

27 August 2025, 18 November 2025
Revised 29 December 2025

Jacob LaFontaine
Planning Director
Salem Planning Division
33 Geremonty Drive
Salem, NH 03079

Re: Traffic & Parking Utilization Study
Proposed Reuse of Former Sears Auto Center
The Mall at Rockingham Park
Salem, NH
Langan Project No.: 151064501

Dear Mr. LaFontaine:

Langan Engineering and Environmental Services, Inc. (Langan) has prepared this traffic and parking assessment for the proposed reuse of the former Sears Auto Center at the Mall at Rockingham Park ("the Mall") located at 1 Mall Road in Salem, New Hampshire. The Lyons Group proposes to convert the former auto center into a "Game On!" adult entertainment center and a "Loretta's Last Call", a country music themed restaurant, bar and dancing venue.

The analysis presented herein shows a reduction in expected traffic volumes when compared to the previously approved development plan. There is also ample parking capacity in the north lots to accommodate the planned development. Parking observations are consistent with those previously reported in the 2017 *Parking Utilization Study for the Redevelopment/Expansion of The Mall at Rockingham Park*¹ and the 2023 *Parking Utilization Study for the Dick's House of Sport at The Mall at Rockingham Park*². This letter report presents the parking demand for the surface lots located at the north end of the mall and the anticipated changes in traffic compared to previous approvals.

¹ Parking Utilization Study for Redevelopment/Expansion of The Mall at Rockingham Park, Rockingham Park Boulevard, Salem, New Hampshire, Langan Engineering and Environmental Services, May 2017

² Parking Utilization Study for Dick's House of Sport at The Mall at Rockingham Park, Rockingham Park Boulevard, Salem, New Hampshire, Langan Engineering and Environmental Services, May 2023, Revised July 2023

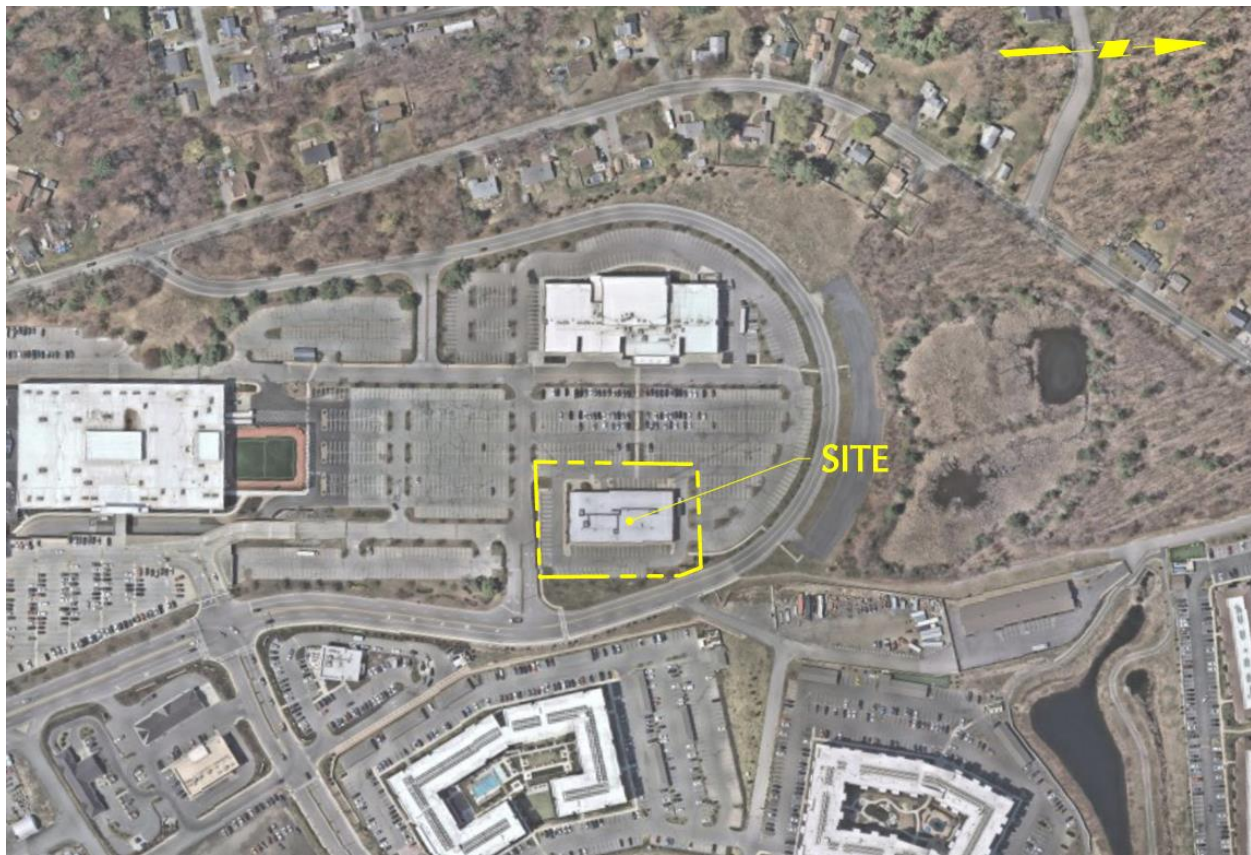


Figure 1: Site Aerial Photograph

PROJECT DESCRIPTION

Lyons Group plans to repurpose and renovate the approximately 19,600 square foot former Sears Auto Center in the north parking lot the Mall to include a $\pm 14,158$ SF, 143 seat "Game On!" adult entertainment center and a $\pm 5,343$ SF, 194 seat (that includes 59 seasonal outdoor patio seats) "Loretta's Last Call" restaurant/bar/dance venue. This space was previously approved as 19,600 SF of restaurant and retail space as part of the Cinemark movie theater project in 2018. The proposed renovation of the Lyons Group includes full interior remodeling and exterior improvements such as landscaping and seasonal outdoor seating. The ± 1.67 -acre lot presently includes 84 parking spaces. The proposed site plan eliminates 16 parking spaces in lot C (See Figure 2) to accommodate the restaurant's entryway and patio seating, which would leave 1,070 parking spaces in lot C.

"Game On!" is expected to operate seven days a week and open from 11:30 AM to 2:00 AM on weekends and 11:30 AM to 12:00 AM on weekdays. "Loretta's Last Call" is expected to operate seven days a week and open from 4:00 PM to 2:00 AM on weekends and 4:00 PM to 1:00 AM on weekdays. "Loretta's" will likely open for brunch on Saturdays and Sundays from 10:30 AM to 4:00 PM. The project is expected to be completed by summer/fall 2026.

The overall mall provides approximately 4,563 spaces, which includes the proposed parking lot renovations. An additional 500 spaces are available during peak shopping periods under an easement with Tuscan Village bringing the overall total to 5,063 during peak parking demand periods.

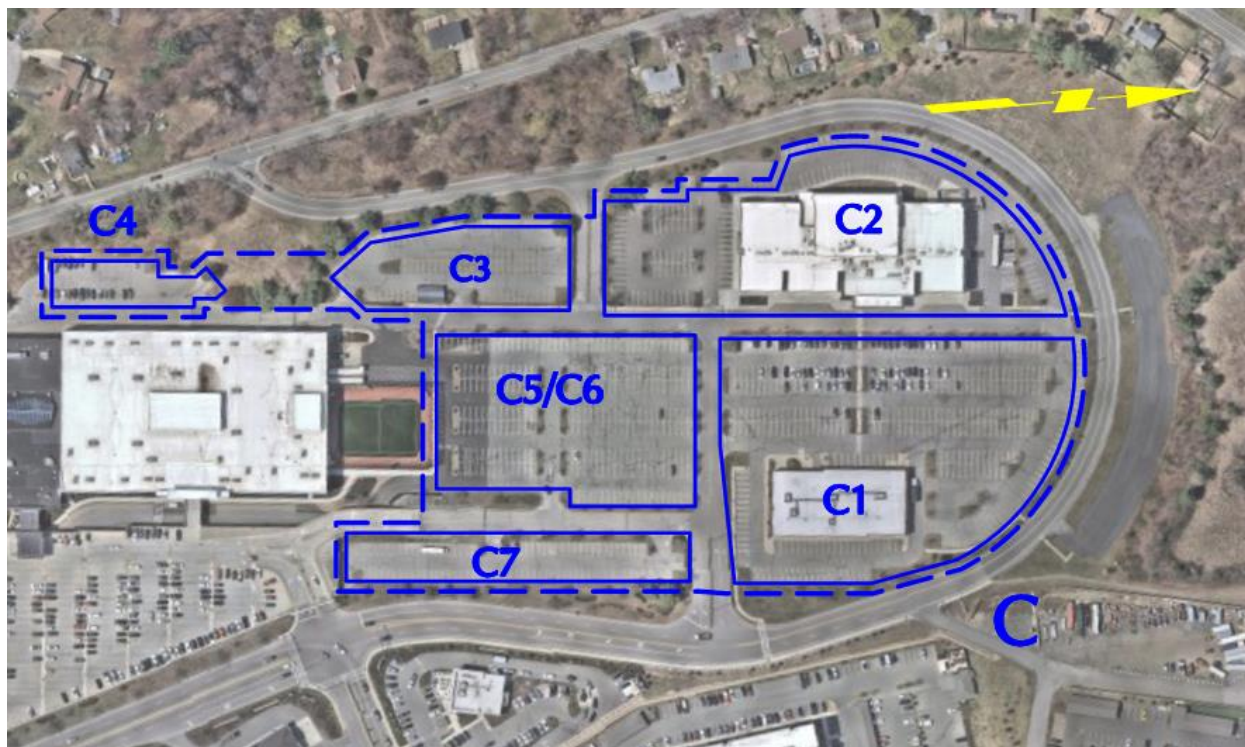


Figure 2: Parking Utilization Study Area

BACKGROUND

Langan previously prepared an overall parking utilization study entitled *Parking Utilization Study for Redevelopment/Expansion of The Mall at Rockingham Park* during the 2016 Christmas shopping season. The study evaluated the feasibility of adding retail space at the mall and collected parking counts for the entire mall during the peak holiday season on Black Friday, the busiest shopping day of the year, two Saturdays – one in early December and one in mid-January³. The study found that the mall has sufficient parking spaces to serve the parking demand with the proposed redevelopment with exception of Black Friday, a once-a-year event, when parking was at capacity. Table 2 from the original parking study showing both peak and non-peak parking supply and demand are provided in the Appendix. The addition of the cinema and retail uses resulted in the issuance of a Conditional Use Permit decreasing the required Mall parking from 5,123 spaces to 4,645 spaces.

³ Parking utilization was recorded on Friday, November 25, (Black Friday), Saturday, December 10, 2016 and Saturday January 14, 2017

In 2023, Langan updated the 2017 study finding for Dick's Sporting Goods. Dick's renovated the former Sears store at the north end of the Mall and added an outdoor demonstration field. The addition of the field resulted in the loss of 58 spaces in Parking Lot C of the Mall, bringing the Lot C parking to 1,086. A Conditional Use Permit was granted by the Salem Planning Board further reducing the required mall parking from 4,645 to 4,587 overall spaces.

In 2024, Langan updated the 2017 and 2023 study findings for the Live! charitable gaming facility that was approved for the former Lord & Taylor store at the southwest end of the Mall. These renovations reduced the parking count by 8 spaces in Parking Lot A to add accessible spaces, bringing the Lot C parking to 1,486. A Conditional Use Permit was granted by the Salem Planning Board further reducing the required mall parking from 4,587 to 4,579.

PARKING UTILIZATION STUDY

We performed manual parking counts every 30 minutes on Friday, July 18th between 3:00 PM and 9:00 PM and Saturday July 19th between 12:00 PM and 9:00 PM to document parking utilization. We performed parking counts in the northern C lots as the parking demand associated with the reuse will be isolated almost exclusively there. The C lots presently contain 1,086 striped spaces broken down into seven separate lots, C1 through C7, as shown in Figure 2. Demand in each of the sub lots was recorded separately. The raw parking counts for the two days surveyed are included in Appendix A.

Based on the data collected we found an average utilization rate of 17 percent on Friday July 18th and 19 percent on Saturday July 19th. The highest peak utilization on Friday occurred at 9:00 PM with a 28 percent occupancy (299 parked vehicles) with the final count of the evening. The highest peak on the Saturday counts occurred between 7:30 – 8:00 PM with a 27 percent occupancy (288 parked vehicles). Figure 3 below shows the parking utilization by time of day and compared that to the existing parking supply in the C lots.

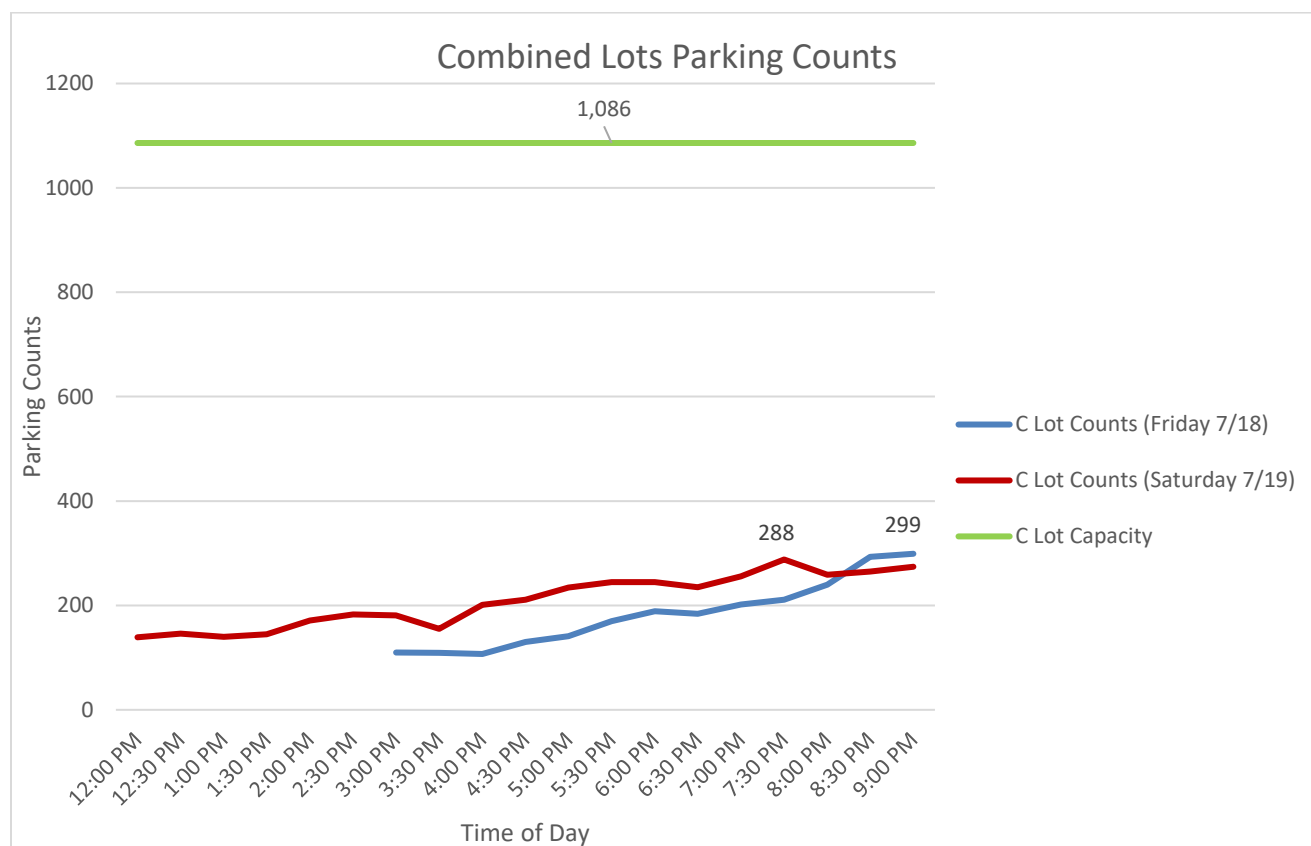


Figure 3: Parking Utilization by Time of Day

Anticipated Parking Demand

The 2017 study was conducted to demonstrate the feasibility of additional development at the north end of the mall that consisted of the Cinemark movie theater, 15,000 SF of restaurants and 4,500 SF of generic retail space. Only one of the proposed uses outlined in that study, the movie theatre, has been constructed since the parking study was submitted to the Town in 2017. Since then, Dick's House of Sport has occupied the Sears anchor space and constructed an outdoor turf field in lot C5.

The remaining development projected in the 2017 study was a mix of restaurant/retail in the former Sears Auto Center. The ITE *Parking Generation Manual*⁴, 6th Edition was used to estimate the proposed renovation's peak parking demand. Under the renovation as part of this current application, this building will be entirely a restaurant/entertainment use. Lyons Group proposed two restaurants within the existing structure, "Game On!" and "Loretta's Last Call". "Game On!" contains 10 bowling lanes, pool tables, arcade space and a bar area. "Loretta's Last Call" is a western-themed restaurant and bar with a dance floor.

