SIMMONS & WHITE
CIVIL & TRAFFIC ENGINEERING

K-PARK MUPD

Wellington, Florida

SHARED PARKING STUDY

PREPARED FOR:

Related Ross
360 South Rosemary Avenue
Suite 800
West Palm Beach, FL 33401

JOB NO. 25-024

DATE: 05/14/2025
Revised: 08/15/2025
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Bryan G. Kelley, Professional Engineer, State of Florida, License No. 74006 This item has been digitally signed and sealed by Bryan G. Kelley, P.E., on 11/14/2025. Printed Copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.	Digitally signed by Bryan Kelley Date: 2025.11.14 14:40:37-05'00'

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1.0 SITE DATA

The subject parcel is located in the southwest corner of Stribling Way at State Road 7 and consists of approximately +/- 71 acres in the Village of Wellington, Florida. The proposed mixed-use development plan is to consist of the following land uses and intensities:

- 215 Multi-Family Residential DU (15 DU associated with Phase 1)
- 180 Room Hotel
- 1,750 Student K-12 Private School
- 75,000 SF Office
- 335,000 SF Shopping Plaza (Including +/- 105,000 SF of Restaurant and up to 20,000 SF of outdoor seating area)

The above intensity shown is the proposed gross building square footage. Site access is proposed via multiple driveway connections to both Stribling Way and State Road 7. For additional information on site layout, please refer to the Master Plan prepared by Urban Design Studio.

2.0 PURPOSE OF STUDY

The purpose of this study is to describe the results of the parking analyses for the proposed development project. Providing the appropriate level and location of parking is important to any successful development and community. While insufficient parking can result in negative impacts on properties, providing too much parking can also have a negative economic impact. The private school will be parked separately and therefore not included in these shared parking calculations. For this parking study, only the Phase 1 development is considered. Parking for Phase 2 which will consist of an additional 200 residential dwelling units for a total of 215 dwelling units will be considered at a later time.

3.0 PARKING DATA

Per the Village Code, both the retail and office parking rates are based on net square feet and not gross square feet. The shopping plaza is proposed to have 290,000 net square feet and the office is proposed to have 70,000 net square feet. Up to an additional 20,000 SF of outdoor seating area is also proposed. Therefore, a total of 380,000 net square feet is proposed for the retail and office uses (290,000 net SF retail, 70,000 net SF office, and 20,000 SF of outdoor seating area). Village Code allows for parking to be calculated at 1 space per 500 SF for all area above 80,000 SF within a MUPD.

The proposed uses, sizes and code required parking for the approved development may be summarized as follows:

USE	SIZE	REQUIRED PARKING
Retail/Office	80,000 Net S.F. (1 Space / 250 SF)	320 Spaces
Retail/Office	300,000 S.F. (1 Space / 500 SF)	600 Spaces
Hotel	180 Rooms (1.25 Spaces / Room + 1 per employee)	250 Spaces
Residential	15 DU (2.25 Spaces / DU)	34 Spaces
		TOTAL = 1,204 Spaces

In order to more accurately estimate parking demand for the mixed-use project, the latest *ITE Parking Generation, 6th Edition* rates were utilized for the shared parking analysis. ITE Land Use #820 (Shopping Plaza) was utilized for both retail and restaurant since it is common practice for shopping centers of this size to contain a mixture of retail and restaurant uses. This is verified by the ITE Land Use #820 description of use. The principle behind shared parking reductions is that the pattern of activity for land uses in a mixed-use project are sufficiently different so that the corresponding required parking demands of each activity would not occur simultaneously. The parking analysis was based on the percent utilization rates from the Urban Land Institute's (ULI) *Shared Parking, 3rd Edition* publication as well as the ratio of customer parking to employee parking outlined in the ULI *Shared Parking, 3rd Edition* publication. As previously mentioned, there are a mix of uses currently proposed for the site. These uses have different peak hours of demand in addition to different hours of operation. As shown on the attached table, this report prepared a shared parking analysis for both the weekday and weekend demand from 6:00 A.M. to 11:00 P.M. The ULI *Shared Parking, 3rd Edition* publication allows for parking reductions based on the following factors:

- Time of Day
- Monthly
- Non-Captive
- Mode Adjustment

The time-of-day adjustment factors were taken directly from the ULI *Shared Parking, 3rd Edition* publication. However, the ULI *Shared Parking, 3rd Edition* publication does not produce standard rates for non-captive and mode adjustment factors. Local and site-specific factors as well as professional judgment are to be utilized to determine these adjustment factors.

Captive patrons refer to people who are already present in the immediate vicinity and likely patrons of a second use. The proposed plan of development is an ideal scenario to utilize non-captive rates due to the mixture of land uses and the design principles applied to the site. To be conservative, the non-captive adjustment was not used.

The results of the analysis demonstrated that the proposed plan of development will have a maximum parking demand of 719 parking spaces during the weekday , 867 parking spaces on Saturday, and 680 parking spaces on Sunday. The peak parking period occurs between 2:00 to 3:00 P.M. during the weekday and between 3:00 to 4:00 P.M. during the weekend. It should be noted that during the majority of the day, the parking demand will be less than the peak parking demand of 867 parking spaces. The shared parking calculations based on the ITE *Parking Generation* publication and the Urban Land Institute's *Shared Parking* publication and consistent with standard industry practices are attached to this report. To account for parking turnover and to be conservative, a 10% buffer can be added to the peak demand of 867 parking spaces for a total of 954 spaces.

As shown on the Site Plan, a total of 776 spaces are proposed not including the Life Church, the School, or additional spaces created with valet parking. The developer plans to utilize valet parking and cone off certain areas within the parking lots to allow for double stacked vehicles to create additional parking. Additionally, the developer is entering into a shared parking agreement with the church to obtain 147 additional spaces. With the additional valet spaces and shared Life Church parking, a total of 1023 spaces can be accommodated onsite. The development parking plan including the valet zones and shared parking is attached to this report.

4.0 CONTIGENCY PARKING

Contingency Plan 1: Shared Parking with Wingrove Academy

The first option is to establish an additional shared parking agreement with Wingrove Academy. In the school's initial phase, the adjacent baseball fields will not yet be constructed, freeing up additional space. Through an agreement with Wingrove Academy, an extra 181 parking spaces would be available. Because peak activity periods for the mixed-use site differ from those of the school, this shared approach is feasible. With these agreements in place, the total parking supply would increase to 1,204 spaces.

Contingency Plan 2: Parking Garage Construction

The second option is to construct a parking garage on either the north or south lot of the mixed-use site. The parking garage would provide at least 1,204 parking spaces, with potential for additional capacity through valet zones, construction of garages on both lots, and/or further shared parking with Life Church and Wingrove Academy. Under this scenario, parking supply could significantly exceed 1,204 spaces if needed.

Both contingency plans are included as attachments to this report for reference.

5.0 CONCLUSION

As demonstrated in this study, the anticipated maximum parking demand for the proposed plan of development is 867 parking spaces without the 10% buffer and 954 parking spaces with the 10% buffer. The proposed Site Plan will accommodate 1,023 parking spaces for the mixed-use site inclusive of dedicated valet zones and a shared parking agreement with Life Church. Parking contingency plans allow for additional parking from a shared parking agreement with Wingrove Academy along with the construction of a parking garage on the north or south lots to allow for a minimum of 1,204 spaces. The parking analysis considered parking rates from the ITE *Parking Generation, 6th Edition* and the Urban Land Institute's (ULI) *Shared Parking, 3rd Edition* publication.

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SHARED PARKING ANALYSIS - WEEKDAY

BASED ON ITE 50TH PERCENTILE

Raw Parking Demand

Use	Intensity (SF or Units)	ITE 50th Rate (Per 1,000 SF or Rooms)	Parking Required
Apartments	15	1.27	19
Hotel	180	0.64	115
Retail	310,000	1.67	518
Office	70,000	1.95	137
TOTAL			789

Shared Parking Demand - WEEKDAY

Land Use	Type	Rate	Percentage	Parking Demand	Non-Captive	Mode Adjustment	6:00 AM		7:00 AM		8:00 AM		9:00 AM		10:00 AM		11:00 AM		12:00 PM		1:00 PM		2:00 PM	
							%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking
Apartments	Visitor	0.1	7.1%	1	100%	100%	0%	0	10%	0	20%	0	20%	0	20%	0	20%	0	20%	0	20%	0	20%	0
	Resident	1.3	92.9%	17	100%	100%	95%	16	80%	14	67%	11	55%	9	50%	9	45%	8	40%	7	40%	7	40%	7
Hotel	Customer	1	87.0%	100	100%	100%	95%	95	95%	95	90%	90	80%	80	70%	70	70%	70	65%	65	65%	65	70%	70
	Employee	0.15	13.0%	15	100%	100%	10%	2	30%	5	100%	15	100%	15	100%	15	100%	15	100%	15	100%	15	100%	15
Retail	Customer	2.9	80.6%	417	100%	100%	1%	4	5%	21	15%	63	35%	146	60%	250	75%	313	100%	417	100%	417	95%	396
	Employee	0.7	19.4%	101	100%	100%	10%	10	15%	15	25%	25	45%	45	75%	76	95%	96	100%	101	100%	101	100%	101
Office	Visitors	0.3	7.9%	11	100%	100%	0%	0	1%	0	20%	2	60%	7	100%	11	45%	5	15%	2	45%	5	95%	10
	Employee	3.5	92.1%	126	100%	100%	3%	4	15%	19	50%	63	90%	113	100%	126	100%	126	85%	107	85%	107	95%	120
			TOTAL	788				131		169		269		415		557		633		714		717		719

Land Use	Type	Rate	Percentage	Parking Demand	Non-Captive	Mode Adjustment	3:00 PM		4:00 PM		5:00 PM		6:00 PM		7:00 PM		8:00 PM		9:00 PM		10:00 PM		11:00 PM	
							%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking
Residential	Visitor	0.1	7.1%	1	100%	100%	20%	0	20%	0	60%	0	60%	1	100%	1	100%	1	100%	1	100%	1	80%	1
	Resident	1.3	92.9%	17	100%	100%	40%	7	45%	8	50%	9	60%	10	70%	12	80%	14	85%	14	95%	16	97%	16
Hotel	Customer	1	87.0%	100	100%	100%	70%	70	75%	75	80%	80	85%	85	85%	85	90%	90	95%	95	95%	95	100%	100
	Employee	0.15	13.0%	15	100%	100%	100%	15	70%	11	70%	11	40%	6	20%	3	20%	3	20%	3	20%	3	10%	2
Retail	Customer	2.9	80.6%	417	100%	100%	85%	354	85%	354	85%	354	90%	375	80%	334	65%	271	45%	188	15%	63	5%	21
	Employee	0.7	19.4%	101	100%	100%	100%	101	100%	101	100%	101	100%	101	100%	101	90%	91	60%	61	40%	40	20%	20
Office	Visitors	0.3	7.9%	11	100%	100%	45%	5	15%	2	10%	1	5%	1	2%	0	1%	0	0%	0	0%	0	0%	0
	Employee	3.5	92.1%	126	100%	100%	95%	120	85%	107	60%	76	25%	32	15%	19	5%	6	3%	4	1%	1	0%	0
			TOTAL	788				672		658		632		611		555		476		366		219		160

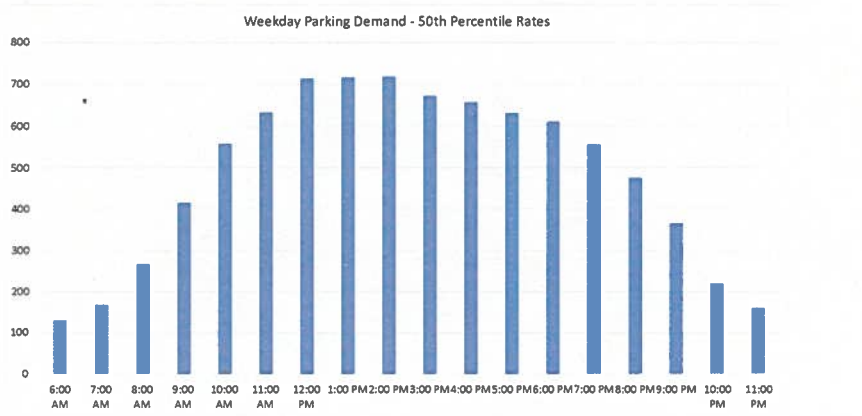
WEEKDAY MAX **719**

10% Buffer **72**

TOTAL PARKING NEEDED **791**

Notes: Time of day percentages from ULI Shared Parking, 3rd Edition.

