March 29, 2022

Erwin Architecture & Development
Attn: William Erwin

RE: ***Traffic Statement, Arabella Spa, Sedona, AZ***

This traffic statement is prepared to support the development of a 21,129 SF luxury spa in Sedona Arizona, where 21,031 SF is indoor space, and 525 SF is outdoor space. The statement documents the existing traffic patterns, potential traffic impacts, and recommendations for the proposed Arabella Spa in Sedona, AZ.

SITE BACKGROUND

The project is proposed south of Sombart Lane, east of SR 179 in Sedona, AZ. The total site area is 231,673 square feet (SF) with a total building footprint of 21,031 SF and an additional 525 SF of outdoor space. The project will consist of a luxury spa and associated amenities. The owner of the development also owns the existing Arabella Hotel on the parcel to the west. The site location is shown in **Figure 1** below.

Figure 1. Vicinity Map

The proposed spa is to be located on the south side of Sombart Lane and be accessed by two driveways. Most of the parking for the development, however, will be contained on the north side of Sombart Lane and connect to the existing parking lot serving the Arabella Hotel to the west. There will be one new access to the combined lot.

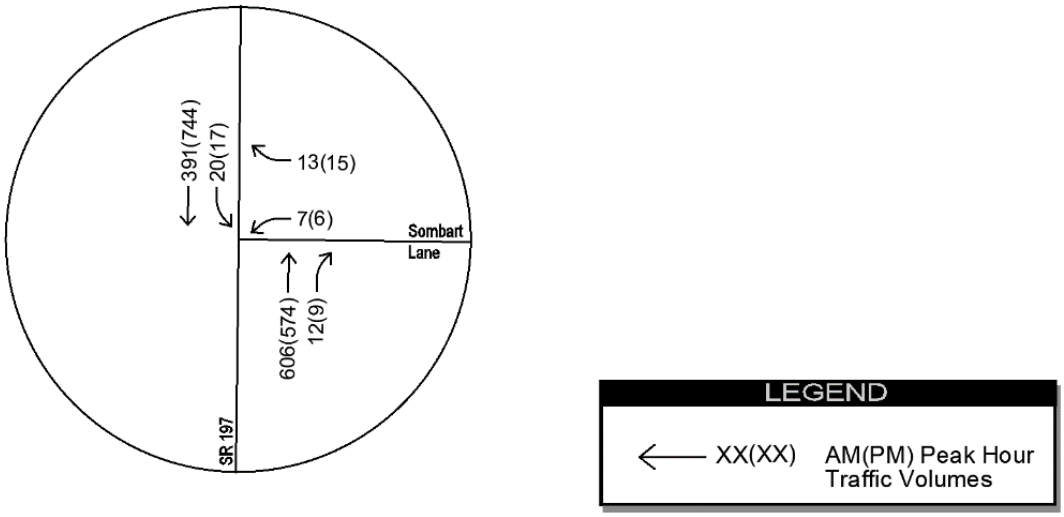
TRAFFIC COUNTS

Peak period turning movement counts were collected at the study intersection of SR 179 and Sombart Lane on Tuesday, November 2nd, 2021. The counts were collected between 7:00 AM and 9:00 AM and between 4:00 PM and 6:00 PM for AM and PM peak hours respectively.

Daily traffic (24-hour) counts were collected on Tuesday, November 2nd, 2021 on Sombart Lane just east of SR 179. The daily traffic volume observed on Sombart Lane was 776 vehicles.

The results of the peak-hour turning movement counts are shown in **Figure 2**. A copy of the traffic count data is included as **Attachment A**.

Figure 2. Existing Traffic Volumes



TRIP GENERATION

Institute of Transportation Engineers' (ITE) *Trip Generation Manual, 11th Edition* was used to estimate the number of trips generated the proposed spa. ITE Land Use Code 931 – Quality Restaurant and Land Use Code 493 – Athletic Club daily and peak hour trip generation rates and inbound-outbound percentages were obtained. The 21,031 SF building footprint is split between 19,463 SF of Spa space and 1,568 SF of restaurant space, with an additional 525 SF of outdoor space allotted to the restaurant. Trip generation rates for the proposed land uses include:

ITE Land Use 493 – Athletic Club

***Daily rate:**	Trips = PM peak hour trips / 0.10	(50% in / 50% out)
AM peak rate:	Trips = 3.16* ksf	(61% in / 39% out)
PM peak rate:	Trips = 6.29* ksf	(62% in / 38% out)

*LUC 493 does not include a daily rate, but it is generally accepted that the PM peak hour is approximately 10% of the daily trips.

ITE Land Use 931 – Quality Restaurant

Daily rate:	Trips = 83.84* ksf	(50% in / 50% out)
AM peak rate:	Trips = 0.73* ksf	(80% in / 20% out)
PM peak rate:	Trips = 7.80* ksf	(67% in / 33% out)

Due to the shared ownership of the adjacent hotel property, there is the potential that spa patrons would also be staying at the hotel to the west. This shared use is anticipated to reduce the total number of external vehicle trips to the spa. To estimate the shared use reduction, the internal capture percentages per ITE's *Trip Generation Manual, 9th Edition* between retail (the spa) and residential (the hotel) were applied to the trip generation of the site to determine net external trips. This reduction is shown in the removal of internal capture trips. Internal capture for the development is estimated to be a daily rate of 38%, AM peak hour rate of 34%, and PM peak hour of 53%. Trip generation for the site is summarized in **Table 1**.

Table 1: Trip Generation Summary

Land Use	Land Use Code	Size/Qty	Units	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Athletic Club	493	19.463	ksf	1230	38	24	62	76	47	123
Quality Restaurant	931	2.095	ksf	176	2	1	3	11	5	17
SUBTOTAL		**21.556**	**ksf**	**1,406**	**40**	**25**	**65**	**87**	**53**	**140**
Internal Capture				**-687**	**-13**	**-9**	**-23**	**-46**	**-29**	**-75**
TOTAL				**1121**	**27**	**16**	**42**	**41**	**24**	**65**

Based on ITE calculations it is estimated that the proposed Arabella Spa will generate **1121 daily trips** with **42 occurring in the AM peak hour** and **65 occurring in the PM peak hour**. Trip generation calculations are included in **Attachment B**.