⁴ Parking Generation Manual, 6th Edition published by the Institution of Transportation Engineers (ITE)

ITE Land Use Code

Choosing a representative ITE land use code (LUC) to predict parking and traffic demand included consideration of a few land uses in that data base. There are codes for uses such as bowling alley and bar/tavern uses (LUC 437 and LUC 975, respectively). Data points are limited in both cases where daily trip estimates or parking demand are not available. Bowling alley as a use also generated parking demand that is significantly lower than expected for this type of mixed use facility. Land Use Code (LUC) 932 – High-Turnover (Sit-Down) Restaurant was found to be a use that could capture parking demand for both “Game On!” and “Loretta’s Last Call,” as both developments will serve food and have table seating for patrons. Seats were chosen to be the most appropriate independent variable for LUC 932, as “Game On!” has a large floor area space dedicated to bowling lanes, which is likely not typical of the standard High-Turnover (Sit-Down) Restaurant use. As the space for bowling lanes are not occupiable, using square footage as an independent variable will produce a significantly inflated parking demand. Additionally, estimating parking demand for “Loretta’s Last Call” resulted in lower anticipated parking demand compared to seats. A full land use description, data graphs, and a table with anticipated average and peak parking demand for “Loretta’s Last Call” using square footage as the independent variable are included in the appendix.

Traffic & Parking Generation

The parking demand generation for the proposed renovations was estimated using parking generation data contained in the ITE *Parking Generation Manual*, 6th Edition ⁵. **Table 1** below shows the resulting average parking demand, and **Table 2** shows the peak parking demand estimates for the proposed restaurants.

TABLE 1 ANTICIPATED AVERAGE PARKING DEMAND - SALEM NH LYONS							
USE	LAND USE CODE ¹	WEEKDAY (MON - THURS)		FRIDAY		SATURDAY	
		Average Parking Rate ²	Anticipated Average Parking Demand	Average Parking Rate ²	Anticipated Average Parking Demand	Average Parking Rate ²	Anticipated Average Parking Demand
Loretta's Last Call (194 Seats)	932	0.28 spaces/seat	54	0.47 spaces/seat	91	0.38 spaces/seat	74
Game On! (143 Seats)	932	0.28 spaces/seat	40	0.47 spaces/seat	67	0.38 spaces/seat	54
Total Average Parking Demand		0.28 spaces/seat	94	0.47 spaces/seat	158	0.38 spaces/seat	128

¹ Land Use Codes based on ITE Parking Generation Manual 6th Edition

² Parking rates based on ITE Parking Generation Manual 6th Edition: Land Use Code 932: High-Turnover (Sit-Down) Restaurant

⁵ Parking Generation Manual, 6th Edition published by the Institution of Transportation Engineers (ITE).

TABLE 2
ANTICIPATED PEAK (85TH PERCENTILE) PARKING DEMAND - SALEM NH LYONS

USE	LAND USE CODE ¹	WEEKDAY (MON - THURS)		FRIDAY		SATURDAY	
		Peak Parking Rate ²	Anticipated Peak Parking Demand	Peak Parking Rate ²	Anticipated Peak Parking Demand	Peak Parking Rate ²	Anticipated Peak Parking Demand
Loretta's Last Call (194 Seats)	932	0.48 spaces/seat	93	0.79 spaces/seat	153	0.56 spaces/seat	109
Game On! (143 Seats)	932	0.48 spaces/seat	69	0.79 spaces/seat	113	0.56 spaces/seat	80
Total Average Parking Demand		0.48 spaces/seat	162	0.79 spaces/seat	266	0.56 spaces/seat	189

¹ Land Use Codes based on ITE Parking Generation Manual 6th Edition

² Parking rates based on ITE Parking Generation Manual 6th Edition: Land Use Code 932: High-Turnover (Sit-Down) Restaurant

The proposed renovations are expected to generate an average demand for 158 parking spaces on a Friday and 128 parking spaces on a Saturday, and a peak demand for 266 parking spaces on a Friday and 189 spaces on a Saturday during the off-peak season in the C parking section. The Parking Generation Manual does not provide a peak season/off-peak season parking generation differential for LUC 932.

This analysis simply overlays the estimated parking demand using ITE Parking Generation Manual with parking demands measured at the in the field at the Mall at Rockingham Park. We did not take into account shared usage with the traditional retail components of the mall. Demand at Cinemark and the proposed restaurants is lowest when the rest of the mall is most active and peaks later in the evening when retail traffic in the mall is diminishing. This combined with the fact that the existing parking utilization plus peak future restaurant parking demand in Lot C would result in 53% utilization in Lot C during off-peak seasons suggest that the results of this analysis are conservative and general day to day operations will be less impactful.

The trip generation for the proposed renovations was estimated using trip generation data contained in the ITE *Trip Generation Manual*, 11th Edition ⁶. **Table 3** below shows the resulting trip generation estimates for the proposed restaurants using seats as the independent variable. The proposed renovation estimates 132 evening peak hour trips and 1,473 weekday daily trips.

⁶ Trip Generation Manual, 11th Edition published by the Institution of Transportation Engineers (ITE).

TABLE 3
ANTICIPATED TRIP GENERATION - SALEM NH LYONS

USE	LAND USE CODE ¹	PM PEAK HOUR			WEEKDAY DAILY TOTAL	SAT PEAK HOUR			SATURDAY DAILY TOTAL
		ENTER	EXIT	TOTAL		ENTER	EXIT	TOTAL	
Loretta's Last Call (194 Seats)	932	43	33	76	848	54	49	103	1086
Game On! (143 Seats)	932	32	24	56	625	40	36	76	801
Total New Trips		75	57	132	1473	94	85	179	1887
Previously Approved Restaurant/Retail (19,600 SF)	-	94	64	158	2022	121	106	227	2508
Net Change in Trips		-19	-7	-26	-549	-27	-21	-48	-621

¹ Land Use Codes based on ITE Trip Generation Manual 11th Edition

² Volume based on ITE Trip Generation Manual 11th Edition: Land Use Code 932: High-Turnover (Sit-Down) Restaurant

³ Volume based on report titled "Traffic Impact Study - Redevelopment/Expansion of the Mall at Rockingham Park" by Langan dated June 2017.

The previously approved trip generation for this site (former Sears Auto Center) is also shown in **Table 3**. The proposed renovation proposes a reduction in 26 weekday and 48 Saturday evening peak hour trips, and 549 weekday and 621 Saturday daily trips than the previous approvals.

Similar to the parking demand generation, a trip generation estimate was created using square footage as the independent variable for "Loretta's Last Call," and it was found that this generates less traffic than using seats as the independent variable. A table with anticipated trip generation for "Loretta's Last Call" using square footage as the independent variable is included in the appendix.

Peak Parking Demand

Figure 4 shows the 2025 observed parking counts with the addition of the max peak daily parking demand (266) for the renovated restaurants.

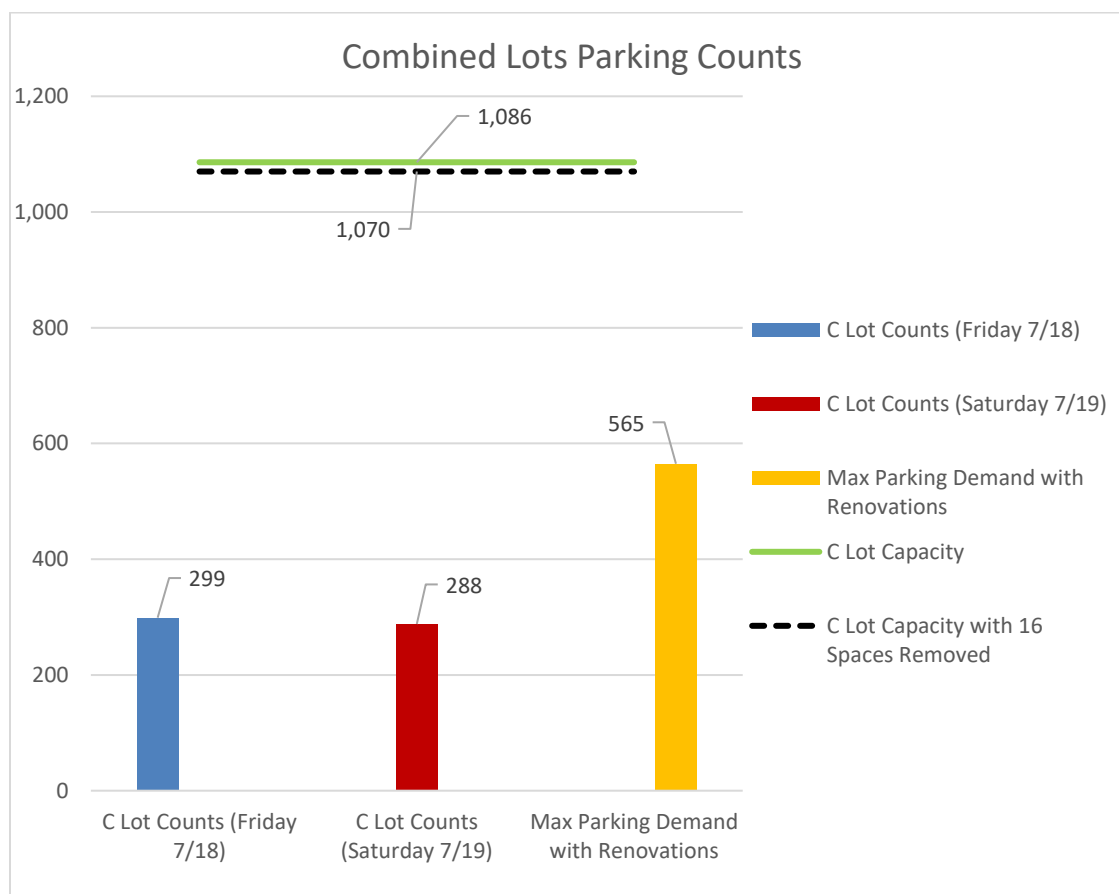


Figure 4: Parking Utilization by Time of Day with Renovations Added

As shown in Figure 4, there will be a surplus of 505 parking spaces during the off-peak season in parking lot C. Therefore, with the addition of the proposed restaurants and the existing parking demand, parking lot C can easily accommodate the new development. The graph also clearly shows that the parking demand for the uses in parking lot C is complimentary to each other and to the traditional retail uses in the mall. Demand at Cinemark and the proposed restaurants is lowest when the rest of the mall is most active and peaks later in the evening when retail traffic in the mall is diminishing.

Parking demand at the Mall at Rockingham Park increases during the holiday season in late November and December. The 2023 Dick's parking study data was collected in Lot C on Black Friday and the following Saturday, both considered to be peak dates for the Mall. Black Friday peak parking was 645 occupied spaces and Saturday peaked with 175 occupied spaces. The peak Lot C parking demand with the proposed restaurant renovations on a Friday during the holiday

season is expected to be 911 occupied spaces out of 1,070 available⁷. This peak parking demand assumes that the peak retail parking utilization overlaps with the peak restaurant utilization, which is unlikely to coincide. This data indicates that during the holiday season, a considerable number of vacant spaces will be available in the overall mall parking supply.

Additional Parking Capacity

The Mall at Rockingham Park has an easement for an additional 500 spaces available during peak shopping periods at the Tuscan Village. The analysis presented herein suggest that implementation of this additional capacity is not necessary, as the Mall will be available to increase the capacity of the overall mall parking supply if needed.

CONDITIONAL USE PERMIT

The proponent will require an amended conditional use permit (CUP) for the overall mall parking requirement to account for the loss of 16 spaces around the former Sears Auto Center. The overall parking requirement under zoning for the Mall as per the restaurant renovations site plan submittal is 5,573 spaces. The estimated parking requirement under zoning in the November 2024 CUP was 5,123 spaces. The CUP must be amended to request a total 1,010 space reduction consisting of 478 (Cinemark), 58 (Dick's), 458 (Casino), and 16 (Lyons Group) for the proposed restaurant renovations. The total required parking will be reduced to 4,563 parking spaces. The analysis presented herein demonstrates that this small reduction in the overall parking count is inconsequential given the significant surplus in parking spaces in the north lots.

⁷ The addition of the restaurant's Friday parking demand (158) to Black Friday's peak peaking demand (645)

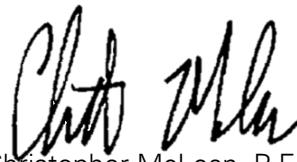
CONCLUSION

Langan evaluated the parking impact and trip generation of the proposed renovations of the former Sears Auto Center to a restaurant use at the Mall at Rockingham Park. We combined field observations of parking in Area C adjacent to Cinemark and Dick's with ITE Parking Generation estimates. Key findings discussed herein are:

- Existing parking demand in Parking Lot C peaks at 28% utilization on Friday and 27% on Saturday in the evenings.
- The combination of existing parking utilization and anticipated parking demand would result in a 53% utilization rate of Parking Lot C during off-peak season.
- The Mall will require an amended Conditional Use Permit (CUP) to reduce the required parking to 4,563 to account for the removal of 16 parking spaces for the proposed restaurants.
- The estimated trip generation for the proposed restaurants is 26 less evening peak hour trips and 549 daily trips less than the previous approvals.

In conclusion, our analysis indicated that the proposed renovation/reuse of the former Sears Auto Center building by proposed restaurants can be accommodated under typical operating conditions based on the estimated parking requirement.

Sincerely,
Langan Engineering and Environmental Services, Inc.



Christopher McLean, P.E.
Project Engineer



Maximo Polanco, P.E.
Senior Project Engineer

Appendix A - Parking Count Data

In-House

ROCKINGHAM PARK

PARKING COUNTS

FRIDAY 7/18/2025

Time	C1	C2	C3	C4	C5	C6	C7	Total	Utilization
3:00 PM	73	19	1	17	0	0	0	110	10%
3:30 PM	73	18	1	17	0	0	0	109	10%
4:00 PM	70	17	1	17	0	2	0	107	10%
4:30 PM	87	24	1	17	0	1	0	130	12%
5:00 PM	92	30	1	17	0	1	0	141	13%
5:30 PM	118	31	2	17	0	2	0	170	16%
6:00 PM	133	35	1	17	0	3	0	189	17%
6:30 PM	124	35	3	17	0	5	0	184	17%
7:00 PM	142	35	3	17	0	5	0	202	19%
7:30 PM	152	33	2	17	0	6	1	211	19%
8:00 PM	177	33	2	17	0	11	0	240	22%
8:30 PM	222	38	1	17	0	15	0	293	27%
9:00 PM	228	37	1	17	0	16	0	299	28%
Capacity	389	191	106	43	259		98	1086	
Average	130	30	2	17	5		0	184	17%

NDS

ROCKINGHAM PARK

PARKING COUNTS

SATURDAY 7/19/2025

Time	C1	C2	C3	C4	C5	C6	C7	Total	Utilization
12:00 PM	95	22	0	17	3		2	139	13%
12:30 PM	98	22	4	17	3		2	146	13%
1:00 PM	89	27	0	17	6		1	140	13%
1:30 PM	92	28	0	17	7		1	145	13%
2:00 PM	117	30	0	17	6		1	171	16%
2:30 PM	121	34	1	17	9		1	183	17%
3:00 PM	118	34	1	17	8		3	181	17%
3:30 PM	109	25	0	17	3		1	155	14%
4:00 PM	154	26	0	17	3		1	201	19%
4:30 PM	158	27	0	17	7		2	211	19%
5:00 PM	173	30	1	17	12		1	234	22%
5:30 PM	183	32	2	17	10		1	245	23%
6:00 PM	180	36	0	17	11		1	245	23%
6:30 PM	171	33	1	17	12		1	235	22%
7:00 PM	191	28	1	17	18		1	256	24%
7:30 PM	230	23	1	17	16		1	288	27%
8:00 PM	208	22	0	17	11		1	259	24%
8:30 PM	218	14	0	17	15		1	265	24%
9:00 PM	225	17	0	17	14		1	274	25%
Capacity	389	191	106	43	259		98	1086	
Average	154	27	1	17	9		1	209	19%

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

Description

A high-turnover (sit-down) restaurant is full-service eating establishment with a typical duration of stay of 60 minutes or less. This type of restaurant is usually moderately priced, frequently belongs to a restaurant chain, and is commonly referred to as casual dining. 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 their customers. Some facilities within this land use may also contain a bar area for serving food and alcoholic drinks.

Land Use Subcategory

Data are separated into two subcategories for this land use:

- Restaurants that serve breakfast
- Restaurants that do not serve breakfast

The “serves breakfast” subcategory includes restaurants that serve customers during breakfast, lunch, and dinner; during breakfast and lunch; and during breakfast only. The “does not serve breakfast” subcategory includes restaurants that serve customers during lunch and dinner, during dinner only, and during lunch only.

Time-of-Day Distribution for Parking Demand

The following table presents a time-of-day distribution of parking demand on a weekday (Monday–Thursday) at restaurants that serve breakfast, lunch, and dinner (10 study sites) and at restaurants that serve only lunch and dinner (25 sites). The following table also presents a time-of-day distribution of parking demand on a Saturday at restaurants that serve breakfast, lunch, and dinner (nine study sites) and at restaurants that serve only lunch and dinner (six sites).