Time of Day	Parking Demand
6:00 AM	131
7:00 AM	169
8:00 AM	269
9:00 AM	415
10:00 AM	557
11:00 AM	633
12:00 PM	714
1:00 PM	717
2:00 PM	719
3:00 PM	672
4:00 PM	658
5:00 PM	632
6:00 PM	611
7:00 PM	555
8:00 PM	476
9:00 PM	366
10:00 PM	219
11:00 PM	160



SHARED PARKING ANALYSIS - SATURDAY
BASED ON ITE 50TH PERCENTILE

Raw Parking Demand

Use	Intensity (SF or Units)	ITE 50th Rate (Per 1,000 SF or Rooms)	Parking Required
Apartments	15	1.18	18
Hotel	180	0.65	117
Retail	310,000	2.43	753
Office	70,000	0.20	14
TOTAL			902

Shared Parking Demand - SATURDAY

Land Use	Type	Rate	Percentage	Parking Demand	Non-Captive	Mode Adjustment	6:00 AM		7:00 AM		8:00 AM		9:00 AM		10:00 AM		11:00 AM		12:00 PM		1:00 PM		2:00 PM	
							%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking
Apartments	Visitor	0.15	10.3%	2	100%	100%	0%	0	10%	0	20%	0	20%	0	20%	0	20%	0	20%	0	20%	0	20%	0
	Resident	1.3	89.7%	16	100%	100%	100%	16	95%	15	88%	14	80%	13	75%	12	70%	11	68%	11	65%	10	65%	10
Hotel	Customer	1	87.0%	102	100%	100%	95%	97	95%	97	90%	92	80%	82	70%	71	70%	71	65%	66	65%	66	70%	71
	Employee	0.15	13.0%	15	100%	100%	10%	2	30%	5	100%	15	100%	15	100%	15	100%	15	100%	15	100%	15	100%	15
Retail	Customer	3.2	80.0%	602	100%	100%	1%	6	5%	30	30%	181	50%	301	70%	421	90%	542	95%	572	100%	602	100%	602
	Employee	0.8	20.0%	151	100%	100%	10%	15	15%	23	40%	60	75%	113	85%	128	95%	143	100%	151	100%	151	100%	151
Office	Visitors	0.03	7.9%	1	100%	100%	0%	0	20%	0	60%	1	80%	1	90%	1	100%	1	90%	1	80%	1	60%	1
	Employee	0.35	92.1%	13	100%	100%	0%	0	20%	3	60%	8	80%	10	90%	12	100%	13	90%	12	80%	10	60%	8
			TOTAL	902				136		173		371		535		660		796		828		855		858

Land Use	Type	Rate	Percentage	Parking Demand	Non-Captive	Mode Adjustment	3:00 PM		4:00 PM		5:00 PM		6:00 PM		7:00 PM		8:00 PM		9:00 PM		10:00 PM		11:00 PM	
							%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking
Residential	Visitor	0.15	10.3%	2	100%	100%	20%	0	20%	0	40%	1	60%	1	100%	2	100%	2	100%	2	100%	2	80%	2
	Resident	1.3	89.7%	16	100%	100%	68%	11	71%	11	74%	12	77%	12	80%	13	83%	13	86%	14	89%	14	92%	15
Hotel	Customer	1	87.0%	102	100%	100%	70%	71	75%	77	80%	82	85%	87	85%	87	90%	92	95%	97	95%	97	100%	102
	Employee	0.15	13.0%	15	100%	100%	100%	15	70%	11	70%	11	40%	6	20%	3	20%	3	20%	3	20%	3	10%	2
Retail	Customer	3.2	80.0%	602	100%	100%	100%	602	95%	572	90%	542	80%	482	75%	452	65%	391	50%	301	35%	211	15%	90
	Employee	0.8	20.0%	151	100%	100%	100%	151	100%	151	95%	143	85%	128	80%	121	75%	113	65%	98	45%	68	15%	23
Office	Visitors	0.03	7.9%	1	100%	100%	40%	5	20%	3	10%	1	5%	1	0%	0	0%	0	0%	0	0%	0	0%	0
	Employee	0.35	92.1%	13	100%	100%	95%	12	20%	3	10%	1	5%	1	0%	0	0%	0	0%	0	0%	0	0%	0
			TOTAL	902				867		828		793		718		678		614		515		395		334

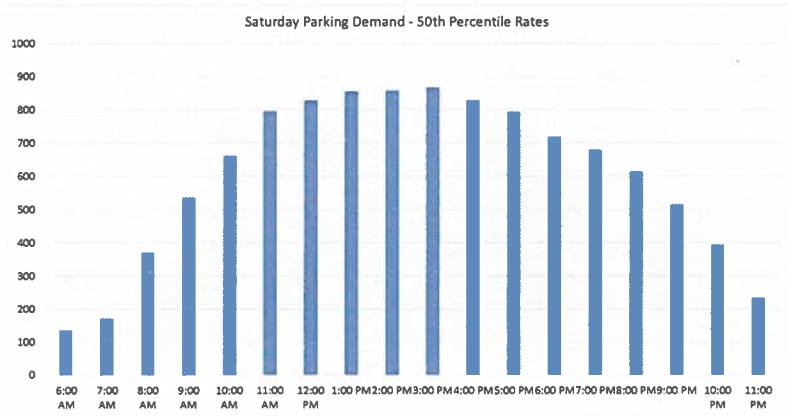
WEEKEND MAX **867**

10% Buffer **87**

TOTAL PARKING NEEDED **954**

Notes: Time of day percentages from ULI Shared Parking, 3rd Edition.

Time of Day	Parking Demand
6:00 AM	136
7:00 AM	173
8:00 AM	371
9:00 AM	535
10:00 AM	660
11:00 AM	796
12:00 PM	828
1:00 PM	855
2:00 PM	858
3:00 PM	867
4:00 PM	828
5:00 PM	793
6:00 PM	718
7:00 PM	678
8:00 PM	614
9:00 PM	515
10:00 PM	395
11:00 PM	234



SHARED PARKING ANALYSIS - SUNDAY
BASED ON ITE 50TH PERCENTILE

Raw Parking Demand

Use	Intensity (SF or Units)	ITE 50th Rate (Per 1,000 SF or Rooms)	Parking Required
Apartments	15	1.16	17
Hotel	180	0.65	117
Retail	310,000	1.83	567
Office	70,000	0.20	14
TOTAL			715

Shared Parking Demand - SUNDAY

Land Use	Type	Rate	Percentage	Parking Demand	Non-Captive	Mode Adjustment	6:00 AM		7:00 AM		8:00 AM		9:00 AM		10:00 AM		11:00 AM		12:00 PM		1:00 PM		2:00 PM	
							%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking
Apartments	Visitor	0.15	10.3%	2	100%	100%	0%	0	10%	0	20%	0	20%	0	20%	0	20%	0	20%	0	20%	0	20%	0
	Resident	1.3	89.7%	15	100%	100%	100%	15	95%	14	88%	13	80%	12	75%	11	70%	11	68%	10	65%	10	65%	10
Hotel	Customer	1	87.0%	102	100%	100%	95%	97	95%	97	90%	92	80%	82	70%	71	70%	71	65%	66	65%	66	70%	71
	Employee	0.15	13.0%	15	100%	100%	10%	2	30%	5	100%	15	100%	15	100%	15	100%	15	100%	15	100%	15	100%	15
Retail	Customer	3.2	80.0%	454	100%	100%	1%	5	5%	23	30%	136	50%	227	70%	318	90%	409	95%	431	100%	454	100%	454
	Employee	0.8	20.0%	113	100%	100%	10%	11	15%	17	40%	45	75%	85	85%	96	95%	107	100%	113	100%	113	100%	113
Office	Visitors	0.03	7.9%	1	100%	100%	0%	0	20%	0	60%	1	80%	1	90%	1	100%	1	90%	1	80%	1	60%	1
	Employee	0.35	92.1%	13	100%	100%	0%	0	20%	3	60%	8	80%	10	90%	12	100%	13	90%	12	80%	10	60%	8
			TOTAL	715				130		159		319		432		524		627		648		669		672

Land Use	Type	Rate	Percentage	Parking Demand	Non-Captive	Mode Adjustment	3:00 PM		4:00 PM		5:00 PM		6:00 PM		7:00 PM		8:00 PM		9:00 PM		10:00 PM		11:00 PM	
							%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking	%	Adjusted Parking
Residential	Visitor	0.15	10.3%	2	100%	100%	20%	0	20%	0	40%	1	60%	1	100%	2	100%	2	100%	2	100%	2	80%	2
	Resident	1.3	89.7%	15	100%	100%	68%	10	71%	11	74%	11	77%	12	80%	12	83%	12	86%	13	89%	13	92%	14
Hotel	Customer	1	87.0%	102	100%	100%	70%	71	75%	77	80%	82	85%	87	85%	87	90%	92	95%	97	95%	97	100%	102
	Employee	0.15	13.0%	15	100%	100%	100%	15	70%	11	70%	11	40%	6	20%	3	20%	3	20%	3	20%	3	10%	2
Retail	Customer	3.2	80.0%	454	100%	100%	100%	454	95%	431	90%	409	80%	363	75%	341	65%	295	50%	227	35%	159	15%	68
	Employee	0.8	20.0%	113	100%	100%	100%	113	100%	113	95%	107	85%	96	80%	90	75%	85	65%	73	45%	51	15%	17
Office	Visitors	0.03	7.9%	1	100%	100%	40%	5	20%	3	10%	1	5%	1	0%	0	0%	0	0%	0	0%	0	0%	0
	Employee	0.35	92.1%	13	100%	100%	95%	12	20%	3	10%	1	5%	1	0%	0	0%	0	0%	0	0%	0	0%	0
			TOTAL	715				680		649		623		567		535		489		415		325		205

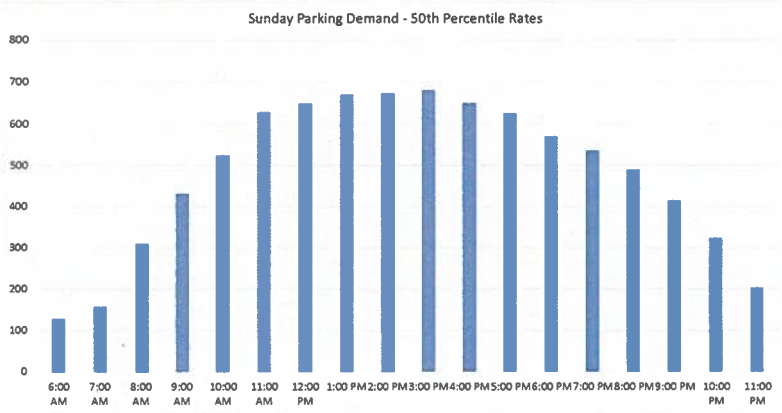
WEEKEND MAX 680

10% Buffer 68

TOTAL PARKING NEEDED 748

Notes: Time of day percentages from ULI Shared Parking, 3rd Edition.

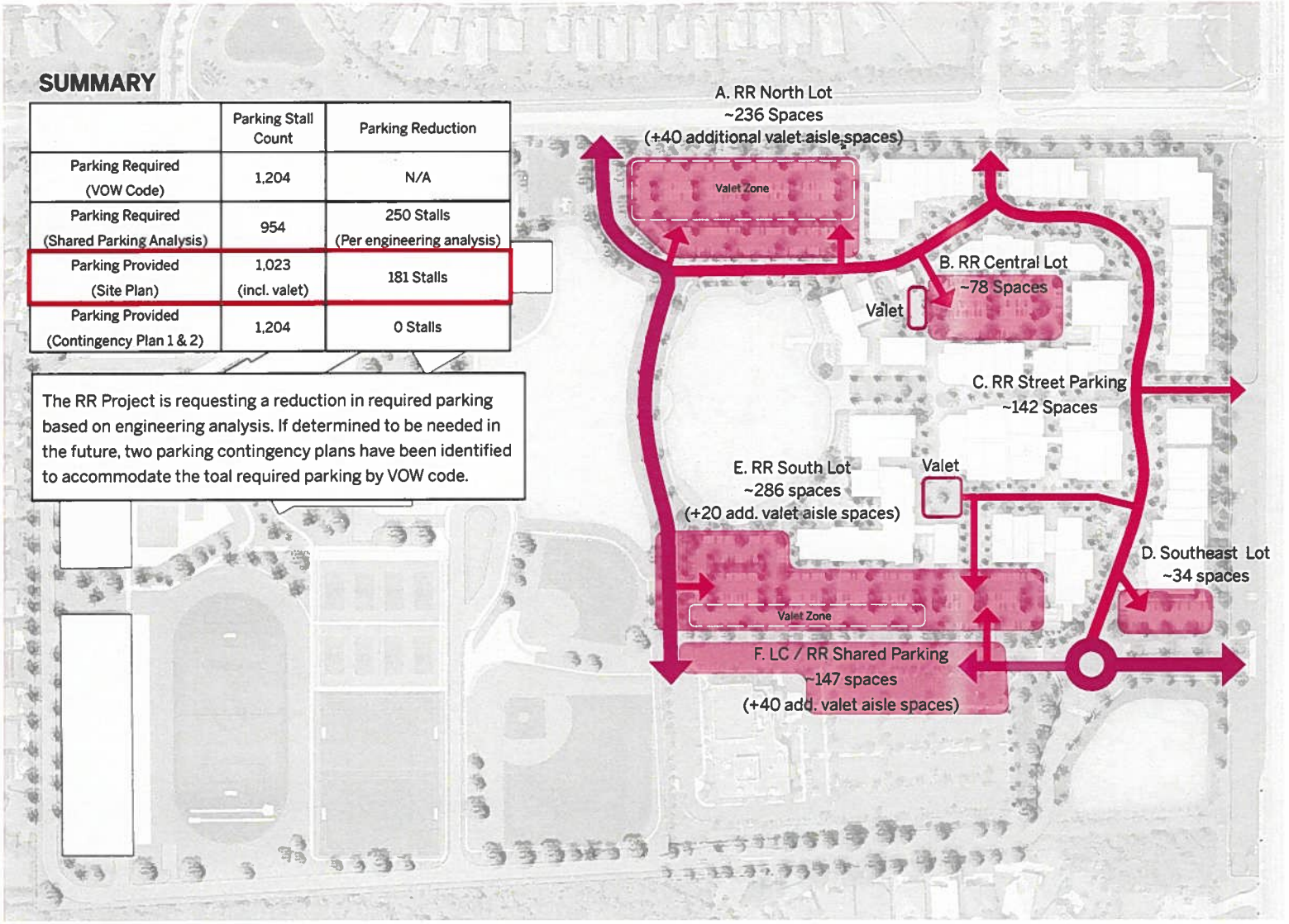
Time of Day	Parking Demand
6:00 AM	130
7:00 AM	159
8:00 AM	310
9:00 AM	432
10:00 AM	524
11:00 AM	627
12:00 PM	648
1:00 PM	669
2:00 PM	672
3:00 PM	680
4:00 PM	649
5:00 PM	623
6:00 PM	567
7:00 PM	535
8:00 PM	489
9:00 PM	415
10:00 PM	325
11:00 PM	205



SUMMARY

	Parking Stall Count	Parking Reduction
Parking Required (VOW Code)	1,204	N/A
Parking Required (Shared Parking Analysis)	954	250 Stalls (Per engineering analysis)
Parking Provided (Site Plan)	1,023 (incl. valet)	181 Stalls
Parking Provided (Contingency Plan 1 & 2)	1,204	0 Stalls

The RR Project is requesting a reduction in required parking based on engineering analysis. If determined to be needed in the future, two parking contingency plans have been identified to accommodate the toal required parking by VOW code.



