

Memorandum

To: Ms. Stefanie Day
Napleton Automotive Group

From: David Westergreen, E.I.
Transportation Engineer

Date: May 30, 2023

Subject: Traffic and Parking Analysis
Shabu-You Japanese Restaurant
Tower Crossing Shopping Center
Northeast Corner Ogden Avenue and Naper Boulevard
Naperville, Illinois

Part I. Introduction and Project Context

Gewalt Hamilton Associates, Inc. (GHA) has conducted a Traffic and Parking Analysis for the proposed Shabu-You Japanese Restaurant in Naperville, Illinois. It will be located in an approximately 5,160 square-foot vacant tenant space contained within the existing approximately 94,500 square-foot, Tower Crossings Shopping Center located at the northeast corner of US Route 34 (Ogden Avenue) and Naper Boulevard. The tenant space was formerly utilized as a shoe repair shop that moved within the center, as well as a Shmaltz Deli, which is no longer located in the Center.

The Shopping Center is served by a total of 455 parking spaces, including 16 accessible spaces. Access to the proposed use will be maintained via the existing Shopping Center driveways: a full signalized access on Naper Boulevard and a right-in/right-out access on Ogden Avenue.

The following provides a summary of existing conditions, site traffic characteristics and the analysis conducted, which includes a qualitative evaluation of the development's impact on the surrounding roadway network and a parking analysis. *Exhibits* and *Appendices* referenced are located at the end of this document.

Part II. Background Information

Site Location Map and Roadway Inventory

Exhibit 1 provides a site location map.

Roadway Network

Ogden Avenue is an east-west, principal arterial roadway providing a five-lane cross-section (two travel lanes in each direction and a center lane for turns at intersections) with a posted speed limit of 35 miles per hour (mph) in the site vicinity. The posted speed limit is increased to 40 mph to the east of the site. Ogden Avenue operates under traffic signal control at its intersection with Naper Boulevard, as well its approach in the westbound direction, widens to provide a separate right-turn lane. It is under the jurisdiction of the Illinois Department of Transportation (IDOT).

Naper Boulevard is a north-south, principal arterial roadway providing a five-lane cross-section (two travel lanes in each direction and a center lane for turns at intersections) with a posted speed limit of 40 mph in the site vicinity. At its signalized intersection with Ogden Avenue, Naper Boulevard expands to provide a right-turn lane in the southbound direction. Naper Boulevard also operates under traffic signal control at its intersection with the Tower Crossings Shopping Center, expanding in the northbound direction to provide a separate right-turn lane. The eastbound and westbound shopping center accesses each provide a left-turn lane and a shared through/right-turn lane. Naper Boulevard is under the jurisdiction of the DuPage County Division of Transportation north of Ogden Avenue and the City of Naperville to the south.

Pedestrian Facilities

A sidewalk is provided along both sides of Ogden Avenue and Naper Boulevard in the study area. A crosswalk is maintained along all four approaches of the Ogden Avenue and Naper Boulevard signalized intersection and along the north leg of the Naper Boulevard and Tower Shopping Center signalized intersection, along with pedestrian signals.

Public Transportation

The site is well served by public transportation. Pace Bus Route #722 (Ogden Avenue) provides weekday and Saturday service between the Yorktown Shopping Center in Lombard and the Metra BNSF Line Naperville Station. It operates along Naper Boulevard adjacent to the site. Posted stops only are permitted along this route.

Part III. Traffic Evaluation

Proposed Development Plan

The development includes an approximately 5,160 square-foot Shabu-You Japanese Restaurant within the existing Tower Crossing Shopping Center. The facility will occupy some of the vacant tenant space between Honey-Baked Ham and Momentum Physical Therapy along the northwestern-most building.

The Tower Crossings Shopping Center is served by a total of 455 parking spaces, accessed via a signalized intersection on Naper Boulevard and a right-in/right-out access on Ogden Avenue.

Proposed Operational Characteristics

- The anticipated hours of operation are Sunday through Saturday from 11:00 AM to 10:00 PM.
- The facility will be served by a total of 20 full-time employees during peak operations.
- Customers are anticipated to spend, on average, 60 minutes or less in a high-turnover sit-down restaurant establishment.
- Shabu-You offers carry-out and order-ahead services on its website, so some customers will spend less than 5 minutes in a parking space picking up food.

Trip Generation

Trip generation rates published by the Institute of Transportation Engineers (ITE) in the 11th Edition of the Manual *Trip Generation* were used to determine the anticipated traffic to the proposed Shabu-You Japanese Restaurant (see **Appendix A**).

The number of vehicle trips anticipated during the weekday morning, weekday evening and Saturday midday peak hours, as well as on a weekday and Saturday daily basis based on the above methodology are summarized

in **Table 1** and includes all traffic attributed to the proposed development (employees, customers, deliveries, etc.). *Table 1* also presents a comparison between trip generation estimates based on the former site uses which include a Schmaltz Deli. The Shoe Repair Shop was moved within the shopping center, and thus the trips would not be replaced.

Table 1: Estimated Trip Generation – ITE Data

Land Use	Size	ITE Land Use Code	Weekday						Saturday					
			PM Peak Hour			Daily			Peak Hour			Daily		
			In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Shabu-You Japanese Restaurant	5,160 SF	932	29	18	47	278	277	553	30	28	58	316	316	632
Schmaltz Deli	4,160 SF	932	23	15	38	223	223	446	24	23	47	255	255	510
<i>Trip Generation Comparison¹</i>			+6	+3	+9	+55	+54	+107	+6	+5	+11	+61	+61	+122

¹ Proposed site use less former site use trip generation estimates.

As shown in *Table 1*, it is expected that the proposed Shabu-You Japanese Restaurant will generate approximately 550 to 650 total trips on a daily basis (combined entering and exiting trips). During the peak hours, the development is expected to generate approximately 47 vehicle trips (29 entering and 18 exiting) during the weekday evening peak hour and 58 trips (30 entering and 28 exiting) during the Saturday peak hour which is anticipated to be in the evening for restaurant land use.

