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MEMORANDUM



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TO: Shiree Monterio
7 & M Development, LLC

FROM: William F. Johnson, P.E., PTOE

RE: Essex Point at Mt. Clement
Essex County, Virginia

SUBJECT: Parking Reduction

DATE: March 2, 2023

INTRODUCTION

This memorandum provides an analysis to support a Special Exception of the parking requirements submitted in conjunction with a rezoning application for a site in Essex County, Virginia. The 13.186-acre site is generally located on the north side of Richmond Highway (Route 360), west of Hospital Road and east of Lagrange Industrial Park, as shown on Figure 1.

The Applicant proposes to develop the currently undeveloped property with a mixed-use development comprised of senior adult housing, workforce housing, and a mix of non-residential uses including centralized wellness/community services, retail, office, and a drive-through commercial use. The development would include an integrated internal street network with on-site pedestrian facilities for non-vehicular mobility and recreation. The development includes more urban “complete street” design principles with on-street parking and enhanced streetscape features to promote active lifestyles. The current proposed site layout is provided on Figure 2. The following summarizes the development program depicted on the preliminary site layout:

- 91 Senior Housing Units (Duplex and Multi-Family)
- 48 Workforce Housing Units (Multi-Family)
- 64,737 Gross Square feet (GSF) of Commercial/Retail Uses
- 14,307 GSF of Community Center Uses (Assembly, Office, and Kitchen/Storage Areas)
- 1,194 GSF Drive-Through Restaurant

While the site is designed to be a fully integrated and accessible development, the southern end of the site will primarily house the non-residential and workforce housing components. The senior adult housing component will primarily be located on the north end of the site.