Parking - VOW Code

Use	Size	Total
Retail/ Office	80,000 NSF (1 space / 250 SF)	320
Retail/ Office	300,000 NSF (1 space / 500 SF)	600
Hotel	180 Rooms (1.25 spaces / Room + 1 / employee)	250
Resid.	15 DU (2.25 spaces / DU)	34
TOTAL		1204

Parking - Shared Parking Analysis

867 Peak Parking Demand
954 Parking Demand (incl. 10% buffer)

Parking - Site Plan

Zone	Parking Stalls	Valet	Total
A	236	40	276
B	78		78
C	142		142
D	34		34
E	286	20	306
F	147	40	187
TOTAL	923	100	1023

RR Development Parking Plan

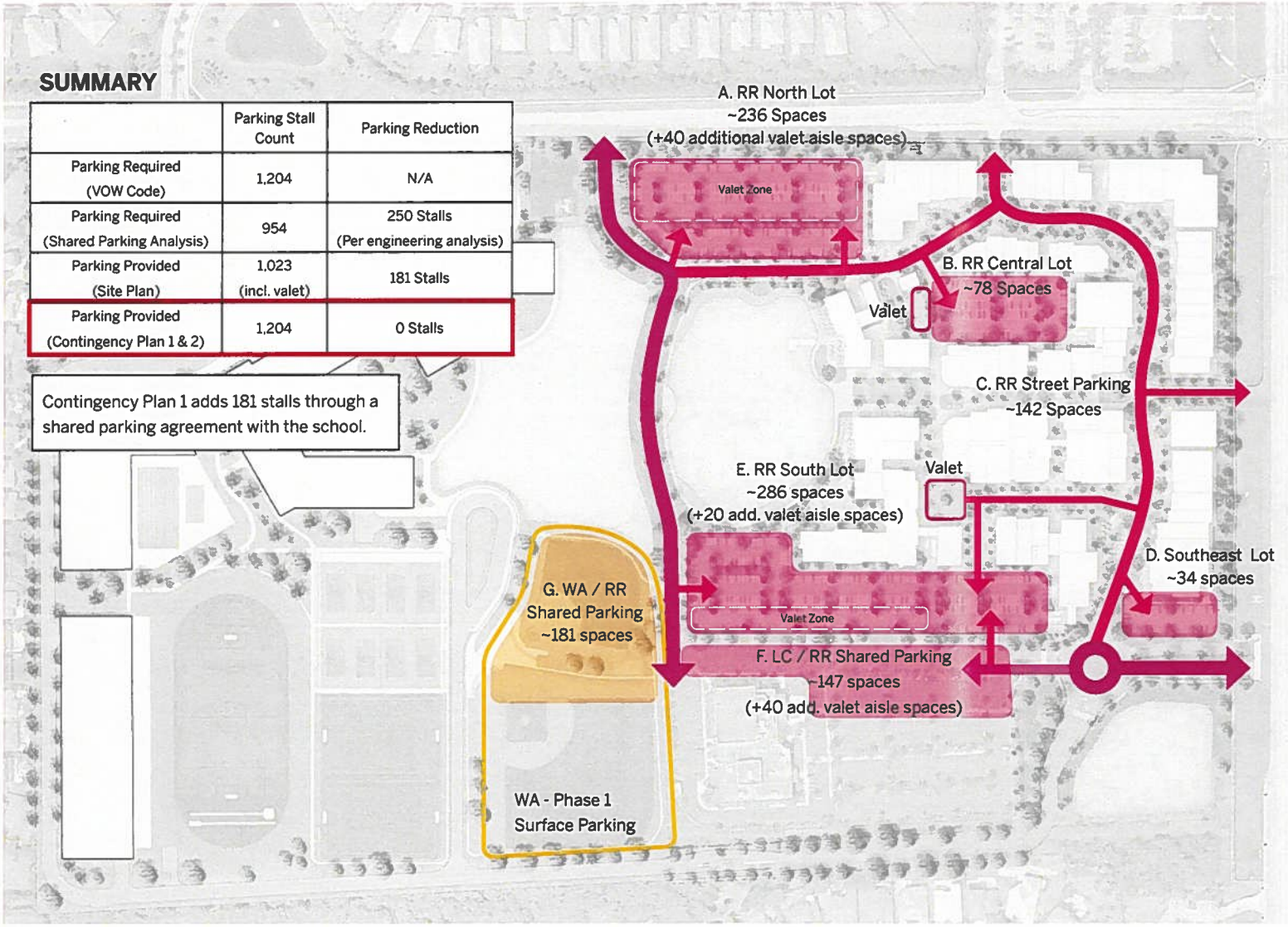
0 100 200

N

SUMMARY

	Parking Stall Count	Parking Reduction
Parking Required (VOW Code)	1,204	N/A
Parking Required (Shared Parking Analysis)	954	250 Stalls (Per engineering analysis)
Parking Provided (Site Plan)	1,023 (incl. valet)	181 Stalls
Parking Provided (Contingency Plan 1 & 2)	1,204	0 Stalls

Contingency Plan 1 adds 181 stalls through a shared parking agreement with the school.



Parking - VOW Code

Use	Size	Total
Retail/ Office	80,000 NSF (1 space / 250 SF)	320
Retail/ Office	300,000 NSF (1 space / 500 SF)	600
Hotel	180 Rooms (1.25 spaces / Room + 1 / employee)	250
Resid.	15 DU (2.25 spaces / DU)	34
TOTAL		1204

Parking - Contingency Plan 1

Zone	Parking Stalls	Valet	Shared	Total
A	236	40		276
B	78			78
C	142			142
D	34			34
E	286	20		306
F	147	40		187
G			181	181
TOTAL	923	100	181	1204

RR Development Parking Contingency Plan 1

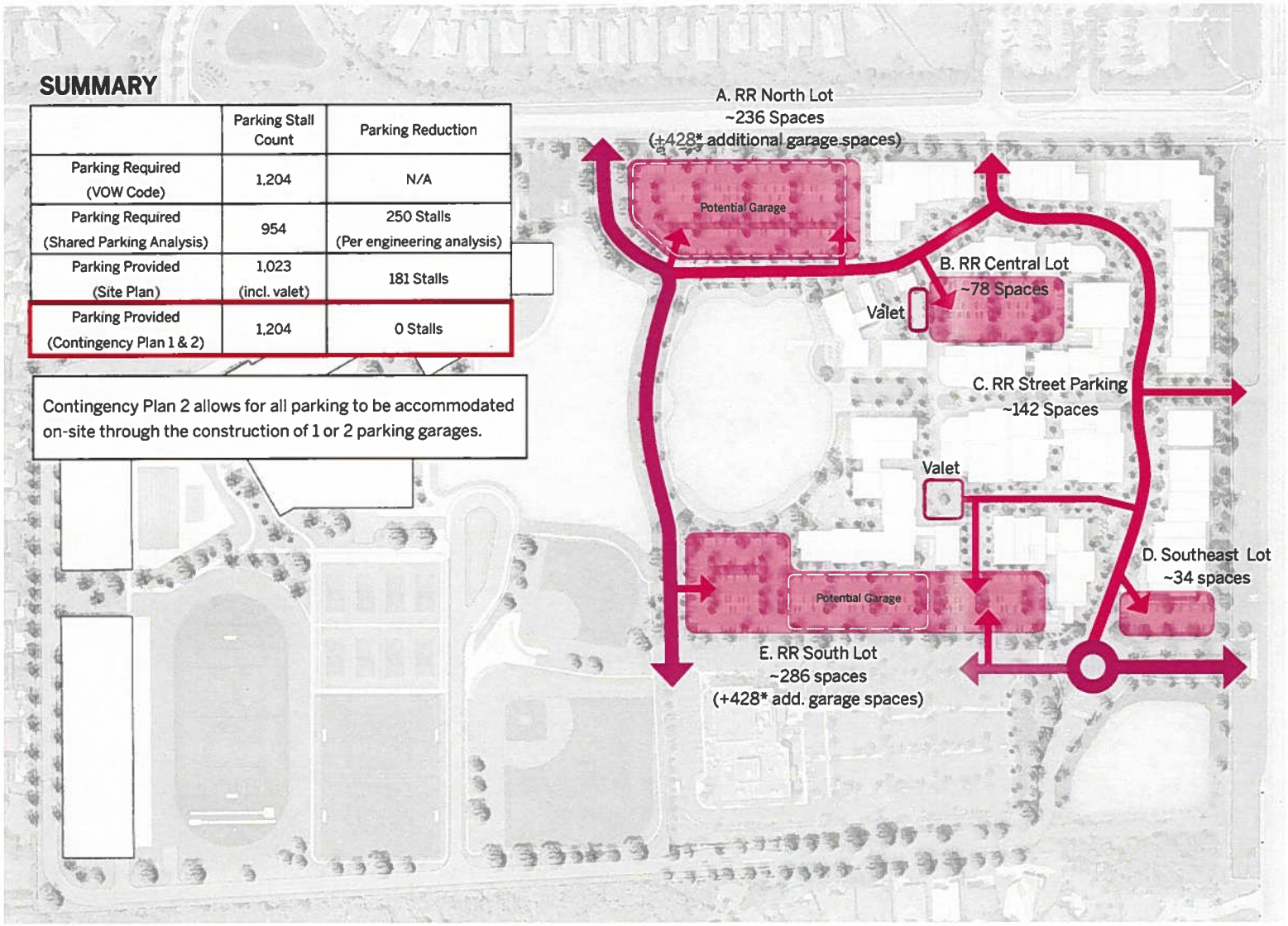
0 100 200

N

SUMMARY

	Parking Stall Count	Parking Reduction
Parking Required (VOW Code)	1,204	N/A
Parking Required (Shared Parking Analysis)	954	250 Stalls (Per engineering analysis)
Parking Provided (Site Plan)	1,023 (incl. valet)	181 Stalls
Parking Provided (Contingency Plan 1 & 2)	1,204	0 Stalls

Contingency Plan 2 allows for all parking to be accommodated on-site through the construction of 1 or 2 parking garages.



Parking - VOW Code

Use	Size	Total
Retail/ Office	80,000 NSF (1 space / 250 SF)	320
Retail/ Office	300,000 NSF (1 space / 500 SF)	600
Hotel	180 Rooms (1.25 spaces / Room + 1 / employee)	250
Resid.	15 DU (2.25 spaces / DU)	34
TOTAL		1204

Parking - Contingency Plan 2

Zone	Parking Stalls	Garage / Valet	Total
A	236	(428*)	(236)*
B	78		78
C	142		142
D	34		34
E	286	(428)*	(286)*
TOTAL	776	428	1204