Hour Beginning	Percent of Monday–Thursday Peak Parking Demand		Percent of Saturday Peak Parking Demand	
	Serving Breakfast, Lunch, and Dinner	Serving Lunch and Dinner	Serving Breakfast, Lunch, and Dinner	Serving Lunch and Dinner
12:00–4:00 a.m.	–	–	–	–
5:00 a.m.	–	–	–	–
6:00 a.m.	–	–	–	–
7:00 a.m.	–	–	–	–
8:00 a.m.	64	–	55	–
9:00 a.m.	74	–	76	–
10:00 a.m.	82	–	91	–
11:00 a.m.	89	28	100	33
12:00 p.m.	100	96	97	56
1:00 p.m.	86	100	91	69
2:00 p.m.	57	51	73	58
3:00 p.m.	44	37	51	49
4:00 p.m.	39	34	43	63
5:00 p.m.	62	56	57	77
6:00 p.m.	73	87	66	100
7:00 p.m.	95	91	80	100
8:00 p.m.	76	73	62	85
9:00 p.m.	–	–	–	55
10:00 p.m.	–	–	–	35
11:00 p.m.	–	–	–	–

Additional Data

If the restaurant has outdoor seating, its area is not included in the overall gross floor area. For a restaurant that has significant outdoor seating, the number of seats may have a more direct relationship to site-generated parking demand than GFA.

The average parking supply ratio for the 55 study sites with parking supply information in a general urban/suburban setting is 16 spaces per 1,000 square feet GFA. The average parking supply ratio for the five study sites with parking supply information in a dense multi-use urban setting is 11 spaces per 1,000 square feet GFA. The average peak parking occupancy is 74 percent at the general urban/suburban sites and 88 percent at the dense multi-use urban sites.

The sites were surveyed in the 1990s, the 2000s, the 2010s, and the 2020s in Arizona, British Columbia (CAN), California, Florida, Illinois, Indiana, Maine, Maryland, Massachusetts, Minnesota, New Jersey, New York, North Carolina, Oregon, Pennsylvania, Texas, Virginia, Washington, and Wisconsin.

Source Numbers

168, 218, 274, 276, 299, 527, 531, 556, 557, 567, 568, 618, 619, 620, 622, 626, 628, 637

High-Turnover (Sit Down) Restaurant Does Not Serve Breakfast (932)

Peak Period Parking Demand vs: Seats

On a: Weekday (Monday - Thursday)

Setting/Location: General Urban/Suburban

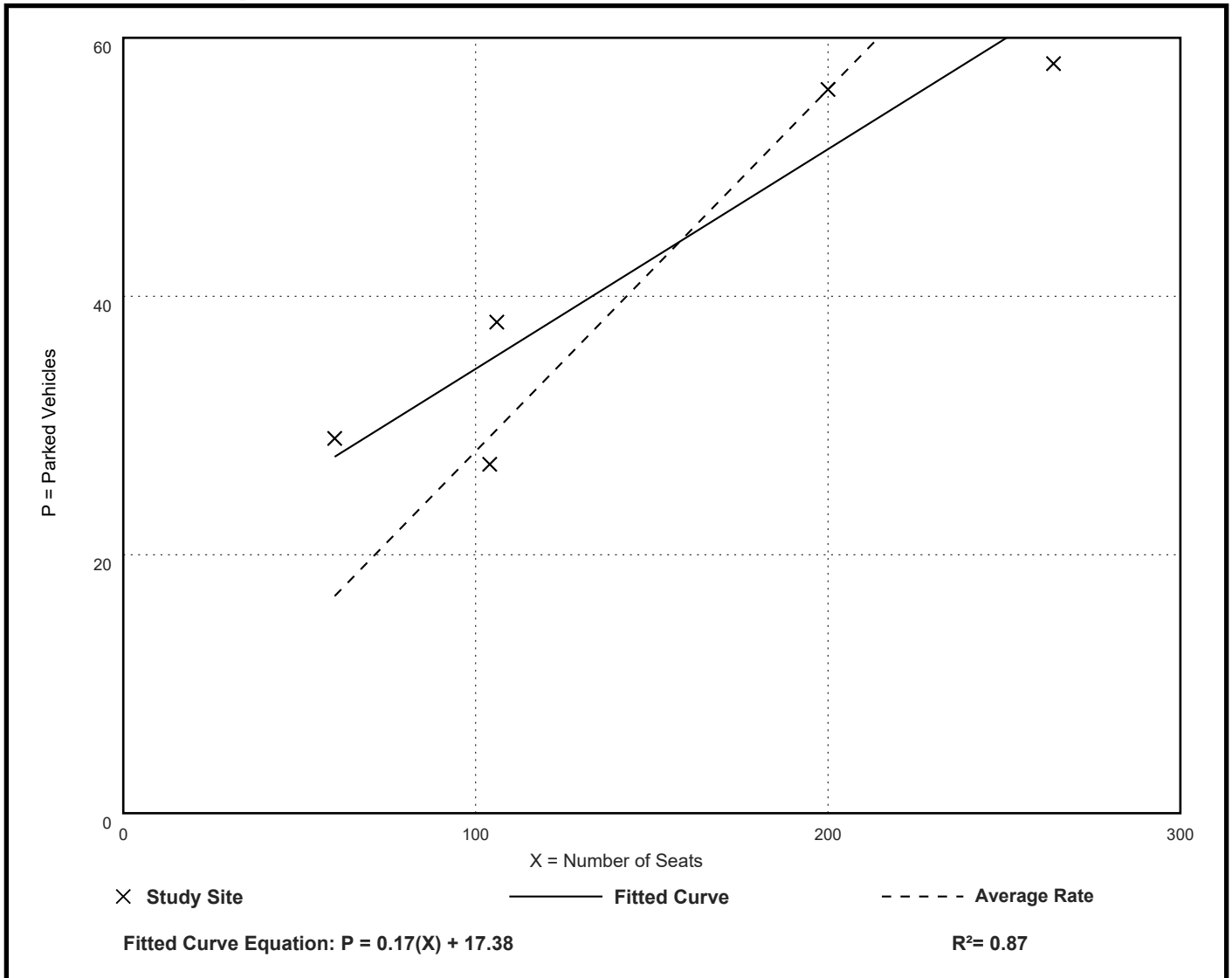
Number of Studies: 5

Avg. Num. of Seats: 147

Peak Period Parking Demand per Seat

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
0.28	0.22 - 0.48	0.26 / 0.48	***	0.08 (29%)

Data Plot and Equation



High-Turnover (Sit Down) Restaurant Does Not Serve Breakfast (932)

Peak Period Parking Demand vs: Seats

On a: Friday

Setting/Location: General Urban/Suburban

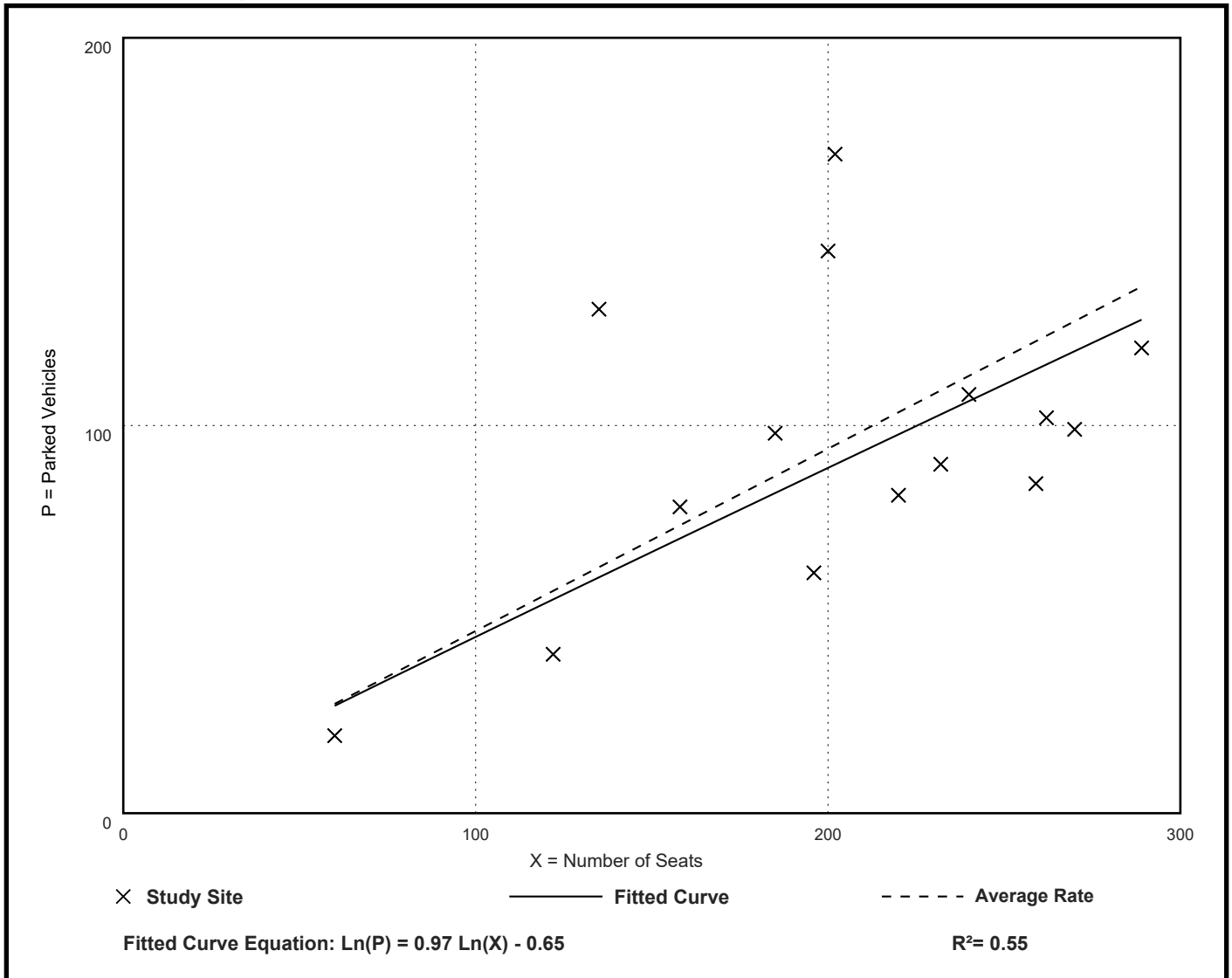
Number of Studies: 15

Avg. Num. of Seats: 202

Peak Period Parking Demand per Seat

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
0.47	0.32 - 0.96	0.37 / 0.79	***	0.19 (40%)

Data Plot and Equation



High-Turnover (Sit Down) Restaurant Does Not Serve Breakfast (932)

Peak Period Parking Demand vs: Seats

On a: Saturday

Setting/Location: General Urban/Suburban

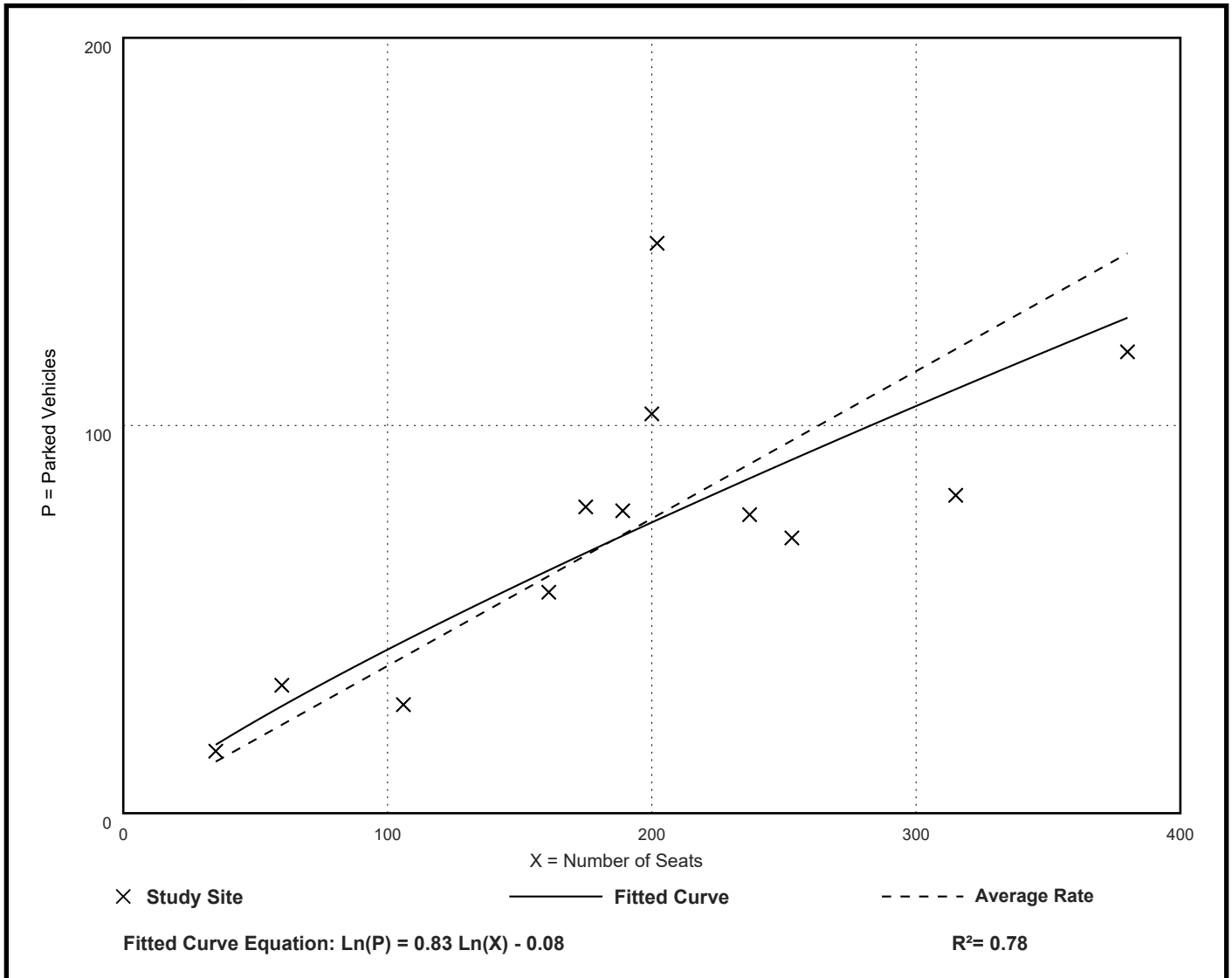
Number of Studies: 12

Avg. Num. of Seats: 193

Peak Period Parking Demand per Seat

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
0.38	0.26 - 0.73	0.32 / 0.56	***	0.14 (37%)

Data Plot and Equation



Land Use: 437 Bowling Alley

Description

A bowling alley is a recreational facility that includes bowling lanes. A small lounge, restaurant and/or snack bar, video games, and billiard tables may also be available.

Time-of-Day Distribution for Parking Demand

The following table presents a time-of-day distribution of parking demand on a weekday at five study sites.

Hour Beginning	Percent of Weekday Peak Parking Demand
12:00–4:00 a.m.	—
5:00 a.m.	—
6:00 a.m.	—
7:00 a.m.	—
8:00 a.m.	—
9:00 a.m.	—
10:00 a.m.	—
11:00 a.m.	—
12:00 p.m.	—
1:00 p.m.	—
2:00 p.m.	—
3:00 p.m.	—
4:00 p.m.	—
5:00 p.m.	45
6:00 p.m.	87
7:00 p.m.	99
8:00 p.m.	100
9:00 p.m.	82
10:00 p.m.	—
11:00 p.m.	—

Additional Data

Factors such as the extent of ancillary activities (for example, billiards, lounge) and transitions between activities (when one bowling league had not yet ended and the next was about to begin) may have affected the reported parking demand.

The average parking supply ratio for the four study sites with parking supply information is 5.6 spaces per lane. The average peak parking occupancy at these four sites is 56 percent.

The sites were surveyed in the 1990s in Oregon.