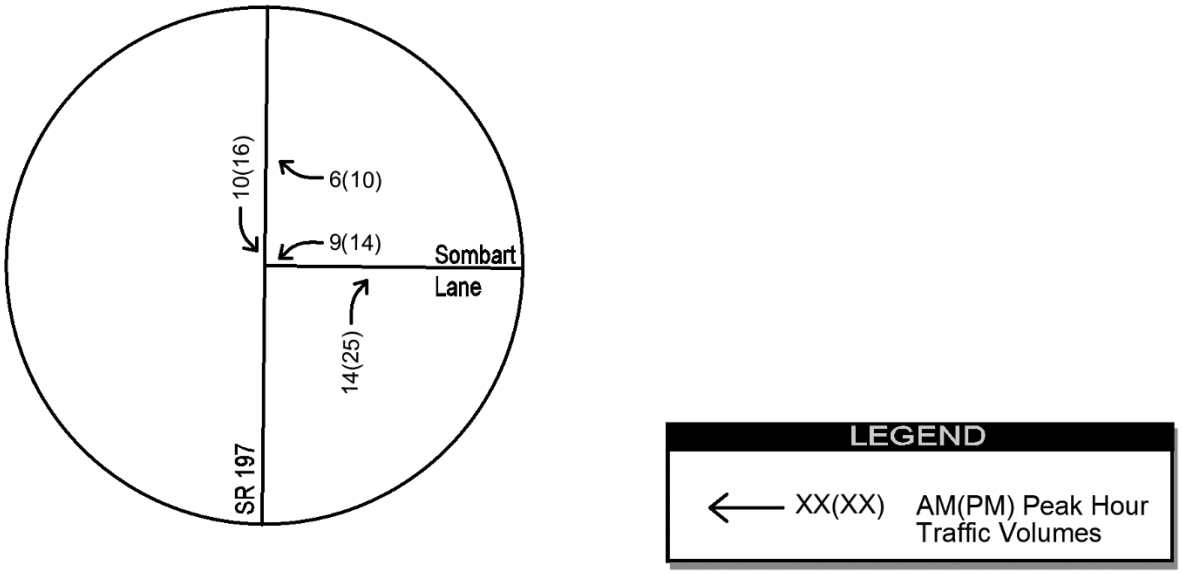
TRANSIT CONNECTIVITY

The Arabella Hotel plans to offer a shuttle service, providing connectivity to the Spa and trailhead to locations through Sedona, including other hotels. With the implementation of the shuffle stop at the Spa, it is anticipated that the vehicle trips produced by the spa will be reduced since customers using the spa may utilize the shuttle service rather than a personal vehicle.

PROJECTED TRAFFIC

Trips generated by the proposed development were assigned to the roadway network based on the trip distribution observed in the collected traffic counts. **Figure 3** shows the projected traffic assignment.

Figure 3. Site Traffic Volumes

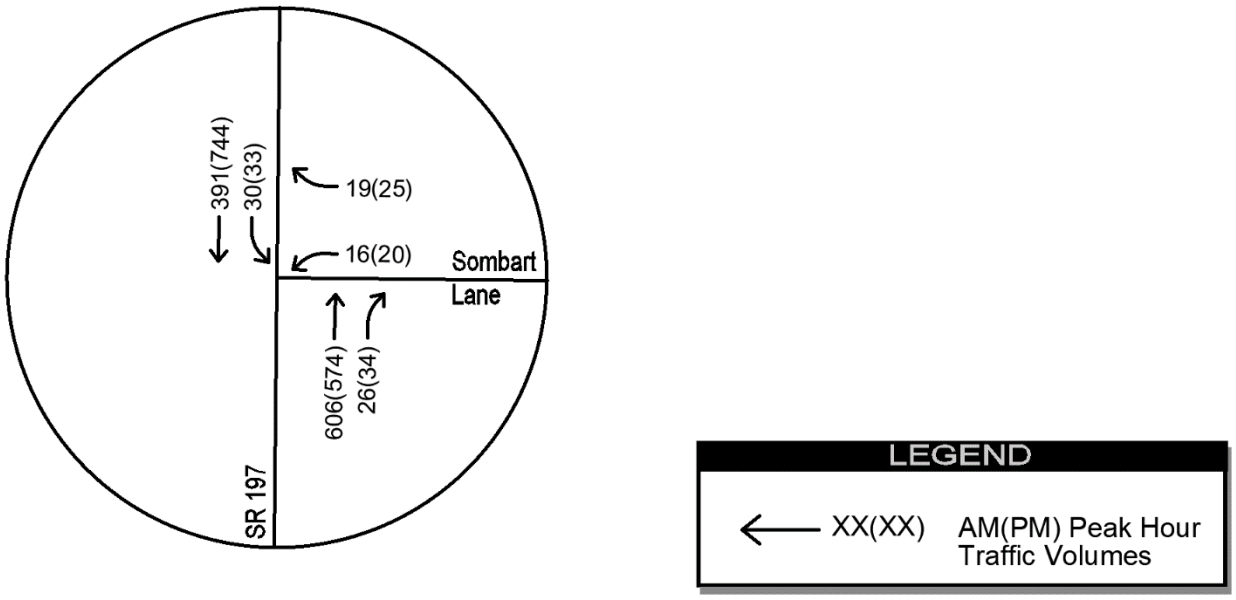


TOTAL TRAFFIC

The results of the traffic assignment (**Figure 2**) for the projected development were added to the existing traffic volumes (**Figure 1**) to produce total traffic volumes for the study intersection.

Figure 4 shows the total weekday traffic volumes for the study intersection.

Figure 4. Total Traffic Volumes



LEVEL OF SERVICE AND DELAY ANALYSIS

Existing Level of Service

The level of service (LOS) under existing conditions was evaluated for the study intersection using the traffic count data previously described. Synchro 11 software and HCM 6th Edition methodology was used to generate LOS and delay for the intersection.

Existing intersection geometry and conditions were used to obtain LOS and delay. The results of this analysis are shown in **Table 2** and reported as "LOS/delay". Existing LOS and analysis reports are included in **Attachment C**.

Table 2. Existing Level of Service and Delay

Intersection	NB Approach			SB Approach			EB Approach			WB Approach		
	L	T	R	L	T	R	L	T	R	L	T	R
SR 179 & Sombart Lane												
AM Peak		-	-	A/9 sec	-					C/17 sec		
PM Peak		-	-	A/9 sec	-					C/19 sec		

- Free movement; no LOS calculated

Per ADOT standards, the intersection of SR 179 and Sombart Lane is operating at an acceptable LOS under existing conditions.

Total Level of Service

The study intersection was evaluated based on total traffic, combining existing traffic, and expected site traffic. The results of the analysis are shown in **Table 3**.

The addition of project traffic the westbound approach is operating at LOS D (28 seconds delay) in the PM peak hour, an 8 second increase in delay from existing conditions. Although ADOT requires LOS C on state highways, LOS D may be acceptable per ADOT TGP 240 in urban areas. Considering that the 95th percentile queue for the westbound movement is only 1 vehicle in the total traffic PM scenario and there is less than 30 seconds of delay overall, LOS D is not anticipated to cause adverse impacts to the study intersection. Total Traffic LOS and analysis reports are included in **Appendix C**.

Table 3. Total Level of Service and Delay

Intersection	NB Approach			SB Approach			EB Approach			WB Approach		
	L	T	R	L	T	R	L	T	R	L	T	R
SR 179 & Sombart Lane												
AM Peak		-	-	A/9 sec	-					C/19 sec		
PM Peak		-	-	A/9 sec	-					D/27 sec		

- Free movement; no LOS calculated

AUXILARY LANE ANALYSIS

The intersection of SR 179 and Sombart Lane has an existing northbound right turn lane and southbound left turn lane. The northbound right turn lane has a storage length of 205'. The southbound left turn lane is a two-way center median with a storage length of 175' to the nearest driveway.