* 428 stalls to be added in one or two garages in Zones A and/or E

RR Development Parking Contingency Plan 2

0 100 200

N

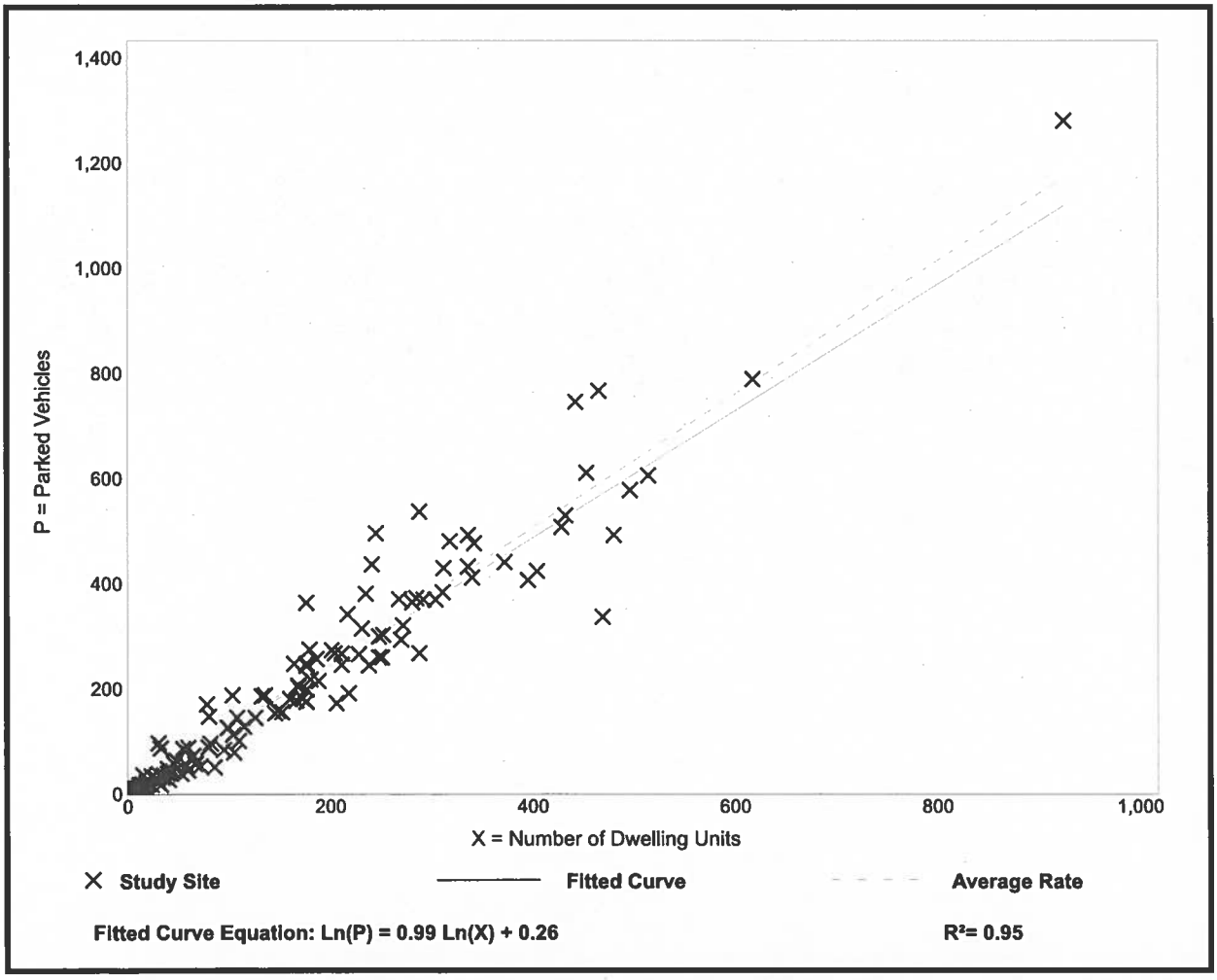
Multifamily Housing - 2+ BR (Low-Rise) - Not Close to Rail Transit
(220)

Peak Period Parking Demand vs: **Dwelling Units**
On a: **Weekday (Monday - Friday)**
Setting/Location: **General Urban/Suburban**
Number of Studies: 143
Avg. Num. of Dwelling Units: 154

Peak Period Parking Demand per Dwelling Unit

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
1.27	0.58 - 3.16	1.07 / 1.59	1.22 - 1.32	0.29 (23%)

Data Plot and Equation



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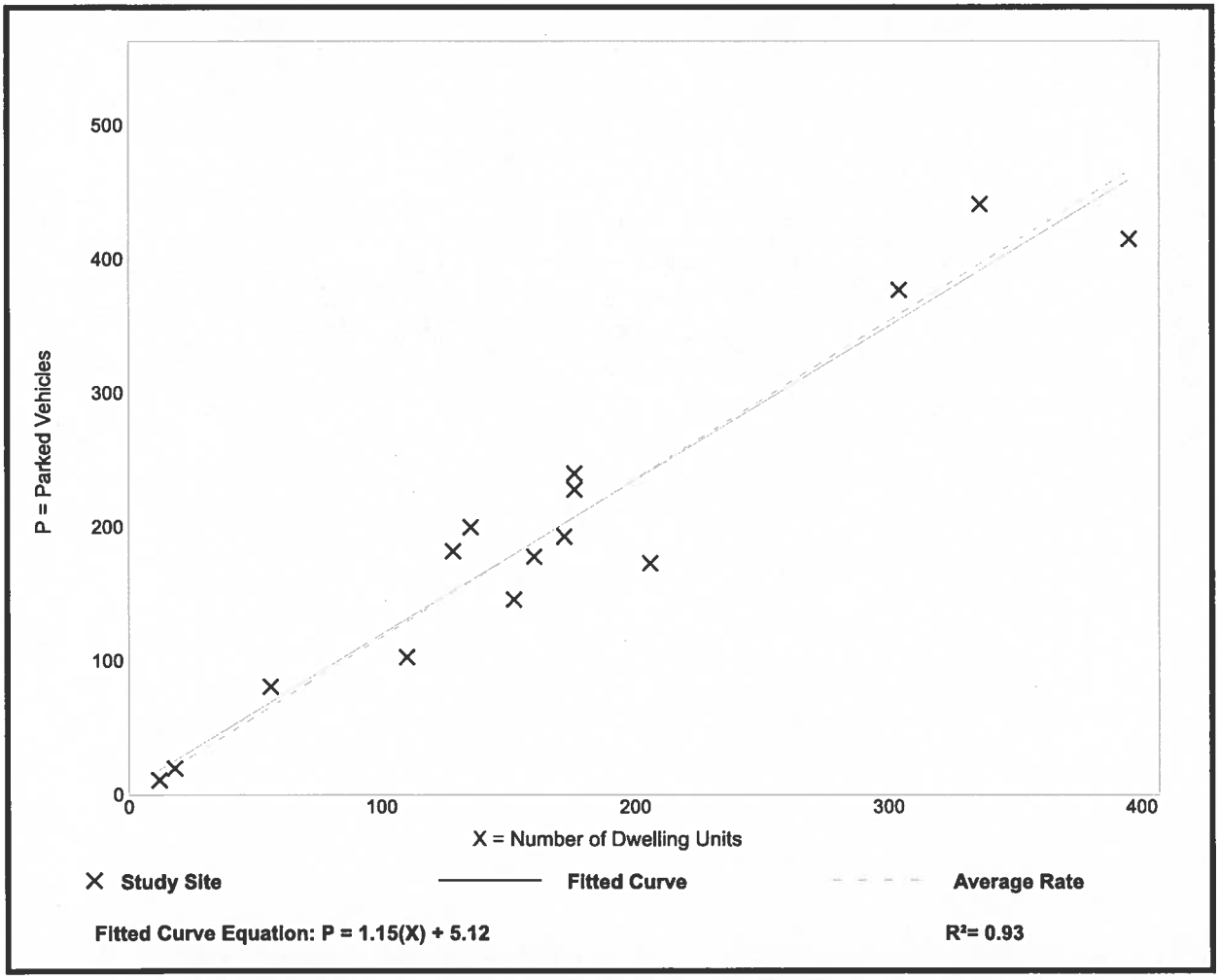
Multifamily Housing - 2+ BR (Low-Rise) - Not Close to Rail Transit
(220)

Peak Period Parking Demand vs:	**Dwelling Units**
On a:	**Saturday**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	15
Avg. Num. of Dwelling Units:	169

Peak Period Parking Demand per Dwelling Unit

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
1.18	0.84 - 1.48	1.07 / 1.44	***	0.19 (16%)

Data Plot and Equation



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Multifamily Housing - 2+ BR (Low-Rise) - Not Close to Rail Transit
(220)

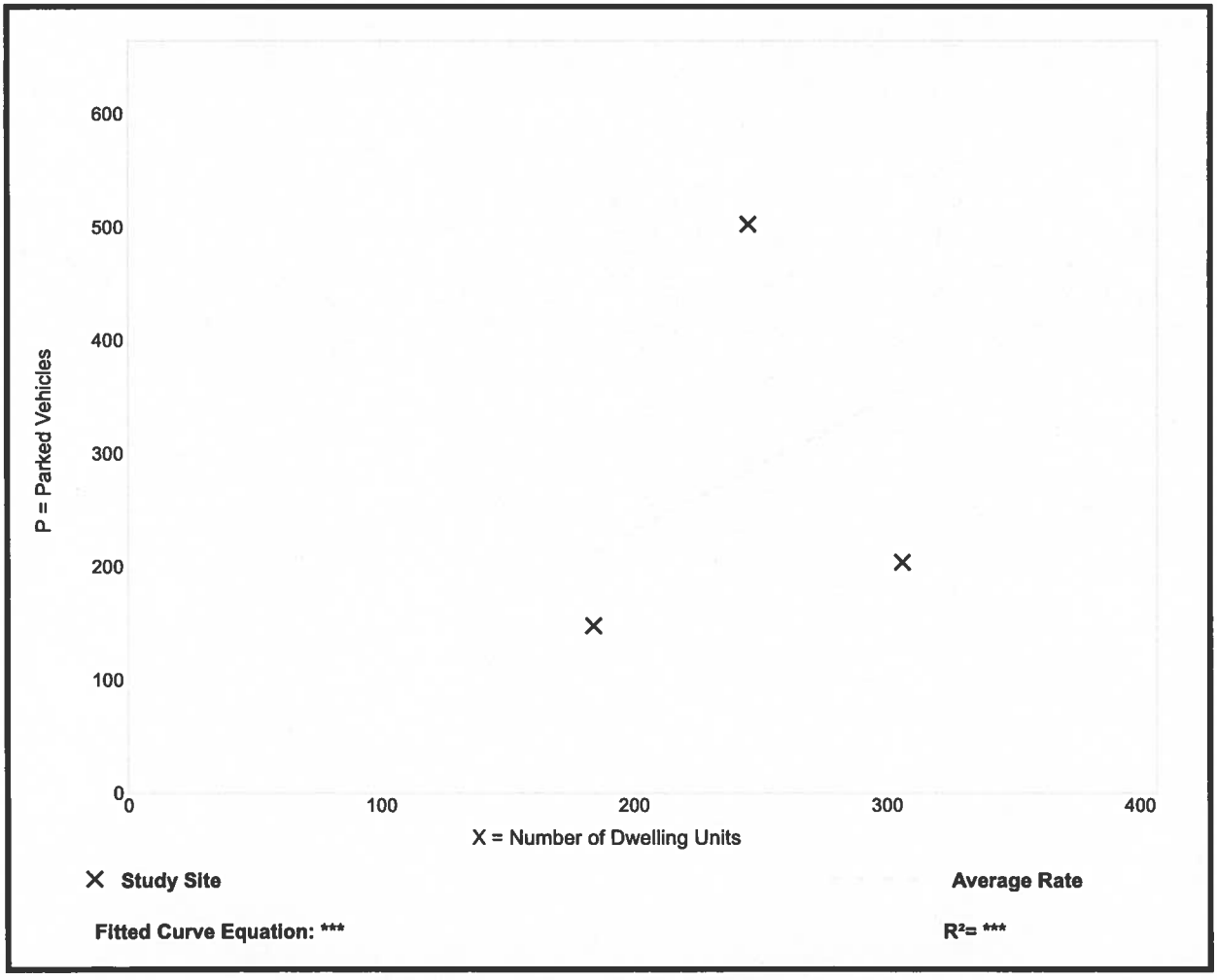
Peak Period Parking Demand vs: **Dwelling Units**
On a: **Sunday**
Setting/Location: **General Urban/Suburban**
Number of Studies: 3
Avg. Num. of Dwelling Units: 245

Peak Period Parking Demand per Dwelling Unit

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
1.16	0.67 - 2.05	0.71 / 2.05	***	0.77 (66%)

Data Plot and Equation

Caution – Small Sample Size



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Land Use: 310 Hotel

Description

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

Time-of-Day Distribution for Parking Demand

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

	Percent of Peak Parking Demand	
Hour Beginning	Weekday	Saturday
12:00–4:00 a.m.	100	100
5:00 a.m.	—	—
6:00 a.m.	90	80
7:00 a.m.	90	81
8:00 a.m.	90	80
9:00 a.m.	80	79
10:00 a.m.	74	70
11:00 a.m.	67	65
12:00 p.m.	65	61
1:00 p.m.	61	57
2:00 p.m.	59	48
3:00 p.m.	58	50
4:00 p.m.	61	55
5:00 p.m.	60	59
6:00 p.m.	62	66
7:00 p.m.	65	76
8:00 p.m.	70	76
9:00 p.m.	75	78
10:00 p.m.	88	87
11:00 p.m.	97	95

Additional Data

Parking demand at a hotel is related to the presence of supporting facilities. A hotel with a convention facility, meeting rooms, restaurant, or banquet space, may include parking demand generated by event attendees who are not hotel guests. As a result, peak parking demand for the hotel may occur during the afternoon or evening instead of the typical hotel peak parking demand that occurs overnight. To illustrate, for four of the 12 study sites in the database, the time-of-day parking demand distribution clearly demonstrates that an event took place during the evening of the study period. The peak parking demand at these four sites ranged between 50 and 100 percent greater than that of the peak overnight parking demand for hotel guests.

The database for this land use does not include information on potential independent variables for the generation of event-related parking demand (such as meeting facility GFA or event attendees) during the count period. For that reason, the peak parking demand displayed in the data plots only includes a site's overnight peak parking demand (i.e., parking demand associated with overnight guests and hotel staff). The plots do not contain peak parking demands generated by other supporting facilities or events that occur outside of the typical overnight peak parking period.

Parking demand at all lodging land uses may be related to the recent emergence of transportation network companies (TNCs) (also referred to as ride-share or ride-hailing companies). Hotel parking demand may be reduced if a hotel guest uses a TNC service for hotel drop-off or pick-up rather than using a rental car and parking on-site. Additional data are needed in order to measure and understand the potential impact of TNCs on lodging land use parking demand.

The average parking supply ratio for the nine study sites with parking supply information is 1.1 spaces per room. The average peak parking occupancy at the four sites with event parking is 69 percent. For the nine sites with overnight parking demand counted, the average peak parking occupancy is 54 percent.