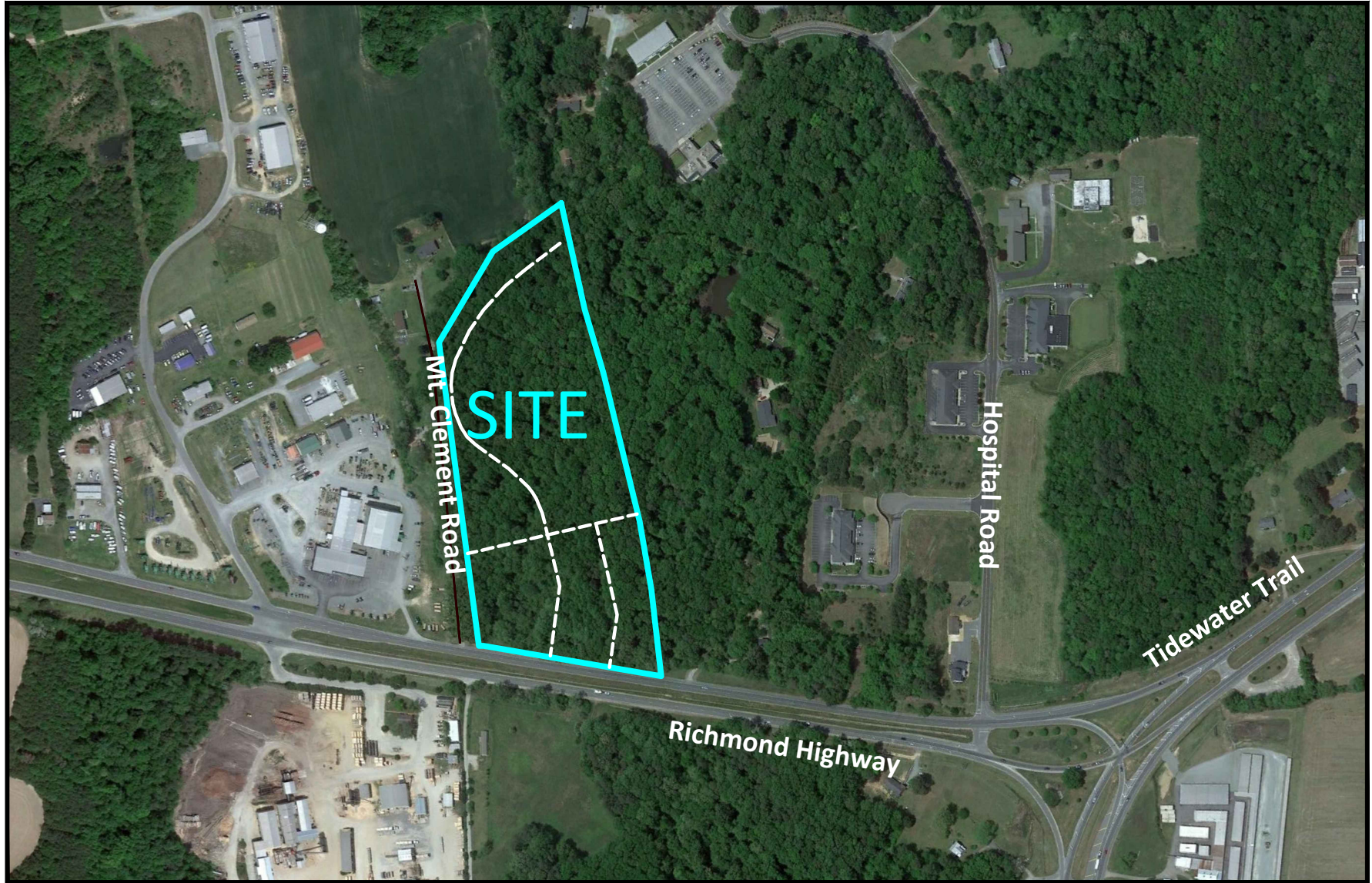



Figure 1
Site Location

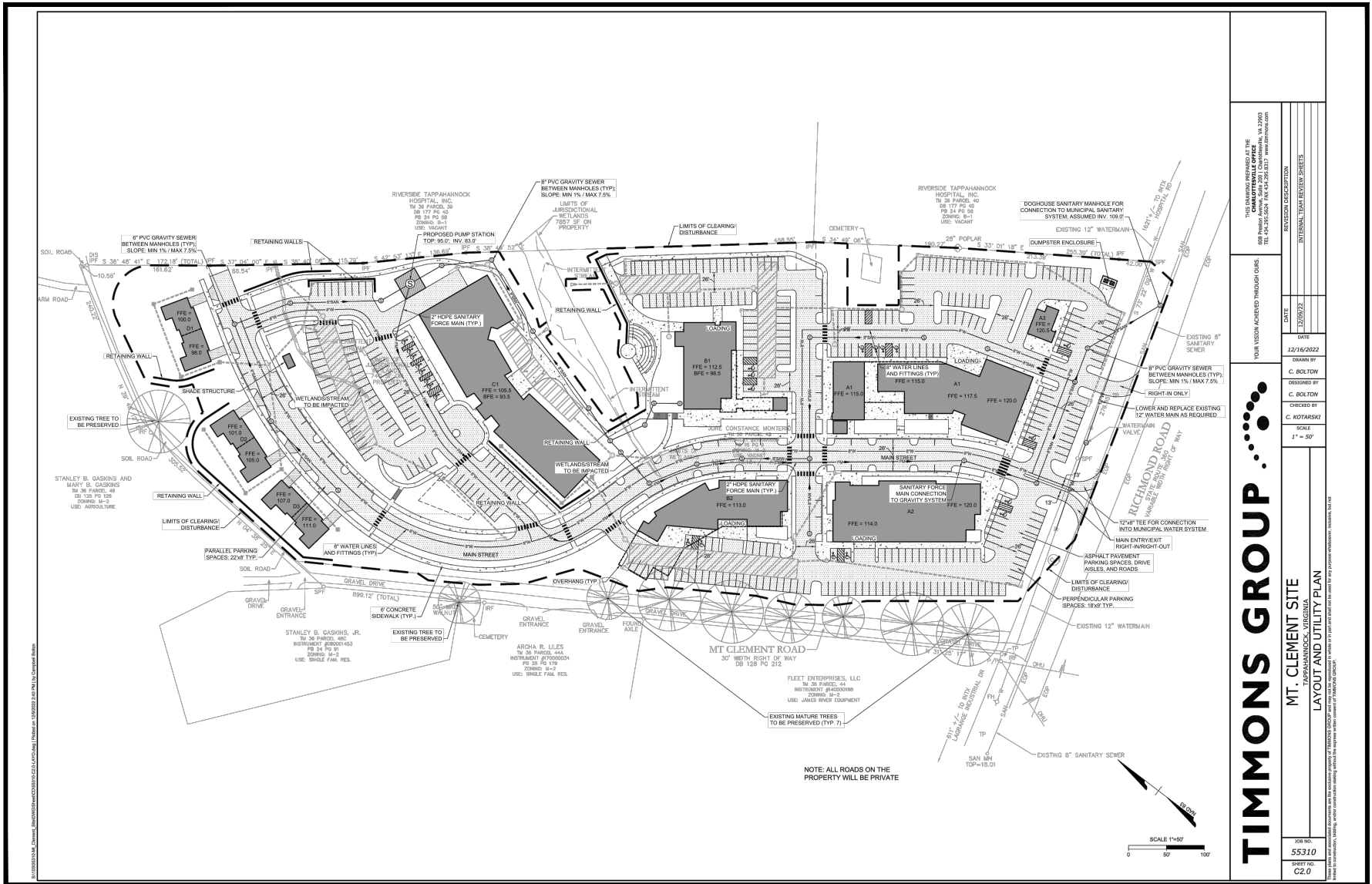
 Site Location



NORTH

Mt. Clement Property
Essex County, Virginia





TIMMONS GROUP

**MT. CLEMENT SITE
TAPPANANNOCK, VIRGINIA
LAYOUT AND UTILITY PLAN**

DATE	12/16/2022
DRAWN BY	C. BOLTOW
DESIGNED BY	C. BOLTOW
ENGINEER	C. KOTASKI
SCALE	1" = 50'

