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2025-05-22
Project: (250318)

Matthew Nisker
Bellair (Shoemaker) Inc.

RE: 55 SHOEMAKER STREET, KITCHENER, ON PARKING STUDY

Paradigm Transportation Solutions Limited (Paradigm) was retained to conduct this Parking Study (PS) for an existing multi-unit commercial building located at 55 Shoemaker Street in the City of Kitchener, Ontario. **Figure 1** (attached) illustrates the site location.

Propose and Scope

The scope of this parking study includes:

- Reviewing Zoning By-Law requirements in the City of Kitchener;
- Estimating the site's future parking demand based on the existing parking demand and industry publications; and
- Recommending preferred measures (if any) to support the parking supply.

Development Description

The property owner is proposing no physical changes to the existing multi-unit commercial building with a Gross Floor Area (GFA) of 2,880.06 m^2. The plaza is currently operating with units 1-12 occupied by a range of permitted uses, including manufacturing and warehouse uses. Unit 10 is proposed to host a pet aquamation business. Unit 13 is occupied by a fitness studio and Unit 14 is currently vacant and is proposed to host a fitness studio. No changes are proposed to the remaining occupied units. Vehicle access is provided via an existing all-moves driveway connection to Shoemaker Street. **Figure 2** (attached) illustrates the site plan.

Proposed Parking Supply

A total parking supply of 44 spaces is provided. The supply does not meet City of Kitchener zoning requirements as currently planned.

Zoning By-Law Requirements

The proposed development is subject to Zoning By-law (ZBL) 2019-051 for the City of Kitchener.

Under ZBL 2019-051[1], every 35 m^2 of GFA for a multi-unit commercial building needs 1 parking space. Therefore, a total of 83 spaces would be required on-site representing a shortfall of 39 spaces.

The proposed minor variance for the site is to permit a minimum Multi-Unit Parking Rate of 1 space per 66 m^2 of GFA inclusive of Manufacturing and Warehouse uses, provided a maximum of 800 m^2 is occupied by a Fitness Centre.

Estimated Parking Demand

Existing Parking Survey

To better understand the actual parking demand that can be expected for the occupied units on-site, a parking demand survey has been completed for the existing uses. **Appendix A** contains the existing parking demand survey data.

The parking demand survey was completed on Tuesday, May 13th, 2025, from 12:00 AM to 12:00 AM and summarized in 15-minute intervals. The survey results show a peak demand of 30 spaces at 2:15 PM.

With an existing parking supply of 44 spaces, this represents a surplus of 14 parking spaces. This reflects the parking demand for 2,081 m^2 of manufacturing and warehouse uses (units 1-12) and 353 m^2 fitness studio (Unit 13), and Unit 14 vacant.

ITE Parking Generation

The ITE Parking Generation Manual (6th Edition) [2] provides data on surveys across the USA and Canada of peak parking demand of different land uses.

The forecast parking demand has been estimated using Land Use Code (LUC) 492 (Health/Fitness Club). **Appendix B** contains the ITE parking generation data.

Table 1 summarizes the ITE forecast maximum parking demand for the proposed fitness studio in unit 14.

[1] City of Kitchener Zoning By-law 2019-051, Section 5 – Parking, Loading, and Stacking
[2] Institute of Transportation Engineers. *Parking Generation Manual,* 6th ed., (Washington, DC: ITE, 2023).

TABLE 1: ESTIMATED PARKING DEMAND – ITE RATES

LUC	GFA	Forecast Demand	
		Rate	Spaces
492	4.80 ft^2/1000	Average = 5.20	25

Based on ITE rates, a maximum parking demand of 25 parking spaces is forecast for the proposed fitness centre in unit 14. Based on an existing parking supply of 14 spaces left over from existing uses, this results in a potential shortfall of 11 spaces.

As indicated by the ITE time of day parking distribution (hourly data) for LUC 492, the parking demand peaks at 6:00 PM, which does not align with the peak of the existing occupied units (2:00 PM). At 6:00 PM the existing occupied units have a demand of 17 spaces, leaving 27 spaces available for the new fitness studio.

Based on information provided by the future tenant of Unit 14, fitness classes are proposed to be offered in the evening, after 6:00 PM with a maximum of 30 attendees on the busiest evening (once a week). The observed parking demand shows excess capacity in the range of 27 to 44 spaces between 6:00 PM and 11:00 PM

Shared Parking Demand

Shared parking is a form of parking management that can allow parking spaces to be shared by more than one user group. As indicated by the times of day for peak parking noted in the existing parking demand survey and the ITE parking generation data, there could be opportunities to share parking spaces between the proposed unit 14 fitness studio and the existing uses without exceeding the existing parking supply of 44 spaces.

Figure 3 (attached) illustrates the shared parking demand profile between the proposed unit 14 fitness studio (Added Demand) and the existing uses (Existing Demand) at 55 Shoemaker Street. It's noted that Unit 10 (pet aquamation) is not yet operating. Based on information provided by the owner is not anticipated to operate in the evenings and will compliment the demand of the other units.

Based on the existing parking demand survey at 55 Shoemaker Street and the ITE parking generation data for LUC 492 (average parking rate used), a maximum shared parking demand of 43 spaces at 4:00 PM is forecast. Based on an existing parking supply of 44 spaces, this represents a surplus of 1 space. It is noted that the hourly parking demand for the existing uses at 55 Shoemaker Street considered the maximum 15-minute parking demand in each hour. The peak at 4:00 PM is likely conservative given information provided by the future tenant and proposed schedule for classes.

Conclusions and Recommendations

The findings of this Parking Study are as follows:

- **Existing Parking Survey:** The parking demand survey from May 13th, 2025, at 55 Shoemaker Street (the site) indicates a peak parking demand of 30 spaces at 2:15 PM for the existing. The existing demand reduces in the evening to 17 vehicles or less after 6:00 PM (27 vacant parking spaces minimum)
- **Future Tenant:** the future tenant of Unit 14 is a fitness studio, operating evening classes after 6:00 PM with a maximum of 30 attendees.
- **ITE Parking Rates:** The ITE Parking Generation Manual indicates a maximum parking demand of 25 (average rate) spaces at 6:00 PM for the proposed Unit 14 fitness studio.
- **Shared Parking Demand:** Based on the existing parking demand survey at 55 Shoemaker Street and the ITE parking generation data for LUC 492 (average parking rate used), a maximum shared parking demand of 43 spaces at 4:00 PM is forecast.
- **Future Demand:** The parking supply at the plaza is forecast is supporting the demand of 2,081 m^2 of warehouse and manufacturing uses and up to 800 m^2 fitness studio uses.

Based on the findings of this study, the existing parking supply of 44 spaces is forecast to accommodate the future uses proposed in Unit 14 and the existing uses already operating.