The sites were surveyed in the 1990s, the 2000s, and the 2020s in California, and Washington.

For all lodging uses, it is important to collect data on occupied rooms as well as total rooms. Future data submissions should indicate the presence of supporting facilities and the level of activity/event taking place during the count period (e.g., full, empty, partially active; number of people attending a meeting/banquet). Data on the presence and usage of TNC service should be documented for all lodging land uses for future analysis purposes.

Source Numbers

217, 315, 401, 438, 603

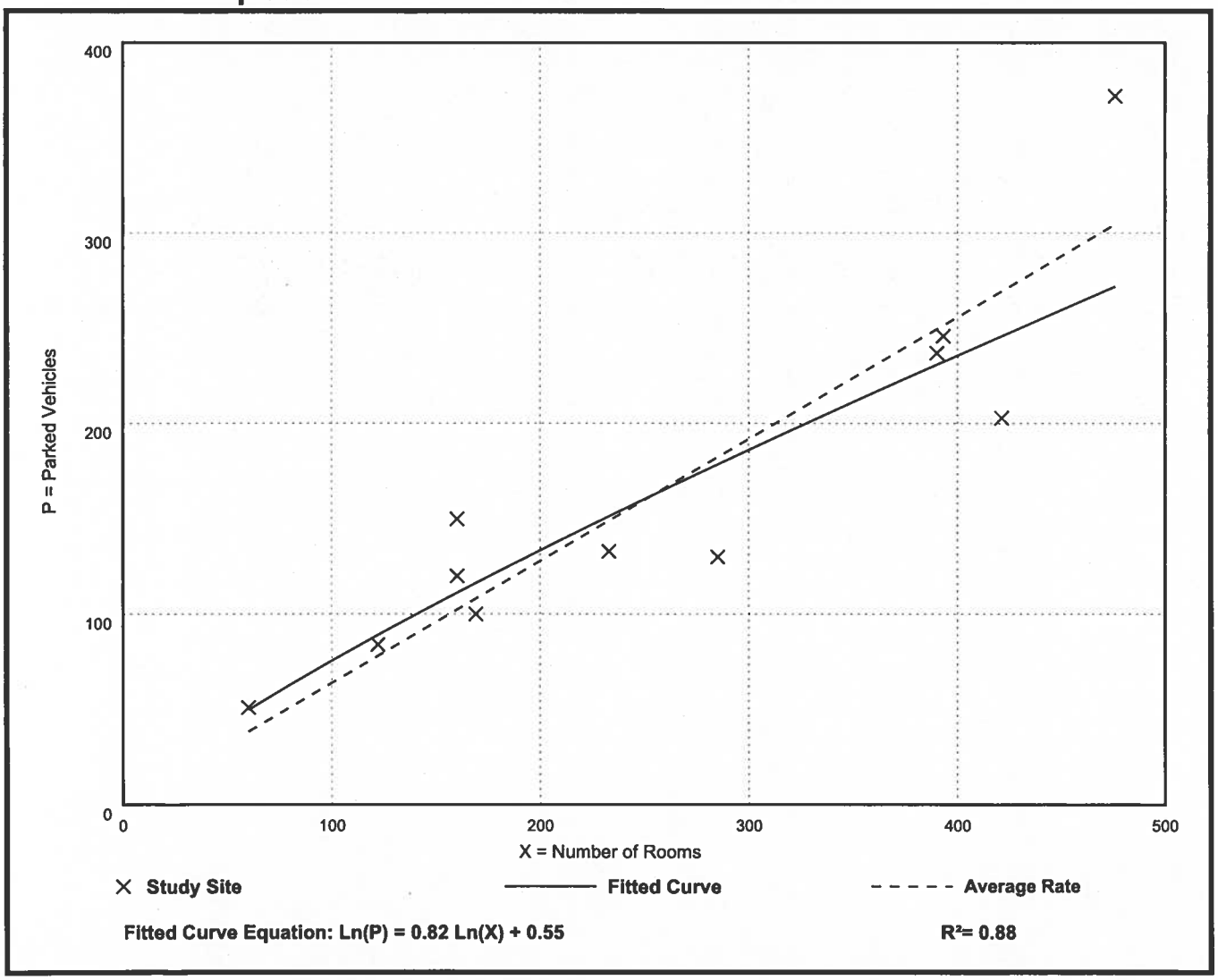
Hotel
(310)

Peak Period Parking Demand vs: Rooms
On a: Weekday (Monday - Friday)
Setting/Location: General Urban/Suburban
Number of Studies: 11
Avg. Num. of Rooms: 261

Peak Period Parking Demand per Room

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
0.64	0.46 - 0.94	0.59 / 0.87	***	0.14 (22%)

Data Plot and Equation



Fitted Curve Equation: Ln(P) = 0.82 Ln(X) + 0.55

R^2= 0.88

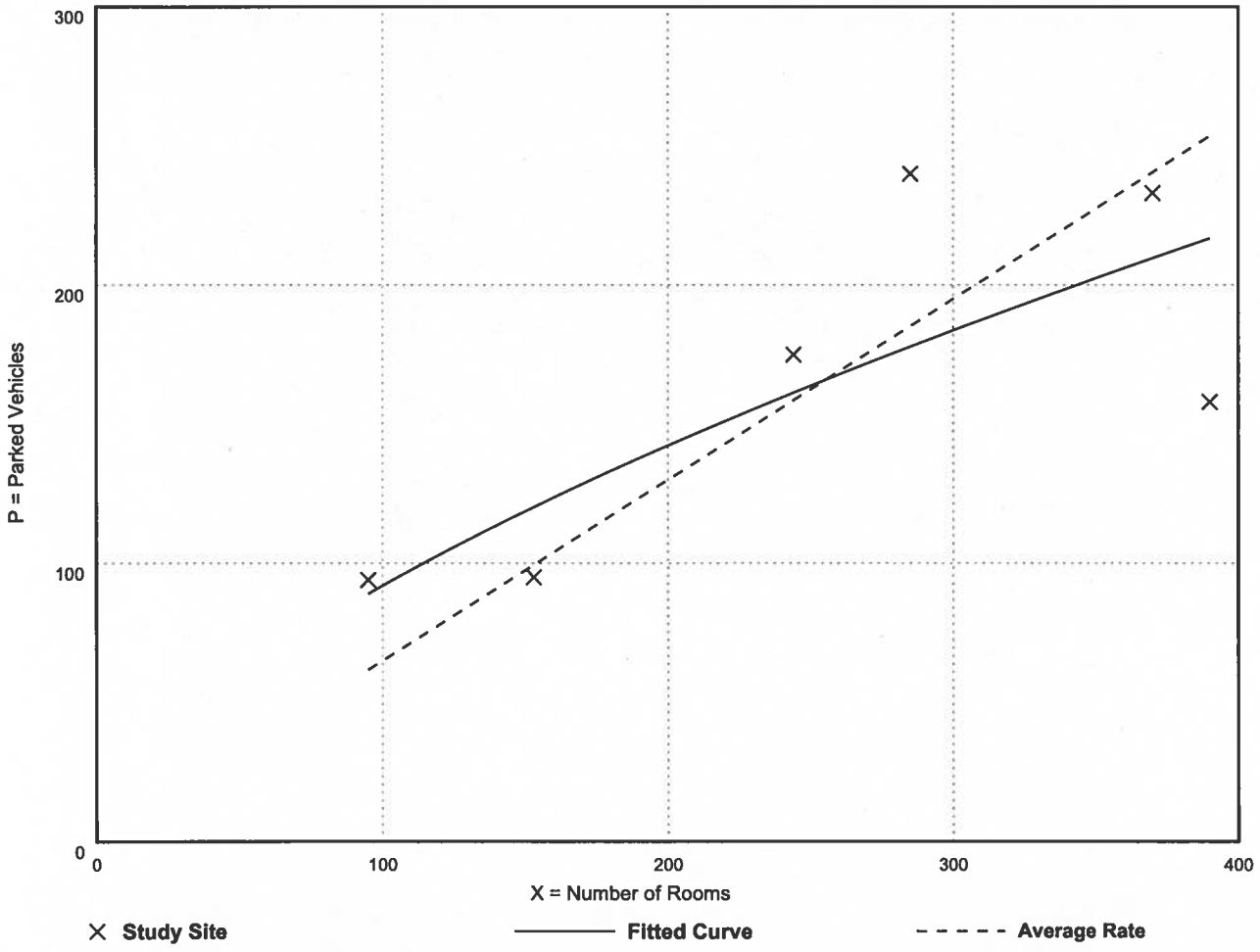
Hotel
(310)

Peak Period Parking Demand vs: Rooms
On a: Saturday
Setting/Location: General Urban/Suburban
Number of Studies: 6
Avg. Num. of Rooms: 256

Peak Period Parking Demand per Room

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
0.65	0.41 - 0.99	0.62 / 0.98	***	0.19 (29%)

Data Plot and Equation



Fitted Curve Equation: Ln(P) = 0.63 Ln(X) + 1.62

R^2= 0.69

Land Use: 820 Shopping Center (>150k)

Description

A shopping center is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. Each study site in this land use has at least 150,000 square feet of gross leasable area (GLA). It often has more than one anchor store. Various names can be assigned to a shopping center within this size range, depending on its specific size and tenants, such as community center, regional center, superregional center, fashion center, and power center.

A shopping center of this size typically contains more than retail merchandising facilities. Office space, a movie theater, restaurants, a post office, banks, a health club, and recreational facilities are common tenants.

A shopping center of this size can be enclosed or open-air. Parking demand generated at a shopping center is based upon the total GLA of the center. In the case of a smaller center without an enclosed mall or peripheral buildings, the GLA is the same as the gross floor area (GFA) of the building.

The 150,000 square feet GLA threshold value between this shopping center land use and shopping plaza (Land Use 821) is based on an examination of parking demand data. For a shopping plaza that is smaller than the threshold value, the presence or absence of a supermarket within the plaza has a noticeable effect on site parking demand. For a shopping center that is larger than the threshold value, the parking demand generated by its other major tenants appears to mask the effects of the presence or absence of an on-site supermarket.

Time-of-Day Distribution for Parking Demand

The following table presents a time-of-day distribution of parking demand on a Monday-Thursday (five study sites), a Friday (five study sites), and a Saturday (six study sites).

Hour Beginning	Percent of Peak Parking Demand		
	Weekday (Monday-Thursday)	Friday	Saturday
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.	47	–	67
11:00 a.m.	69	88	84
12:00 p.m.	97	93	94
1:00 p.m.	100	97	98
2:00 p.m.	94	95	100
3:00 p.m.	87	100	91
4:00 p.m.	82	95	72
5:00 p.m.	84	92	59
6:00 p.m.	82	87	–
7:00 p.m.	–	–	–
8:00 p.m.	–	–	–
9:00 p.m.	–	–	–
10:00 p.m.	–	–	–
11:00 p.m.	–	–	–

Additional Data

Many shopping centers, in addition to the integrated unit of shops in one building or enclosed around a mall, include outparcels (peripheral buildings or pads located on the perimeter of the center adjacent to the streets and major access points). These buildings are typically drive-in banks, retail stores, restaurants, or small offices. Although the data herein do not indicate which of the study sites include peripheral buildings, it can be assumed that some of the data show their effect.

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

- 3.9 spaces per 1,000 square feet GLA (23 sites) in a general urban/suburban setting
- 3.2 spaces per 1,000 square feet GLA (1 site) in a dense multi-use urban setting

The average peak parking occupancy at these 24 sites is 62 percent.

The sites were surveyed in the 1990s, the 2000s, the 2010s, and the 2020s in Alberta (CAN), California, Illinois, Kansas, Maine, Maryland, Massachusetts, Minnesota, New Jersey, New York, Ontario (CAN), Oregon, Pennsylvania, Tennessee, Texas, and Virginia.

Future data submissions should attempt to provide information on the composition of each study site (types and number of stores, restaurants, or other tenants within the shopping center).