Discussion Points

1. Not all vehicle trips expected to be generated by the proposed project represent new trips on the study area roadway system. Studies have shown that for retail developments, a substantial portion of the site-generated vehicle trips are already present in the adjacent passing stream of traffic or are diverted from another route to the proposed site. *Based on data presented in the ITE Trip Generation Handbook, 3rd Edition, the average pass-by trip percentage for retail uses is between 26 and 34 percent.* However, to provide a conservative analysis, no reduction for pass-by traffic was applied to the development site-generated trips.
2. For multi-use developments, or developments with cross-access and shared access driveways, internal trips between the land uses within the development are expected to occur. These are multi-purpose trips from one land use within the development to another land use within the same development. However, to provide a conservative analysis scenario, no reduction for internal capture was applied.
3. As shown in *Table 1*), the proposed Shabu-You Restaurant is anticipated to generate 9 to 11 more trips during the weekday evening and Saturday midday peak hours and approximately 100 more trips (combined entering/exiting) on a daily basis than the previous business of Schmaltz Deli.
4. **Accordingly, the amount of site-generated traffic is expected to have minimal effects on the operations of the external street network.**

Part III. Parking Evaluation

Parking Requirements

Based on the parking requirements outlined in the City of Naperville Code of Ordinances, 52 parking spaces are required for the 5,160 square feet to be utilized for the Shabu-You Japanese Restaurant, and a total of 485 parking spaces are required for the Shopping Center (existing/proposed) uses. The City’s parking requirements are summarized in **Table 2**.

Table 2: City of Naperville Parking Requirements

Building	Unit	Tenant	Size (SF GFA)	Parking Requirement ¹	Parking Spaces		
					Required	Provided	
1504	104	Honey Jam Café	6,378	10 spaces per 1,000 SF GFA	64	455	
	116	Bella Boba	1,000	4.2 spaces per 1,000 SF GFA	188		
	120/A	Naperville Senior Center	4,056				
	132	Golftec	3,640				
	136	Vacant	1,630				
	144	Crumbl Cookie	1,623				
	148	Potential Dentist Office	894				
	152	Potential Dentist Office	1,571				
1508	--	Affordable Antiques	11,090				
1512	104	Mario Tricocci Salon	9,685	10 spaces per 1,000 SF GFA	52		
	124	Vacant	2,677				
	132	Tous Les Jours	1,623				
	136	DuPage Fly Fishing	1,720				
	140	Shoe Repair	1,747				
	144	Physical Therapy	1,800				
	148	Proposed Shabu-You Restaurant	1,000				
	152-156		4,160				
	160	Vacant	3,870			4.2 spaces per 1,000 SF GFA	130
	168	Honey Baked Hams	3,910				
172	Metropolitan Family Services	5,470					
176	Advocate Health	11,786					
1516	180	Fruitful Yield	5,764				
	100	Zen Leaf	4,588	6 spaces per 1,000 SF GFA	28		
	104	Chipotle Mexican Grill	2,300	10 spaces per 1,000 SF GFA	23		
Total			93,982 SF	--	485		

¹ A variance had been previously granted (Ordinance #87-163) for a reduction in parking stalls required for the Tower Crossings Shopping Center based on the gross floor area (4.2 spaces / 1,000 SF GFA).

Parking Demand Projections

With the addition of the proposed Shabu-You Restaurant, the required parking per the City’s requirements exceeds the provided parking. In order to project the peak parking demand for the proposed Shabu-You restaurant, GHA referenced the following sources providing peak parking demand data:

- Anticipated peak staff and customer demand.
- ITE Parking Generation, 5th Edition (attached as **Appendix B**). The ITE Parking Generation excerpts align with the expected peak from the city requirements.
- Parking counts conducted in August 2020 (see **Appendix C**) at the existing Tower Crossing Shopping Center.

Shared Parking

The proposed Shabu-You Japanese Restaurant is part of a larger building development consisting of multiple land uses, with peak hours that do not all coincide. Based on data contained in the ITE Parking Generation, 5th Edition, the following timeframes represent the peak periods for each use:

- Cannabis Dispensary: between 12:00 and 6:00 PM on a weekday and weekend.

- Sit-down Restaurant: between 12:00 and 1:00 PM and 6:00 to 8:00 PM on a weekday and 10:00 AM to 2:00 PM and 5:00 to 9:00 PM on a weekend.
- Casual Restaurant: 12:00 to 1:00 PM on a weekday and 12:00 to 2:00 PM on a weekend.
- Retail / Services: between 12:00 PM and 6:00 PM on a weekday and weekend.

Thus, the time-of-day variation in parking demand associated with each use results in a peak parking demand that is less than the individual peak parking projections, as summarized in *Table 2*.

Parking Supply and Occupancy Survey – Tower Crossing

A parking supply and occupancy survey of the parking serving the Tower Crossing Shopping Center was conducted on Friday, May 12th, 2023, during the Friday (11:00 to 2:00 PM) peak timeframe and on Saturday, May 13th, the weekend (10:00 AM to 3:00 PM) peak timeframe. The results of the parking survey are summarized on the exhibit contained in **Appendix C**, along with an aerial photo of the parking areas surveyed.

The findings of the survey are summarized below:

- A total of 455 parking spaces were surveyed: 416 parking spaces within the main parking field (areas A to Y on the map) and 39 spaces to the rear of the building (area Z).
- Approximately 64 percent (292 of 455) of the total parking spaces surveyed were occupied at its peak, which occurred at 12:00 PM on Friday.
- Based on the maximum occupied parking spaces (292) and the occupied tenant space (76,380 SF, see Table 2), the observed peak parking ratio for the existing Shopping Center is 3.83 spaces / 1,000 SF, which is less than required by City Code (4.2 spaces / 1,000 SF per approved Ordinance #87-163).
- ITE provides a percent of parking demand (Attached as **Appendix D**) that can be used to determine how many vehicles would be expected to park in the Tower Crossing lot on an hourly basis. GHA applied these demand percentages to the required demand of the proposed Shabu-You restaurant. The calculations can be found on **Exhibit 2** and show that the percentage of occupied spaces in the lot would rise from 64% to 75% at the peak hour and would stay below 75% occupied at off-peak hours.
- As a guideline, parking demand should not exceed 90% of the supply. Based on our observations and calculations the parking supply at Tower Crossing is sufficient to accommodate the new restaurant space.

Accordingly, the anticipated peak parking demand is expected to be accommodated within the available parking supply.

Part IV. Recommendations and Conclusions

A traffic and parking analysis was performed for the proposed Shabu-You Japanese Restaurant located in the Tower Crossing Shopping Center in Naperville, Illinois. Overall, the development is anticipated to have little effect on the operations of the area roadway network. And, based on the parking analysis, it can be concluded the development provides sufficient parking spaces to accommodate the anticipated parking demand for the proposed development, although the city requirements would not be satisfied per Table 2.