Yours very truly,

PARADIGM TRANSPORTATION SOLUTIONS LIMITED

Erica Bayley
P.Eng.
Senior Project Manager, Associate

Attachments

NTS
Image Source: "OnPoint Map Viewer," City of Kitchener, https://maps.kitchener.ca/OnPointExternal/RMap/Default.aspx#.

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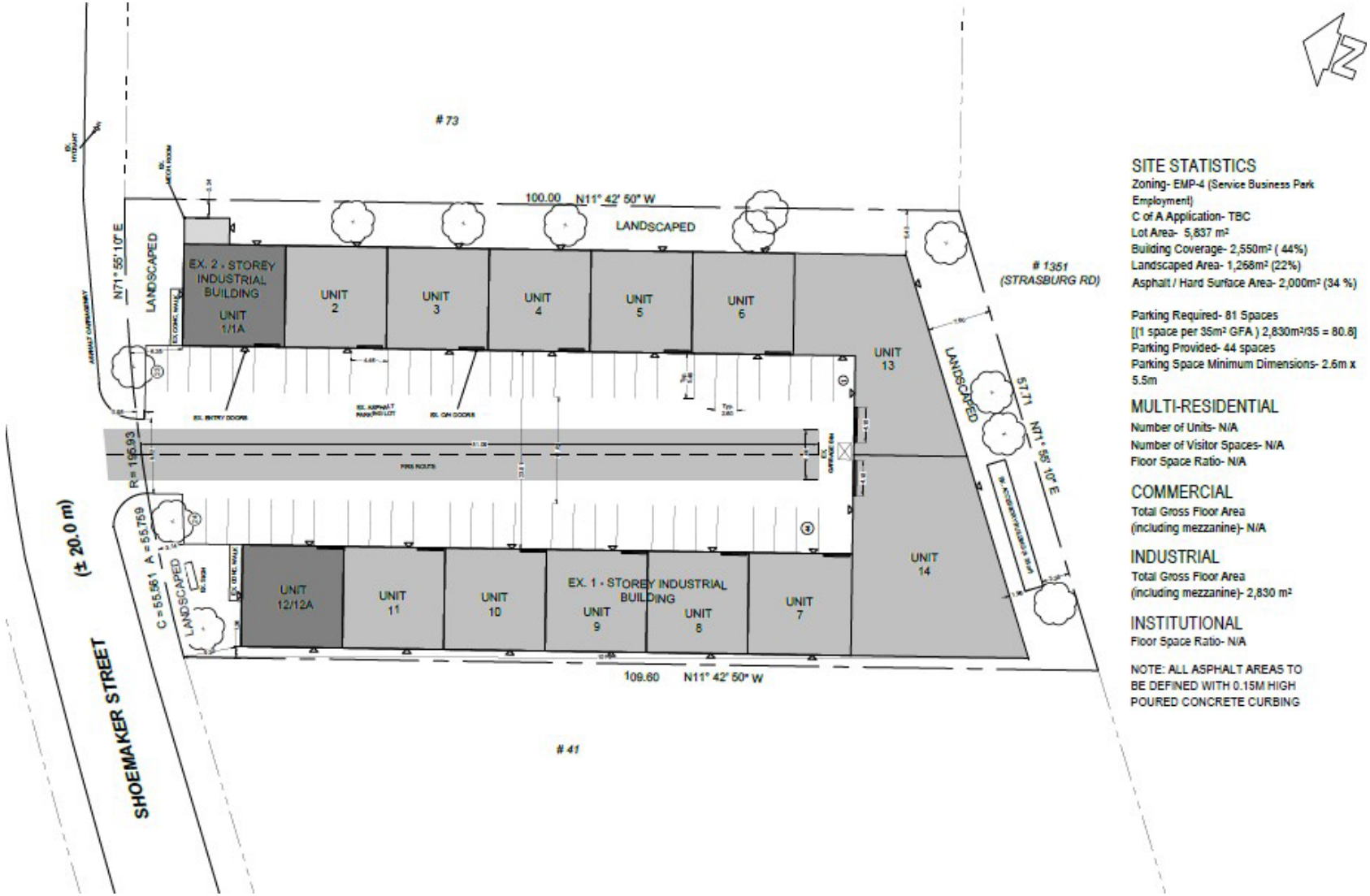
Site Location

55 Shoemaker Street, Kitchener PS
250318

Figure 1



SITE STATISTICS

Zoning- EMP-4 (Service Business Park Employment)
C of A Application- TBC
Lot Area- 5,837 m²
Building Coverage- 2,550m² (44%)
Landscaped Area- 1,268m² (22%)
Asphalt / Hard Surface Area- 2,000m² (34 %)

Parking Required- 81 Spaces
[(1 space per 35m² GFA) 2,830m²/35 = 80.8]
Parking Provided- 44 spaces
Parking Space Minimum Dimensions- 2.6m x 5.5m