Source Number

275

Bowling Alley (437)

Peak Period Parking Demand vs: Lanes

On a: Weekday (Monday - Friday)

Setting/Location: General Urban/Suburban

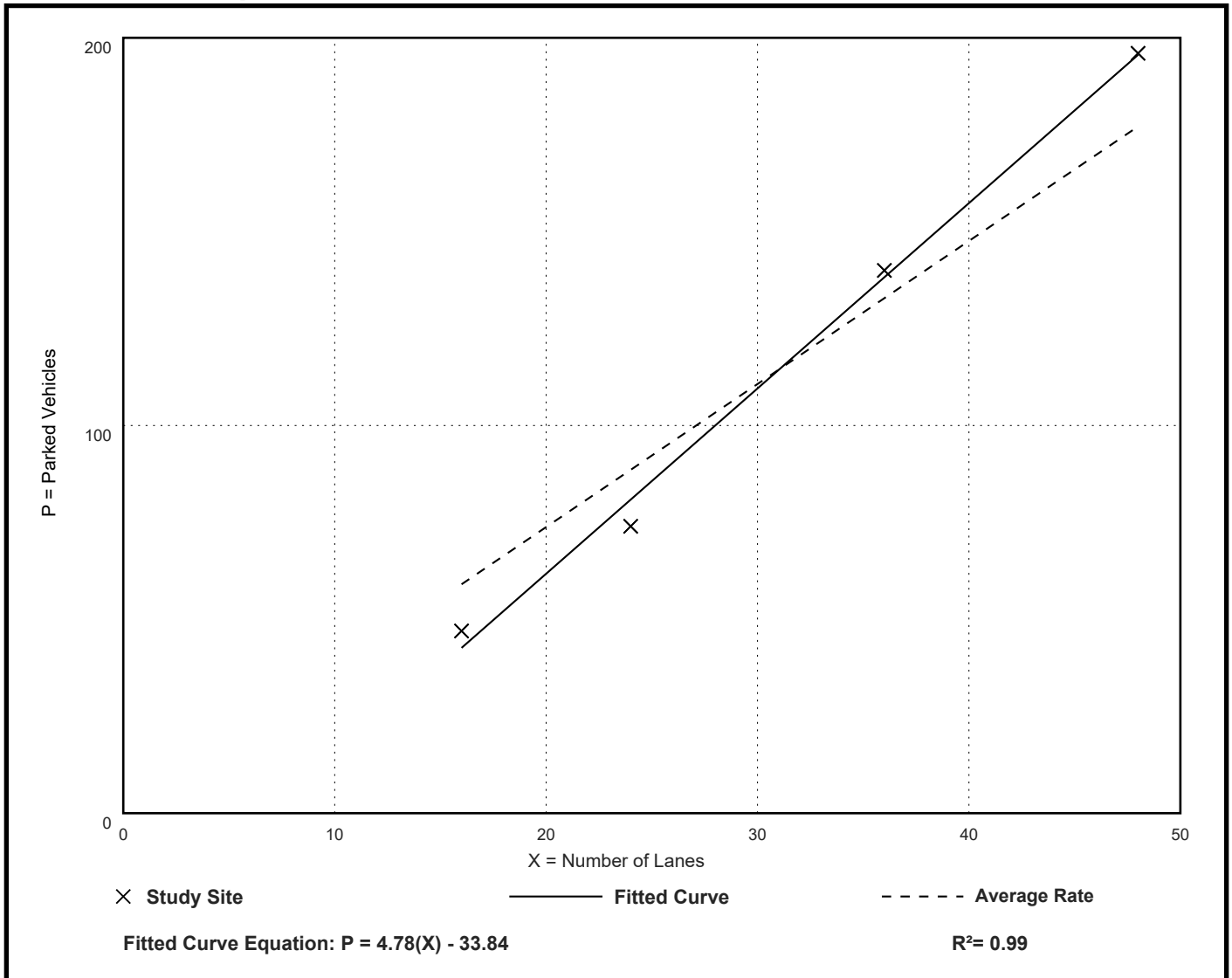
Number of Studies: 4

Avg. Num. of Lanes: 31

Peak Period Parking Demand per Lane

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
3.69	2.94 - 4.08	3.03 / 4.08	***	0.54 (15%)

Data Plot and Equation



Bowling Alley (437)

Peak Period Parking Demand vs: Lanes

On a: Weekday (Monday - Friday)

Setting/Location: Dense Multi-Use Urban

Number of Studies: 1

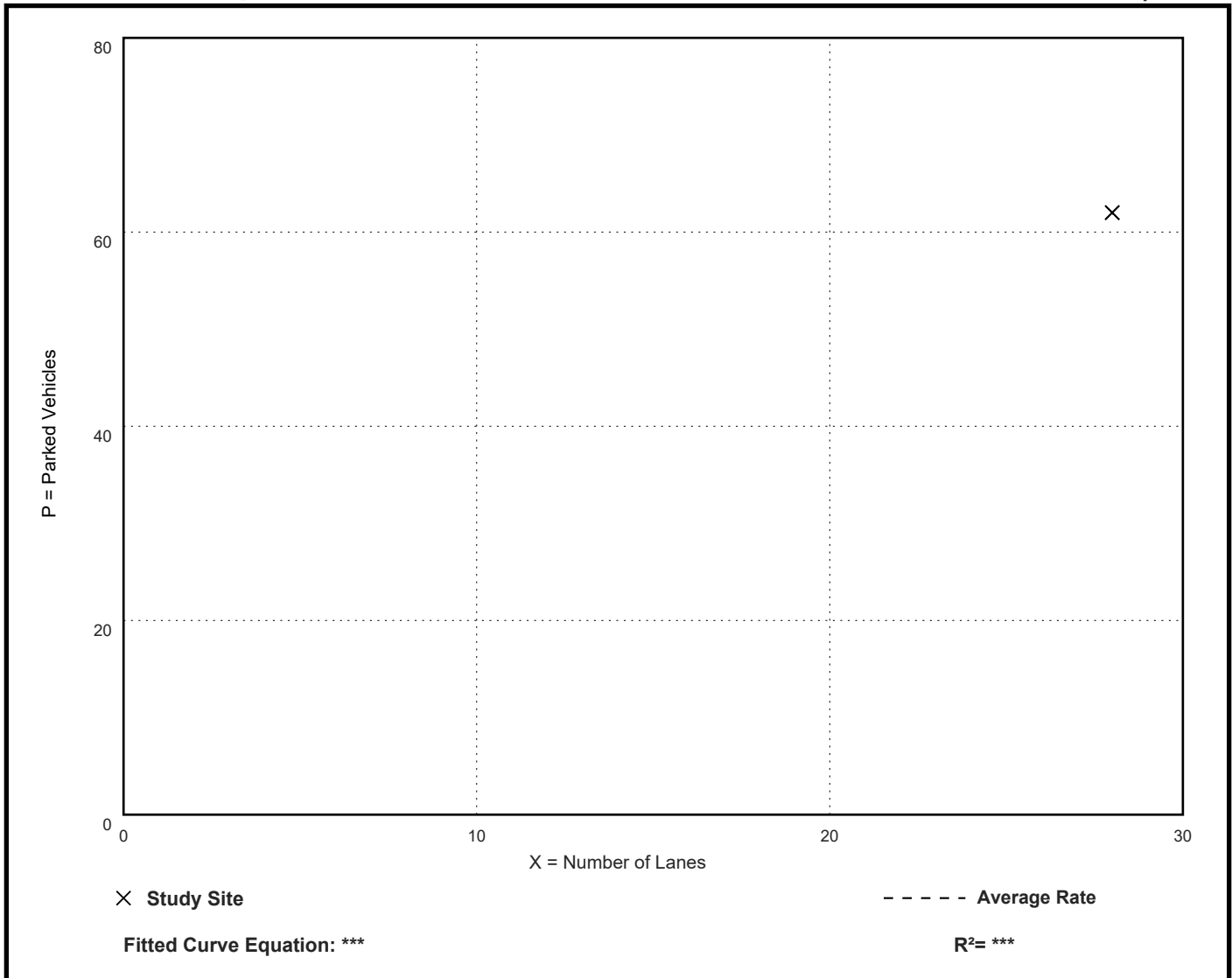
Avg. Num. of Lanes: 28

Peak Period Parking Demand per Lane

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
2.21	2.21 - 2.21	*** / ***	***	*** (***)

Data Plot and Equation

Caution – Small Sample Size



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. This type of restaurant is usually moderately priced, frequently belongs to a restaurant chain, and is commonly referred to as casual dining. 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 a bar area for serving food and alcoholic drinks.

Fast casual restaurant (Land Use 930), fine dining 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.

Additional Data

Users should exercise caution when applying statistics during the AM peak periods, as the sites contained in the database for this land use may or may not be open for breakfast. In cases where it was confirmed that the sites were not open for breakfast, data for the AM peak hour of the adjacent street traffic were removed from the database.

If the restaurant has outdoor seating, its area is not included in the overall gross floor area. For a restaurant that has significant outdoor seating, the number of seats may be more reliable than GFA as an independent variable on which to establish a trip generation rate.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, Florida, Georgia, Indiana, Kentucky, Massachusetts, Minnesota, New Hampshire, New Jersey, New York, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Texas, Vermont, and Wisconsin.

Source Numbers

126, 269, 275, 280, 300, 301, 305, 338, 340, 341, 358, 384, 424, 432, 437, 438, 444, 507, 555, 577, 589, 617, 618, 728, 868, 884, 885, 903, 927, 939, 944, 961, 962, 977, 1048

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

Vehicle Trip Ends vs: Seats
On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. Num. of Seats: 148

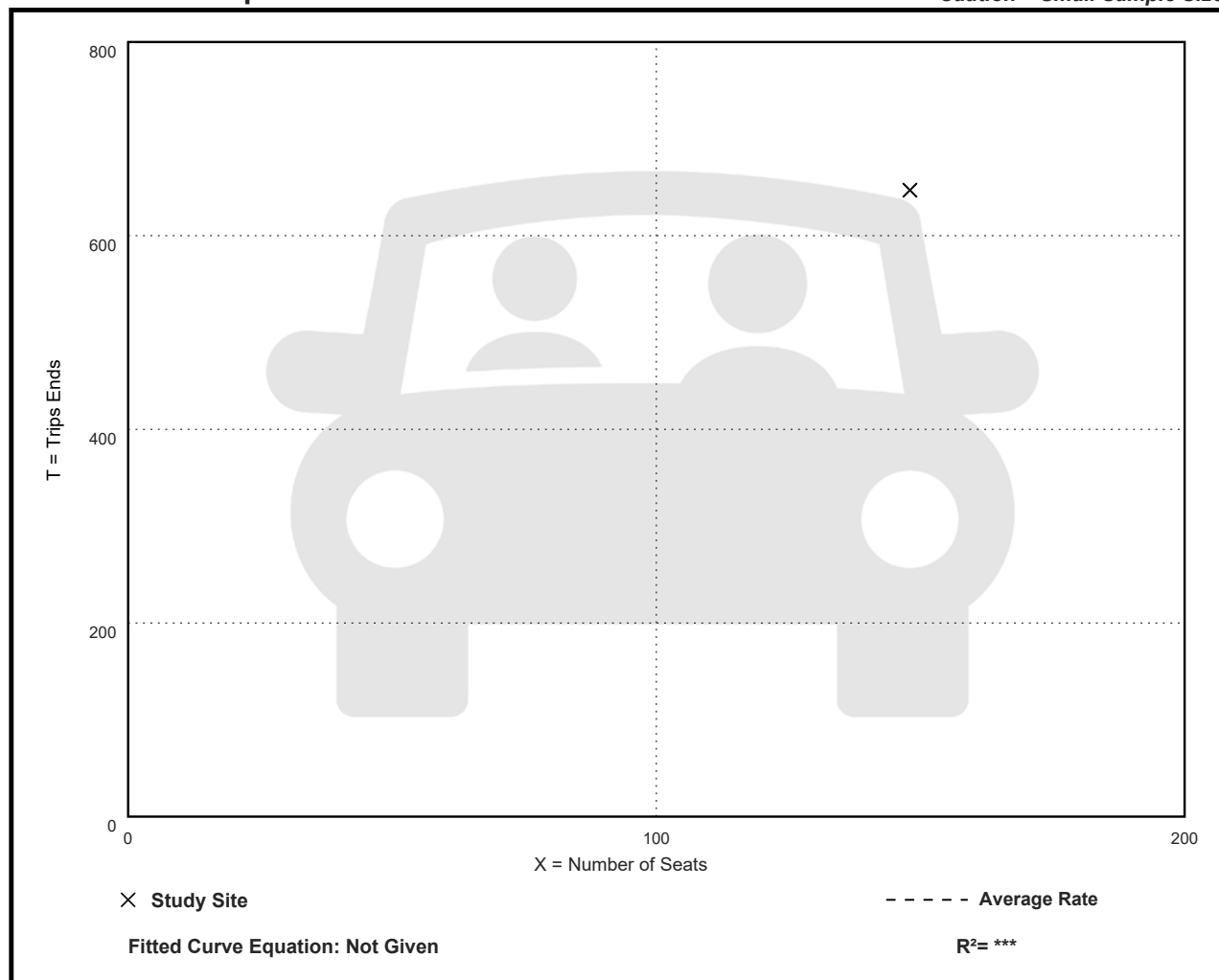
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
4.37	4.37 - 4.37	***

Data Plot and Equation

Caution – Small Sample Size



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

Vehicle Trip Ends vs: Seats

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

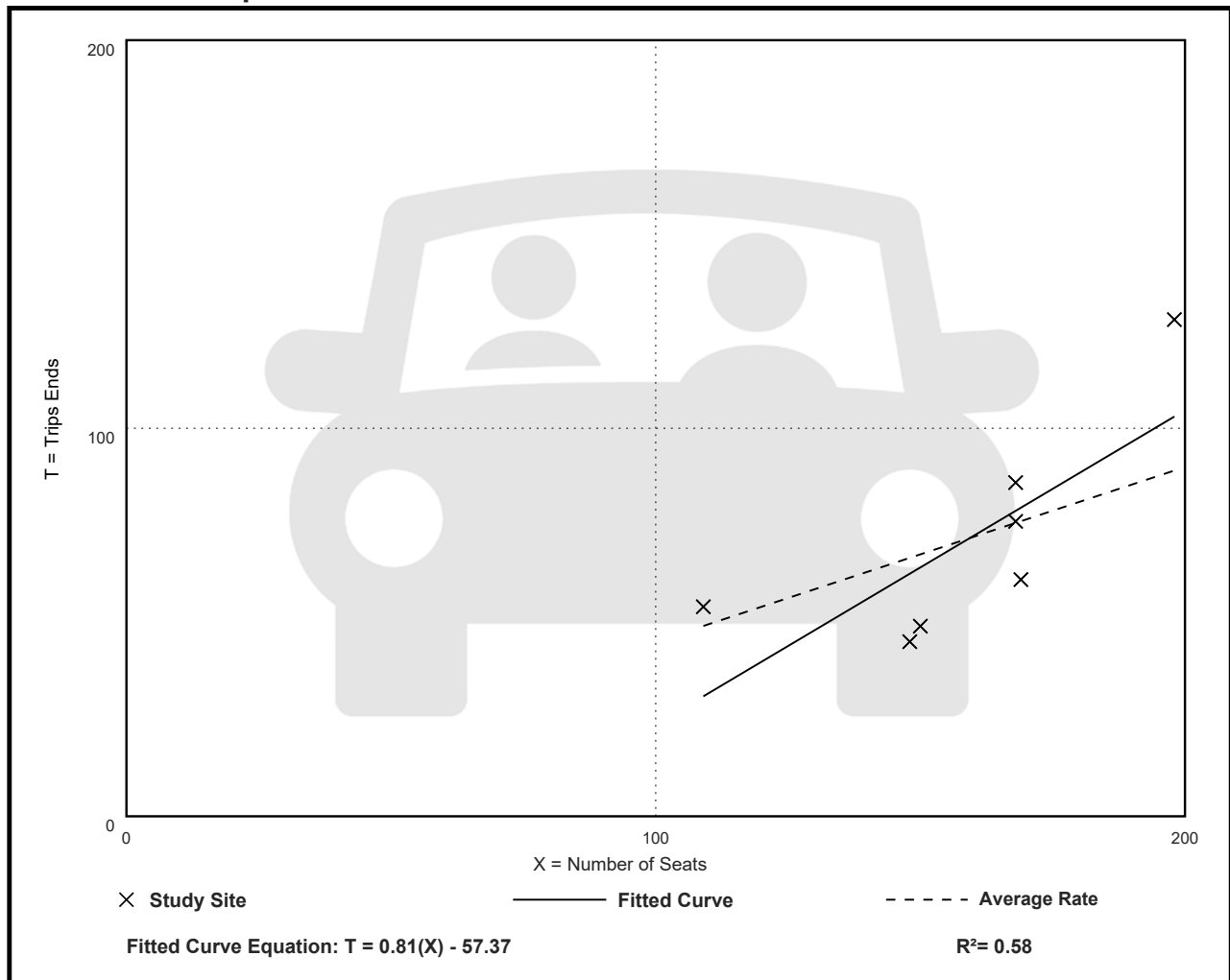
Avg. Num. of Seats: 159

Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.45	0.30 - 0.65	0.13

Data Plot and Equation



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

Vehicle Trip Ends vs: Seats

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: 14

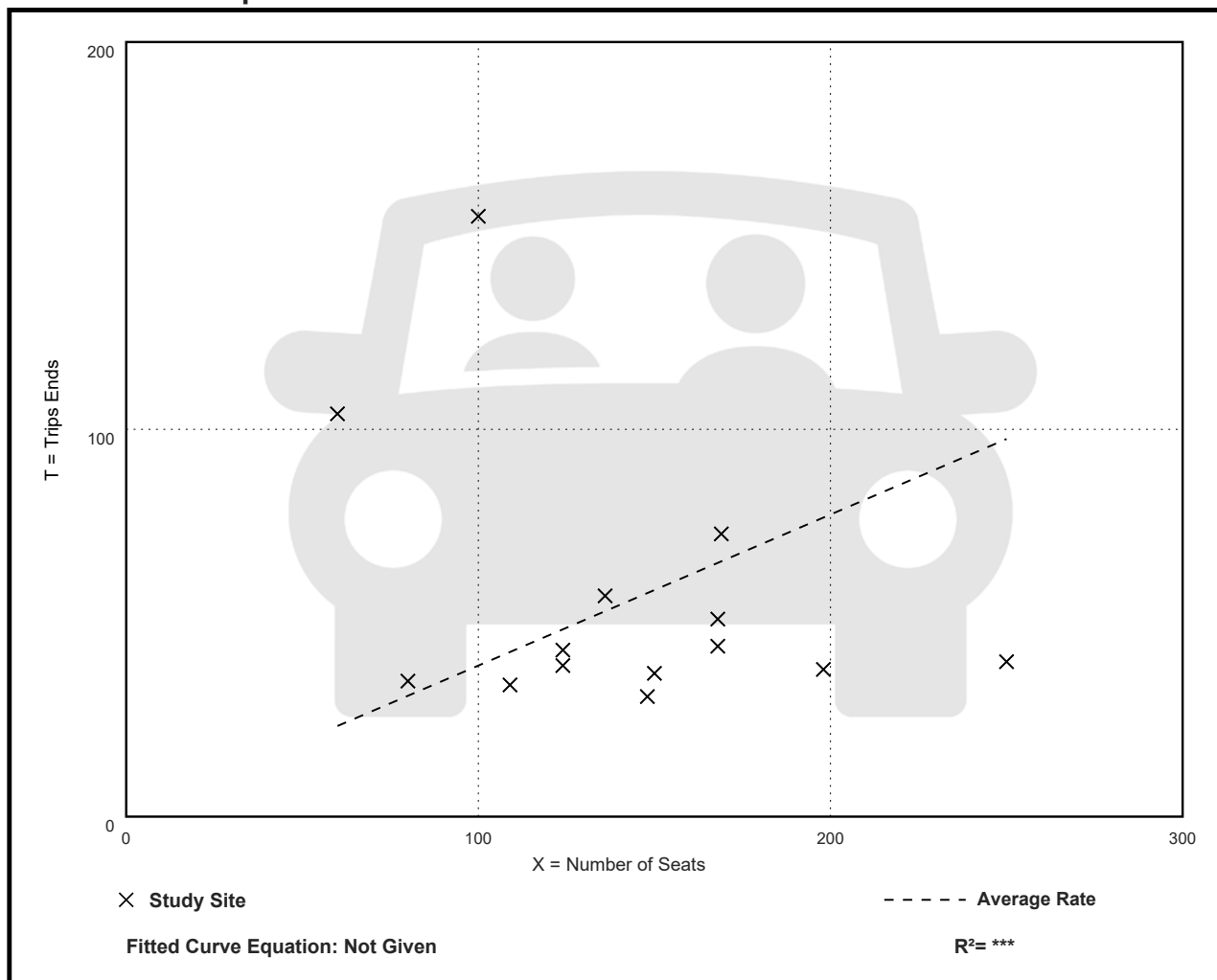
Avg. Num. of Seats: 142

Directional Distribution: 57% entering, 43% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.39	0.16 - 1.73	0.39