JOB NO. 55310
SHEET NO. C2.0

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Figure 2
Preliminary Site Layout



Mt. Clement Property
Essex County, Virginia



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Based on information from the Applicant and as supported in this parking analysis, parking for the Mt. Clement site will be provided on surface lots as well as on-street. As described in this document, the **Applicant is seeking an overall 32 percent parking reduction from the County's Zoning Ordinance (the "Ordinance") requirements for the residential and non-residential components of the site, equivalent to a reduction of 186 spaces from a strict application of the Ordinance.** As a result, a Special Exception is hereby requested in order to allow the reduction from Ordinance for the proposed parking supply. The following sections detail the justification for this parking reduction.

ESSEX COUNTY PARKING REQUIREMENTS

Article VII, Section 36.462 of the Essex County Zoning Ordinance provides the off-street parking requirements for developments. Table 1 summarizes the required parking for the proposed Mt. Clement development program. The Ordinance does not contain parking requirements specific to senior adult housing uses as well as workforce housing uses. As a result, both components would be required to provided parking in accordance with the "Multi-family dwelling" land use category contained in the Ordinance. Excerpts from the Ordinance are provided in Attachment 1.

As shown in Table 1, based on a strict application of the Ordinance, a total of 278 parking spaces would be required to serve the residential components and 303 parking spaces would be required to serve the non-residential components of the subject development. This results in a total of 581 parking spaces required to serve the entire proposed Mt. Clement development application.

INSTITUTE OF TRANSPORTATION ENGINEERS PARKING DEMAND

The Institute of Transportation Engineers (ITE) Parking Generation Manual, 5th Edition (2019) was consulted to inform practical parking demand for the proposed site development program, particularly for the proposed residential components whose specific use characteristics are not best reflected in the generic "multi-family dwelling" rate provided in the County's Zoning Ordinance. Table 2 summarizes the parking demand analysis based on the application of published peak parking demand ratios within the ITE Manual. For this analysis and in the interest of conservatism, 85th-percentile peak parking demand ratios were utilized in order to capture the highest reasonable demand for each site component. Excerpts from the ITE Manual are provided in Attachment 2.

As summarized in Table 2, the ITE Manual publishes parking data specific to senior adult housing as well as workforce (affordable) housing uses. According to ITE, the peak senior adult housing

Table 1
 Mt. Clement Property
 Parking - Ordinance Requirement Summary

Use	Use (Ordinance)	Size	Unit	Ordinance Requirement (1)	Parking Required
Senior Housing (Multi-Family and Duplex)	Multi/Single-family dwelling	91	DU	2 per dwelling unit	182
Workforce Housing (Multi-Family)	Multi-family dwelling	48	DU	2 per dwelling unit	<u>96</u>
<i>Residential Subtotal</i>					278
Commercial	Retail	64,737	GSF	1 per 250 SF	259
Assembly/Office/Kitchen/Storage	Recreational Facility	14,307	GSF	1 per 400 SF	36
Drive-In Restaurant	Drive-In Restaurant	1,194	GSF	1 per 150 SF	<u>8</u>
<i>Non-Residential Subtotal</i>					303
TOTAL - Ordinance Required					581
Overall Parking Provided					395
Reduction (Spaces)					(186)
Reduction (%)					-32%

Notes:

(1) Based on Essex County *Zoning Ordinance* .

Table 2
 Mt. Clement Property
 ITE Parking Generation Analysis (1)

Use	ITE Code	Size	Unit	85th Percentile Peak Parking Ratio		Parking Required
Senior Housing (Duplex and Multi-Family)	252	91	DU	0.67	per dwelling unit	61
Workforce Housing (Multi-Family)	223	68	Bedrooms (2)	0.85	per bedroom	<u>58</u>
<i>Residential Subtotal</i>						<i>119</i>
Commercial (Shopping Center)	820	80,238	GSF	3.68	per 1,000 SF	<u>296</u>
<i>Non-Residential Subtotal</i>						<i>296</i>
TOTAL - ITE Analysis						415
Overall Parking Provided						395
Reduction from ITE (Spaces)						(20)
Reduction from ITE (%)						-5%

Notes:

(1) Based on Insititute of Transportation Engineers (ITE) Parking Generation Manual, 5th Edition.

(2) 48 Workforce Housing Units (28 One-BR, 20 Two-BR = 68 Total Bedrooms)

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demand is equivalent to 0.67 parking spaces per dwelling unit. The peak workforce housing demand is equivalent to 0.85 parking spaces *per bedroom*.