MULTI-RESIDENTIAL

Number of Units- N/A
Number of Visitor Spaces- N/A
Floor Space Ratio- N/A

COMMERCIAL

Total Gross Floor Area
(including mezzanine)- N/A

INDUSTRIAL

Total Gross Floor Area
(including mezzanine)- 2,830 m²

INSTITUTIONAL

Floor Space Ratio- N/A

NOTE: ALL ASPHALT AREAS TO BE DEFINED WITH 0.15M HIGH POURED CONCRETE CURBING

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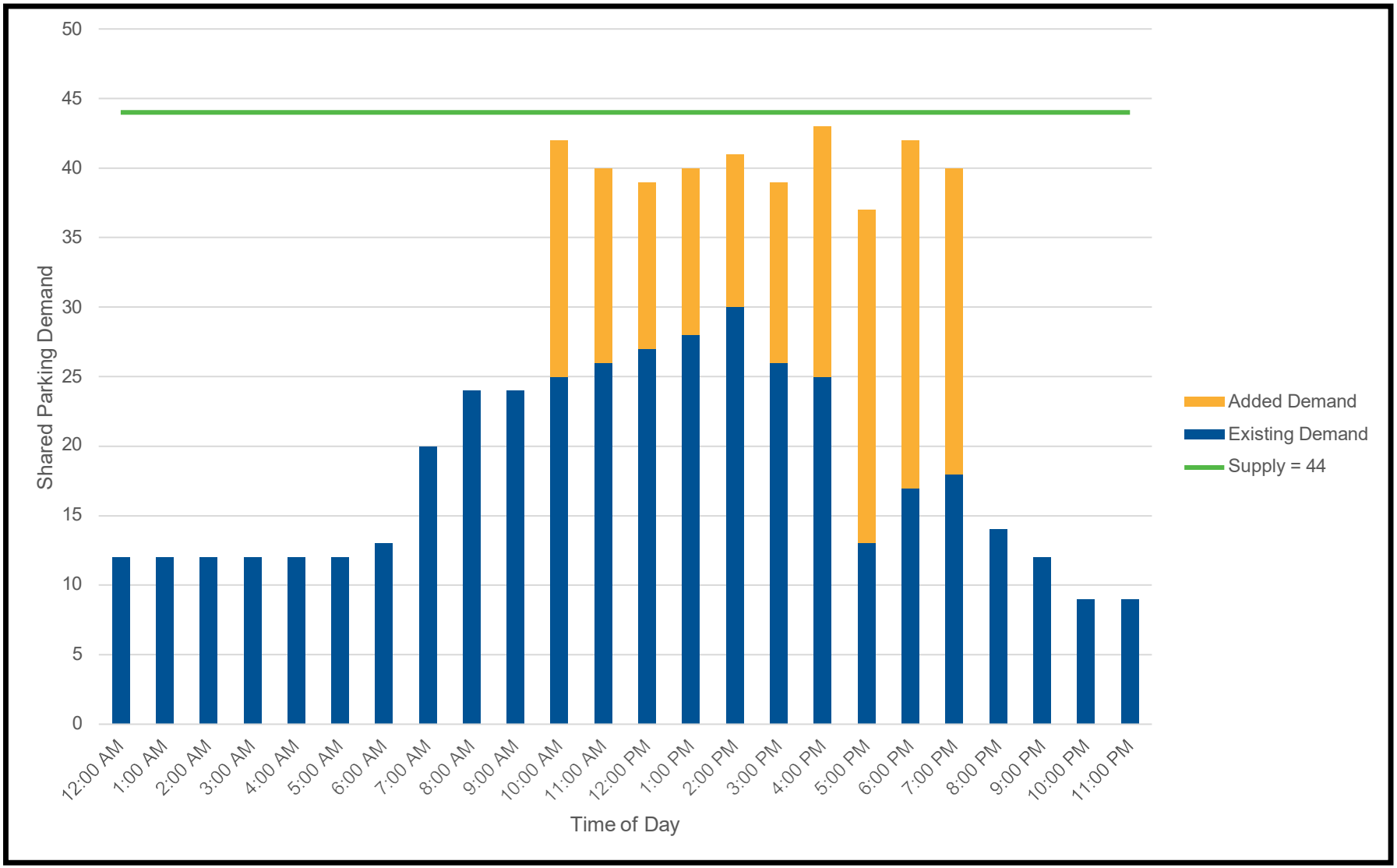
Site Plan

55 Shoemaker Street, Kitchener PS
250318

Figure 2



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Shared Parking Demand Profile

55 Shoemaker Street, Kitchener PS
250318

Figure 3

Appendix A

Existing Parking Demand Survey Data

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: 55 Shoemaker Street
Site Code: 250318
Start Date: 05/13/2025

Turning Movement Data

Start Time	Shoemaker Street Eastbound					Shoemaker Street Westbound					55 Shoemaker Street Driveway Northbound					Int. Total
	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	
12:00 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
12:15 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Hourly Total	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
2:00 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
2:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
2:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	4
3:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
3:15 AM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	2
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	3
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1
4:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	2	0	0	0	2	0	0	0	0	0	0	0	0	1	0	2
5:00 AM	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
5:15 AM	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4
5:30 AM	11	0	0	0	11	0	1	0	0	1	0	0	0	0	0	12
5:45 AM	24	0	0	0	24	0	0	0	0	0	0	0	0	0	0	24
Hourly Total	42	0	0	0	42	0	1	0	0	1	0	0	0	0	0	43
6:00 AM	14	1	0	0	15	0	1	0	0	1	0	1	0	0	1	17
6:15 AM	16	0	0	0	16	1	4	0	1	5	0	0	0	0	0	21
6:30 AM	23	0	0	0	23	0	10	0	0	10	0	1	0	0	1	34
6:45 AM	48	1	0	0	49	0	9	0	1	9	0	0	0	0	0	58
Hourly Total	101	2	0	0	103	1	24	0	2	25	0	2	0	0	2	130
7:00 AM	19	0	0	0	19	0	22	0	0	22	0	1	0	0	1	42