The northbound right turn lane is anticipated to have no queue after development occurs because the movement is free flow, and the southbound left turn lane has a queue of 0.1 vehicles for the 95th percentile queue. No configuration changes are recommended at the intersection of SR 179 and Sombart Lane.

It is projected that 56 vehicles will travel on to Sombart Lane in the AM peak hour and 65 vehicles in the PM peak hour after development. Minimal volume in the through movement on Sombart Lane anticipates that no auxiliary lanes at the spa driveway will be necessary.

PARKING ANALYSIS

The City of Sedona requires minimum parking ratios to be met for the development. The ratios required by the City for restaurant and spa space are:

- Restaurant (Greater than 1,000 SF): 1 space per 100 SF
    - Outdoor Dining: If outdoor dining area is lea than 20 percent of the size of the indoor dining area then no additional parking is required. If outdoor dining area is 20% or more of the size of the indoor dining, then the outdoor dining areas that exceed 20% of the indoor dining areas shall providing additional parking at a rate of 1 space per 100 SF.
- Personal Services, General: 1 space per 250 SF

Per the minimum parking requirements set by the City of Sedona, the development would require a total of 96 spaces, as shown in **Table 4**.

Table 4. City of Sedona Parking Requirements

Land Use	Units (SF)	Ratio		Number of Spaces
Spa	19,463	1 Space per 250 SF		78
Indoor Dining	1,568	1 Space per 100 SF		16
Outdoor Dining	525	22%	1 Space per 100 SF exceeding 20%	0.708
Total	**21,556**	**-**		**96**

Due to shuttle access and the location of the development on the Arabella Hotel site, parking requirements for the site will likely be reduced due to shared parking and transit opportunities. The daily internal capture rate per ITE is 38%. A reduction of 38% is recommended due to these factors, resulting in **60 parking spaces** being provided for the development.

RECOMMENDATIONS

This report documents the traffic impact analysis (TIA) for a Spa to be developed west of the intersection of SR 179 and Sombart Lane in Sedona, Arizona. The development will consist of 21,031 SF of building space and 525 SF of additional outdoor space, with a total site area of 68,905 SF. The development is anticipated to generate 1,121 daily trips, with 42 trips occurring in the AM peak hour and 65 trips in the PM peak hour.

It is recommended that the City should extend the sidewalk on the south side of Sombart Lane to include the project frontage. Extension of the sidewalk will increase spa accessibility to hotel

patrons and increase safety for pedestrians. The proposed parking lot should be constructed to maintain trail access to Marg Draw Trail.

The study intersection of SR 179 and Sombart Lane operates at acceptable level of service within existing conditions. The addition of project traffic the westbound approach is operating at LOS D (28 seconds delay) in the PM peak hour, an 8 second increase in delay from existing conditions. Although ADOT requires LOS C on state highways, LOS D may be acceptable per ADOT TGP 240 in urban areas. Considering that the 95th percentile queue for the westbound movement is only 1 vehicle in the total traffic PM scenario and there is less than 30 seconds of delay overall, LOS D is not anticipated to cause adverse impacts to the study intersection. No intersection improvements are recommended per the LOS and delay analysis.

No additional auxiliary lanes are recommended at the intersection of SR 179 and Sombart Lane or at the future driveway intersections. The existing northbound right turn lane and southbound left turn lanes on SR 179 are not recommended to be adjusted.

The City of Sedona requires a minimum of 96 parking spaces for the proposed development. Due to the shuttle access to various destinations throughout Sedona and the location of the development on the Arabella Hotel site, it is expected that parking demand will be lower than what is required. A parking reduction of 38% is recommended per ITE daily internal capture rates, resulting in 60 spaces recommended for the development.

Please let me know if you have any questions. I can be reached at 958-458-7121, or andrew.baird@kimley-horn.com.

Andrew Baird, P.E.
Associate

Attachments:
Attachment A: Count Data
Attachment B: Trip Generation
Attachment C: Existing & Total Synchro Reports

Attachments

Attachment A:
Count Data

Prepared by: Field Data Services of Arizona/Veracity Traffic Group (520) 316-6745

Volumes for: Tuesday, November 2, 2021 City: Sedona Project #: 21-1672-002

Location: Sombart Ln east of SR-179

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			0		0			12:00			9		9		
00:15			0		0			12:15			11		6		
00:30			0		0			12:30			9		7		
00:45			0	0	0	0		12:45			7	36	3	25	61
01:00			0		1			13:00			12		4		
01:15			0		0			13:15			11		6		
01:30			1		0			13:30			12		5		
01:45			0	1	1	2	3	13:45			6	41	5	20	61
02:00			0		0			14:00			9		5		
02:15			0		0			14:15			8		4		
02:30			0		0			14:30			8		5		
02:45			0	0	0	0		14:45			7	32	6	20	52
03:00			1		1			15:00			14		4		
03:15			0		0			15:15			14		7		
03:30			1		1			15:30			10		2		
03:45			0	2	1	3	5	15:45			13	51	8	21	72
04:00			1		0			16:00			9		7		
04:15			0		0			16:15			3		5		
04:30			0		0			16:30			7		2		
04:45			1	2	0	0	2	16:45			7	26	7	21	47
05:00			3		1			17:00			8		6		
05:15			2		1			17:15			12		9		
05:30			3		3			17:30			5		8		
05:45			4	12	2	7	19	17:45			15	40	3	26	66
06:00			3		2			18:00			6		6		
06:15			3		2			18:15			14		5		
06:30			4		4			18:30			5		2		
06:45			4	14	2	10	24	18:45			9	34	3	16	50
07:00			4		5			19:00			6		1		
07:15			5		3			19:15			4		2		
07:30			7		5			19:30			6		4		
07:45			12	28	2	15	43	19:45			5	21	3	10	31
08:00			7		5			20:00			4		1		
08:15			6		4			20:15			1		0		
08:30			7		9			20:30			5		0		
08:45			6	26	3	21	47	20:45			4	14	3	4	18
09:00			6		6			21:00			3		2		
09:15			9		8			21:15			8		2		
09:30			2		3			21:30			2		1		
09:45			5	22	9	26	48	21:45			0	13	1	6	19
10:00			9		3			22:00			3		2		
10:15			11		6			22:15			1		0		
10:30			6		3			22:30			1		1		
10:45			9	35	6	18	53	22:45			0	5	1	4	9
11:00			5		8			23:00			0		0		
11:15			6		5			23:15			0		0		
11:30			5		4			23:30			1		0		
11:45			7	23	5	22	45	23:45			0	1	0	0	1
Total Vol.				165		124	**289**					314		173	**487**