Data Plot and Equation



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

Vehicle Trip Ends vs: Seats

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 5

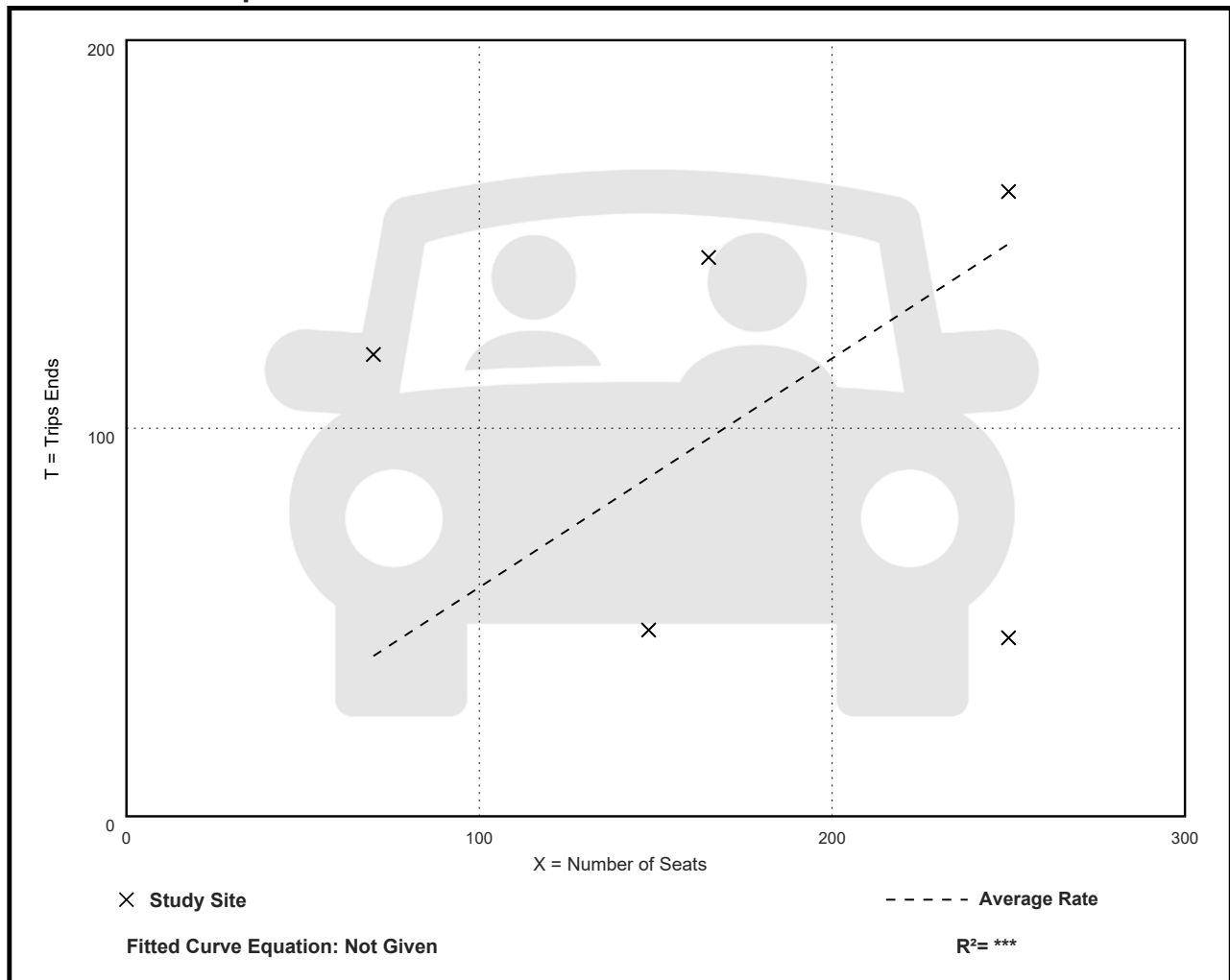
Avg. Num. of Seats: 177

Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.59	0.18 - 1.70	0.46

Data Plot and Equation



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

Vehicle Trip Ends vs: Seats

On a: Weekday,

PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 10

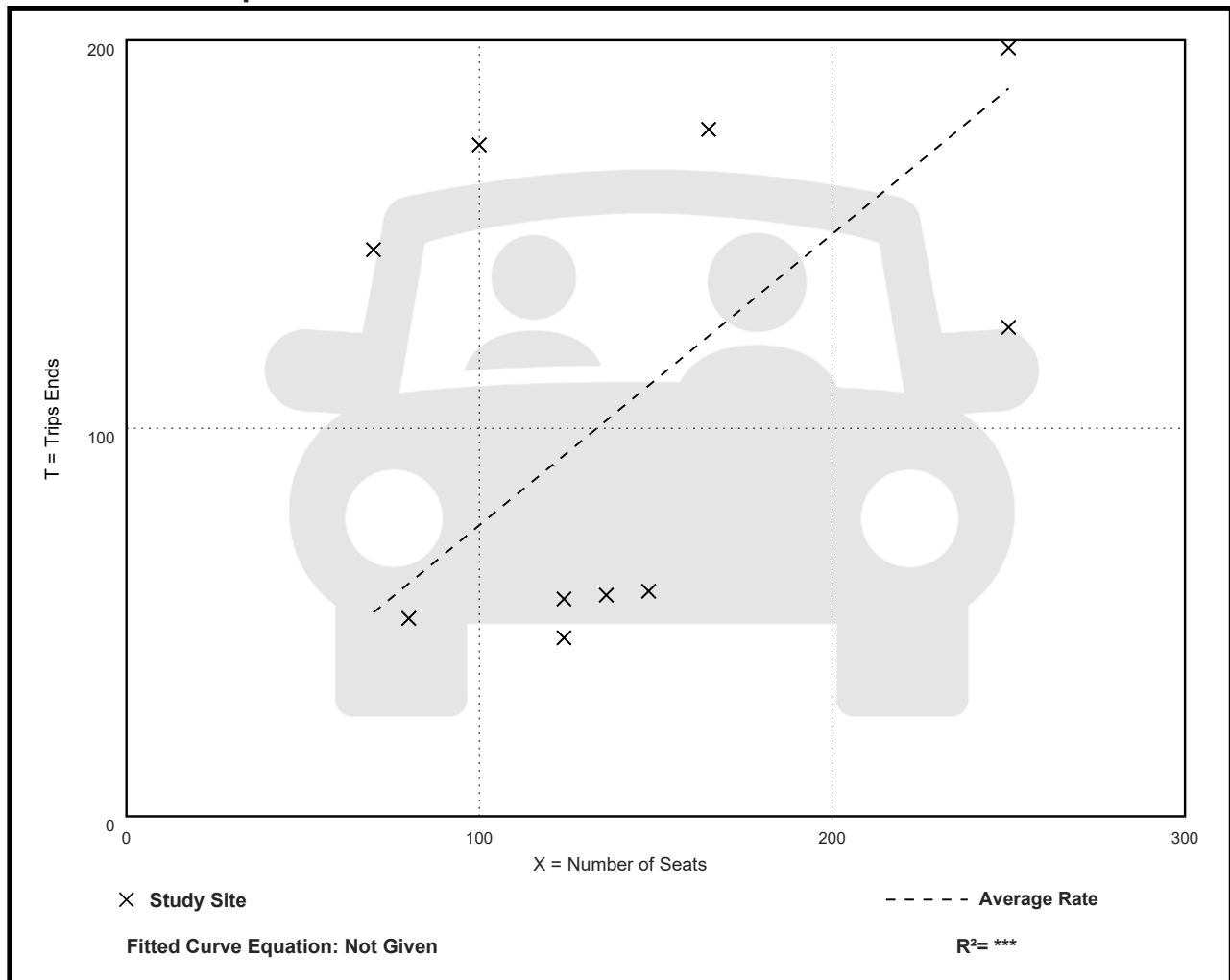
Avg. Num. of Seats: 145

Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.75	0.37 - 2.09	0.49

Data Plot and Equation



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

Vehicle Trip Ends vs: Seats
On a: Saturday

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. Num. of Seats: 148

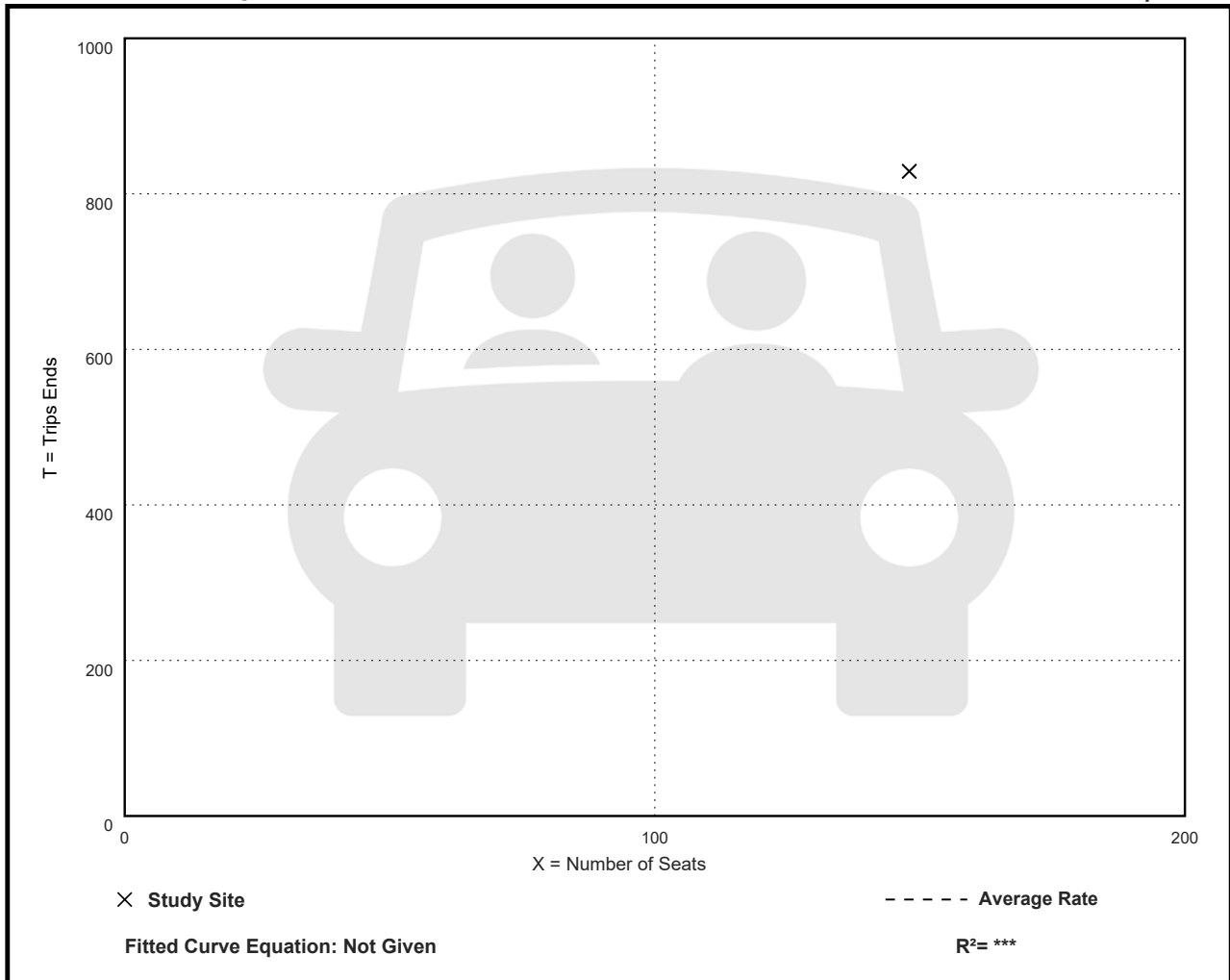
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
5.60	5.60 - 5.60	***

Data Plot and Equation

Caution – Small Sample Size



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

Vehicle Trip Ends vs: Seats

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 8

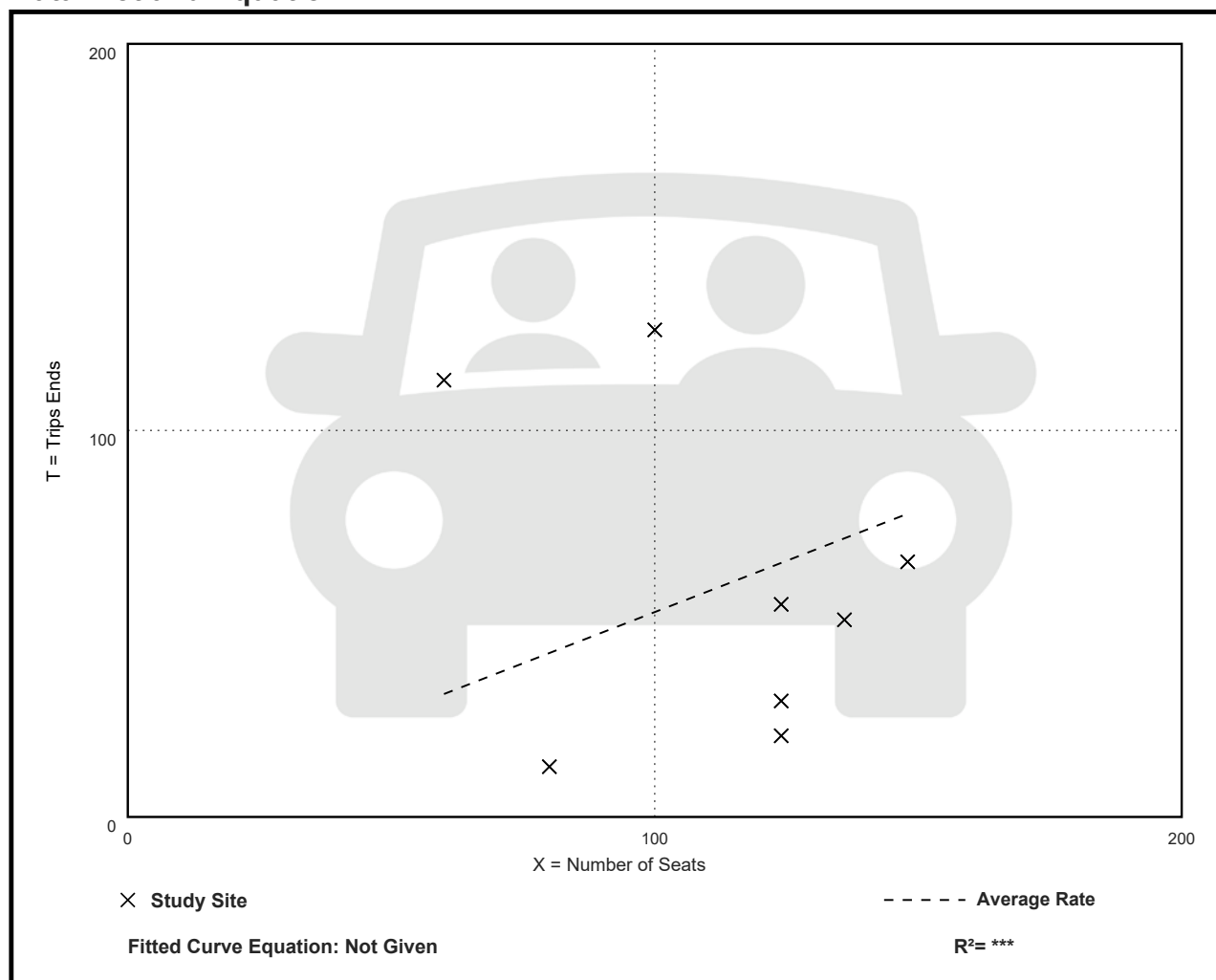
Avg. Num. of Seats: 112

Directional Distribution: 53% entering, 47% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.53	0.16 - 1.88	0.51

Data Plot and Equation



Land Use: 437

Bowling Alley

Description

A bowling alley is a recreational facility that includes bowling lanes. A small lounge, restaurant and/or snack bar, video games, and pool tables may also be available.