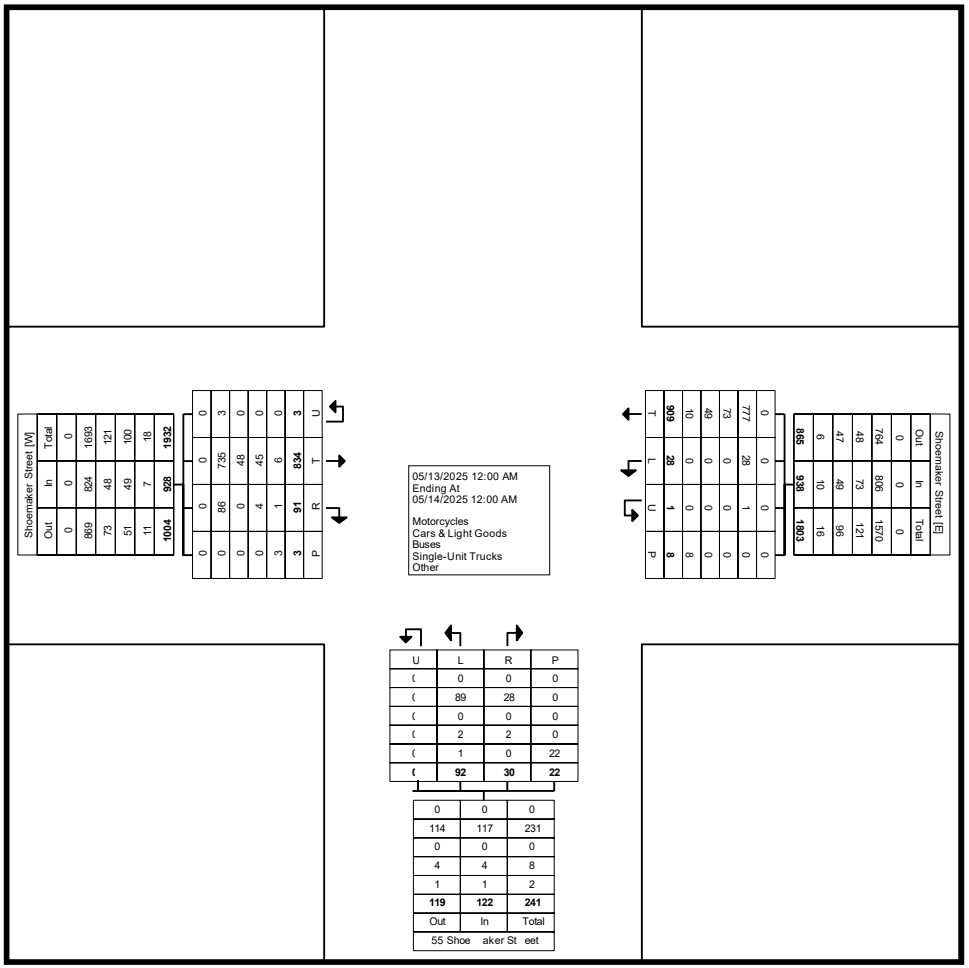
7:15 AM	29	2	0	0	31	0	17	0	0	17	0	0	0	0	0	48
7:30 AM	29	3	0	0	32	0	24	0	0	24	0	0	0	0	0	56
7:45 AM	29	4	0	0	33	0	9	0	1	9	0	1	0	0	1	43
Hourly Total	106	9	0	0	115	0	72	0	1	72	0	2	0	0	2	189
8:00 AM	13	2	0	0	15	1	8	0	0	9	0	0	0	0	0	24
8:15 AM	15	0	0	0	15	1	8	0	0	9	0	0	0	0	0	24
8:30 AM	24	1	0	0	25	0	13	0	0	13	4	0	0	0	4	42
8:45 AM	15	4	0	0	19	0	9	0	0	9	1	1	0	0	2	30
Hourly Total	67	7	0	0	74	2	38	0	0	40	5	1	0	0	6	120
9:00 AM	18	3	0	0	21	0	14	0	1	14	2	0	0	1	2	37
9:15 AM	14	1	0	0	15	0	23	0	0	23	2	0	0	0	2	40
9:30 AM	11	1	0	0	12	0	12	0	0	12	2	0	0	0	2	26
9:45 AM	22	2	0	0	24	0	14	0	0	14	0	0	0	2	0	38
Hourly Total	65	7	0	0	72	0	63	0	1	63	6	0	0	3	6	141
10:00 AM	23	2	0	0	25	0	13	0	0	13	1	0	0	0	1	39
10:15 AM	8	1	0	0	9	1	16	0	0	17	3	1	0	0	4	30
10:30 AM	5	1	1	0	7	0	15	0	0	15	1	0	0	0	1	23
10:45 AM	12	1	0	1	13	2	16	0	0	18	1	1	0	0	2	33
Hourly Total	48	5	1	1	54	3	60	0	0	63	6	2	0	0	8	125
11:00 AM	16	4	0	0	20	0	11	0	0	11	1	1	0	0	2	33
11:15 AM	11	3	0	0	14	1	12	0	0	13	0	4	0	0	4	31
11:30 AM	10	0	0	0	10	1	18	0	0	19	1	0	0	1	1	30
11:45 AM	14	0	0	0	14	1	18	0	0	19	2	2	0	0	4	37
Hourly Total	51	7	0	0	58	3	59	0	0	62	4	7	0	1	11	131
12:00 PM	17	2	0	0	19	0	31	0	0	31	1	0	0	0	1	51
12:15 PM	20	1	0	0	21	2	23	0	0	25	0	0	0	0	0	46
12:30 PM	17	3	0	1	20	0	14	0	1	14	5	0	0	1	5	39
12:45 PM	17	0	0	0	17	2	9	0	0	11	2	2	0	2	4	32
Hourly Total	71	6	0	1	77	4	77	0	1	81	8	2	0	3	10	168
1:00 PM	18	1	0	0	19	2	16	0	1	18	2	2	0	1	4	41
1:15 PM	22	2	1	0	25	1	20	0	0	21	1	1	0	0	2	48
1:30 PM	19	1	0	0	20	0	10	0	0	10	0	0	0	0	0	30
1:45 PM	12	4	1	0	17	1	22	0	2	23	1	0	0	4	1	41
Hourly Total	71	8	2	0	81	4	68	0	3	72	4	3	0	5	7	160
2:00 PM	20	3	0	0	23	1	22	0	0	23	1	1	0	0	2	48
2:15 PM	13	2	0	0	15	0	10	0	0	10	3	1	0	0	4	29
2:30 PM	11	2	0	0	13	1	16	0	0	17	2	1	0	0	3	33
2:45 PM	20	1	0	0	21	1	10	0	0	11	3	1	0	2	4	36
Hourly Total	64	8	0	0	72	3	58	0	0	61	9	4	0	2	13	146
3:00 PM	11	2	0	0	13	1	28	0	0	29	4	1	0	0	5	47
3:15 PM	6	4	0	0	10	0	20	0	0	20	2	2	0	1	4	34
3:30 PM	14	0	0	1	14	2	32	0	0	34	2	0	0	1	2	50
3:45 PM	11	1	0	0	12	1	26	0	0	27	2	0	0	0	2	41
Hourly Total	42	7	0	1	49	4	106	0	0	110	10	3	0	2	13	172
4:00 PM	17	3	0	0	20	2	43	0	0	45	3	1	0	1	4	69
4:15 PM	8	0	0	0	8	1	32	0	0	33	5	2	0	0	7	48
4:30 PM	9	4	0	0	13	0	31	0	0	31	6	0	0	0	6	50
4:45 PM	11	0	0	0	11	0	20	0	0	20	5	0	0	0	5	36
Hourly Total	45	7	0	0	52	3	126	0	0	129	19	3	0	1	22	203
5:00 PM	14	1	0	0	15	0	48	1	0	49	0	0	0	0	0	64
5:15 PM	5	2	0	0	7	0	25	0	0	25	4	1	0	0	5	37
5:30 PM	3	0	0	0	3	0	8	0	0	8	0	0	0	0	0	11

