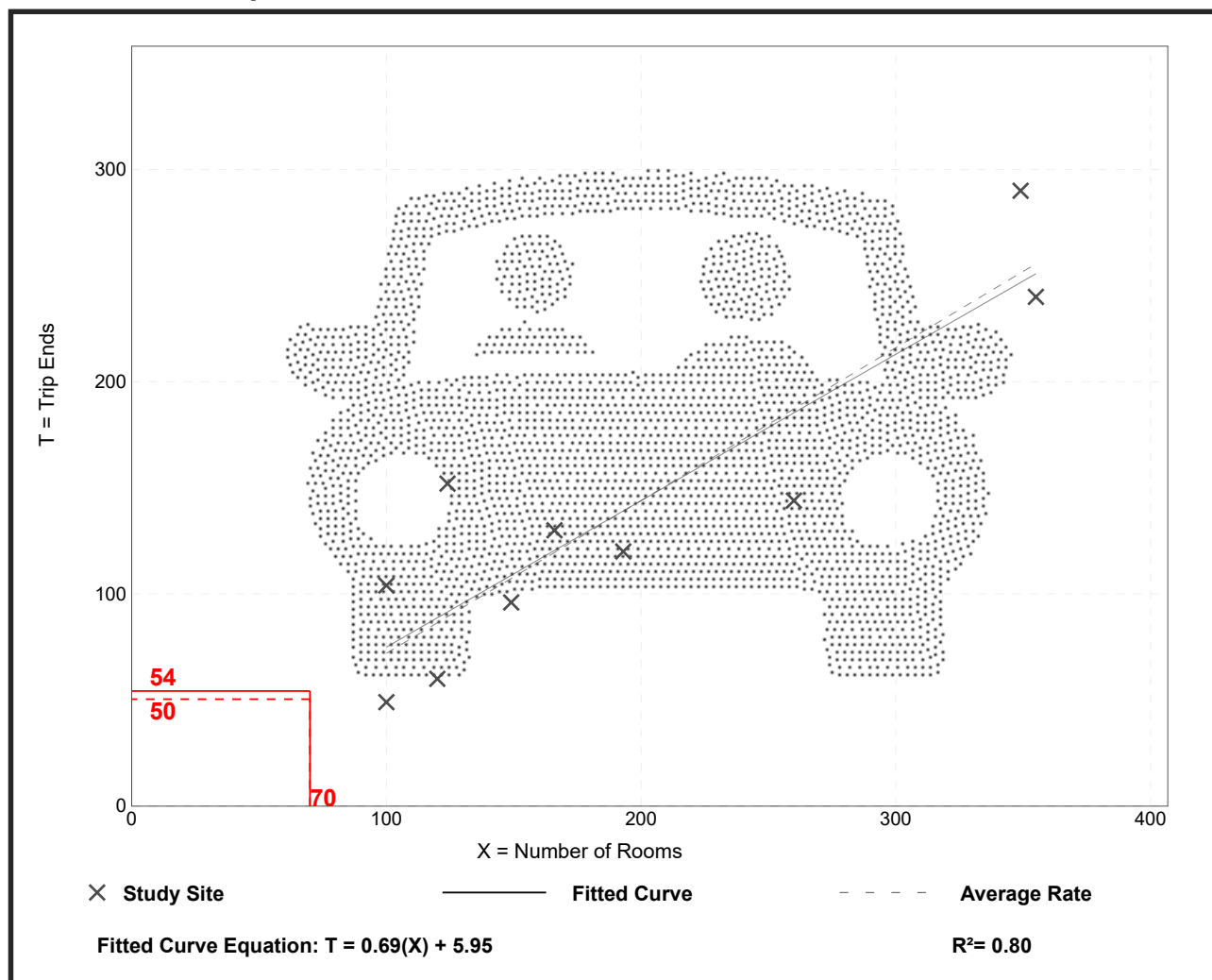
Vehicle Trip Ends vs: Rooms
On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban
 Number of Studies: 10
 Avg. Num. of Rooms: 192
 Directional Distribution: 56% entering, 44% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.72	0.49 - 1.23	0.20