GPS Coordinates: 34.857615, -111.763611

Daily Totals

NB	SB	EB	WB	Combined
		479	297	**776**

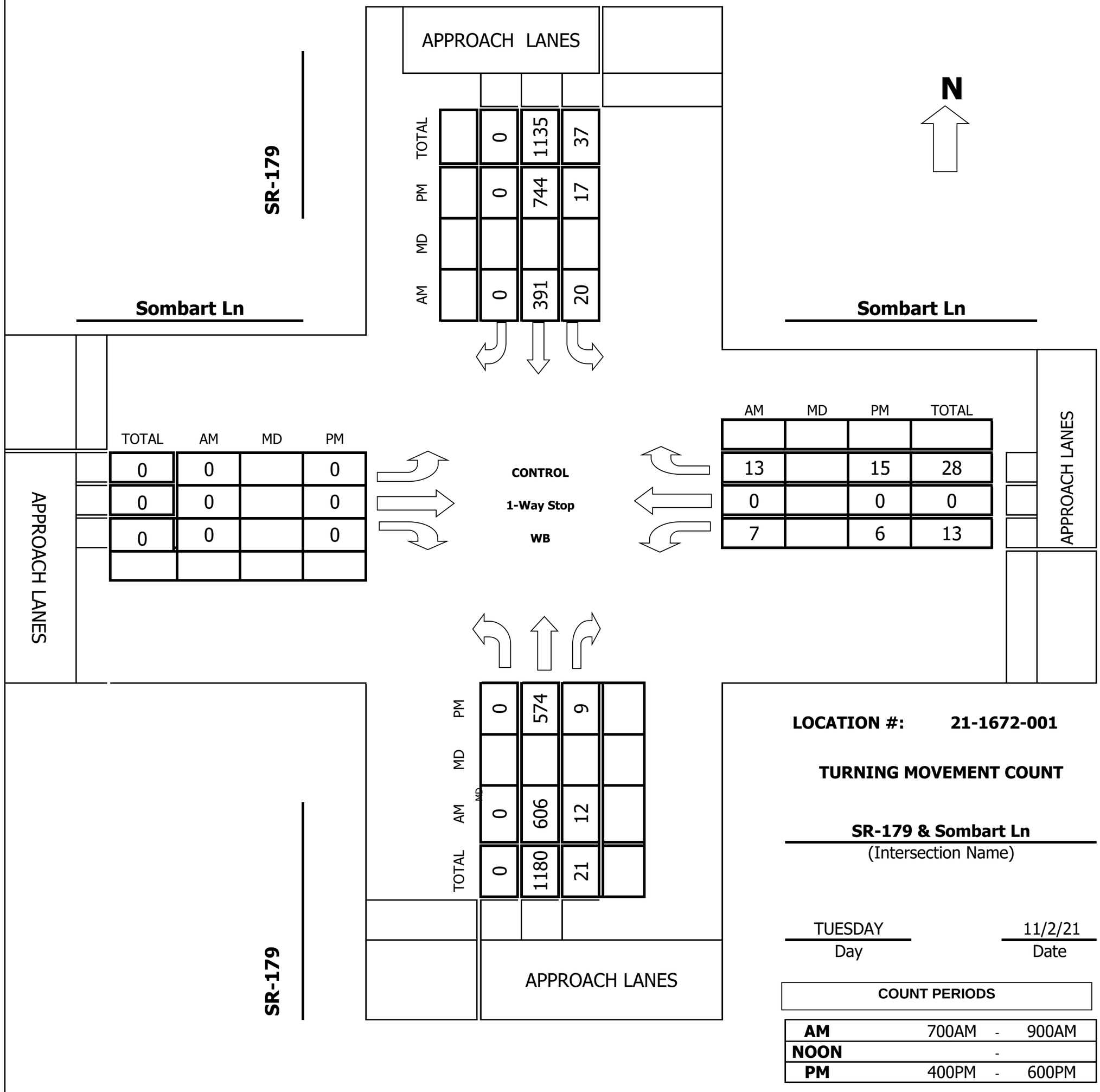
	AM			PM		
Split %	57.1%	42.9%	**37.2%**	64.5%	35.5%	**62.8%**
Peak Hour	11:45	11:45	**11:45**	15:00	16:45	**15:00**
Volume	36	27	**63**	51	30	**72**
P.H.F.	0.82	0.75	**0.88**	0.91	0.83	**0.86**

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

Project #: 21-1672-001

TMC SUMMARY OF SR-179 & Sombart Ln



LOCATION #: 21-1672-001

TURNING MOVEMENT COUNT

SR-179 & Sombart Ln
(Intersection Name)

TUESDAY
Day

11/2/21
Date

COUNT PERIODS			
AM	700AM	-	900AM
NOON		-	
PM	400PM	-	600PM

AM PEAK HOUR 745 AM

NOON PEAK HOUR

PM PEAK HOUR 400 PM

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	SR-179	DATE:	11/2/21	LOCATION:	Sedona
E-W STREET:	Sombart Ln	DAY:	TUESDAY	PROJECT#	21-1672-001

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	1	0	1	0	0	0	0	0	1	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	0	92	4	0	50	0	0	0	0	4	0	1	151
7:15 AM	0	92	4	1	58	0	0	0	0	2	0	1	158
7:30 AM	0	130	4	3	72	0	0	0	0	4	0	1	214
7:45 AM	0	155	4	8	93	0	0	0	0	0	0	2	262
8:00 AM	0	155	4	3	87	0	0	0	0	1	0	4	254
8:15 AM	0	146	2	4	103	0	0	0	0	2	0	2	259
8:30 AM	0	150	2	5	108	0	0	0	0	4	0	5	274
8:45 AM	0	126	0	6	118	0	0	0	0	1	0	2	253
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	0	1046	24	30	689	0	0	0	0	18	0	18	1825
Approach %	0.00	97.76	2.24	4.17	95.83	0.00	####	####	####	50.00	0.00	50.00	
App/Depart	1070	/	1064	719	/	707	0	/	54	36	/	0	

AM Peak Hr Begins at: 745 AM

PEAK													
Volumes	0	606	12	20	391	0	0	0	0	7	0	13	1049
Approach %	0.00	98.06	1.94	4.87	95.13	0.00	####	####	####	35.00	0.00	65.00	
PEAK HR. FACTOR:		0.972			0.909			0.000			0.556		0.957

CONTROL: 1-Way Stop (WB)
COMMENT 1:
GPS: 34.857643, -111.763893

Intersection Turning Movement

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	SR-179 0	DATE:	11/2/21	LOCATION:	Sedona
E-W STREET:	Sombart Ln	DAY:	TUESDAY	PROJECT#	21-1672-001

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	1	0	1	0	0	0	0	0	1	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	0	161	3	6	193	0	0	0	0	3	0	4	370
4:15 PM	0	135	1	2	178	0	0	0	0	0	0	5	321
4:30 PM	0	147	3	4	180	0	0	0	0	1	0	1	336
4:45 PM	0	131	2	5	193	0	0	0	0	2	0	5	338
5:00 PM	0	121	1	7	158	0	0	0	0	2	0	4	293
5:15 PM	0	123	5	7	163	0	0	0	0	3	0	6	307
5:30 PM	0	134	3	2	146	0	0	0	0	4	0	4	293
5:45 PM	0	120	3	12	172	0	0	0	0	2	0	1	310
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	0	1072	21	45	1383	0	0	0	0	17	0	30	2568
Approach %	0.00	98.08	1.92	3.15	96.85	0.00	####	####	####	36.17	0.00	63.83	
App/Depart	1093	/	1102	1428	/	1400	0	/	66	47	/	0	