In addition, the following is recommended:

- Employees should be encouraged to park in remote spaces (furthest from building entrances) to provide convenient parking for customers.
- An additional ordinance may be required from the city to add future tenants.

Part V. Technical Addendum

The following *Exhibits* and *Appendices* were previously referenced. They provide technical support for our observations, findings and recommendations discussed in the text.

Exhibits

1. Location Map
2. Parking Calculations

Appendices

- A. ITE Trip Generation Excerpts
- B. ITE Parking Generation Excerpts
- C. Tower Crossing – Parking Occupancy Survey
- D. ITE Percentage of Peak Parking Demand

6008.900_Tower Crossing Restaurant Parking Study.docx

EXHIBITS



GHA GEWALT HAMILTON
ASSOCIATES, INC.
www.gha-engineers.com



1 inch = 500
Feet

Exhibit 1 - Location Map

Tower Crossing Shopping Center
Proposed Shabu-You Japanese Restaurant
Naper Blvd, Naperville, IL

Exhibit 2
Weekday + Saturday Peak Parking Calculations
Proposed Shabu-You Japanese Restaurant, Tower Crossing, Naperville, IL

1. Current Demand

A. Weekday Parking

		11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM
Total =	455 (Max)	267	292	283	266	-
	% Occupied	59%	64%	62%	58%	-

B. Saturday Parking

Total =	455 (Max)	287	287	258	242	215
	% Occupied	63%	63%	57%	53%	47%

2. Shabu-You Japanese Restaurant Parking

Shabu-You Japanese Restaurant	52 Spaces Req'd	22	49	49	25	20
5,160 sf	% use - Weekday	43%	95%	95%	49%	39%
Shabu-You Japanese Restaurant	52 Spaces Req'd	47	52	51	44	43
5,160 sf	% use - Saturday	90%	100%	98%	85%	83%

Per ITE % peak demand by hour

3. Future Demands




A. Weekday Parking

		11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM
Total =	455	289	341	332	291	-
	% Occupied	64%	75%	73%	64%	-

B. Saturday Parking

Total =	455	334	339	309	286	258
	% Occupied	73%	75%	68%	63%	57%

Parking Occupancy Key

≤ 60% occupied	
≤ 85% but > 60% occupied	
> 85% occupied	

APPENDIX A
ITE Trip Generation Excerpts

High-Turnover (Sit-Down) Restaurant (932)

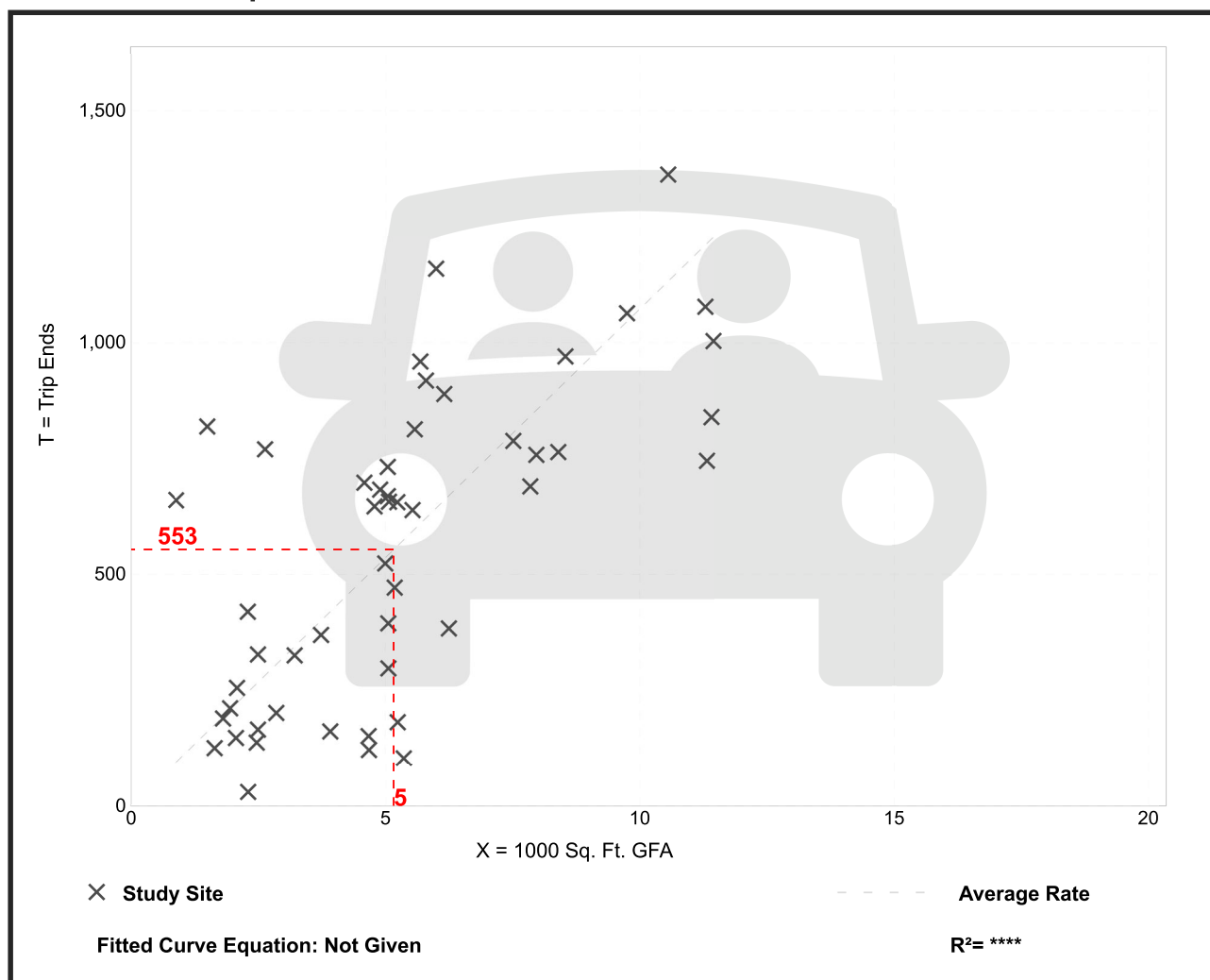
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 50
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
107.20	13.04 - 742.41	66.72