Data Plot and Equation



Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units
On a: Saturday

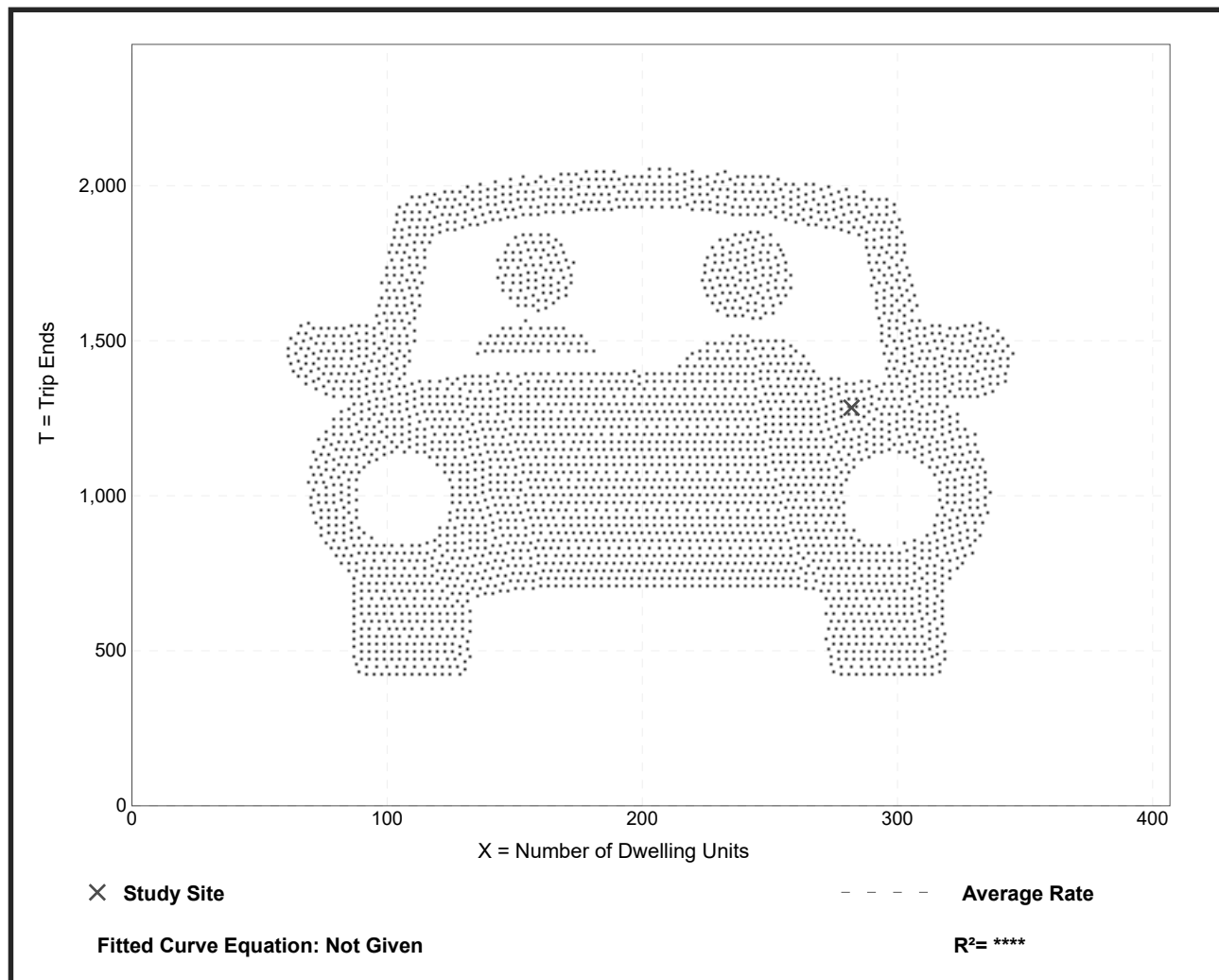
Setting/Location: General Urban/Suburban
Number of Studies: 1
Avg. Num. of Dwelling Units: 282
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
4.55	4.55 - 4.55	*

Data Plot and Equation

Caution – Small Sample Size



Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units
On a: Saturday, Peak Hour of Generator