PM Peak Hr Begins at: 400 PM

PEAK													
Volumes	0	574	9	17	744	0	0	0	0	6	0	15	1365
Approach %	0.00	98.46	1.54	2.23	97.77	0.00	####	####	####	28.57	0.00	71.43	

PEAK HR. FACTOR:	0.889	0.956	0.000	0.750	0.922

CONTROL: 1-Way Stop (WB)
COMMENT 1: 0
GPS: 34.857643, -111.763893

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

Pedestrian & Bicycle Study

N-S STREET: SR-179 **Date:** 11/2/21 **City:** Sedona

E-W STREET: Sombart Ln **Day:** TUESDAY **Project #:** 21-1672-001

	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	1	0
8:45 AM	0	0	2	0
TOTAL	**0**	**0**	**3**	**0**

	BICYCLES			
	N-LEG	S-LEG	E-LEG	W-LEG
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	2	0
8:30 AM	0	0	0	0
8:45 AM	0	0	2	0
TOTAL	**0**	**0**	**4**	**0**

	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
4:00 PM	1	0	0	0
4:15 PM	0	0	2	0
4:30 PM	0	0	0	0
4:45 PM	0	0	5	0
5:00 PM	0	0	4	0
5:15 PM	0	0	3	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
TOTAL	**1**	**0**	**14**	**0**

	BICYCLES			
	N-LEG	S-LEG	E-LEG	W-LEG
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	2	0
4:45 PM	0	0	0	0
5:00 PM	0	0	1	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
TOTAL	**0**	**0**	**3**	**0**

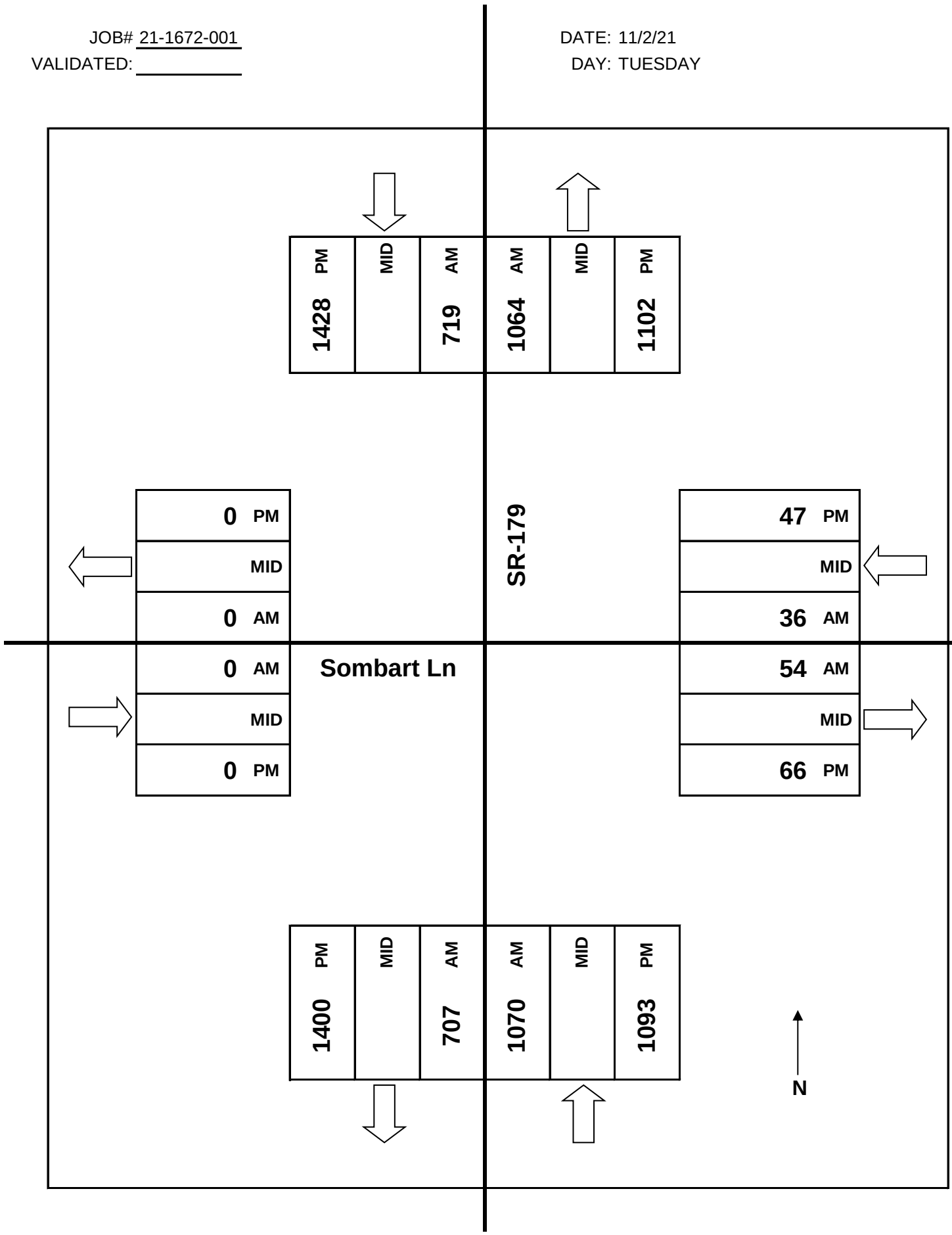
North Leg

West Leg **East Leg**

South Leg

JOB# 21-1672-001
VALIDATED: _____

DATE: 11/2/21
DAY: TUESDAY



Attachment B:
Trip Generation

Athletic Club
(493)