Data Plot and Equation



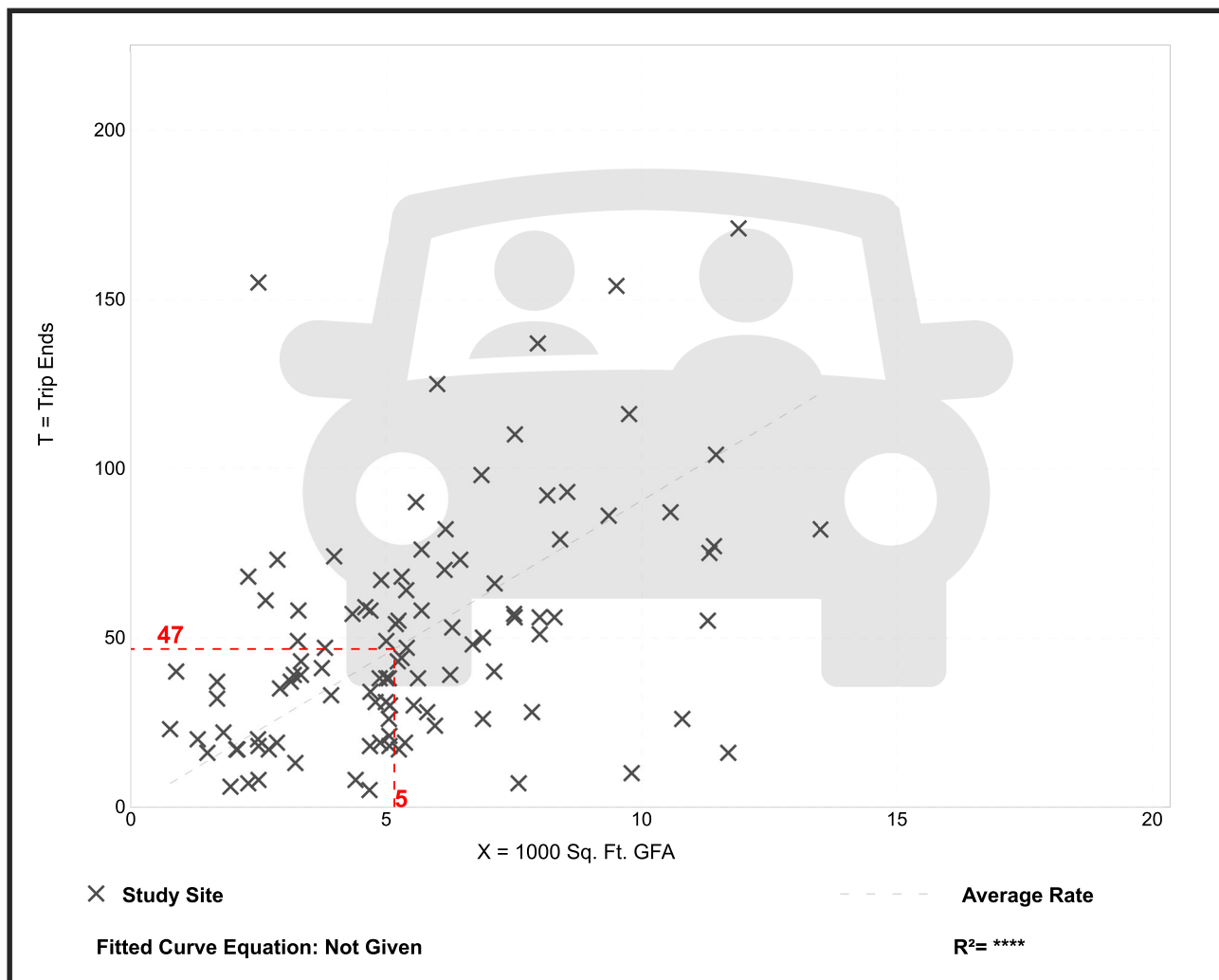
High-Turnover (Sit-Down) Restaurant (932)

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: 104
 Avg. 1000 Sq. Ft. GFA: 6
 Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
9.05	0.92 - 62.00	6.18

Data Plot and Equation



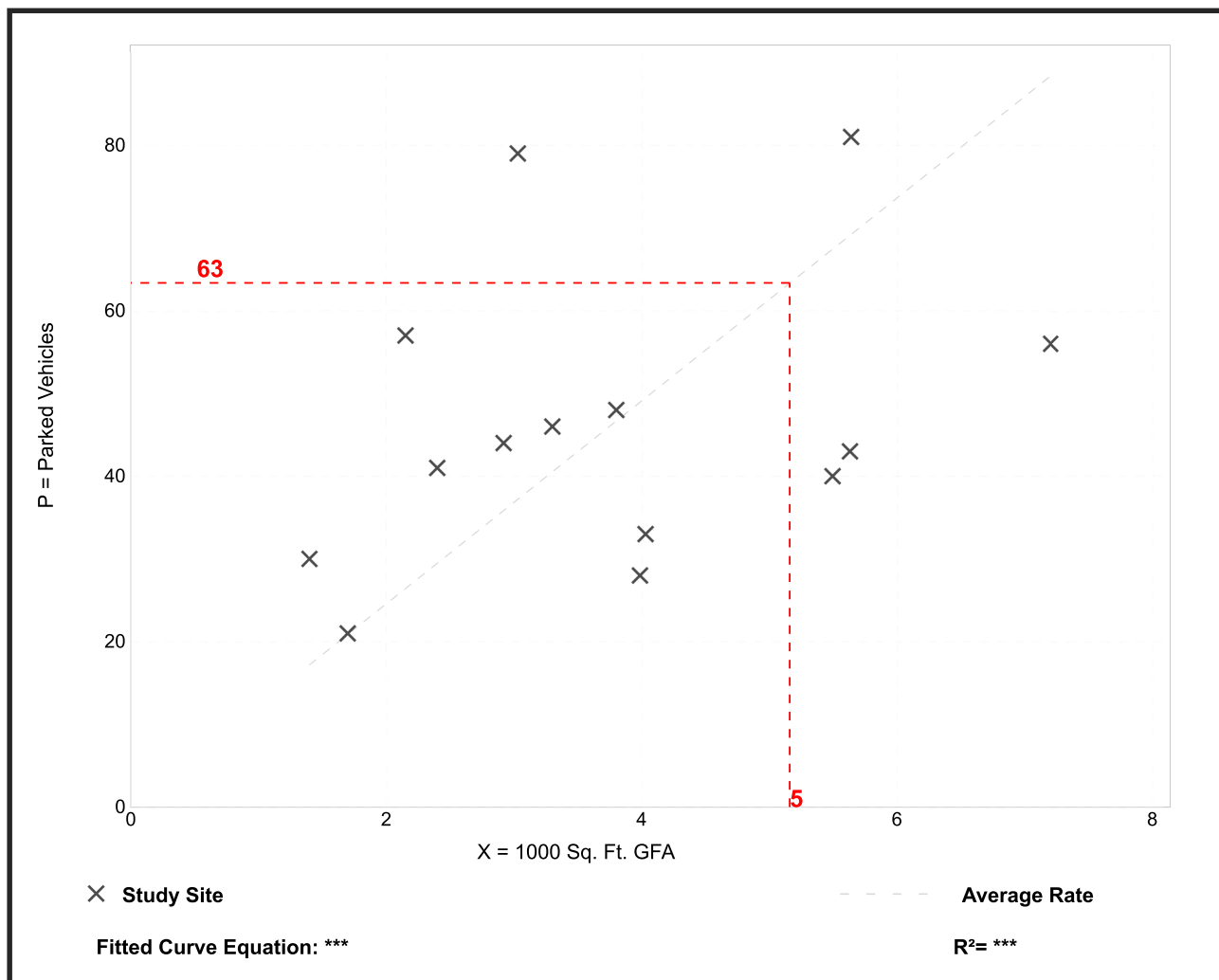
High-Turnover (Sit Down) Restaurant - Family (932)