5:45 PM	3	2	0	0	5	0	8	0	0	8	1	0	0	0	1	14
Hourly Total	25	5	0	0	30	0	89	1	0	90	5	1	0	0	6	126
6:00 PM	5	0	0	0	5	0	9	0	0	9	0	0	0	2	0	14
6:15 PM	3	2	0	0	5	0	5	0	0	5	0	0	0	0	0	10
6:30 PM	5	4	0	0	9	0	10	0	0	10	1	0	0	0	1	20
6:45 PM	1	1	0	0	2	0	6	0	0	6	0	0	0	0	0	8
Hourly Total	14	7	0	0	21	0	30	0	0	30	1	0	0	2	1	52
7:00 PM	1	2	0	0	3	0	3	0	0	3	1	0	0	0	1	7
7:15 PM	2	0	0	0	2	1	4	0	0	5	1	0	0	0	1	8
7:30 PM	2	0	0	0	2	0	2	0	0	2	0	0	0	0	0	4
7:45 PM	0	2	0	0	2	0	3	0	0	3	6	0	0	0	6	11
Hourly Total	5	4	0	0	9	1	12	0	0	13	8	0	0	0	8	30
8:00 PM	1	0	0	0	1	0	1	0	0	1	1	0	0	0	1	3
8:15 PM	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	3
8:30 PM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	2
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	4	0	0	0	4	0	2	0	0	2	2	0	0	0	2	8
9:00 PM	1	1	0	0	2	0	3	0	0	3	2	0	0	0	2	7
9:15 PM	1	0	0	0	1	0	1	0	0	1	2	0	0	0	2	4
9:30 PM	2	0	0	0	2	0	0	0	0	0	1	0	0	0	1	3
9:45 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	2
Hourly Total	5	1	0	0	6	0	5	0	0	5	5	0	0	0	5	16
10:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	1	1	0	0	2	0	2	0	0	2	0	0	0	0	0	4
10:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	3	1	0	0	4	0	2	0	0	2	0	0	0	0	0	6
11:00 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	1	0	2
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
11:30 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	1	0	0	0	1	0	5	0	0	5	0	0	0	2	0	6
Grand Total	834	91	3	3	928	28	909	1	8	938	92	30	0	22	122	1988
Approach %	89.9	9.8	0.3	-	-	3.0	96.9	0.1	-	-	75.4	24.6	0.0	-	-	-
Total %	42.0	4.6	0.2	-	46.7	1.4	45.7	0.1	-	47.2	4.6	1.5	0.0	-	6.1	-
Motorcycles	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	735	86	3	-	824	28	777	1	-	806	89	28	0	-	117	1747
% Cars & Light Goods	88.1	94.5	100.0	-	88.8	100.0	85.5	100.0	-	85.9	96.7	93.3	-	-	95.9	87.9
Buses	48	0	0	-	48	0	73	0	-	73	0	0	0	-	0	121
% Buses	5.8	0.0	0.0	-	5.2	0.0	8.0	0.0	-	7.8	0.0	0.0	-	-	0.0	6.1
Single-Unit Trucks	45	4	0	-	49	0	49	0	-	49	2	2	0	-	4	102
% Single-Unit Trucks	5.4	4.4	0.0	-	5.3	0.0	5.4	0.0	-	5.2	2.2	6.7	-	-	3.3	5.1
Articulated Trucks	2	0	0	-	2	0	5	0	-	5	0	0	0	-	0	7
% Articulated Trucks	0.2	0.0	0.0	-	0.2	0.0	0.6	0.0	-	0.5	0.0	0.0	-	-	0.0	0.4
Bicycles on Road	4	1	0	-	5	0	5	0	-	5	1	0	0	-	1	11
% Bicycles on Road	0.5	1.1	0.0	-	0.5	0.0	0.6	0.0	-	0.5	1.1	0.0	-	-	0.8	0.6
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	0.0	-	-	-	-	4.5	-	-
Pedestrians	-	-	-	3	-	-	-	-	8	-	-	-	-	21	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	95.5	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: 55 Shoemaker Street
Site Code: 250318
Start Date: 05/13/2025



Turning Movement Data Plot

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: 55 Shoemaker Street
Site Code: 250318
Start Date: 05/13/2025

Turning Movement Peak Hour Data (3:30 PM)

Start Time	Shoemaker Street Eastbound					Shoemaker Street Westbound					55 Shoemaker Street Driveway Northbound					
	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
3:30 PM	14	0	0	1	14	2	32	0	0	34	2	0	0	1	2	50
3:45 PM	11	1	0	0	12	1	26	0	0	27	2	0	0	0	2	41
4:00 PM	17	3	0	0	20	2	43	0	0	45	3	1	0	1	4	69
4:15 PM	8	0	0	0	8	1	32	0	0	33	5	2	0	0	7	48
Total	50	4	0	1	54	6	133	0	0	139	12	3	0	2	15	208
Approach %	92.6	7.4	0.0	-	-	4.3	95.7	0.0	-	-	80.0	20.0	0.0	-	-	-
Total %	24.0	1.9	0.0	-	26.0	2.9	63.9	0.0	-	66.8	5.8	1.4	0.0	-	7.2	-
PHF	0.735	0.333	0.000	-	0.675	0.750	0.773	0.000	-	0.772	0.600	0.375	0.000	-	0.536	0.754
Motorcycles	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	36	4	0	-	40	6	129	0	-	135	12	3	0	-	15	190
% Cars & Light Goods	72.0	100.0	-	-	74.1	100.0	97.0	-	-	97.1	100.0	100.0	-	-	100.0	91.3
Buses	10	0	0	-	10	0	1	0	-	1	0	0	0	-	0	11
% Buses	20.0	0.0	-	-	18.5	0.0	0.8	-	-	0.7	0.0	0.0	-	-	0.0	5.3
Single-Unit Trucks	3	0	0	-	3	0	1	0	-	1	0	0	0	-	0	4
% Single-Unit Trucks	6.0	0.0	-	-	5.6	0.0	0.8	-	-	0.7	0.0	0.0	-	-	0.0	1.9
Articulated Trucks	1	0	0	-	1	0	0	0	-	0	0	0	0	-	0	1
% Articulated Trucks	2.0	0.0	-	-	1.9	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.5
Bicycles on Road	0	0	0	-	0	0	2	0	-	2	0	0	0	-	0	2
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	1.5	-	-	1.4	0.0	0.0	-	-	0.0	1.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	1	-	-	-	-	0	-	-	-	-	2	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	100.0	-	-