Source Numbers

89, 145, 152, 179, 224, 313, 315, 431, 433, 436, 441, 511, 525, 542, 565, 604, 605, 615, 620, 621, 628, 634

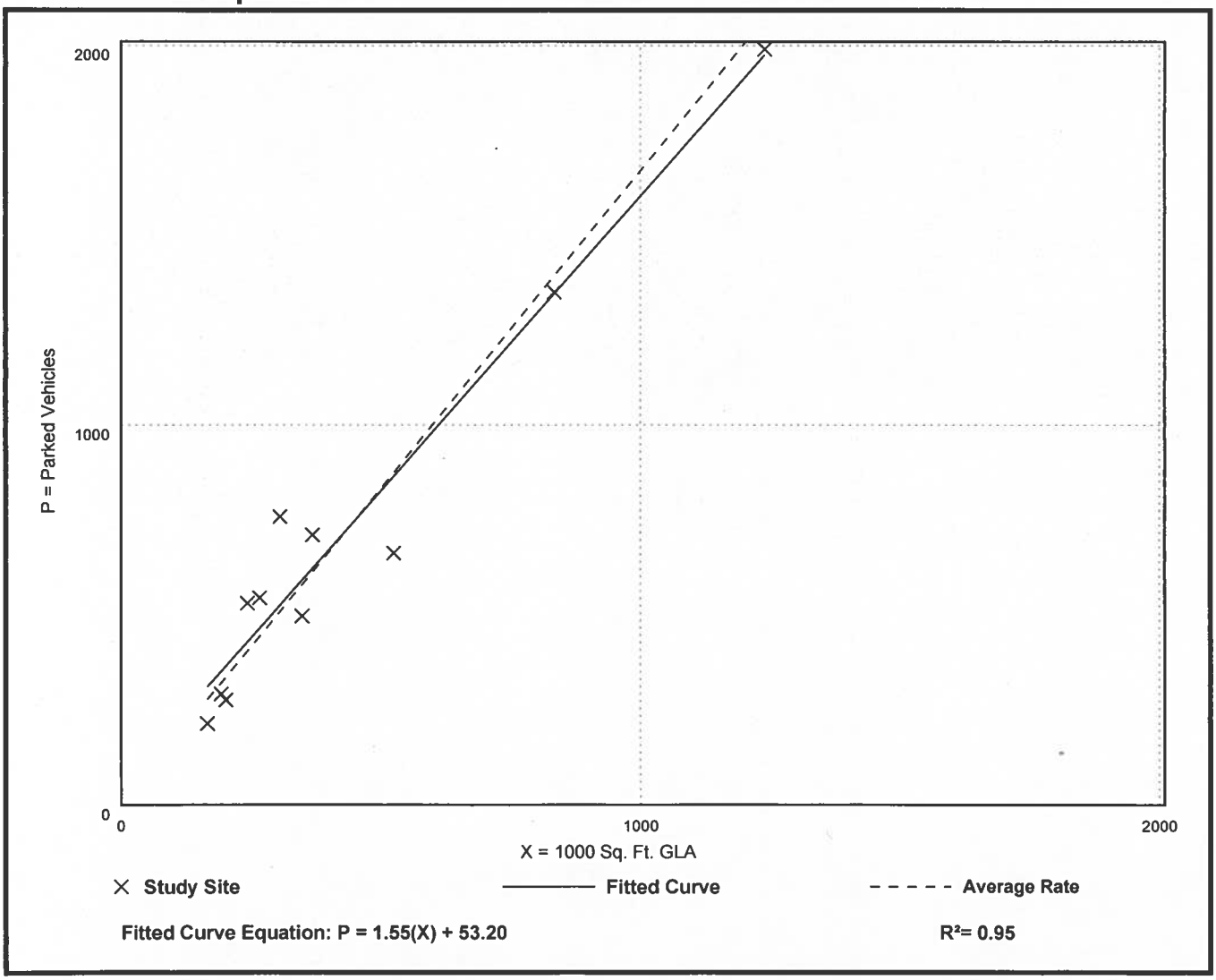
Shopping Center (>150k)
(820)

Peak Period Parking Demand vs: 1000 Sq. Ft. GLA
On a: Weekday (Monday - Thursday)
Setting/Location: General Urban/Suburban
Number of Studies: 11
Avg. 1000 Sq. Ft. GLA: 426

Peak Period Parking Demand per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
1.67	1.27 - 2.49	1.43 / 2.25	***	0.34 (20%)

Data Plot and Equation



Fitted Curve Equation: P = 1.55(X) + 53.20

R^2= 0.95

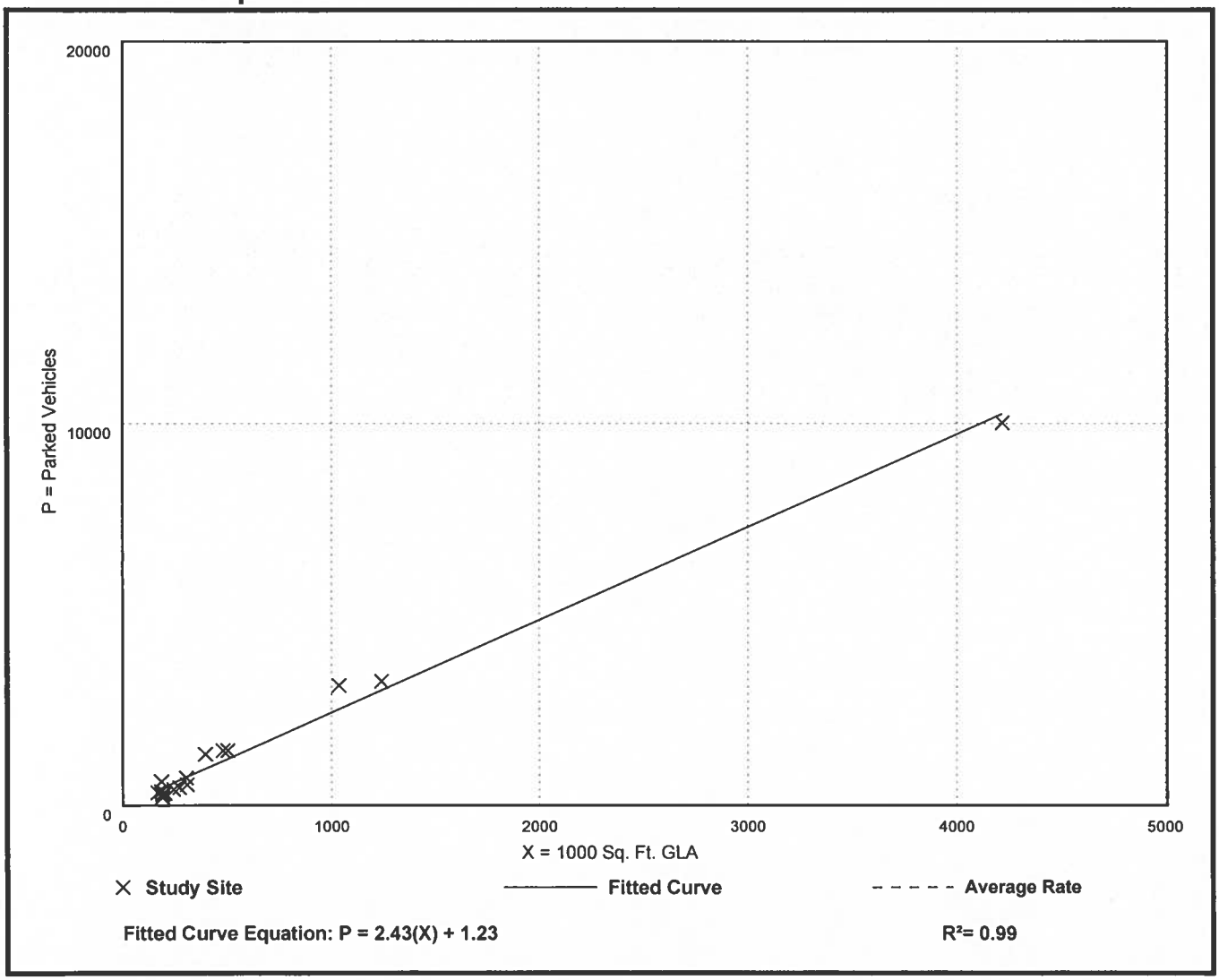
Shopping Center (>150k)
(820)

Peak Period Parking Demand vs: 1000 Sq. Ft. GLA
On a: Saturday
Setting/Location: General Urban/Suburban
Number of Studies: 18
Avg. 1000 Sq. Ft. GLA: 584

Peak Period Parking Demand per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
2.43	1.09 - 3.40	1.73 / 3.08	***	0.51 (21%)

Data Plot and Equation



Fitted Curve Equation: P = 2.43(X) + 1.23

R^2= 0.99

Shopping Center (>150k)
(820)

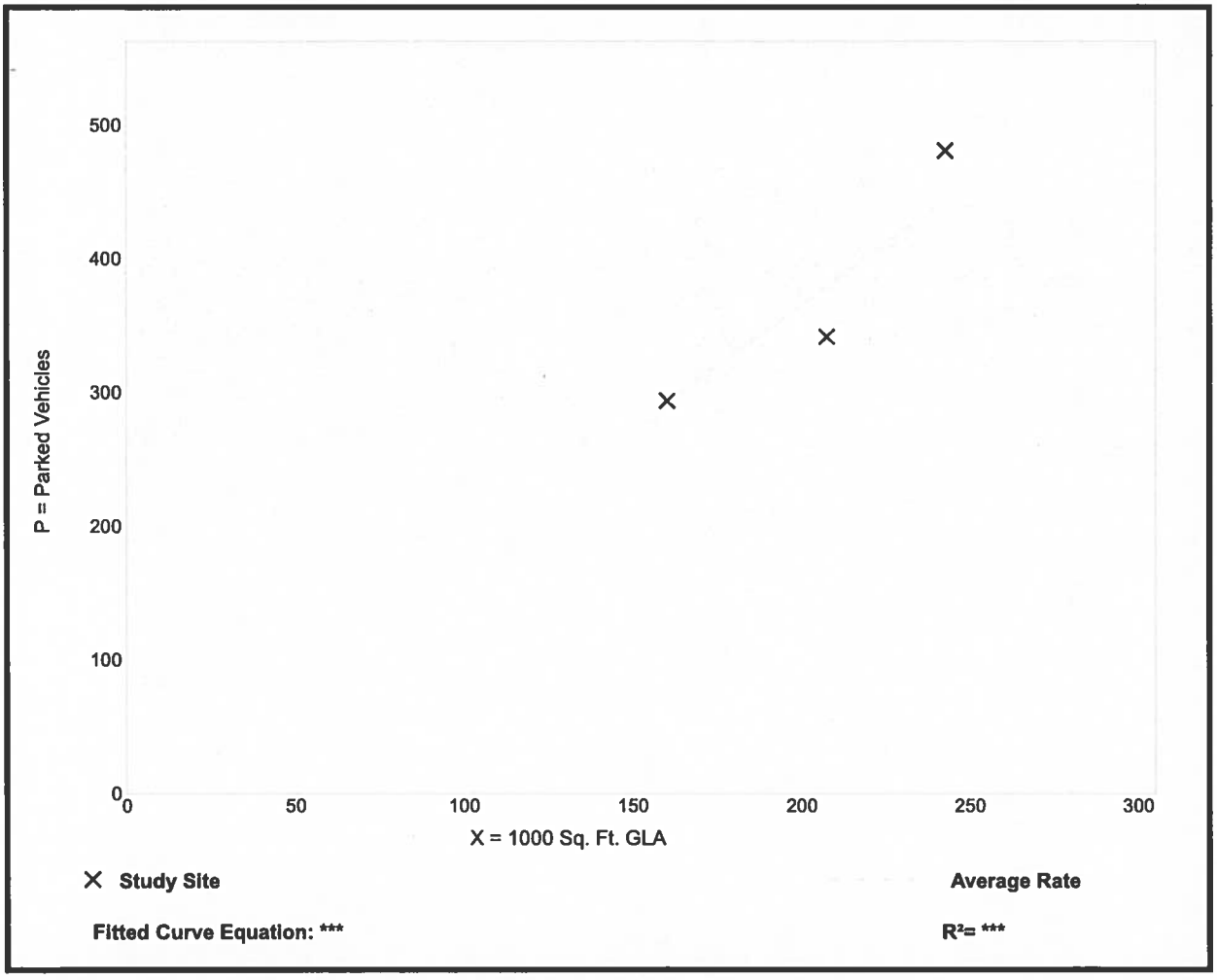
Peak Period Parking Demand vs: **1000 Sq. Ft. GLA**
On a: **Sunday**
Setting/Location: **General Urban/Suburban**
Number of Studies: 3
Avg. 1000 Sq. Ft. GLA: 203

Peak Period Parking Demand per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
1.83	1.65 - 1.98	1.71 / 1.98	***	0.18 (10%)

Data Plot and Equation

Caution – Small Sample Size



Land Use: 710 General Office Building

Description

A general office building is a building with multiple tenants that employ persons in the management, direction, or conduct of legal, accounting, engineering, consulting, real estate, insurance, financial, or other professional services. A general office building with a gross floor area of 10,000 square feet or less is classified as a small office building (Land Use 712).

Time-of-Day Distribution for Parking Demand

The following table presents a time-of-day distribution of parking demand on a weekday at 19 study sites in a general urban/suburban setting.

Hour Beginning	Percent of Weekday Peak Parking Demand
	General Urban/Suburban
12:00-4:00 a.m.	–
5:00 a.m.	–
6:00 a.m.	–
7:00 a.m.	13
8:00 a.m.	47
9:00 a.m.	87
10:00 a.m.	99
11:00 a.m.	100
12:00 p.m.	86
1:00 p.m.	84
2:00 p.m.	93
3:00 p.m.	93
4:00 p.m.	85
5:00 p.m.	57
6:00 p.m.	21
7:00 p.m.	–
8:00 p.m.	–
9:00 p.m.	–
10:00 p.m.	–
11:00 p.m.	–

Additional Data

For the seven study sites with parking supply information and located in a dense multi-use urban setting, the average parking supply ratio is 2.9 spaces per 1,000 square feet GFA. At these sites, the average peak parking occupancy is 56 percent.

For the 63 study sites with parking supply information and located in a general urban/suburban setting, the average parking supply ratio is 3.3 spaces per 1,000 square feet GFA. At these sites, the average peak parking occupancy is 60 percent.

For nine study sites, parking demand data were collected on a Saturday as well as a weekday. For those sites, peak Saturday parking demand averages 13 percent of the peak weekday parking demand.

The sites were surveyed in the 1990s, the 2000s, the 2010s, and the 2020s in Alabama, Arizona, California, Colorado, District of Columbia, Georgia, Illinois, Indiana, Maine, Maryland, Massachusetts, Minnesota, Montana, New Jersey, New York, Ontario (CAN), Oregon, Pennsylvania, Texas, Utah, Virginia, Washington, and Wisconsin.