Peak Period Parking Demand vs: 1000 Sq. Ft. GFA
 On a: Saturday
 Setting/Location: General Urban/Suburban
 Peak Period of Parking Demand: 10:00 a.m. - 12:00 p.m.; 6:00 - 9:00 p.m.
 Number of Studies: 14
 Avg. 1000 Sq. Ft. GFA: 3.7

Peak Period Parking Demand per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
12.28	7.03 - 26.49	8.17 / 24.91	***	6.10 (50%)

Data Plot and Equation



High-Turnover (Sit-Down) Restaurant (932)

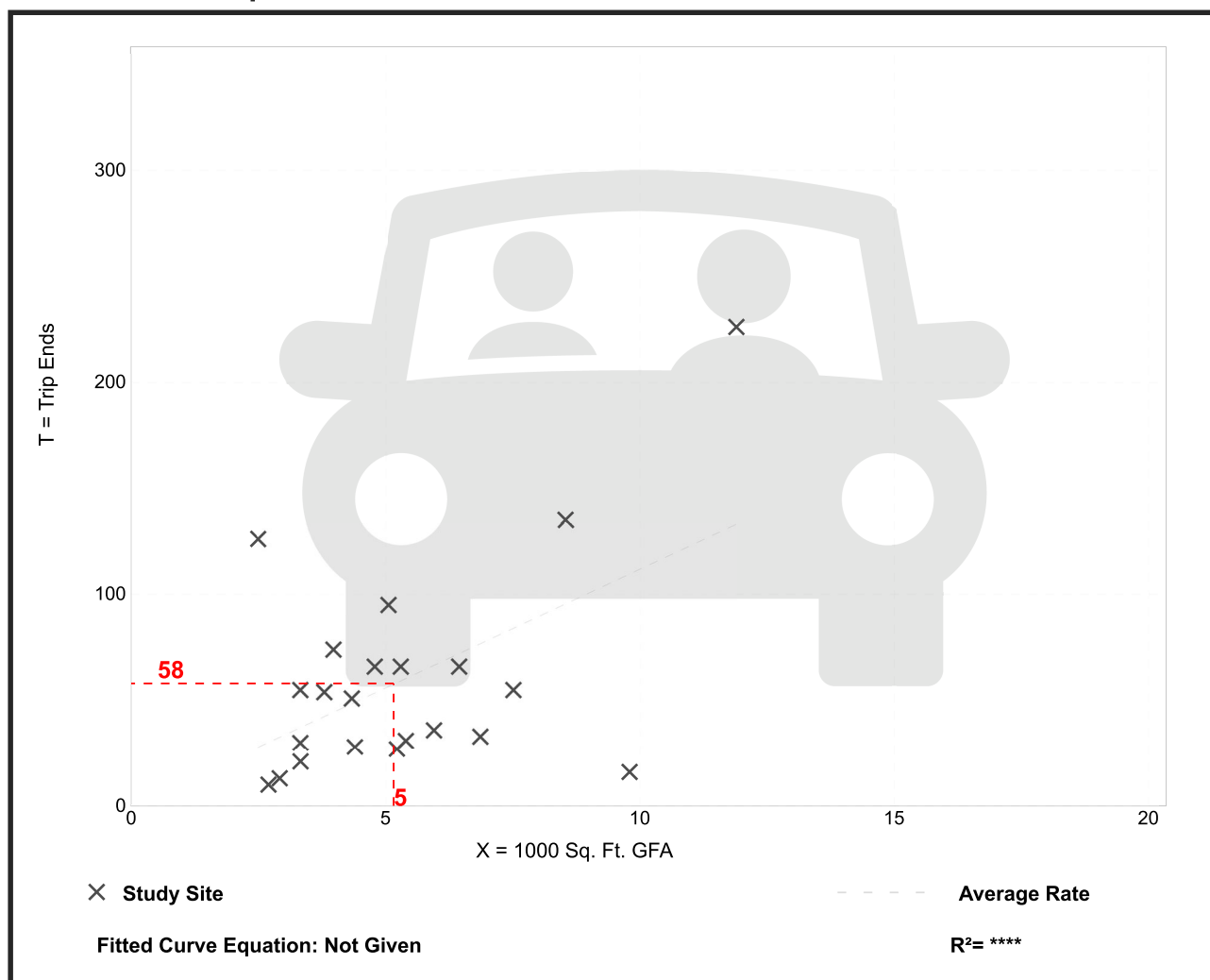
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban
 Number of Studies: 22
 Avg. 1000 Sq. Ft. GFA: 5
 Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
11.19	1.63 - 50.40	8.30