Additional Data

The sites were surveyed in the 1990s, the 2000s, and the 2010s in Connecticut, Florida, and Texas.

Source Numbers

400, 721, 945

Bowling Alley (437)

Vehicle Trip Ends vs: Bowling Lanes

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: 1

Avg. Num. of Bowling Lanes: 40

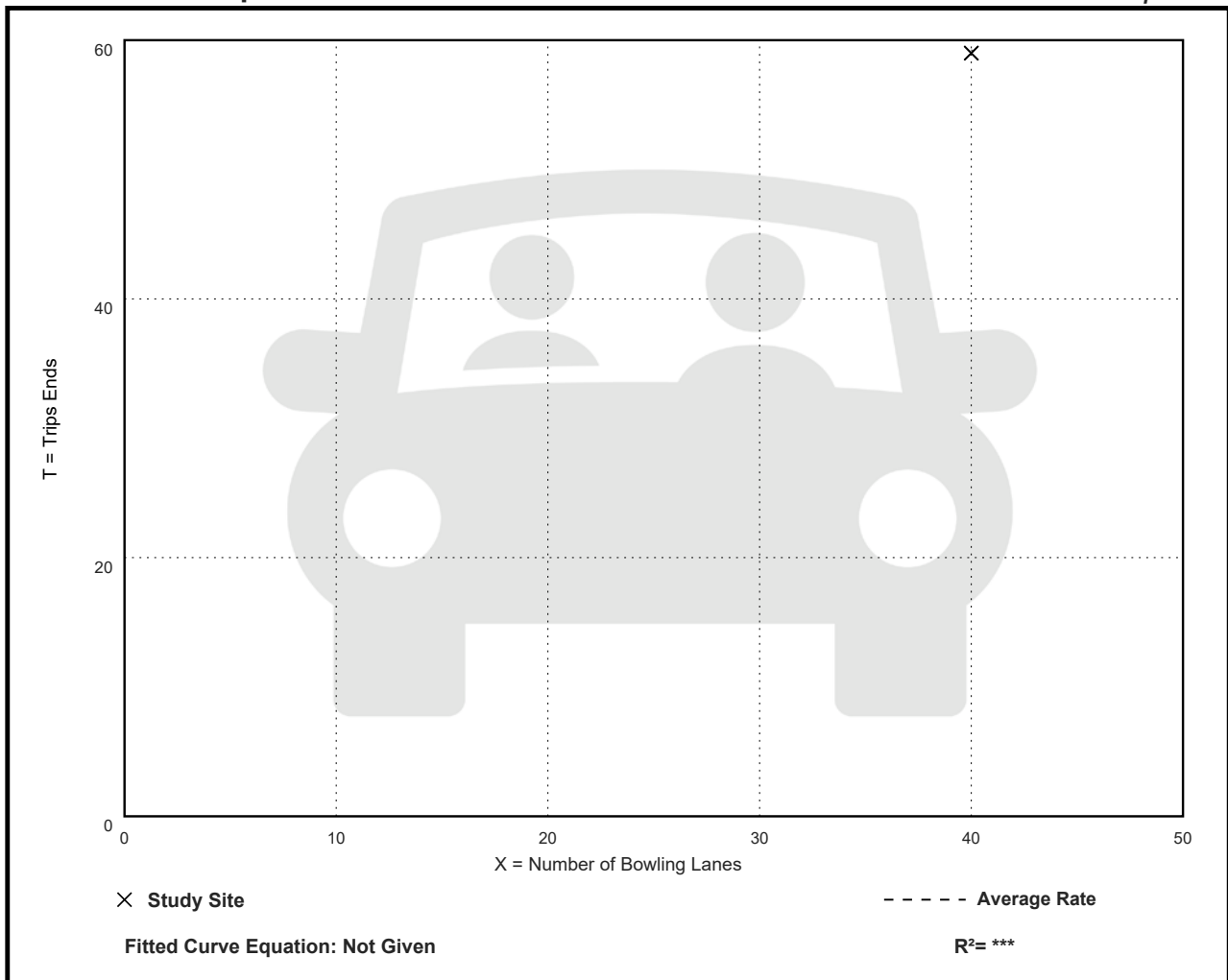
Directional Distribution: 95% entering, 5% exiting

Vehicle Trip Generation per Bowling Lane

Average Rate	Range of Rates	Standard Deviation
1.48	1.48 - 1.48	***

Data Plot and Equation

Caution – Small Sample Size



Bowling Alley (437)

Vehicle Trip Ends vs: Bowling Lanes

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: 5

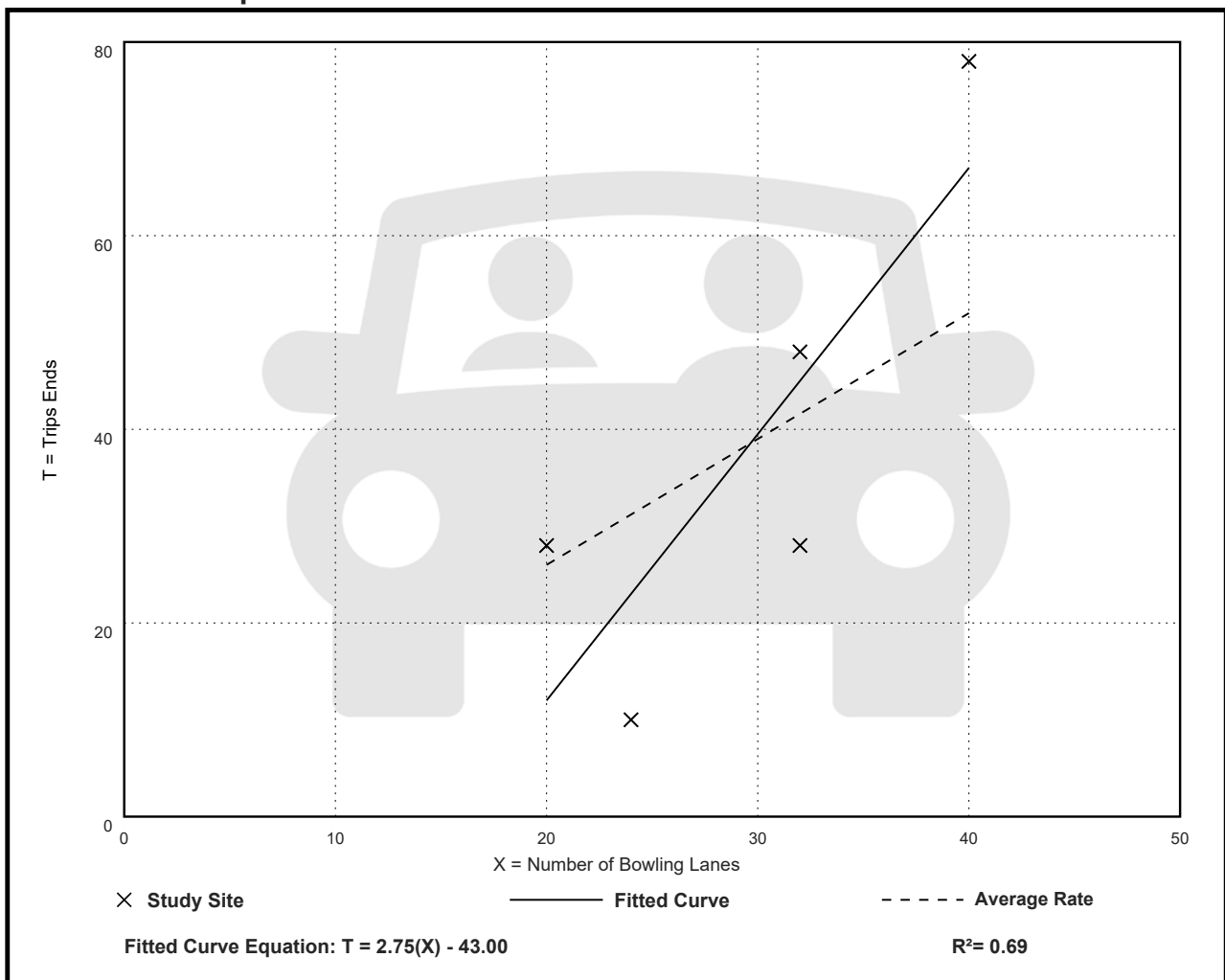
Avg. Num. of Bowling Lanes: 30

Directional Distribution: 65% entering, 35% exiting

Vehicle Trip Generation per Bowling Lane

Average Rate	Range of Rates	Standard Deviation
1.30	0.42 - 1.95	0.60

Data Plot and Equation



Bowling Alley (437)

Vehicle Trip Ends vs: Bowling Lanes

On a: Weekday,

PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. Num. of Bowling Lanes: 32

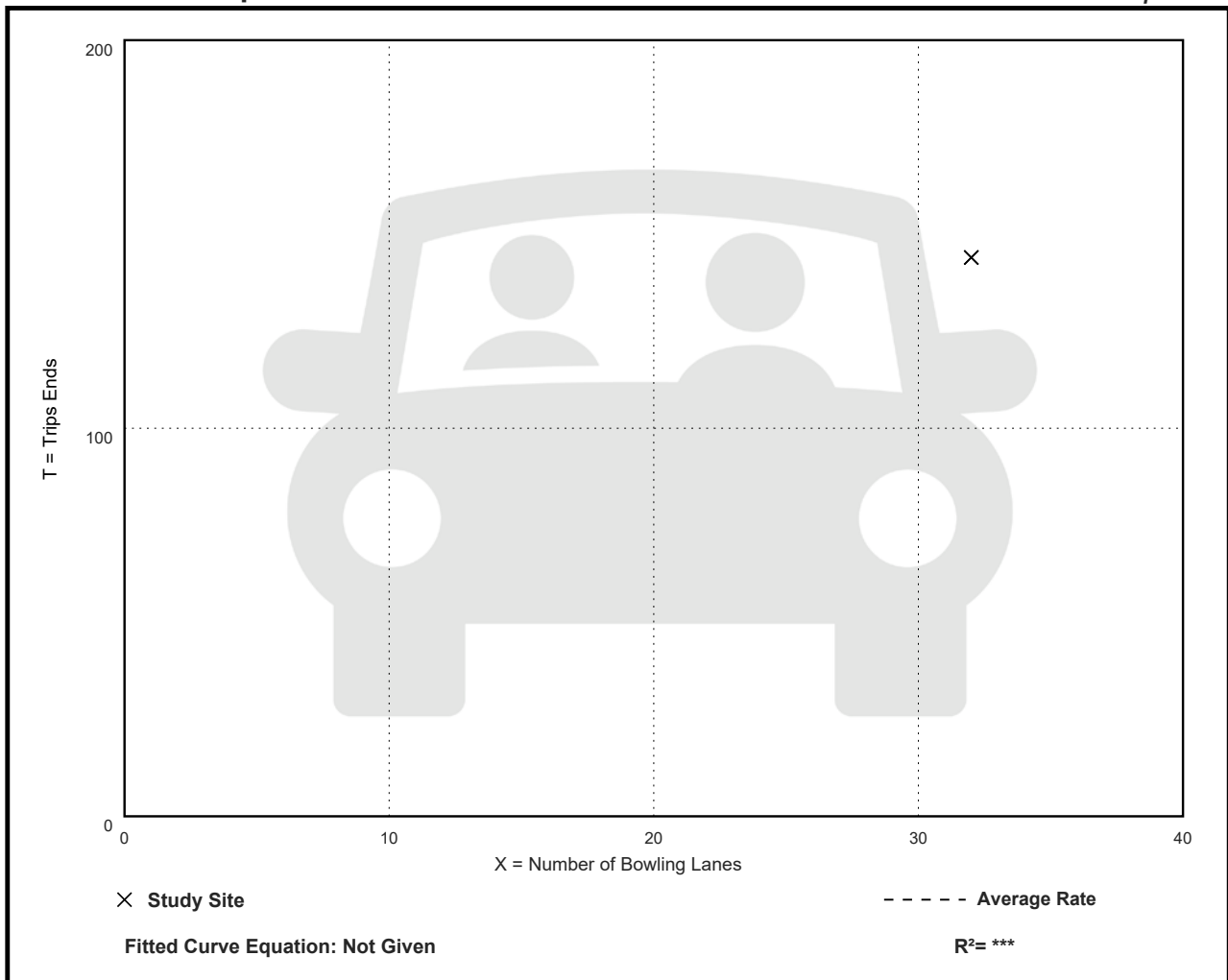
Directional Distribution: 83% entering, 17% exiting

Vehicle Trip Generation per Bowling Lane

Average Rate	Range of Rates	Standard Deviation
4.50	4.50 - 4.50	***

Data Plot and Equation

Caution – Small Sample Size



Bowling Alley (437)

Vehicle Trip Ends vs: Bowling Lanes

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. Num. of Bowling Lanes: 32

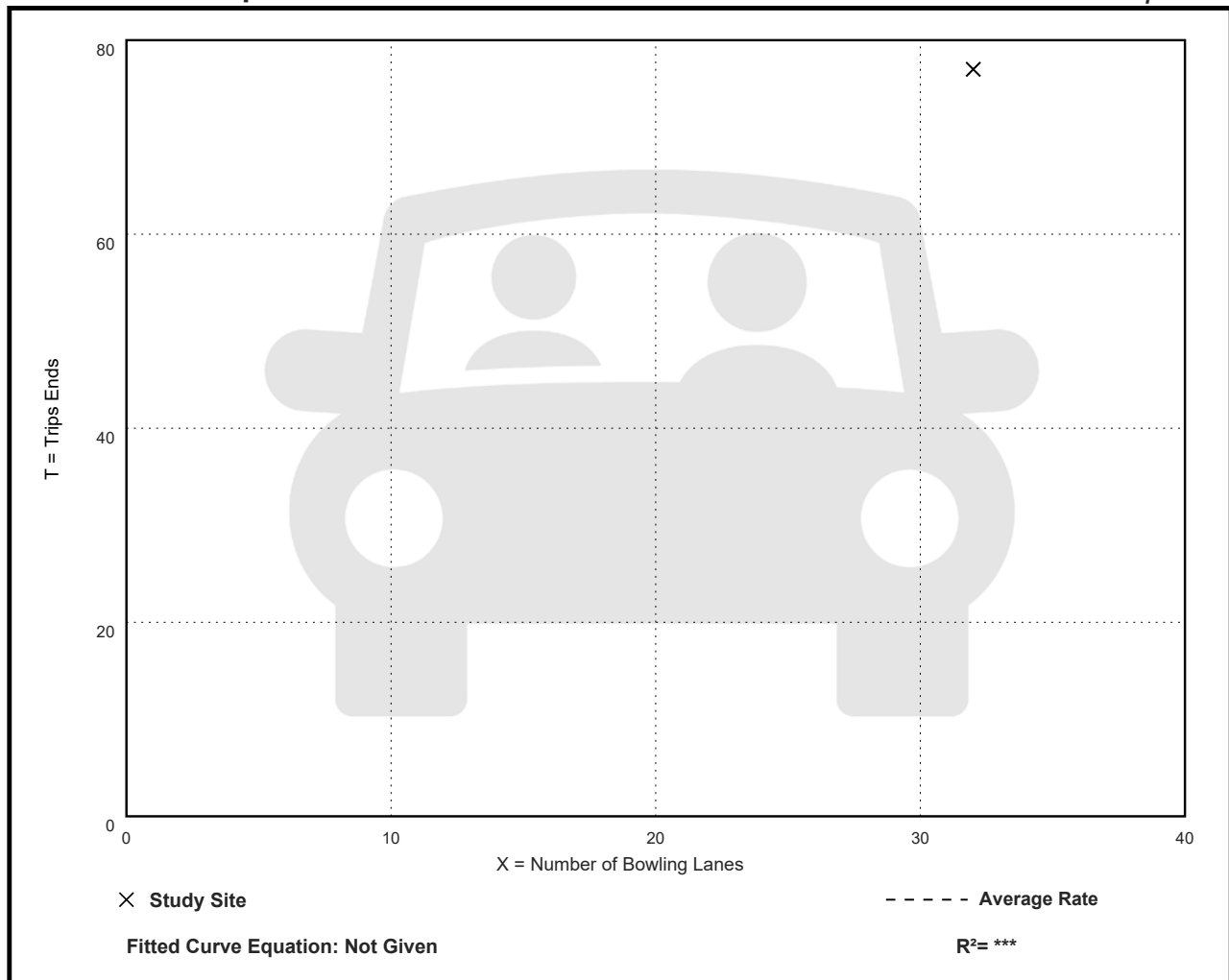
Directional Distribution: 39% entering, 61% exiting