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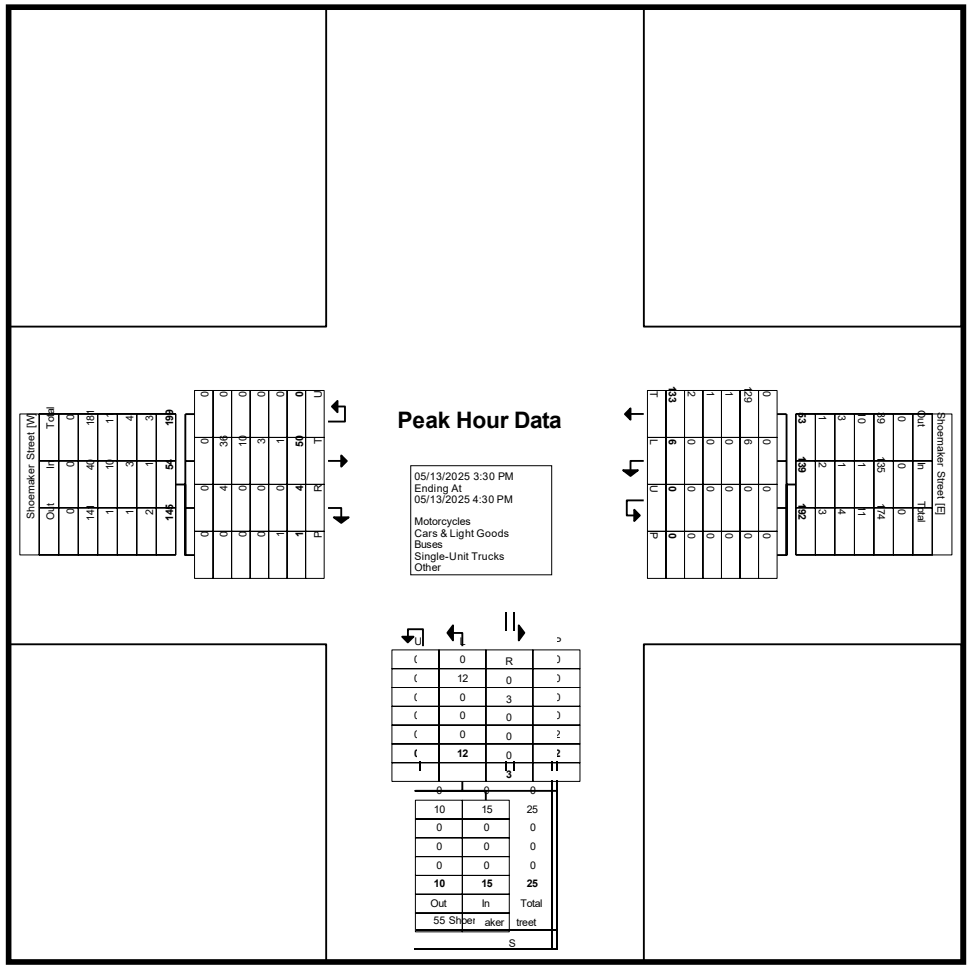


Turning Movement Peak Hour Data Plot (3:30 PM)

Start Time	In	Out	Delta	Demand
12:00 AM	0	0	0	12
12:15 AM	0	0	0	12
12:30 AM	0	0	0	12
12:45 AM	0	0	0	12
1:00 AM	0	0	0	12
1:15 AM	0	0	0	12
1:30 AM	0	0	0	12
1:45 AM	0	0	0	12
2:00 AM	0	0	0	12
2:15 AM	0	0	0	12
2:30 AM	0	0	0	12
2:45 AM	0	0	0	12
3:00 AM	0	0	0	12
3:15 AM	0	0	0	12
3:30 AM	0	0	0	12
3:45 AM	0	0	0	12
4:00 AM	0	0	0	12
4:15 AM	0	0	0	12
4:30 AM	0	0	0	12
4:45 AM	0	0	0	12
5:00 AM	0	0	0	12
5:15 AM	0	0	0	12
5:30 AM	0	0	0	12
5:45 AM	0	0	0	12
6:00 AM	1	1	0	12
6:15 AM	1	0	1	13
6:30 AM	0	1	-1	12
6:45 AM	1	0	1	13
7:00 AM	0	1	-1	12
7:15 AM	2	0	2	14
7:30 AM	3	0	3	17
7:45 AM	4	1	3	20
8:00 AM	3	0	3	23
8:15 AM	1	0	1	24
8:30 AM	1	4	-3	21
8:45 AM	4	2	2	23
9:00 AM	3	2	1	24
9:15 AM	1	2	-1	23
9:30 AM	1	2	-1	22
9:45 AM	2	0	2	24
10:00 AM	2	1	1	25
10:15 AM	2	4	-2	23
10:30 AM	1	1	0	23
10:45 AM	3	2	1	24
11:00 AM	4	2	2	26
11:15 AM	4	4	0	26
11:30 AM	1	1	0	26
11:45 AM	1	4	-3	23
12:00 PM	2	1	1	24
12:15 PM	3	0	3	27
12:30 PM	3	5	-2	25
12:45 PM	2	4	-2	23
1:00 PM	3	4	-1	22
1:15 PM	3	2	1	23
1:30 PM	1	0	1	24
1:45 PM	5	1	4	28
2:00 PM	4	2	2	30
2:15 PM	2	4	-2	28
2:30 PM	3	3	0	28
2:45 PM	2	4	-2	26
3:00 PM	3	5	-2	24
3:15 PM	4	4	0	24
3:30 PM	2	2	0	24
3:45 PM	2	2	0	24
4:00 PM	5	4	1	25
4:15 PM	1	7	-6	19
4:30 PM	4	6	-2	17
4:45 PM	0	5	-5	12
5:00 PM	1	0	1	13
5:15 PM	2	5	-3	10
5:30 PM	0	0	0	10
5:45 PM	2	1	1	11
6:00 PM	0	0	0	11
6:15 PM	2	0	2	13
6:30 PM	4	1	3	16
6:45 PM	1	0	1	17
7:00 PM	2	1	1	18
7:15 PM	1	1	0	18
7:30 PM	0	0	0	18
7:45 PM	2	6	-4	14
8:00 PM	0	1	-1	13
8:15 PM	0	0	0	13
8:30 PM	0	1	-1	12
8:45 PM	0	0	0	12
9:00 PM	1	2	-1	11
9:15 PM	0	2	-2	9
9:30 PM	0	1	-1	8
9:45 PM	0	0	0	8
10:00 PM	0	0	0	8
10:15 PM	0	0	0	8
10:30 PM	1	0	1	9
10:45 PM	0	0	0	9
11:00 PM	0	0	0	9
11:15 PM	0	0	0	9
11:30 PM	0	0	0	9
11:45 PM	0	0	0	9

Appendix B

ITE Parking Generation Data

Land Use: 492 Health/Fitness Club

Description

A health/fitness club is a privately-owned facility that primarily focuses on individual fitness or training. It typically provides exercise classes, fitness equipment, a weight room, spa, lockers rooms, and a small restaurant or snack bar. This land use may also include ancillary facilities, such as a swimming pool, whirlpool, sauna, limited retail, and tennis, pickleball, racquetball, or handball courts. These facilities are membership clubs that may allow access to the general public for a fee.

Time-of-Day Distribution for Parking Demand

The following table presents a time-of-day distribution of parking demand on a weekday (five study sites) and a Saturday (four study sites) in a general urban/suburban setting.

	Percent of Peak Parking Demand	
Hour Beginning	Weekday	Saturday
12:00–4:00 a.m.	—	—
5:00 a.m.	—	—
6:00 a.m.	—	—
7:00 a.m.	—	—
8:00 a.m.	—	76
9:00 a.m.	—	99
10:00 a.m.	65	100
11:00 a.m.	56	92
12:00 p.m.	48	78
1:00 p.m.	47	79
2:00 p.m.	43	71
3:00 p.m.	50	70
4:00 p.m.	72	67
5:00 p.m.	93	60
6:00 p.m.	100	56
7:00 p.m.	88	—
8:00 p.m.	—	—
9:00 p.m.	—	—
10:00 p.m.	—	—
11:00 p.m.	—	—

Additional Data

The average parking supply ratio for the five study sites with parking supply information is 8.1 spaces per 1,000 square feet GFA. The average peak parking occupancy at these five sites is 72 percent.