Source Numbers

122, 201, 211, 217, 276, 425, 431, 433, 436, 438, 440, 516, 531, 540, 551, 555, 556, 567, 571, 572, 588, 607, 618, 622, 633

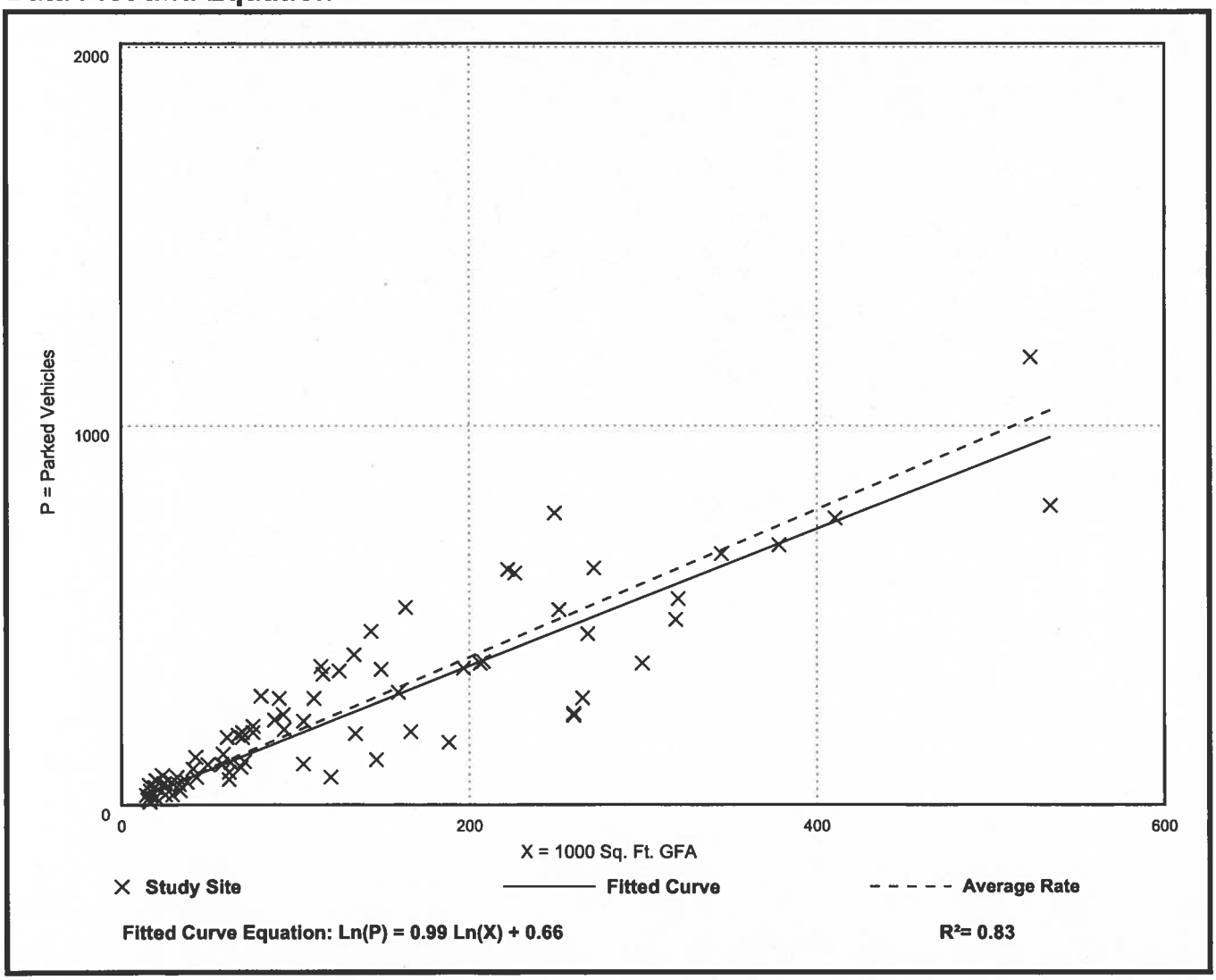
General Office Building
(710)

Peak Period Parking Demand vs: 1000 Sq. Ft. GFA
On a: Weekday (Monday - Friday)
Setting/Location: General Urban/Suburban
Number of Studies: 77
Avg. 1000 Sq. Ft. GFA: 131

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)
1.95	0.50 - 3.60	1.68 / 2.98	1.79 - 2.11	0.70 (36%)

Data Plot and Equation



Fitted Curve Equation: Ln(P) = 0.99 Ln(X) + 0.66

R^2= 0.83

FIGURE 2-4 **Weekday Time-of-Day Adjustments**

Land use		6 a.m.	7 a.m.	8 a.m.	9 a.m.	10 a.m.	11 a.m.	12 p.m.	1 p.m.	2 p.m.	3 p.m.	4 p.m.	5 p.m.	6 p.m.	7 p.m.	8 p.m.	9 p.m.	10 p.m.	11 p.m.	12 a.m.
Retail typical	Visitors	1%	5%	15%	35%	60%	75%	100%	100%	95%	85%	85%	85%	90%	80%	65%	45%	15%	5%	0%
December	Visitors	1%	5%	15%	30%	55%	75%	90%	100%	100%	95%	80%	85%	90%	90%	85%	50%	30%	10%	0%
Late December	Visitors	*%	5%	10%	20%	40%	65%	90%	100%	100%	100%	95%	85%	70%	55%	40%	25%	15%	5%	0%
All	Employees	10%	15%	25%	45%	75%	95%	100%	*00%	100%	100%	*00%	100%	100%	100%	90%	60%	40%	20%	0%
Supermarket/ grocery	Visitors	5%	20%	30%	50%	60%	67%	85%	90%	95%	97%	100%	100%	100%	85%	55%	35%	20%	5%	5%
	Employees	20%	30%	40%	80%	90%	100%	100%	100%	100%	100%	100%	100%	80%	50%	35%	20%	20%	20%	20%
Pharmacy	Visitors	5%	20%	30%	60%	60%	67%	85%	90%	95%	97%	100%	100%	100%	85%	55%	35%	20%	5%	5%
	Employees	20%	30%	40%	80%	90%	100%	100%	100%	100%	100%	100%	100%	80%	50%	35%	20%	20%	20%	20%
Discount stores/ superstores	Visitors	15%	35%	45%	65%	75%	85%	100%	100%	100%	100%	95%	85%	75%	60%	45%	30%	10%	5%	1%
	Employees	25%	45%	55%	75%	85%	100%	100%	100%	100%	100%	100%	95%	85%	70%	55%	40%	20%	20%	20%
Home improvement stores/garden	Visitors	15%	20%	35%	55%	85%	99%	100%	99%	98%	90%	85%	80%	75%	60%	50%	30%	10%	0%	0%
	Employees	25%	30%	45%	65%	95%	100%	100%	100%	100%	100%	95%	90%	85%	70%	60%	40%	20%	0%	0%
Food and beverage																				
Fine/casual dining	Visitors	0%	0%	0%	0%	15%	40%	75%	75%	65%	40%	50%	75%	95%	100%	100%	100%	95%	75%	25%
	Employees	0%	20%	50%	75%	90%	90%	90%	90%	90%	75%	75%	100%	100%	100%	100%	100%	100%	85%	35%
Family restaurant	Visitors	25%	50%	60%	75%	85%	90%	100%	90%	50%	45%	45%	75%	80%	80%	80%	60%	55%	75%	25%
	Employees	50%	75%	90%	90%	100%	100%	100%	100%	100%	75%	75%	95%	95%	95%	95%	80%	65%	65%	35%
Fast casual/ fast food/food court/food halls	Visitors	5%	10%	20%	30%	55%	85%	100%	100%	90%	60%	55%	60%	85%	80%	50%	30%	20%	10%	5%
	Employees	20%	20%	30%	40%	75%	100%	100%	100%	95%	70%	60%	70%	90%	90%	60%	40%	30%	20%	20%
Bar/lounge/ nightclub	Visitors	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	50%	75%	100%	100%	75%	50%
	Employees	0%	0%	0%	5%	5%	5%	5%	10%	10%	10%	20%	45%	70%	100%	100%	100%	100%	90%	60%
Entertainment																				
Family entertainment	Visitors	0%	0%	0%	0%	45%	65%	85%	95%	100%	95%	90%	70%	60%	45%	0%	0%	0%	0%	0%
	Employees	0%	0%	5%	25%	75%	100%	100%	100%	100%	100%	100%	80%	70%	55%	10%	5%	5%	5%	5%
Active entertainment	Visitors	0%	0%	0%	0%	25%	65%	85%	90%	95%	95%	90%	95%	100%	95%	90%	65%	10%	0%	0%
	Employees	5%	5%	5%	25%	75%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	75%	10%	5%	5%
Adult active entertainment	Visitors	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	50%	75%	100%	100%	100%	100%
	Employees	0%	0%	0%	5%	5%	5%	5%	10%	10%	10%	20%	45%	70%	100%	100%	100%	100%	100%	100%
All movies typical	Visitors	0%	0%	0%	0%	0%	0%	20%	45%	55%	55%	55%	60%	60%	80%	100%	100%	80%	65%	40%
Late December	Visitors	0%	0%	0%	0%	0%	0%	35%	60%	75%	80%	80%	80%	70%	80%	100%	100%	85%	70%	55%
All	Employees	0%	0%	0%	0%	0%	10%	50%	60%	60%	75%	75%	100%	100%	100%	100%	100%	100%	70%	50%
Live theater	Visitors	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	25%	100%	100%	0%	0%	0%
	Employees	0%	10%	10%	20%	20%	20%	30%	30%	30%	30%	30%	30%	100%	100%	100%	100%	30%	10%	5%
Outdoor amphitheater	Visitors	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	25%	100%	100%	0%	0%	0%
	Employees	0%	10%	10%	20%	20%	20%	30%	30%	30%	30%	30%	30%	100%	100%	100%	100%	30%	10%	5%
Public park/ destination open space	Visitors	1%	5%	10%	25%	50%	65%	85%	95%	100%	95%	90%	70%	90%	100%	100%	100%	80%	50%	10%
	Employees	5%	10%	25%	50%	75%	100%	100%	100%	100%	100%	100%	80%	100%	100%	100%	100%	100%	60%	20%
Museum/ aquarium	Visitors	0%	0%	0%	0%	45%	65%	85%	95%	100%	95%	90%	85%	60%	30%	10%	0%	0%	0%	0%
	Employees	5%	5%	5%	25%	75%	100%	100%	100%	100%	100%	100%	80%	75%	10%	5%	0%	0%	5%	5%
Arena	Visitors	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	10%	25%	100%	100%	85%	0%	0%
No matinee	Employees	0%	10%	10%	20%	20%	20%	30%	30%	30%	30%	30%	30%	100%	100%	100%	100%	30%	10%	5%

[continued on next page]

FIGURE 2-4 (continued)

Land use		6 a.m.	7 a.m.	8 a.m.	9 a.m.	10 a.m.	11 a.m.	12 p.m.	1 p.m.	2 p.m.	3 p.m.	4 p.m.	5 p.m.	6 p.m.	7 p.m.	8 p.m.	9 p.m.	10 p.m.	11 p.m.	12 a.m.
Entertainment (continued)																				
Pro football stadium	Visitors	0%	0%	0%	1%	1%	1%	5%	5%	5%	5%	5%	5%	10%	50%	100%	100%	85%	25%	0%
8 p.m. start	Employees	0%	10%	10%	20%	20%	20%	30%	30%	30%	30%	30%	30%	100%	100%	100%	100%	100%	25%	10%
Pro baseball stadium	Visitors	0%	0%	0%	1%	1%	1%	5%	5%	5%	5%	5%	5%	10%	50%	100%	100%	85%	25%	0%
	Employees	0%	10%	10%	20%	20%	20%	30%	30%	30%	30%	30%	30%	100%	100%	100%	100%	100%	25%	10%
Health club	Visitors	70%	40%	40%	70%	70%	80%	60%	70%	70%	70%	80%	90%	100%	90%	80%	70%	35%	10%	0%
	Employees	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	100%	100%	75%	50%	20%	20%	20%	0%
Public library	Visitors	0%	0%	0%	100%	100%	98%	98%	78%	72%	65%	70%	79%	60%	50%	40%	0%	0%	0%	0%
	Employees	0%	10%	50%	100%	100%	100%	100%	100%	100%	100%	100%	90%	75%	50%	20%	10%	0%	0%	0%
Daycare center	Visitors	0%	2%	25%	75%	20%	20%	20%	20%	20%	20%	100%	50%	20%	5%	0%	0%	0%	0%	0%
	Employees	0%	50%	75%	90%	90%	90%	90%	90%	90%	100%	100%	100%	60%	40%	10%	0%	0%	0%	0%
Convention center	Visitors	0%	0%	50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	50%	30%	30%	10%	0%	0%	0%
	Employees	5%	30%	33%	33%	100%	100%	100%	100%	100%	100%	90%	70%	40%	25%	20%	20%	5%	0%	0%
Hotel and residential																				
Hotel-business	Visitors	95%	90%	80%	70%	60%	60%	55%	55%	60%	60%	65%	70%	75%	75%	80%	85%	95%	100%	100%
Hotel-leisure	Visitors	95%	95%	90%	80%	70%	70%	65%	65%	70%	70%	75%	80%	85%	85%	90%	95%	95%	100%	100%
Employee	Employees	10%	30%	100%	100%	100%	100%	100%	100%	100%	100%	70%	70%	40%	20%	20%	20%	20%	10%	5%
Restaurant/ lounge	Visitors	0%	10%	30%	10%	10%	5%	100%	100%	33%	10%	10%	30%	55%	60%	70%	67%	60%	40%	30%
Meeting/banquet (<100 sq ft/key)	Visitors	0%	0%	30%	60%	60%	60%	65%	65%	65%	65%	65%	100%	100%	100%	100%	100%	50%	0%	0%
Convention (>100 sq ft/key)	Visitors	0%	0%	50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	50%	30%	30%	10%	0%	0%	0%
Employee	Employees	10%	10%	60%	100%	100%	100%	100%	100%	100%	100%	100%	100%	60%	40%	40%	20%	0%	0%	0%
Residential guest	Visitors	0%	10%	20%	20%	20%	20%	20%	20%	20%	20%	20%	40%	60%	100%	100%	100%	100%	80%	50%
Resident reserved	Residents	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Residential suburban	Residents	95%	80%	67%	55%	50%	45%	40%	40%	40%	40%	45%	50%	60%	70%	80%	85%	95%	97%	100%
Residential urban	Residents	95%	85%	75%	65%	60%	55%	50%	50%	50%	55%	60%	65%	70%	75%	80%	85%	95%	97%	100%
Active senior housing	Visitors & employees	95%	97%	100%	100%	99%	98%	98%	99%	98%	100%	99%	94%	96%	98%	97%	97%	97%	98%	98%
	Residents	95%	97%	100%	100%	99%	98%	98%	99%	98%	100%	99%	94%	96%	98%	97%	97%	97%	98%	98%
Office																				
Office	Visitors	0%	1%	20%	60%	100%	45%	15%	45%	95%	45%	15%	10%	5%	2%	1%	0%	0%	0%	0%
	Employees unreserved	3%	15%	50%	90%	100%	100%	85%	85%	95%	95%	85%	60%	25%	15%	5%	3%	1%	0%	0%
	Employees reserved	00%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Medical/ dental office	Visitors	0%	0%	90%	90%	100%	100%	30%	90%	100%	100%	90%	80%	67%	30%	15%	0%	0%	0%	0%
	Employees	0%	20%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	67%	30%	15%	0%	0%	0%	0%
Bank (drive-in branch)	Visitors	0%	0%	50%	90%	100%	50%	50%	50%	70%	50%	80%	100%	0%	0%	0%	0%	0%	0%	0%
	Employees	0%	0%	60%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%