Vehicle Trip Generation per Bowling Lane

Average Rate	Range of Rates	Standard Deviation
2.41	2.41 - 2.41	***

Data Plot and Equation

Caution – Small Sample Size



Bowling Alley (437)

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: 1

Avg. 1000 Sq. Ft. GFA: 73

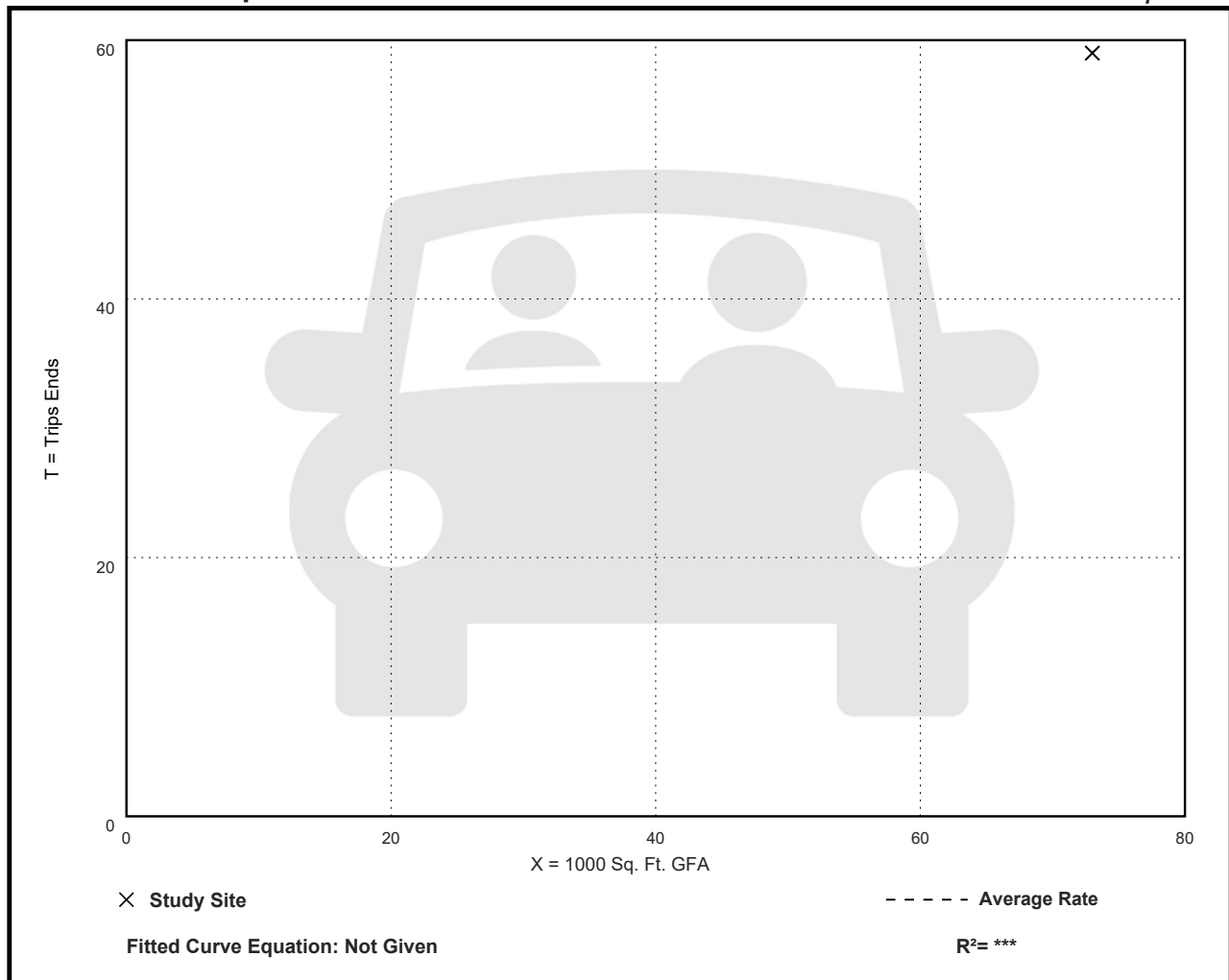
Directional Distribution: 95% entering, 5% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.81	0.81 - 0.81	***

Data Plot and Equation

Caution – Small Sample Size



Bowling Alley (437)

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: 5

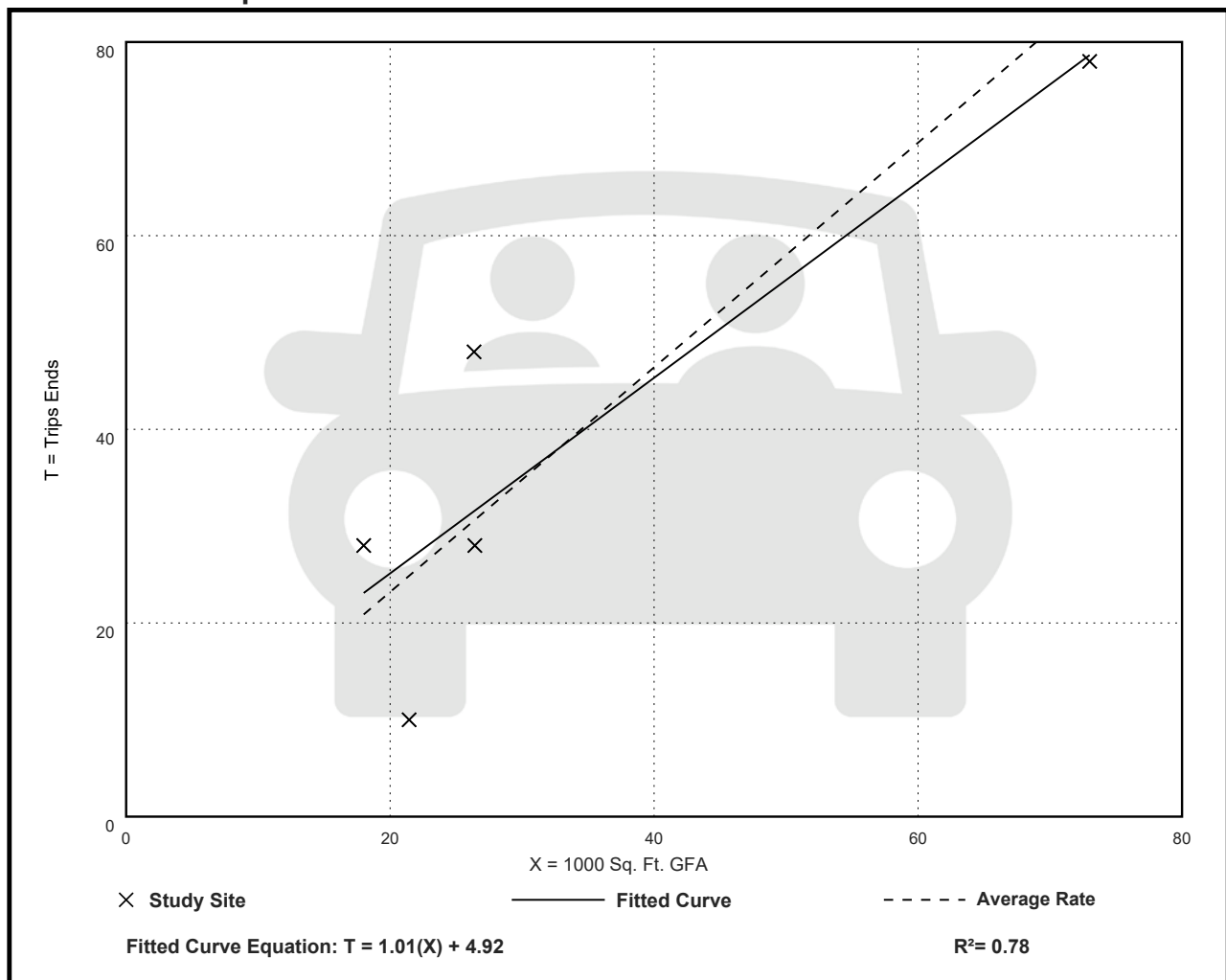
Avg. 1000 Sq. Ft. GFA: 33

Directional Distribution: 65% entering, 35% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.16	0.47 - 1.82	0.44

Data Plot and Equation



Land Use: 975

Drinking Place

Description

A drinking place contains a bar, where alcoholic beverages and food are sold, and possibly some type of entertainment, such as music, television screens, video games, or pool tables. Establishments that specialize in serving food but also have bars are not included in this land use.

Additional Data

All data for this land use were collected on Mondays through Thursdays.

The sites were surveyed in the 1980s, the 1990s, and the 2010s in Colorado, Florida, Oregon, Pennsylvania, and South Dakota.

Source Numbers

291, 358, 583, 1020, 1053

Drinking Place (975)

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: 12

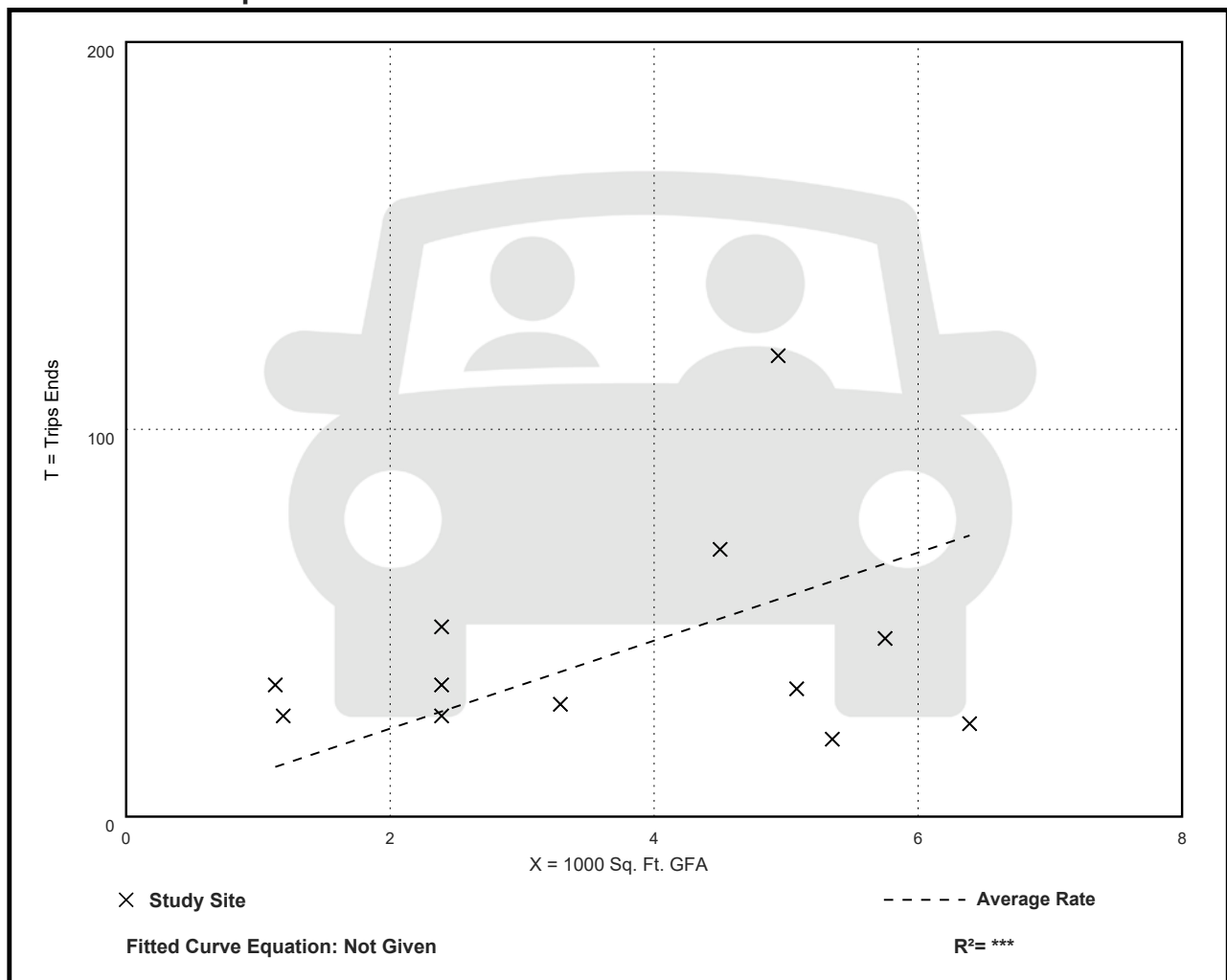
Avg. 1000 Sq. Ft. GFA: 4

Directional Distribution: 66% entering, 34% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
11.36	3.74 - 30.09	7.81

Data Plot and Equation



Drinking Place (975)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 8

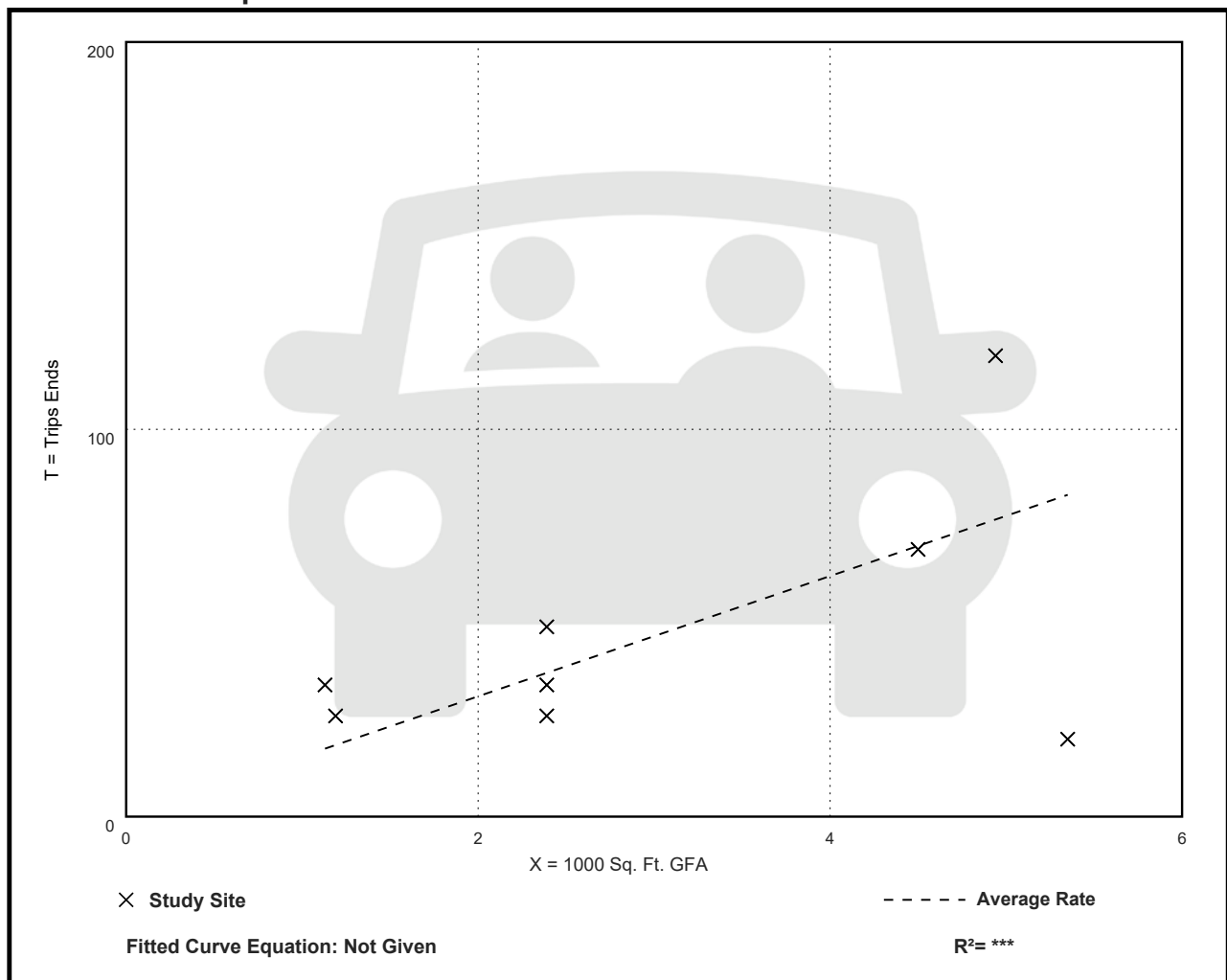
Avg. 1000 Sq. Ft. GFA: 3

Directional Distribution: 68% entering, 32% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
15.53	3.74 - 30.09	8.42

Data Plot and Equation



Drinking Place (975)