The sites were surveyed in the 1990s, the 2000s, the 2010s, and the 2020s in Arizona, California, New Jersey, New York, Oregon, and Virginia.

Source Numbers

164, 275, 430, 433, 435, 543, 606, 622

Health/Fitness Club
(492)

Peak Period Parking Demand vs: 1000 Sq. Ft. GFA

On a: Weekday (Monday - Friday)

Setting/Location: General Urban/Suburban

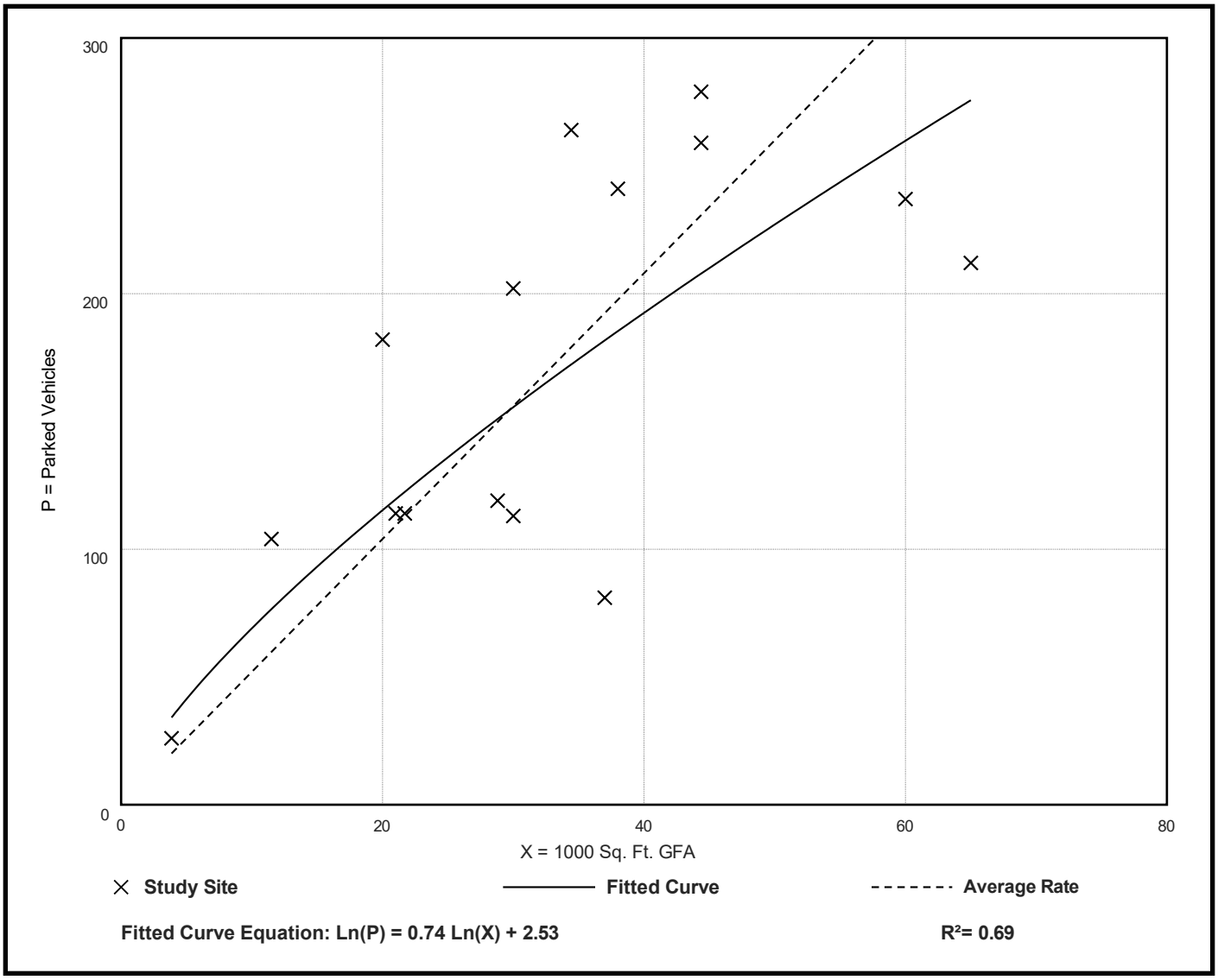
Number of Studies: 15

Avg. 1000 Sq. Ft. GFA: 33

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)
5.20	2.19 - 9.10	4.45 / 8.49	***	1.90 (37%)

Data Plot and Equation



Fitted Curve Equation: Ln(P) = 0.74 Ln(X) + 2.53

R^2= 0.69

Health/Fitness Club
(492)