Source: See chapter 4 discussions for each land use.

FIGURE 2-5 **Weekend Time-of-Day Adjustments**

Land use		6 a.m.	7 a.m.	8 a.m.	9 a.m.	10 a.m.	11 a.m.	12 p.m.	1 p.m.	2 p.m.	3 p.m.	4 p.m.	5 p.m.	6 p.m.	7 p.m.	8 p.m.	9 p.m.	10 p.m.	11 p.m.	12 a.m.
Retail typical	Visitors	1%	5%	30%	50%	70%	90%	95%	100%	100%	95%	90%	80%	75%	70%	65%	50%	30%	10%	0%
December	Visitors	1%	5%	10%	35%	60%	85%	100%	100%	100%	100%	90%	80%	65%	60%	55%	50%	35%	15%	1%
Late December	Visitors	1%	5%	10%	20%	40%	60%	80%	95%	100%	100%	95%	85%	70%	60%	50%	30%	20%	10%	0%
All	Employees	10%	15%	40%	75%	85%	95%	100%	100%	100%	100%	100%	95%	85%	80%	75%	65%	45%	15%	0%
Supermarket/ grocery	Visitors	10%	25%	50%	75%	95%	100%	100%	100%	100%	100%	100%	90%	50%	33%	25%	15%	5%	4%	3%
	Employees	15%	35%	70%	85%	100%	100%	100%	100%	85%	75%	60%	55%	45%	40%	30%	20%	10%	10%	5%
Pharmacy	Visitors	8%	25%	50%	75%	95%	100%	100%	100%	100%	100%	100%	90%	50%	33%	25%	15%	5%	4%	3%
	Employees	15%	35%	70%	85%	100%	100%	100%	100%	85%	75%	60%	55%	45%	40%	30%	20%	10%	10%	5%
Discount stores/ superstores	Visitors	10%	15%	20%	30%	45%	65%	85%	95%	100%	100%	100%	95%	80%	60%	45%	30%	10%	5%	1%
	Employees	20%	25%	30%	40%	55%	75%	95%	100%	100%	100%	100%	100%	90%	70%	55%	40%	20%	15%	0%
Home improvement stores/garden	Visitors	15%	20%	35%	55%	60%	80%	95%	100%	95%	95%	80%	75%	75%	80%	90%	70%	10%	0%	9%
	Employees	25%	30%	45%	65%	70%	90%	100%	100%	100%	100%	90%	85%	85%	90%	100%	80%	20%	0%	0%
Food and beverage																				
Fine/casual dining	Visitors	0%	0%	0%	0%	0%	15%	50%	55%	45%	45%	45%	60%	90%	95%	100%	90%	90%	90%	50%
	Employees	0%	20%	30%	60%	75%	75%	75%	75%	75%	75%	75%	100%	100%	100%	100%	100%	100%	85%	50%
Family restaurant	Visitors	10%	25%	45%	70%	90%	90%	100%	85%	65%	40%	45%	60%	70%	70%	65%	30%	25%	15%	10%
	Employees	50%	75%	90%	90%	100%	100%	100%	100%	100%	75%	75%	95%	95%	95%	95%	80%	65%	65%	35%
Fast casual/ fast food/food court/food halls	Visitors	5%	10%	20%	30%	55%	85%	100%	100%	90%	60%	55%	60%	85%	80%	50%	30%	20%	10%	5%
	Employees	15%	20%	30%	40%	75%	100%	100%	100%	95%	70%	60%	70%	90%	90%	60%	40%	30%	20%	20%
Bar/lounge/ nightclub	Visitors	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	50%	75%	100%	100%	100%	100%
	Employees	0%	0%	0%	5%	5%	5%	5%	10%	10%	10%	20%	45%	70%	100%	100%	100%	100%	100%	100%
Entertainment																				
Family entertainment	Visitors	0%	0%	0%	0%	25%	65%	85%	90%	95%	95%	90%	95%	100%	95%	90%	65%	10%	0%	0%
	Employees	5%	5%	5%	25%	75%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	75%	10%	5%	5%
Active entertainment	Visitors	0%	0%	0%	0%	25%	65%	85%	90%	95%	95%	90%	95%	100%	95%	90%	65%	10%	0%	0%
	Employees	5%	5%	5%	25%	75%	100%	100%	100%	100%	100%	90%	100%	100%	100%	100%	75%	10%	5%	5%
Adult active entertainment	Visitors	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	50%	75%	100%	100%	100%	100%
	Employees	0%	0%	0%	5%	5%	5%	5%	10%	10%	10%	20%	45%	70%	100%	100%	100%	100%	100%	100%
All movies typical	Visitors	0%	0%	0%	0%	0%	0%	20%	45%	55%	55%	55%	60%	60%	80%	100%	100%	100%	80%	50%
Late December	Visitors	0%	0%	0%	0%	0%	0%	35%	60%	75%	80%	80%	80%	70%	80%	100%	100%	100%	85%	70%
All	Employees	0%	0%	0%	0%	0%	0%	50%	60%	60%	75%	75%	100%	100%	100%	100%	100%	100%	70%	50%
Live theater	Visitors	0%	0%	0%	1%	1%	1%	1%	17%	67%	67%	1%	1%	1%	25%	100%	100%	0%	0%	0%
	Employees	0%	10%	10%	20%	20%	20%	30%	100%	100%	100%	30%	30%	100%	100%	100%	100%	30%	10%	5%
Outdoor amphitheater	Visitors	0%	0%	0%	1%	1%	1%	1%	17%	67%	67%	1%	1%	1%	25%	100%	100%	0%	0%	0%
	Employees	0%	10%	10%	20%	20%	20%	30%	100%	100%	100%	30%	30%	100%	100%	100%	100%	30%	10%	5%
Public park/ destination open space	Visitors	0%	0%	0%	1%	30%	60%	75%	90%	97%	100%	98%	85%	70%	80%	100%	100%	95%	50%	10%
	Employees	0%	0%	10%	25%	75%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	90%	80%
Museum/ aquarium	Visitors	0%	0%	0%	0%	45%	65%	85%	95%	100%	95%	90%	85%	60%	30%	10%	0%	0%	0%	0%
	Employees	5%	5%	5%	25%	75%	100%	100%	100%	100%	100%	100%	80%	75%	10%	5%	0%	0%	5%	5%
Arena	Visitors	0%	0%	0%	1%	1%	1%	1%	25%	95%	95%	81%	1%	1%	25%	100%	100%	0%	0%	0%
No matinee	Employees	0%	10%	10%	20%	20%	20%	30%	100%	100%	100%	100%	30%	100%	100%	100%	100%	30%	10%	5%

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FIGURE 2-5 (continued)

Land use		6 a.m.	7 a.m.	8 a.m.	9 a.m.	10 a.m.	11 a.m.	12 p.m.	1 p.m.	2 p.m.	3 p.m.	4 p.m.	5 p.m.	6 p.m.	7 p.m.	8 p.m.	9 p.m.	10 p.m.	11 p.m.	12 a.m.
Entertainment (continued)																				
Pro football stadium	Visitors	0%	0%	1%	1%	5%	5%	50%	100%	100%	85%	25%	0%	0%	0%	0%	0%	0%	0%	0%
8 p.m. start	Employees	0%	5%	10%	20%	30%	30%	100%	100%	100%	100%	25%	10%	5%	5%	0%	0%	0%	0%	0%
Pro baseball stadium	Visitors	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	50%	90%	100%	100%	100%	0%	0%
	Employees	0%	0%	0%	5%	5%	5%	5%	5%	5%	5%	20%	75%	75%	100%	100%	100%	100%	100%	100%
Health club	Visitors	80%	45%	35%	50%	35%	50%	50%	30%	25%	30%	55%	100%	95%	60%	30%	10%	1%	1%	0%
	Employees	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	75%	100%	100%	75%	50%	20%	20%	20%	0%
Public library	Visitors	0%	0%	0%	0%	100%	90%	80%	65%	50%	35%	11%	5%	5%	0%	0%	0%	0%	0%	0%
	Employees	0%	0%	10%	50%	100%	100%	100%	100%	100%	50%	10%	10%	10%	10%	0%	0%	0%	0%	0%
Daycare center	Visitors	0%	2%	25%	75%	20%	20%	20%	20%	20%	20%	100%	50%	20%	5%	0%	0%	0%	0%	0%
	Employees	0%	50%	75%	90%	90%	90%	90%	90%	90%	100%	100%	100%	60%	40%	10%	0%	0%	0%	0%
Convention center	Visitors	0%	0%	50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	50%	30%	30%	10%	0%	0%	0%
	Employees	5%	30%	33%	33%	100%	100%	100%	100%	100%	100%	90%	70%	40%	25%	20%	20%	5%	0%	0%
Hotel and residential																				
Hotel-business	Visitors	95%	90%	80%	70%	60%	60%	55%	55%	60%	60%	65%	70%	75%	75%	80%	85%	95%	100%	100%
Hotel-leisure	Visitors	95%	95%	90%	80%	70%	70%	65%	65%	70%	70%	75%	80%	85%	85%	90%	95%	95%	100%	100%
Employee	Employees	10%	30%	100%	100%	100%	100%	100%	100%	100%	100%	70%	70%	40%	20%	20%	20%	20%	10%	5%
Restaurant/ lounge	Visitors	0%	10%	30%	10%	10%	5%	100%	100%	33%	10%	10%	30%	55%	60%	70%	67%	60%	40%	30%
Meeting/banquet (<100 sq ft/key)	Visitors	0%	0%	30%	60%	60%	60%	65%	65%	65%	65%	65%	100%	100%	100%	100%	100%	50%	0%	0%
Convention (>100 sq ft/key)	Visitors	0%	0%	50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	50%	30%	30%	10%	0%	0%	0%
Employee	Employees	10%	10%	60%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	60%	10%	10%
Residential guest	Visitors	0%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	40%	60%	100%	100%	100%	100%	80%	50%
Resident reserved	Residents	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Residential suburban	Residents	100%	95%	88%	80%	75%	70%	68%	65%	65%	68%	71%	74%	77%	80%	83%	86%	89%	92%	100%
Residential urban	Residents	90%	85%	80%	75%	70%	69%	68%	67%	66%	55%	60%	55%	50%	55%	65%	75%	85%	90%	100%
Active senior housing	Visitors	94%	98%	97%	95%	93%	94%	97%	99%	100%	100%	99%	98%	98%	98%	97%	95%	94%	98%	98%
	Employees	94%	98%	97%	95%	93%	94%	97%	99%	100%	100%	99%	98%	98%	98%	97%	95%	94%	98%	98%
Office																				
Office	Visitors	0%	20%	60%	80%	90%	100%	90%	80%	60%	40%	20%	10%	5%	0%	0%	0%	0%	0%	0%
	Employees unreserved	0%	20%	60%	80%	90%	100%	90%	80%	60%	40%	20%	10%	5%	0%	0%	0%	0%	0%	0%
	Employees reserved	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Medical/ dental office	Visitors	0%	0%	90%	90%	100%	100%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Employees	0%	20%	100%	100%	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bank (drive-in branch)	Visitors	0%	0%	25%	40%	75%	100%	90%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Employees	0%	0%	90%	100%	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Source: See chapter 4 discussions for each land use.