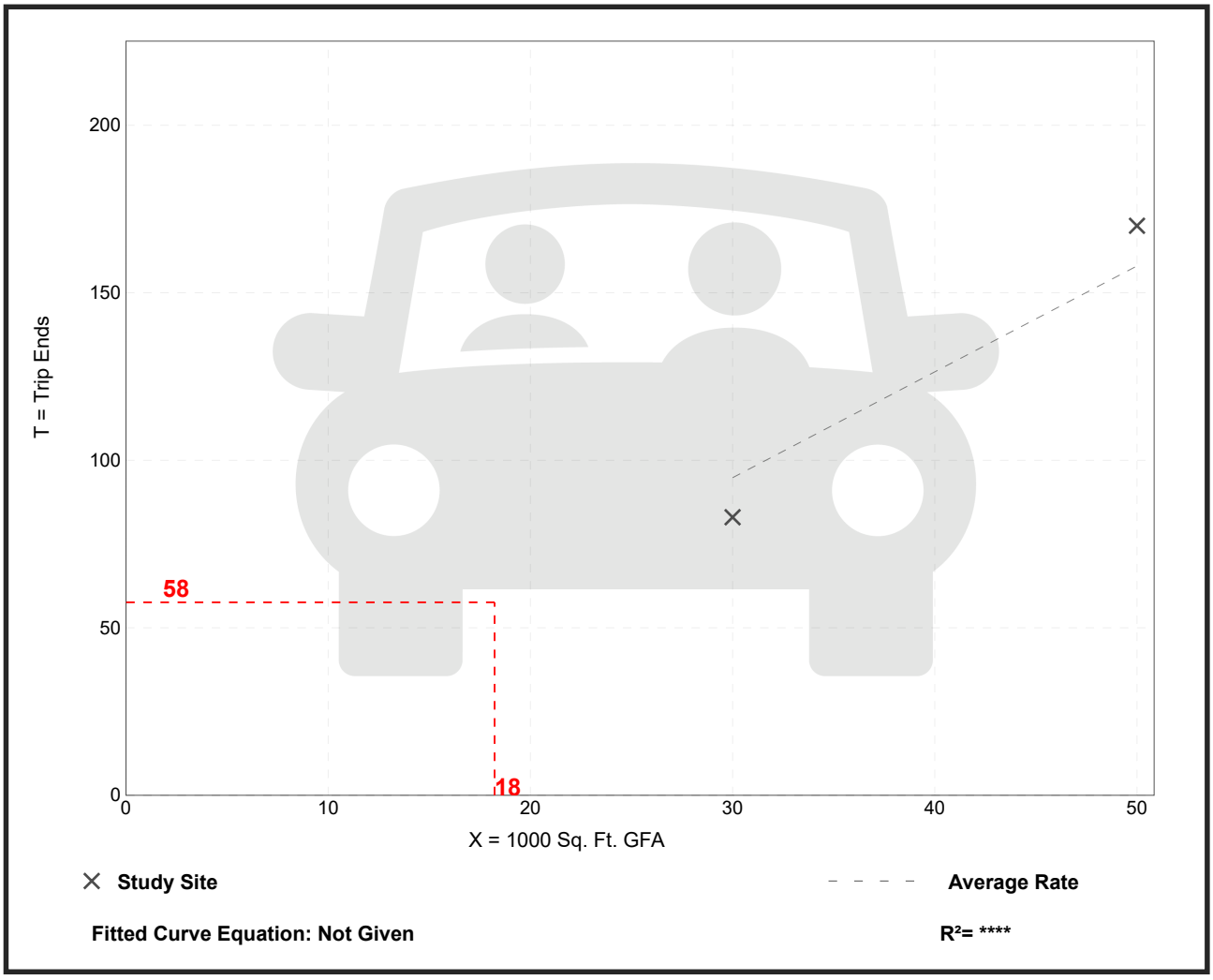
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 2
Avg. 1000 Sq. Ft. GFA: 40
Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.16	2.77 - 3.40	*

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= **

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Athletic Club
(493)

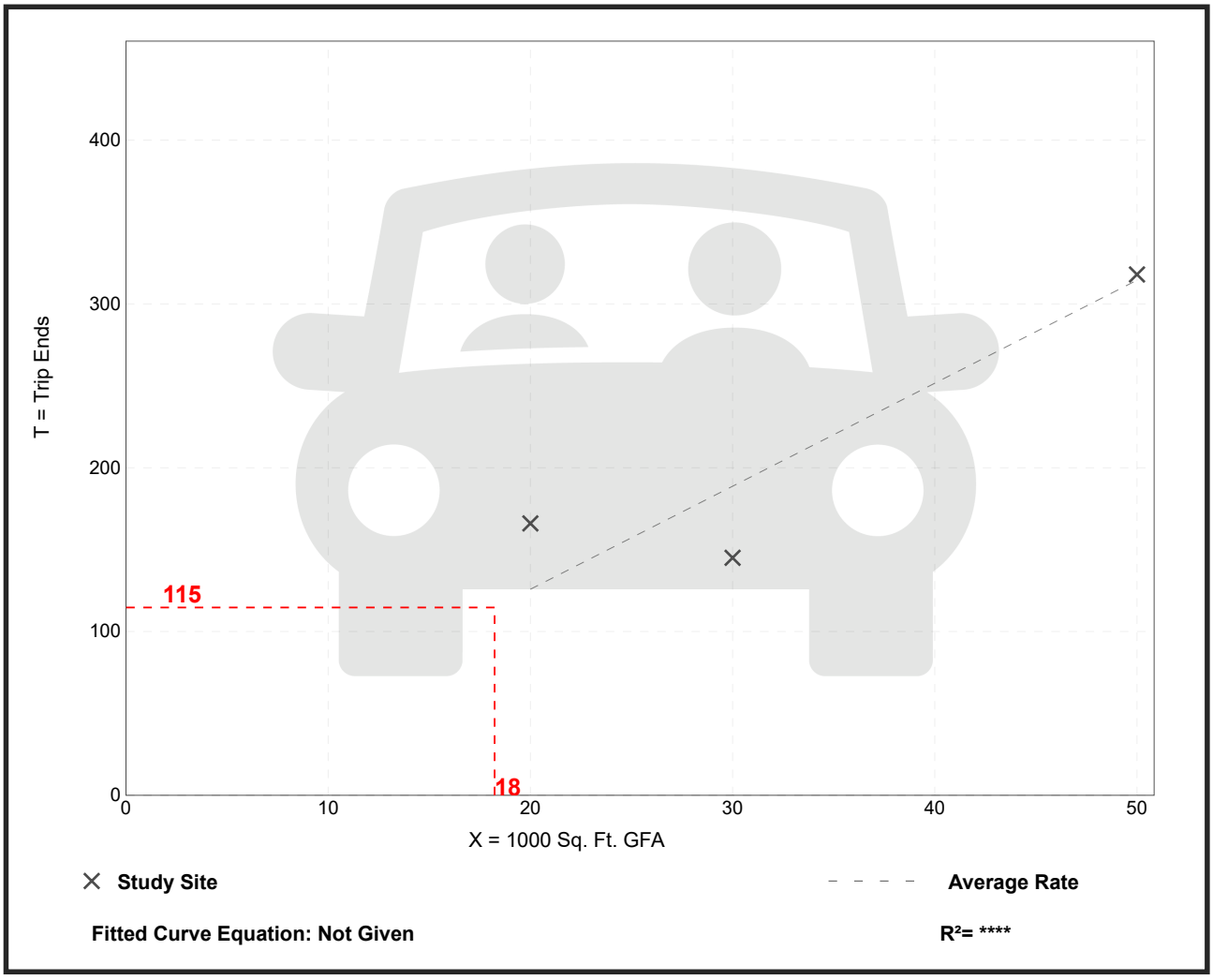
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 3
Avg. 1000 Sq. Ft. GFA: 33
Directional Distribution: 62% entering, 38% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
6.29	4.83 - 8.30	1.47