Peak Period Parking Demand vs: 1000 Sq. Ft. GFA

On a: Saturday

Setting/Location: General Urban/Suburban

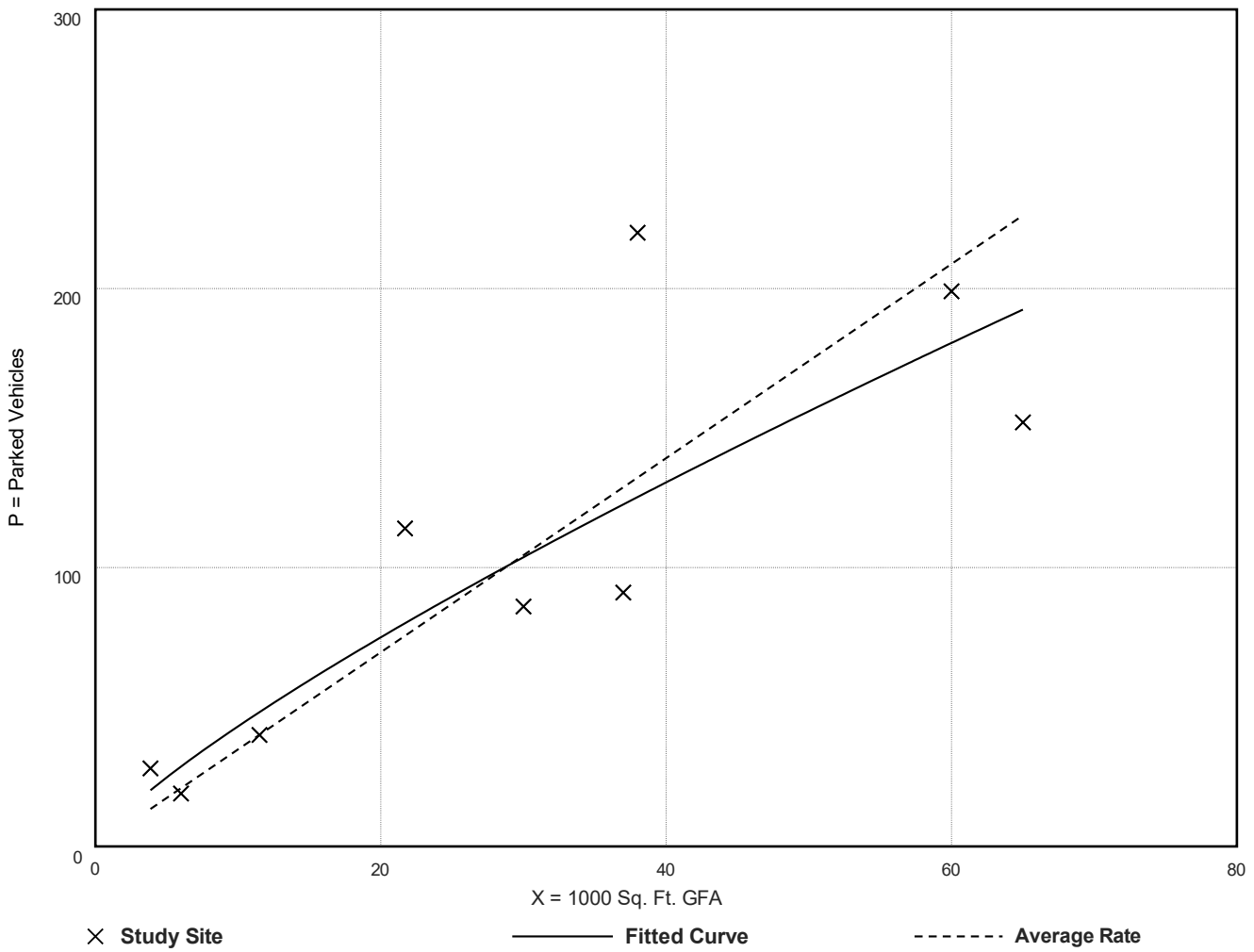
Number of Studies: 9

Avg. 1000 Sq. Ft. GFA: 30

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)
3.48	2.34 - 7.25	2.96 / 6.52	***	1.38 (40%)

Data Plot and Equation



Fitted Curve Equation: Ln(P) = 0.80 Ln(X) + 1.92

R^2= 0.84

Health/Fitness Club
(492)

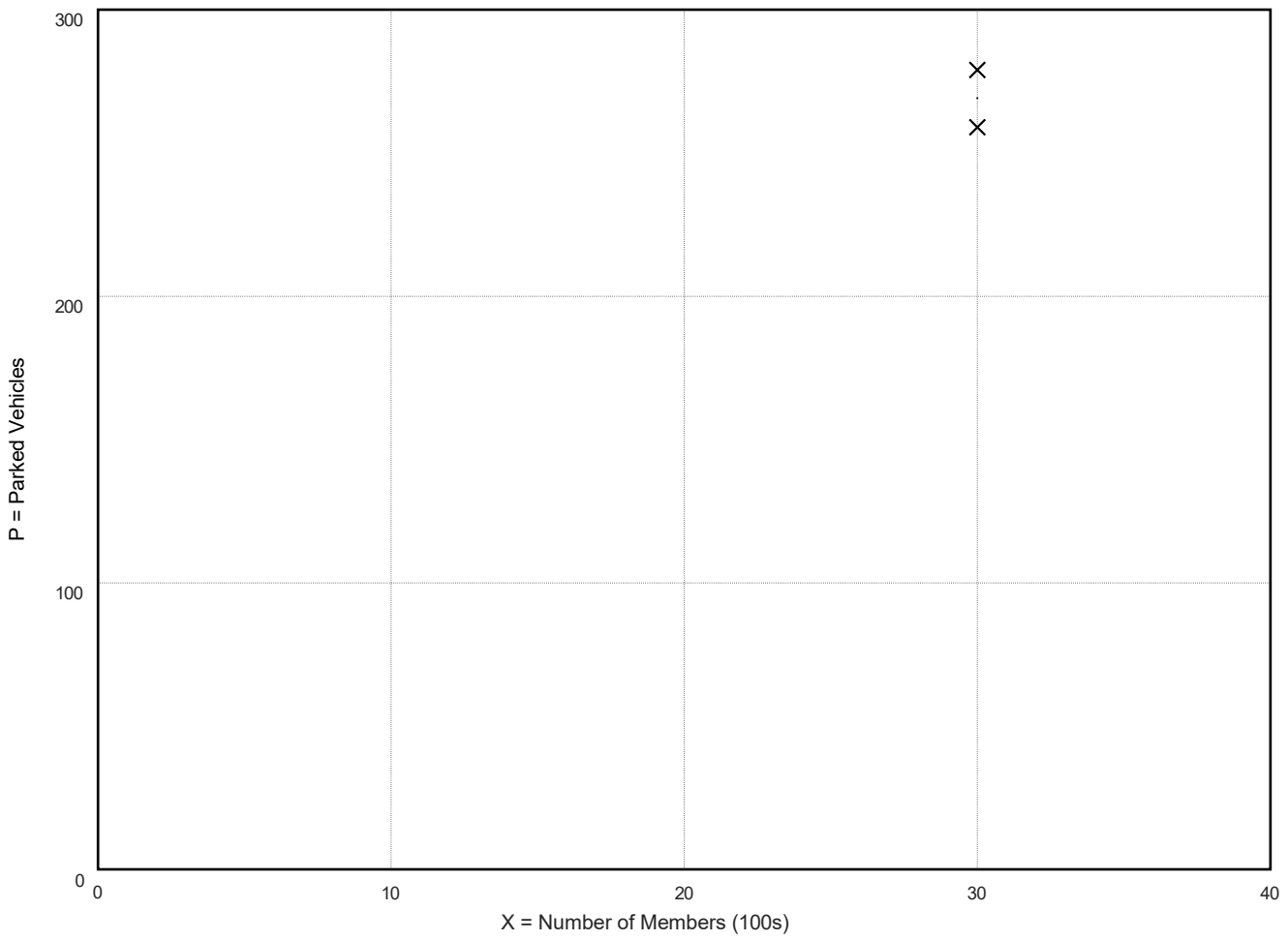
Peak Period Parking Demand vs: Members (100s)
On a: Weekday (Monday - Friday)
Setting/Location: General Urban/Suburban
Number of Studies: 2
Avg. Num. of Members (100s): 30

Peak Period Parking Demand per 100 Members

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
8.97	8.63 - 9.30	*** / ***	***	*** (***)

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: ***

R^2= ***