Data Plot and Equation



APPENDIX B
ITE Parking Generation Excerpts

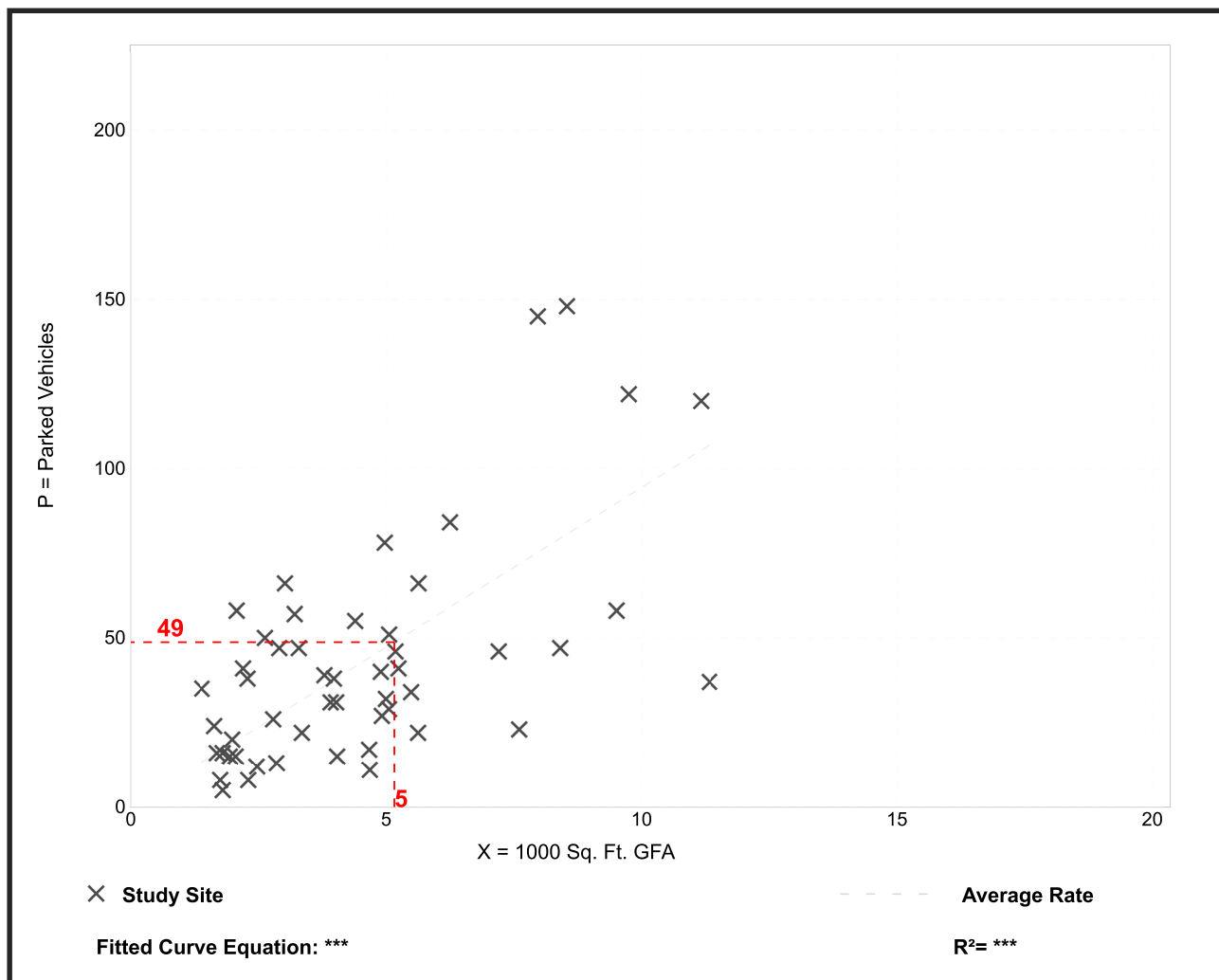
High-Turnover (Sit Down) Restaurant - Family (932)

Peak Period Parking Demand vs: 1000 Sq. Ft. GFA
 On a: Weekday (Monday - Thursday)
 Setting/Location: General Urban/Suburban
 Peak Period of Parking Demand: 12:00 - 1:00 p.m.; 6:00 - 8:00 p.m.
 Number of Studies: 51
 Avg. 1000 Sq. Ft. GFA: 4.5

Peak Period Parking Demand per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
9.44	2.35 - 27.78	6.39 / 17.40	7.96 - 10.92	5.38 (57%)