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= **

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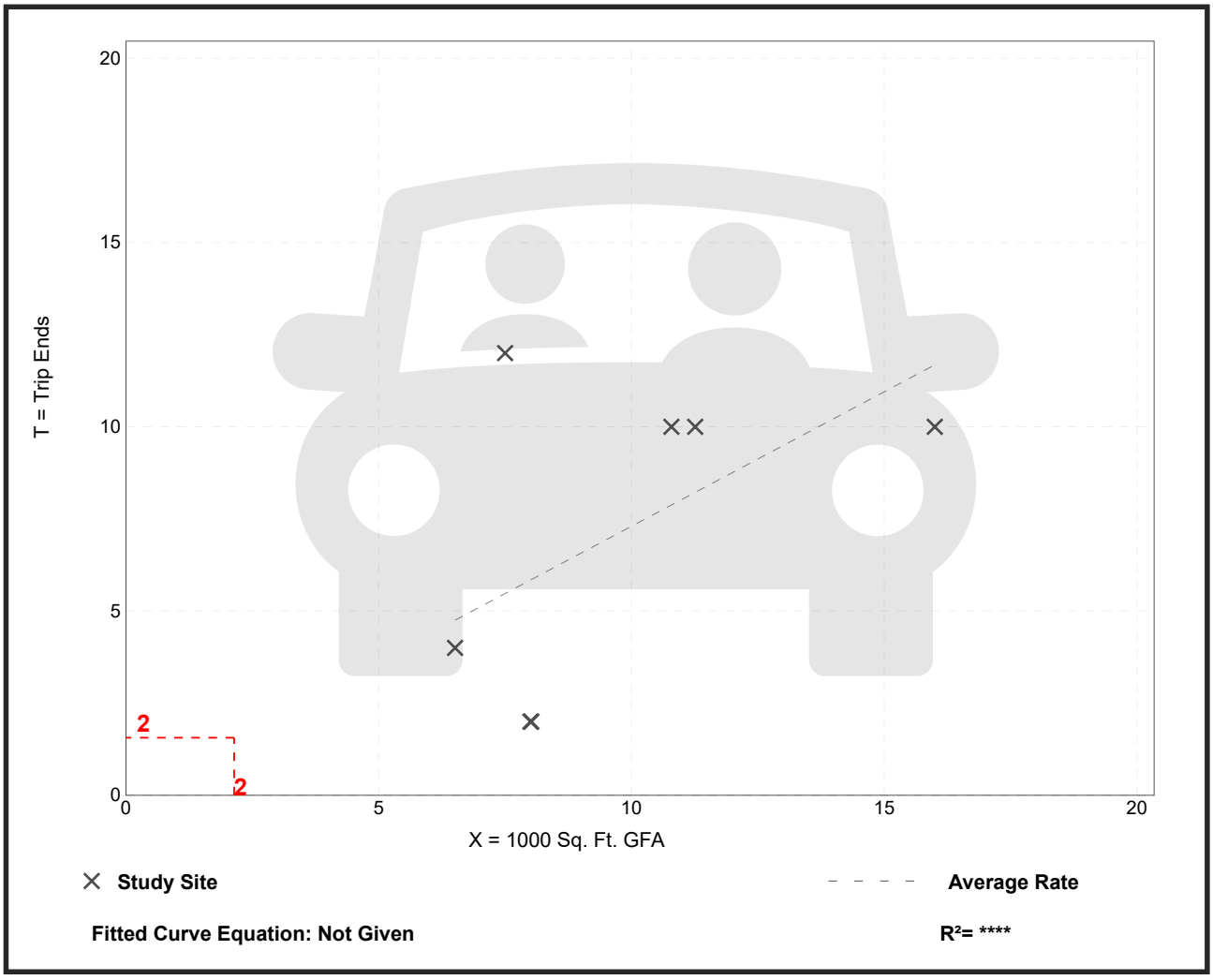
Fine Dining Restaurant
(931)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 7
Avg. 1000 Sq. Ft. GFA: 10
Directional Distribution: Not Available

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.73	0.25 - 1.60	0.42

Data Plot and Equation



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Fine Dining Restaurant
(931)

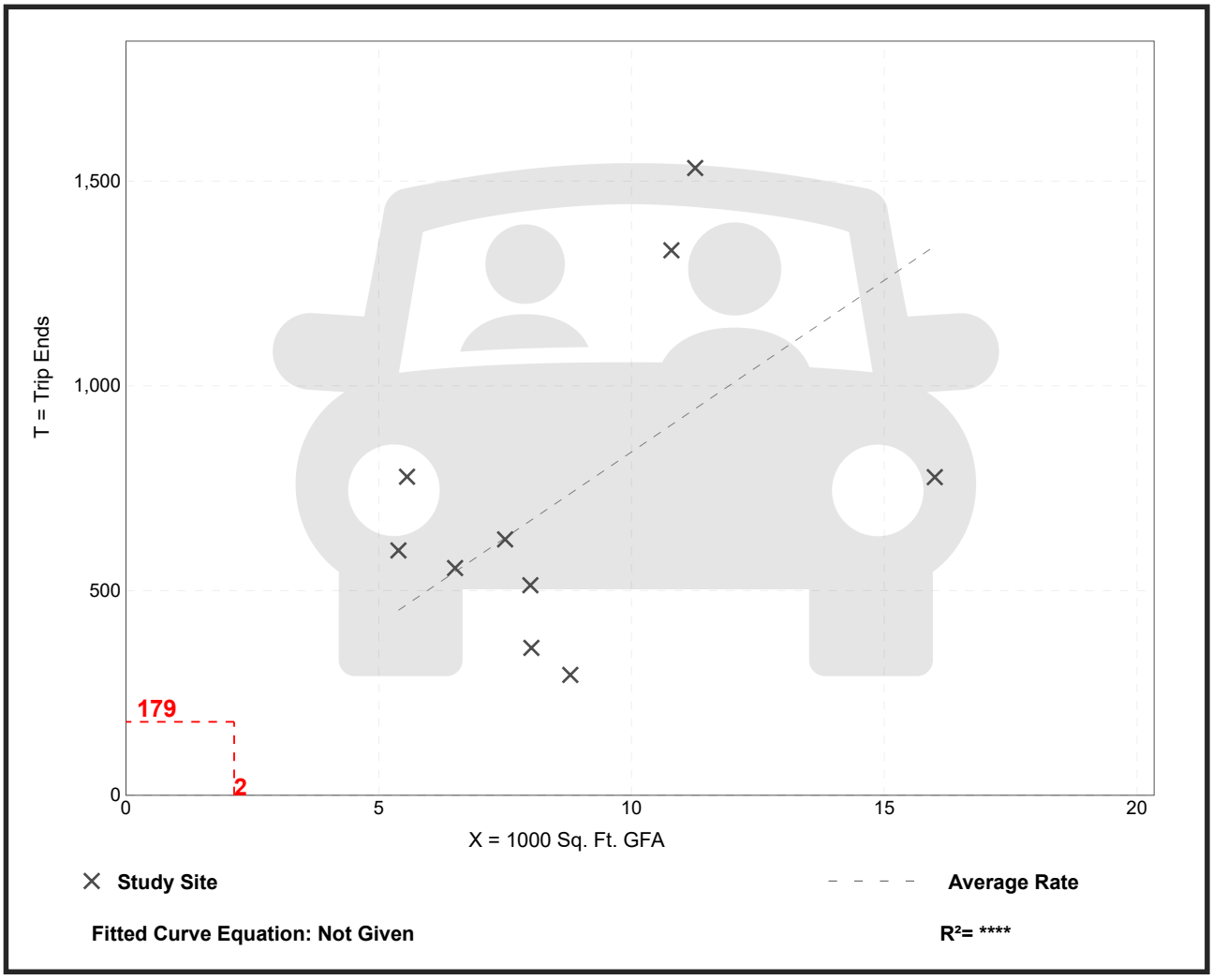
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 10
Avg. 1000 Sq. Ft. GFA: 9
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
83.84	33.45 - 139.93	40.01