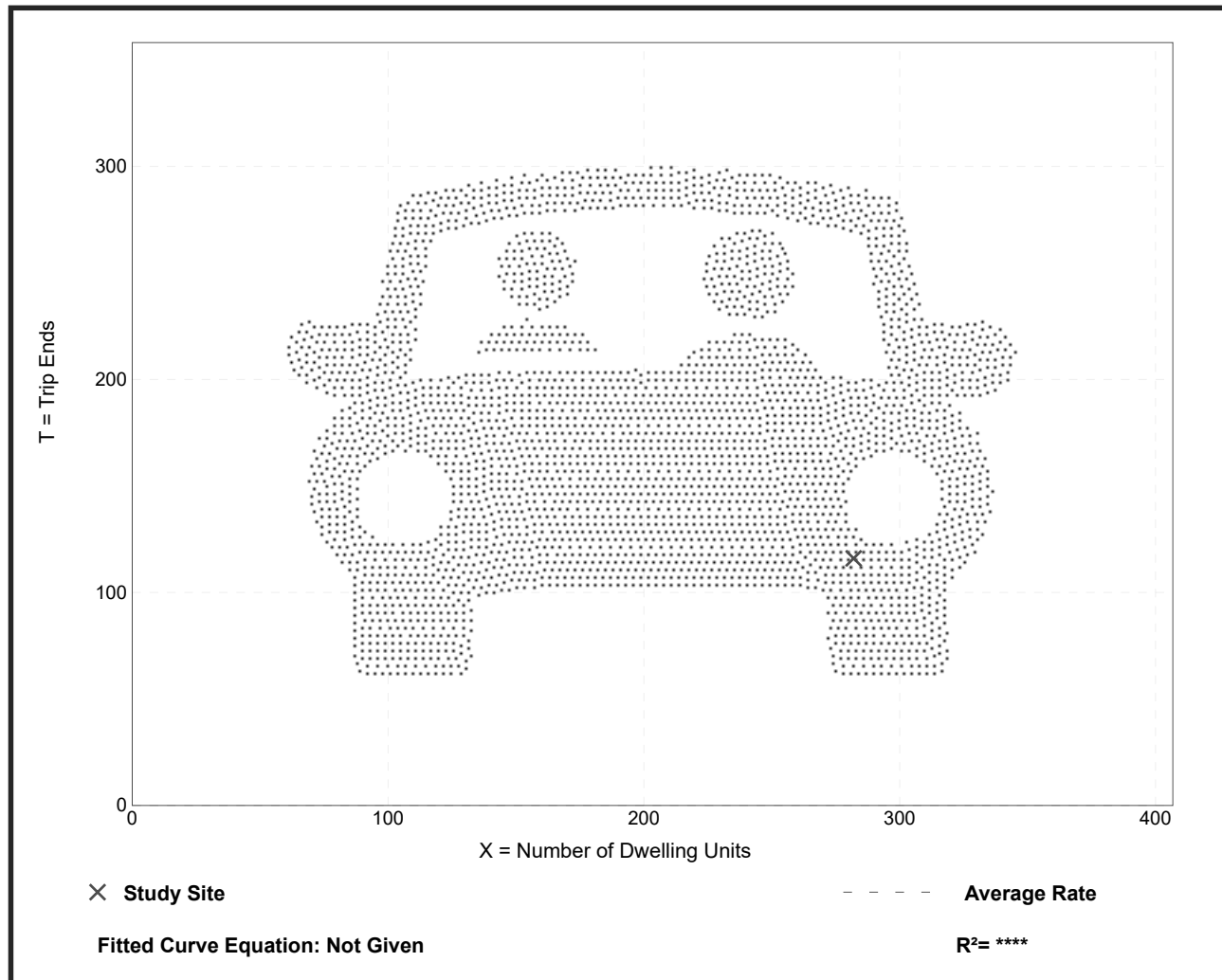
Setting/Location: General Urban/Suburban
Number of Studies: 1
Avg. Num. of Dwelling Units: 282
Directional Distribution: Not Available

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.41	0.41 - 0.41	*

Data Plot and Equation

Caution – Small Sample Size



Appendix D

Transportation Management Plan

TRANSPORTATION MANAGEMENT PLAN

Oak Creek Heritage Hotel, Sedona, AZ

Updated: July 28, 2023

This transportation management plan (TMP) is prepared at the request of R.D. Olson Development for the proposed Oak Creek Heritage Hotel.

The proposed development will consist of a hotel with 70 guest rooms, 1,874 SF of meeting space, a 4,600 SF sit down restaurant with an additional outdoor seating area of 2,500 SF, and a small spa with 4 service rooms. The development will also include 4 workforce housing studio apartments with each apartment being about 400 SF. The development will include a total supply of at least 90 parking stalls to address the projected peak-hour shared parking needs.

This TMP outlines traffic and parking management strategies to minimize the traffic generation.

ALTERNATIVE TRANSPORTATION INCENTIVES

Alternative transportation incentives, also known as Transportation Demand Management (TDM) measures will be provided for hotel employees and guests.

For the hotel employees, the following TDM program measures will be considered.