Data Plot and Equation



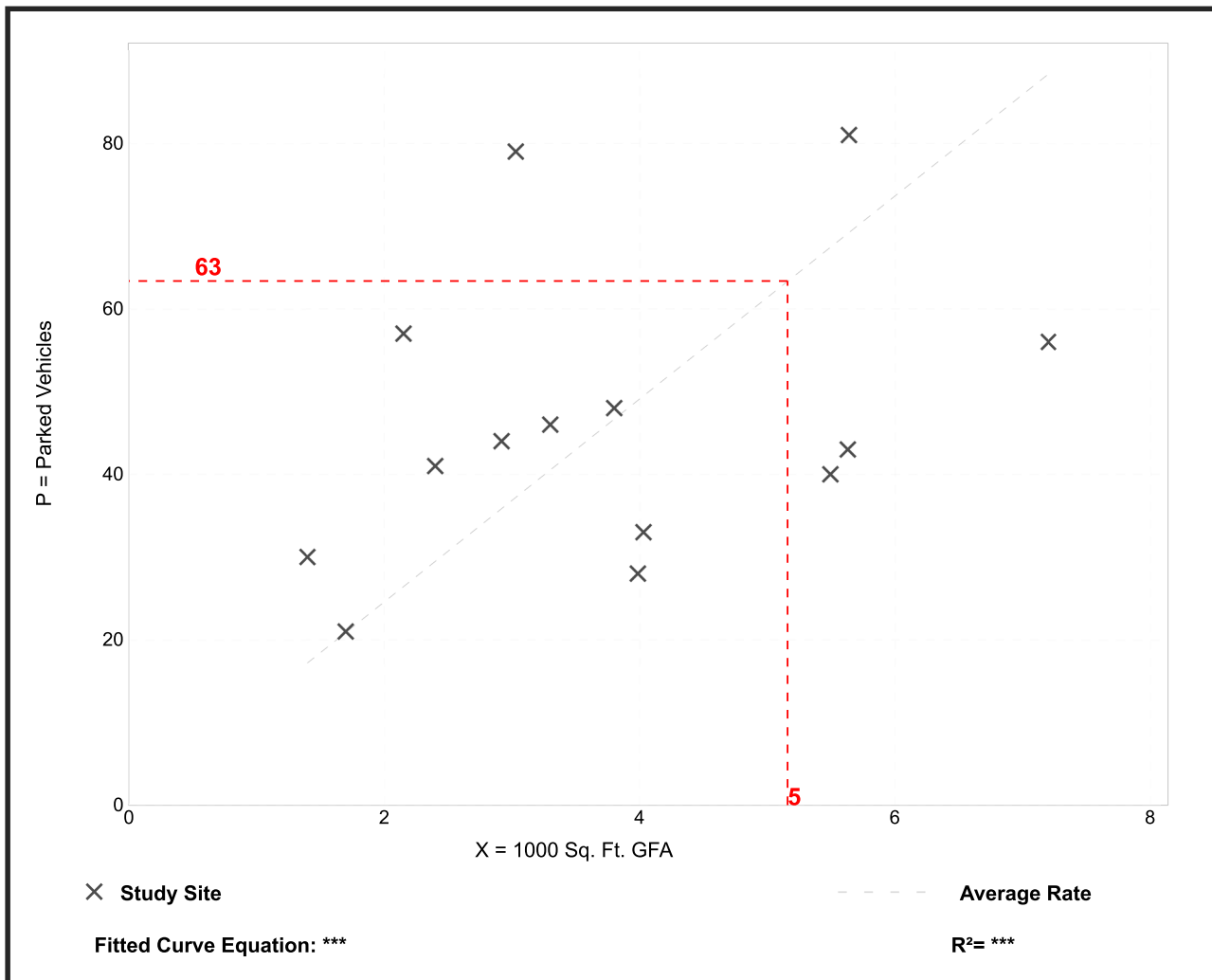
High-Turnover (Sit Down) Restaurant - Family (932)

Peak Period Parking Demand vs: 1000 Sq. Ft. GFA
On a: Saturday
Setting/Location: General Urban/Suburban
Peak Period of Parking Demand: 10:00 a.m. - 12:00 p.m.; 6:00 - 9:00 p.m.
 Number of Studies: 14
 Avg. 1000 Sq. Ft. GFA: 3.7

Peak Period Parking Demand per 1000 Sq. Ft. GFA

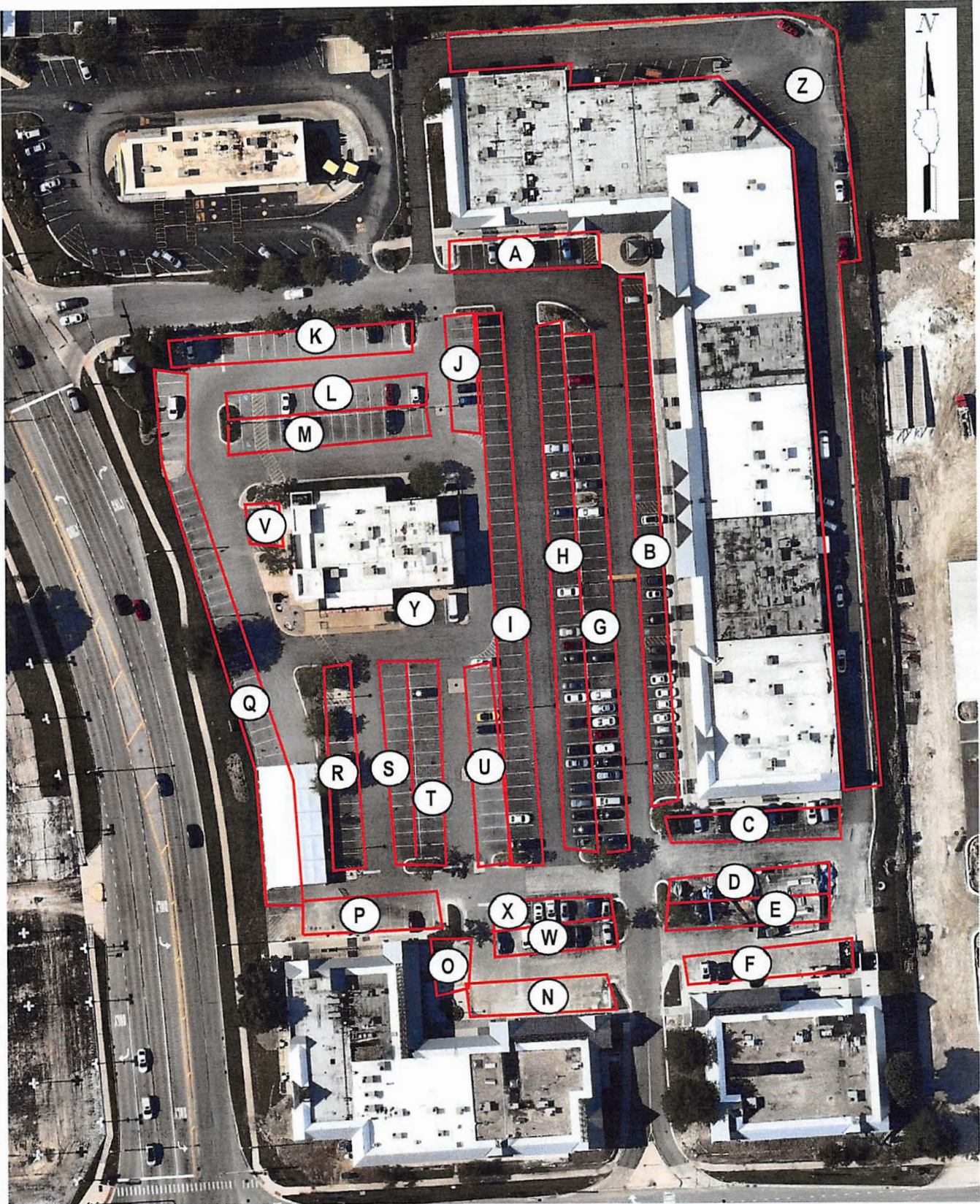
Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
12.28	7.03 - 26.49	8.17 / 24.91	***	6.10 (50%)