Walk+Bike+Transit 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: 5

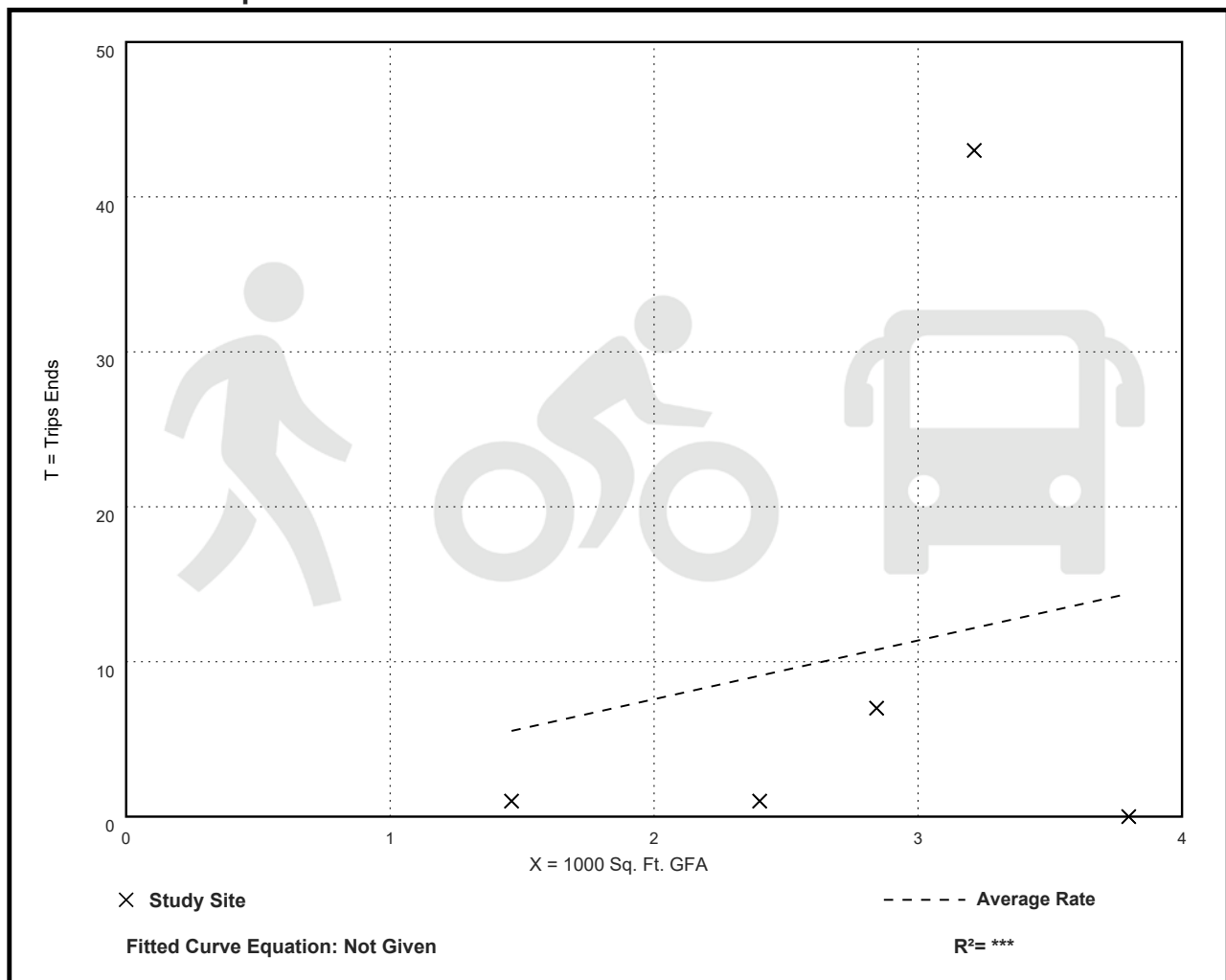
Avg. 1000 Sq. Ft. GFA: 3

Directional Distribution: 65% entering, 35% exiting

Walk+Bike+Transit Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.79	0.00 - 13.38	6.01

Data Plot and Equation



Drinking Place (975)

Walk+Bike+Transit Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 5

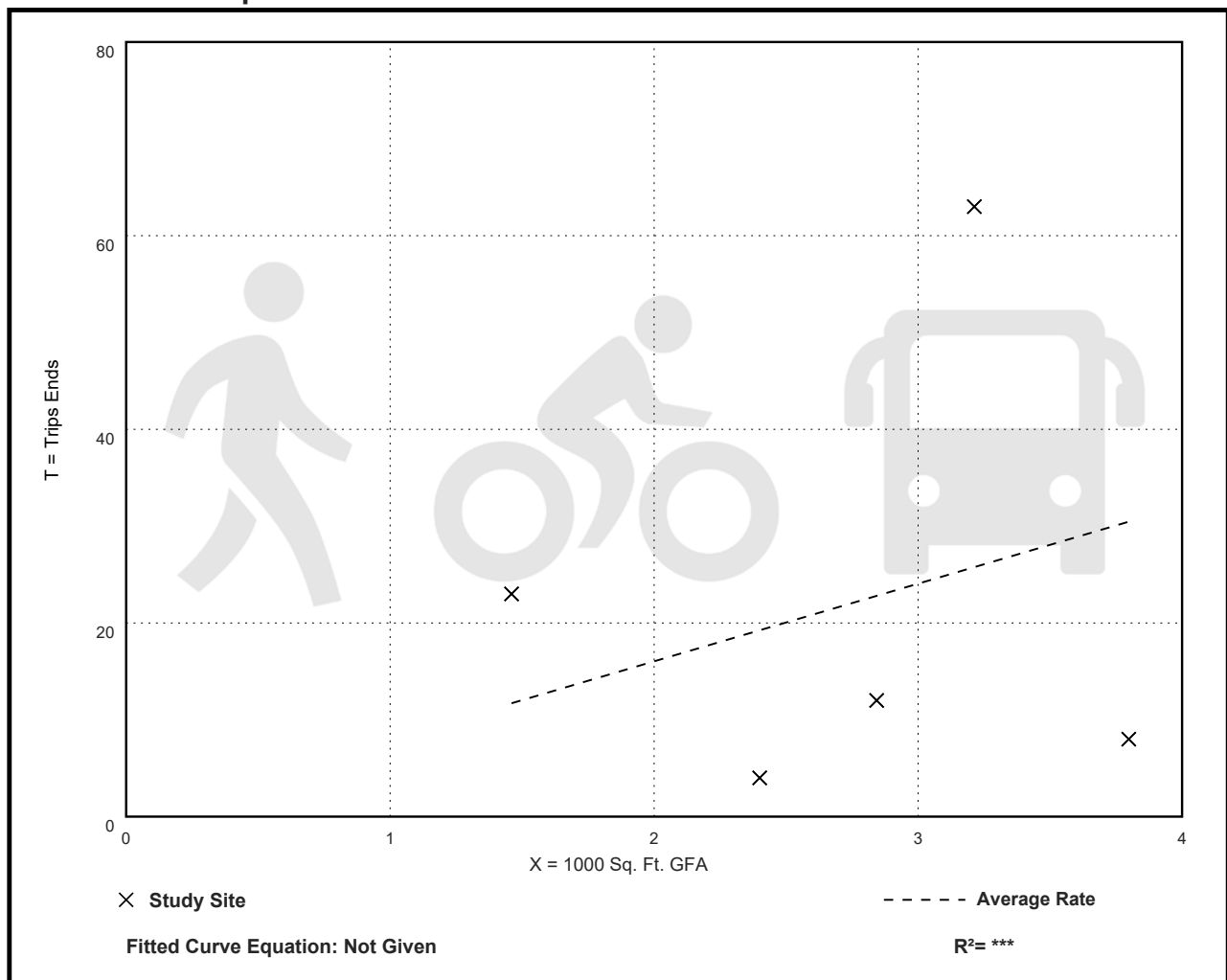
Avg. 1000 Sq. Ft. GFA: 3

Directional Distribution: 47% entering, 53% exiting

Walk+Bike+Transit Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
8.02	1.67 - 19.61	8.48

Data Plot and Equation



Drinking Place (975)

Walk+Bike+Transit Trip Ends vs: 1000 Sq. Ft. GFA

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 5

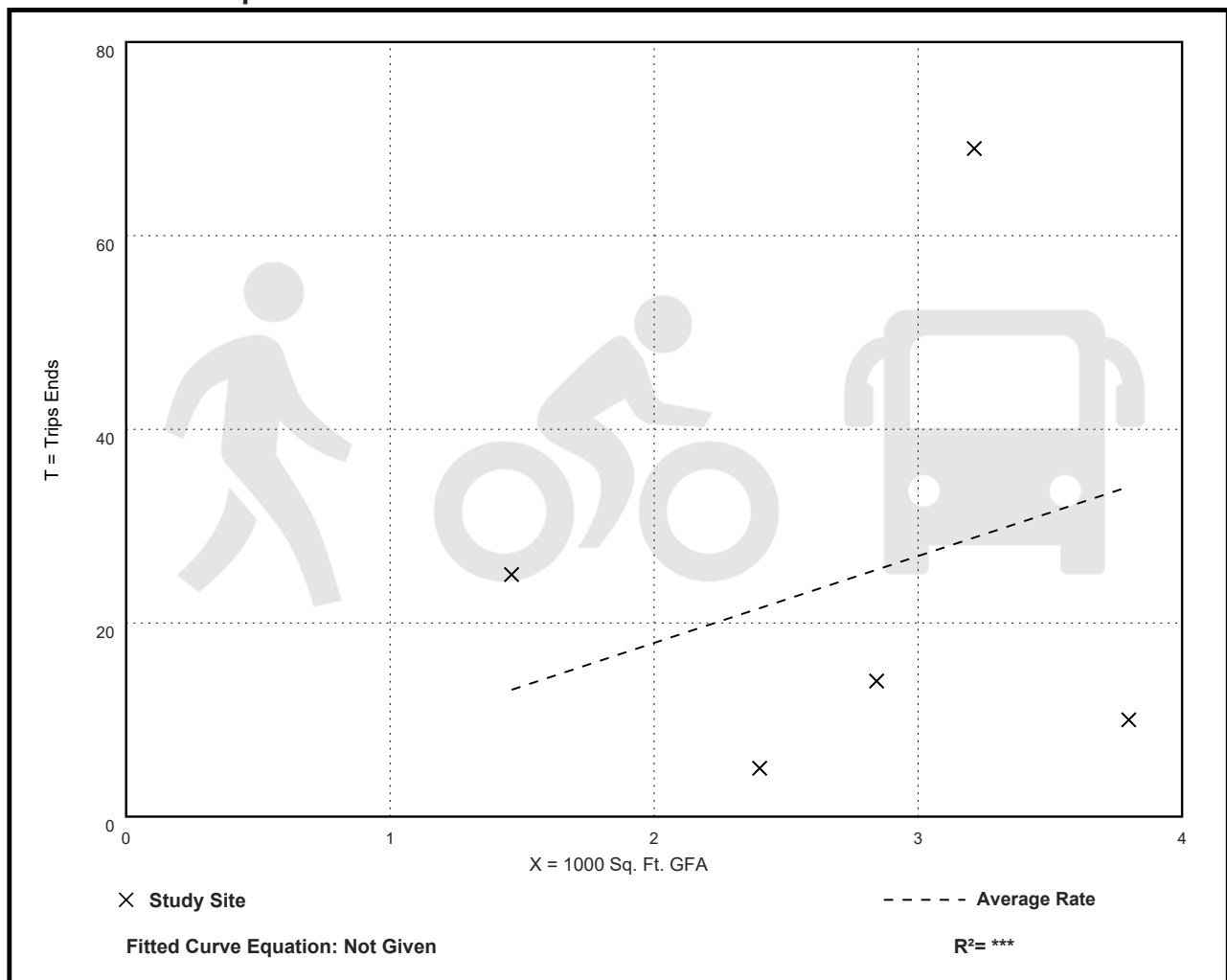
Avg. 1000 Sq. Ft. GFA: 3

Directional Distribution: 54% entering, 46% exiting

Walk+Bike+Transit Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
8.97	2.08 - 21.48	9.12

Data Plot and Equation



parking spaces and 854 parking deck spaces). Parking Area C is located north of Sears and Dick's Sporting Goods and includes 1,359 surface parking spaces.

Existing Parking Zoning Requirements

The current zoning code requires that the mall provide 4,545 parking spaces. The breakdown of parking requirements based on Chapter 490-701 of the Salem Zoning Code is found in Table 1.

TABLE 1 SALEM ZONING CODE –PARKING REQUIREMENTS			
Use	Parking Demand Variable	Parking Requirement	Spaces Required
First Floor Retail GFA	606,600 SF	1 space / 200 SF GFA	3,033
Upper Floor Retail GFA	604,878 SF	1 space / 400 SF GFA	1,512
Total			4,545

3.0 EXISTING PARKING DEMAND

Parking data was collected during the peak holiday shopping season of 2016 and in January 2017 in order to determine existing parking demand under various scenarios. Langan met with the town of Salem and its peer reviewer to develop the methodology of this study. Parking counts were conducted in half-hour intervals on Black Friday, November 25, 2016 from 7:00 a.m. to 4:00 p.m., on Saturday, December 10, 2016 from 9:00 a.m. to 3:00 p.m., and on Saturday, January 14, 2017 from 10:00 a.m. to 4:00 p.m. These were the anticipated peak shopping times for these dates. See Appendix B for detailed parking count spreadsheets.

Parking demand ratio is defined as the actual number of parked vehicles per 1,000 square-feet of gross floor area (GFA). Based on the existing parking observed, a peak parking demand ratio of 3.82 was observed on Black Friday, 3.12 was observed on Saturday, December 10 and 2.04 was observed on Saturday, January 14. Table 2 summarizes the existing peak parking demands for the entire mall.

TABLE 2 EXISTING PARKING DEMANDS FOR ENTIRE MALL				
Peak Period	Maximum Number of Occupied Spaces	Parking Provided	Percentage of Occupied Parking Spaces	Observed Peak Parking Demand Ratio
Friday, November 25, 2016 @ 1:30 P.M.	4,623	4,682 ¹	98.87	3.82
Saturday, December 10, 2016 @ 2:30 P.M.	3,781	4,740	79.8%	3.12
Saturday, January 14, 2017 @ 2:30 P.M.	2,472	4,740	52.2%	2.04

¹ Available parking reduced by the 58 spaces blocked off by the Sears Auto Center on Black Friday

TABLE 1 ANTICIPATED AVERAGE PARKING DEMAND - SALEM NH LYONS							
USE	LAND USE CODE ¹	WEEKDAY (MON - THURS)		FRIDAY		SATURDAY	
		Average Parking Rate ²	Anticipated Average Parking Demand	Average Parking Rate ²	Anticipated Parking Demand	Average Parking Rate ²	Anticipated Parking Demand
Loretta's Last Call (5,343 SF)	932	8.97 spaces/KSF	48	14.27 spaces/KSF	76	11.53 spaces/KSF	62
Game On! (143 Seats)	932	0.28 spaces/seat	40	0.47 spaces/seat	67	0.38 spaces/seat	54
Total Average Parking Demand		0.28 spaces/seat	88	0.47 spaces/seat	143	0.38 spaces/seat	116

¹ Land Use Codes based on ITE Parking Generation Manual 6th Edition

² Parking rates based on ITE Parking Generation Manual 6th Edition: Land Use Code 932: High-Turnover (Sit-Down) Restaurant

TABLE 2 ANTICIPATED PEAK (85TH PERCENTILE) PARKING DEMAND - SALEM NH LYONS							
USE	LAND USE CODE ¹	WEEKDAY (MON - THURS)		FRIDAY		SATURDAY	
		Peak Parking Rate ²	Anticipated Peak Parking Demand	Peak Parking Rate ²	Anticipated Peak Parking Demand	Peak Parking Rate ²	Anticipated Peak Parking Demand
Loretta's Last Call (5,343 SF)	932	13.44 spaces/KSF	72	20.24 spaces/KSF	108	16.37 spaces/KSF	87
Game On! (143 Seats)	932	0.48 spaces/seat	69	0.79 spaces/seat	113	0.56 spaces/seat	80
Total Average Parking Demand		0.28 spaces/seat	141	0.47 spaces/seat	221	0.38 spaces/seat	167

¹ Land Use Codes based on ITE Parking Generation Manual 6th Edition

² Parking rates based on ITE Parking Generation Manual 6th Edition: Land Use Code 932: High-Turnover (Sit-Down) Restaurant

TABLE 3 ANTICIPATED TRIP GENERATION - SALEM NH LYONS									
USE	LAND USE CODE ¹	PM PEAK HOUR			WEEKDAY DAILY TOTAL	SAT PEAK HOUR			SATURDAY DAILY TOTAL
		ENTER	EXIT	TOTAL		ENTER	EXIT	TOTAL	
Loretta's Last Call (5,343 SF)	932	28	23	51	572	30	30	60	654
Game On! (143 Seats)	932	32	24	56	625	40	36	76	801
Total New Trips		60	47	107	1197	70	66	136	1455
Previously Approved Restaurant/Retail (19,600 SF)	-	94	64	158	2022	121	106	227	2508
Net Change in Trips		-34	-17	-51	-825	-51	-40	-91	-1053

¹ Land Use Codes based on ITE Trip Generation Manual 11th Edition

² Volume based on ITE Trip Generation Manual 11th Edition: Land Use Code 932: High-Turnover (Sit-Down) Restaurant

³ Volume based on report titled "Traffic Impact Study - Redevelopment/Expansion of the Mall at Rockingham Park" by Langan dated June 2017.