Data Plot and Equation



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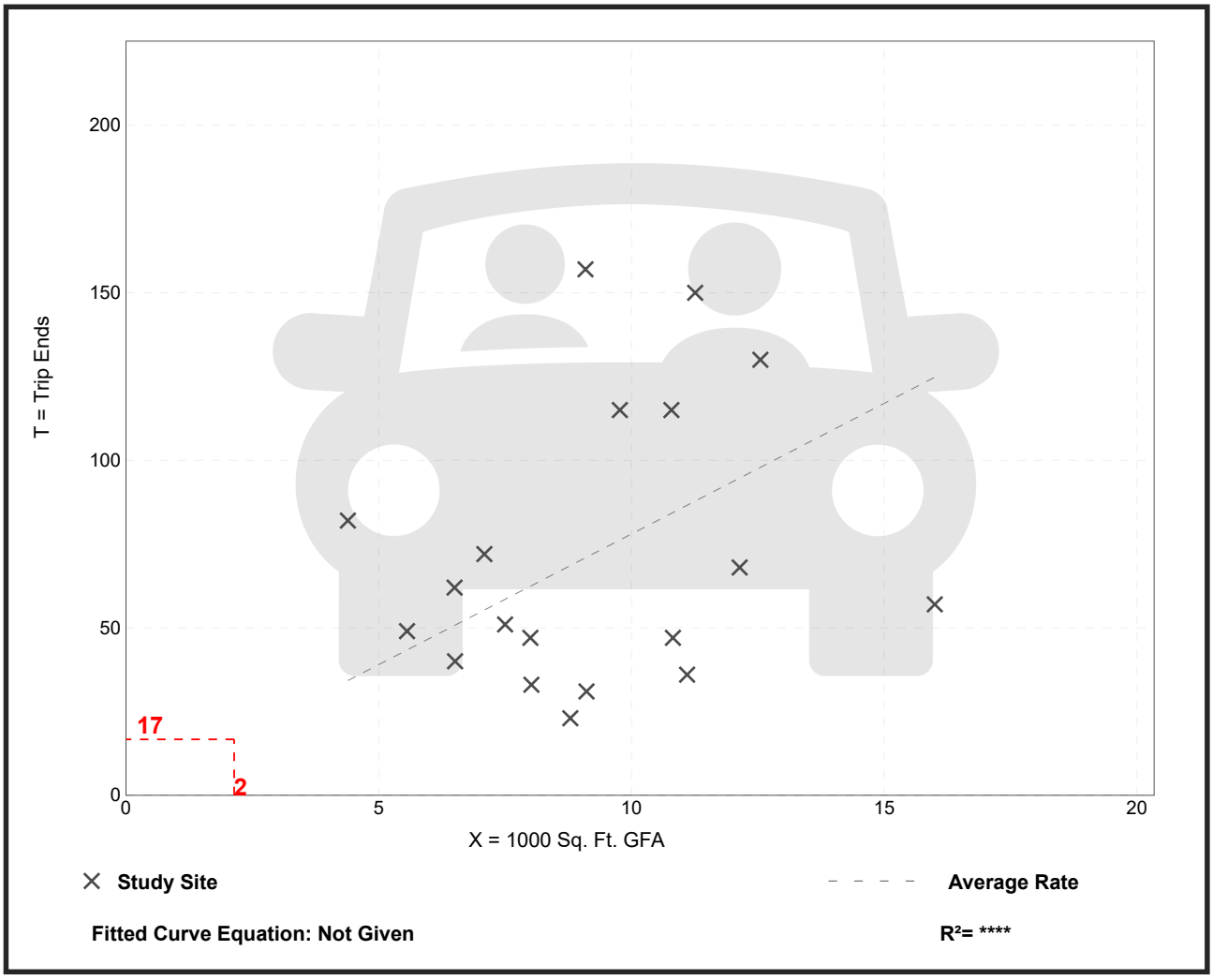
Fine Dining Restaurant
(931)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 19
Avg. 1000 Sq. Ft. GFA: 9
Directional Distribution: 67% entering, 33% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
7.80	2.62 - 18.68	4.49

Data Plot and Equation



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Attachment C:
Synchro LOS Reports

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	13	606	12	20	391
Future Vol, veh/h	7	13	606	12	20	391
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	205	175	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	56	56	97	97	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	23	625	12	22	430

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1099	625	0	0	637	0
Stage 1	625	-	-	-	-	-
Stage 2	474	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	235	485	-	-	947	-
Stage 1	534	-	-	-	-	-
Stage 2	626	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	230	485	-	-	947	-
Mov Cap-2 Maneuver	230	-	-	-	-	-
Stage 1	534	-	-	-	-	-
Stage 2	612	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.5	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	349	947	-
HCM Lane V/C Ratio	-	-	0.102	0.023	-
HCM Control Delay (s)	-	-	16.5	8.9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	15	574	9	17	744
Future Vol, veh/h	6	15	574	9	17	744
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	205	175	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	89	89	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	20	645	10	18	775

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1456	645	0	0	655	0
Stage 1	645	-	-	-	-	-
Stage 2	811	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	143	472	-	-	932	-
Stage 1	522	-	-	-	-	-
Stage 2	437	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	140	472	-	-	932	-
Mov Cap-2 Maneuver	140	-	-	-	-	-
Stage 1	522	-	-	-	-	-
Stage 2	429	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.2	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	281	932	-
HCM Lane V/C Ratio	-	-	0.1	0.019	-
HCM Control Delay (s)	-	-	19.2	8.9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	19	606	26	30	391
Future Vol, veh/h	16	19	606	26	30	391
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	205	175	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	56	56	97	97	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	34	625	27	33	430

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1121	625	0	0	652	0
Stage 1	625	-	-	-	-	-
Stage 2	496	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	228	485	-	-	935	-
Stage 1	534	-	-	-	-	-
Stage 2	612	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	220	485	-	-	935	-
Mov Cap-2 Maneuver	220	-	-	-	-	-
Stage 1	534	-	-	-	-	-
Stage 2	591	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.3	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	313	935	-
HCM Lane V/C Ratio	-	-	0.2	0.035	-
HCM Control Delay (s)	-	-	19.3	9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.1	-

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	25	574	34	33	744
Future Vol, veh/h	20	25	574	34	33	744
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	205	175	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	89	89	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	33	645	38	34	775

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1488	645	0	0	683	0
Stage 1	645	-	-	-	-	-
Stage 2	843	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	137	472	-	-	910	-
Stage 1	522	-	-	-	-	-
Stage 2	422	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	132	472	-	-	910	-
Mov Cap-2 Maneuver	132	-	-	-	-	-
Stage 1	522	-	-	-	-	-
Stage 2	406	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.4	0	0.4
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	220	910	-
HCM Lane V/C Ratio	-	-	0.273	0.038	-
HCM Control Delay (s)	-	-	27.4	9.1	-
HCM Lane LOS	-	-	D	A	-
HCM 95th %tile Q(veh)	-	-	1.1	0.1	-