Data Plot and Equation



APPENDIX C
Tower Crossing Parking Occupancy Summary

Appendix C										
Tower Crossing Parking Occupancy										
Location	Supply	Friday, May 12th, 2023				Saturday, May 13th, 2023				
Parking Bay	Parking Bay Total	11:00 AM	12:00 PM	1:00 PM	2:00 PM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM
A	10	4	7	8	8	5	1	3	6	6
B	38	22	32	23	30	24	27	23	27	25
C	13	13	13	13	12	13	13	13	12	12
D	13	13	12	12	12	13	13	13	9	11
E	12	12	11	11	10	12	12	11	9	10
F	13	5	7	9	11	9	11	10	7	7
G	38	27	27	28	32	28	26	19	28	21
H	40	24	25	24	23	28	28	30	28	20
I	41	25	31	29	30	19	25	18	27	21
J	9	0	2	2	0	1	1	0	0	1
K	17	7	6	7	7	3	3	2	3	2
L	13	2	2	7	4	1	3	3	2	5
M	13	6	6	5	3	5	2	6	2	6
N	10	4	7	5	6	8	6	5	4	6
O	2	0	1	1	0	1	2	2	0	1
P	10	8	10	10	9	10	10	8	7	6
Q	41	20	27	24	11	25	23	24	14	15
R	14	9	6	9	6	11	11	9	8	5
S	15	10	10	8	4	13	15	11	4	3
T	15	11	9	7	4	14	12	7	6	4
U	15	7	6	5	4	11	11	6	5	3
V	2	0	0	0	0	0	0	1	0	0
W	9	8	6	6	8	8	7	7	7	5
X	9	9	9	9	9	9	9	8	9	6
Y	4	3	2	2	3	2	3	3	3	2
Z	39	18	18	19	20	14	13	16	15	12
Tower Crossing Occupied Total:	455	267	292	283	266	287	287	258	242	215
Occupancy Percentage:	100%	59%	64%	62%	58%	63%	63%	57%	53%	47%



Proposed Shabu –You Japanese Restaurant, Tower Crossing Shopping Center – Naperville, Illinois



Existing
Parking Location Map

APPENDIX D
ITE Percentage of Peak Parking Demand

Land Use: 932 High-Turnover (Sit-Down) Restaurant

Description

This land use consists of sit-down, full-service eating establishments with a typical duration of stay of 60 minutes or less. They are commonly referred to as casual dining. This type of restaurant is usually moderately priced and frequently belongs to a restaurant chain. Generally, these restaurants serve lunch and dinner; they may also be open for breakfast and are sometimes open 24 hours a day. These restaurants typically do not accept reservations. A patron commonly waits to be seated, is served by wait staff, orders from a menu, and pays after the meal. Some facilities offer carry-out for a small proportion of its customers. Some facilities within this land use may also contain lounge or bar area for serving food and alcoholic drinks. Fast casual restaurant (Land Use 930), quality restaurant (Land Use 931), fast-food restaurant without drive-through window (Land Use 933), and fast-food restaurant with drive-through window (Land Use 934) are related uses.

The analysis of parking demand for this land use has identified different parking demand rates between high-turnover restaurants with and without lounges. The term “family restaurant” is used interchangeably as an abbreviated version of “high-turnover (sit-down) restaurant without lounge or bar facilities.”

Time of Day Distribution for Parking Demand

The following table presents a time-of-day distribution of parking demand **on a weekday** at family restaurants that serve breakfast, lunch, and dinner (12 study sites); family restaurants that serve lunch and dinner (38 sites), and restaurants with a lounge or bar (four sites).

Hour Beginning	Percent of Weekday Peak Parking Demand		
	Family (breakfast, lunch, and dinner)	Family (lunch and dinner)	Lounge or Bar
12:00–4:00 a.m.	–	–	–
5:00 a.m.	–	–	–
6:00 a.m.	10	–	–
7:00 a.m.	25	–	–
8:00 a.m.	68	–	–
9:00 a.m.	72	–	–
10:00 a.m.	77	26	9
11:00 a.m.	83	43	15
12:00 p.m.	100	95	100
1:00 p.m.	91	95	81
2:00 p.m.	56	49	54
3:00 p.m.	42	39	33
4:00 p.m.	42	37	26
5:00 p.m.	64	62	29
6:00 p.m.	87	99	58
7:00 p.m.	79	100	70
8:00 p.m.	65	83	77
9:00 p.m.	42	51	61
10:00 p.m.	21	28	41
11:00 p.m.	–	–	–

The following table presents a time-of-day distribution of parking demand **on a Saturday** at family restaurants that serve breakfast, lunch, and dinner (six study sites); family restaurants that serve lunch and dinner (10 sites), and restaurants with a lounge or bar (six sites).

Hour Beginning	Percent of Saturday Peak Parking Demand		
	Family (breakfast, lunch, and dinner)	Family (lunch and dinner)	Lounge or Bar
12:00–4:00 a.m.	–	–	–
5:00 a.m.	–	–	–
6:00 a.m.	15	–	–
7:00 a.m.	28	–	–
8:00 a.m.	52	–	–
9:00 a.m.	75	–	–
10:00 a.m.	91	87	15
11:00 a.m.	100	90	23
12:00 p.m.	90	100	37
1:00 p.m.	80	98	50
2:00 p.m.	67	85	44
3:00 p.m.	45	73	37
4:00 p.m.	39	58	48
5:00 p.m.	40	63	64
6:00 p.m.	40	76	90
7:00 p.m.	58	78	100
8:00 p.m.	40	76	89
9:00 p.m.	35	55	71
10:00 p.m.	33	46	56
11:00 p.m.	–	–	–

Additional Data

The outdoor seating area is not included in the overall gross floor area. Therefore, the number of seats may be a more reliable independent variable on which to establish parking generation rates for facilities having significant outdoor seating.

The average parking supply ratios for the study sites with parking supply information are as follows:

- in a general urban/suburban setting, 15 spaces per 1,000 square feet GFA (53 sites) and 0.5 spaces per seat (42 sites)
- in a dense multi-use urban setting, 7 spaces per 1,000 square feet GFA (six sites) and 0.4 spaces per seat (one site)

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in California, Connecticut, Florida, Illinois, Indiana, Massachusetts, Minnesota, New Jersey, New York, Oklahoma, Oregon, Pennsylvania, Texas, and Washington.

Source Numbers

8, 9, 21, 22, 47, 168, 182, 201, 218, 274, 276, 299, 527, 531, 556, 557, 567, 568