On-Site Employee Transportation Coordinator (ETC)

An on-site ETC will be appointed to direct the employee trip-reduction program. The employee transportation coordinator will be responsible for the following activities:

- Developing a Rideshare Registration for providing ride-matching services
- Administering incentive programs for carpool, vanpool, transit use, bicycling, and walking
- Marketing and promoting the commuter program
- Conducting employee surveys to collect data employee means of travel arrival times, and interest in information on ridesharing opportunities

Program Marketing

The hotel owner/operator will implement a publicity program, the contents (posters, brochures, and registration materials, etc.). The publicity program will be implemented during the first month of occupancy of the new development and annually thereafter. The on-site ETC will provide regular and effective program marketing. The program will be marketed using the following methods:

- Flyers - Quarterly
- Paycheck Stuffers - Quarterly
- Bulletin Board posts in employee areas - Annually
- Rideshare Awards - Semi-Annually

- New Hire Orientation to inform all new employees on the TDM program and incentives and options available to them

Ride-matching Services

The ETC will distribute Ride matching information to all hotel employees. The ETC will help register employees to match with fellow co-workers to find a carpool. The owner/operator will assist employees to locate co-workers close by the user's home, as well as working hours and schedule. The employee information is confidential and home address, if provided, will never be disclosed.

To keep ride-matching information current, the ETC will distribute ride-matching registration forms annually to monitor the total number of people carpooling to work. In addition, all new employees will be asked to complete registration forms. Employees will also be able to contact the ETC at any time during the work week to obtain ridesharing and transit information.

Carpool Incentives

To encourage carpooling, the hotel will offer the following incentives to employees who carpool:

- The ETC will hold carpool formation meetings and provide ride-matching services to all employees who are interested in forming carpools or in filling empty seats.
- As more employees begin to carpool/vanpool, parking spaces will be reserved for carpool vehicles in desirable areas of the parking facility.
- The rideshare registration form will be used to monitor the total number of people carpooling to work.

Vanpool Incentives

To encourage vanpooling, the hotel will offer the following incentives:

- The ETC will hold vanpool formation meetings and provide ride-matching services for employees interested in forming vanpools or filling empty seats.
- All vanpool vehicles may park on site at any time of the week. As more employees begin to carpool/vanpool, parking spaces will be reserved for vanpool vehicles in desirable areas of the parking facility during the weekday.

The rideshare registration form will be used to monitor the total number of people vanpooling to work.

Transit Incentives

The ETC will provide information regarding the routes, schedules, and bus stop locations to employees upon request. Cottonwood Area Transit (CAT) currently provides daily hourly bus service (6 AM – 10 PM) with stops at Tlaquepaque. The Verde Shuttle connects central Cottonwood with West Sedona, Uptown Sedona, and northern portions of SR 179.

Public transportation maps will be displayed in the employee lounge area. Information about where to buy a bus pass will be posted on bulletin boards. To encourage transit usage, the hotel will offer the following incentives:

- The ETC will provide ride-matching services to all employees who are interested in taking the bus to work but who would like to share the trip with other employees. The ride-share registration form will be used to monitor the total number of people taking public transportation to work.

A public transit fare reimbursement program will be implemented by the owner/operator. The system shall be in effect for at least a 30-year period. The owner/operator will provide for a minimum of 50% reimbursement to 100% of the employees of the development for public transit fare to and from work. Posters, brochures, and registration material of the program will be available to employees. Employees will be informed of the program upon orientation and annually thereafter.

City of Sedona also operates the Sedona Shuttle. The Sedona Shuttle provides service from park and ride locations to popular trailheads. The service operates Thursday-Sunday. This service will be advertised to hotel guests. The service is not anticipated to benefit hotel employees.

City of Sedona is in the process of planning for on-demand micro-transit shuttles. This service will be advertised to hotel guests.

Bicycle Incentives

To encourage bicycle-commuting, the hotel will offer the following incentives to employees who ride their bicycles to work at least four days per week:

- The hotel will provide twice the minimum requirement of bicycle parking (9 min. x 2 = 18 bicycle spaces), free of charge, on the property
- All bicycle parking spaces shall be shared among and equally available to all the patrons, employees, and other users of the buildings.
- Additional bicycle racks will be installed, as needed, in safe, convenient areas of the work site where the bicycles will be protected from rain and wind.
- The hotel will provide shower and changing facilities for employees.
- The hotel will provide locks for employees bicycling to work.
- Safety and bicycle commuting workshops will be held for interested employees.