The Applicant proposes to commit to the specific set of uses permitted within the B-1 zoning district. These uses generally conform to the Institute of Transportation Engineers' definition of a "Shopping Center". According to ITE, "a shopping center is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. A shopping center typically contains more than one retail merchandising facilities, a movie theater, restaurants, a post office, banks, a health club, and recreational facilities are common tenants." Based on the preceding, the evaluation of the proposed integrated mix of commercial (non-residential) uses as a "shopping center" as defined by ITE is appropriate for this assessment. The ITE Manual publishes an 85th-percentile peak parking ratio of 3.68 parking spaces per 1,000 GSF of commercial uses.

As summarized in Table 2, based on published ITE rates, the proposed Mt. Clement development program would generate a peak demand of 415 parking spaces.

SHARED PARKING

As stated previously, the entire Mt. Clement site is designed to be an integrated mixed-use development. The ITE parking analysis summarized in Table 2 does not take direct account of the inherent synergy that a mix of residential and non-residential uses will have on overall site parking demand.

Shared parking, according to the Urban Land Institute (ULI) is defined as one parking space used "to serve two or more individual land uses without conflict or encroachment". The sharing of parking spaces is a phenomenon that has been occurring for decades in urban and suburban communities. Parking demand for different land uses have unique temporal distributions, allowing the same parking space to be occupied by the peak demand of different land uses throughout the day.

The Urban Land Institute (ULI) publication Shared Parking, 3rd Edition has established a model and methodology for determining parking demand for various types of development. As identified in the publication, parking requirements are calculated through the shared use analysis that includes the following steps:

1. Determine individual weekday peak parking ratios for each land use.
2. Determine the number of reserved parking spaces for each use.
3. Select time-of-day and monthly parking variation factors.
4. Calculate the hourly parking demand for weekdays for each month.

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This methodology is especially useful in cases such as the Mt. Clement site, where a single parking space may be used for residents, visitors, commercial patrons, etc. Because each land use within a development may experience a peak parking demand at different times of day or different months of the year relative to the other land uses on-site, the actual peak parking demand of the subject development may be less than if the peak parking demand of each land use was considered separately. Residents and their visitors, in general, experience peak parking demands in the late afternoon to early morning hours during the week whereas commercial uses experience peak demand during the workday and/or early evening hours.

ULI provides base weekday and weekend hourly parking accumulations for individual land uses for the purpose of establishing a base peak parking demand. However, for purposes of this study, the baseline parking demand associated with each use was based on those calculated parking demands using the ITE published peak parking ratios (see Table 2).

The ULI model applies various hourly, monthly and weekday/weekend adjustment factors to the parking demands of each land use. For informational purposes, these adjustment factor tables are provided in Attachment 3. The results of the shared parking analysis are summarized in Table 3.

As shown in Table 3, with the application of the Shared Parking model, the site overall would experience a peak weekday demand of 379 parking spaces and a peak weekend demand of 394 spaces, presenting a 9 percent and 5 percent reduction from the ITE calculated parking demands, respectively.

PROPOSED PARKING SUPPLY

In order to accommodate the forecasted parking demand as calculated in this document and summarized in Table 3, a **total parking supply consisting of a minimum of 395 parking spaces** is proposed to serve the Mt. Clement site. The parking supply will be accommodated through a combination of surface parking and on-street (privately maintained) parking. In order to maximize the utility of the proposed parking supply, all parking (with the exception of six (6) spaces designated for six (6) senior duplex units) will be unreserved for the use of site residents, visitors, employees, and patrons. Designated accessible (i.e., “handicapped”) parking will be provided in accordance with state building code requirements. For the residential parking, the Applicant intends to limit the use of on-site parking spaces to residents and visitors during overnight hours. Enforcement measures will be considered during the course of the zoning and development processes.

Table 3
Mt. Clement Property

Shared Parking Demand Summary																		
Peak Month: DECEMBER -- Peak Period: 3 PM, WEEKEND																		
Land Use	Project Data		Weekday					Weekend					Weekday			Weekend		
			Base Ratio	Driving Adj	Non-Captive Ratio	Project Ratio	Unit For Ratio	Base Ratio	Driving Adj	Non-Captive Ratio	Project Ratio	Unit For Ratio	Peak Hr Adj	Peak Mo Adj	Estimated Parking Demand	Peak Hr Adj	Peak Mo Adj	Estimated Parking Demand
	1 PM	December											3 PM	December				
Quantity	Unit																	
Retail																		
Non-Residential (< 400 ksf)	80,238	sf GLA	3.02	100%	100%	3.01	ksf GLA	3.02	100%	100%	3.01	ksf GLA	100%	100%	243	100%	100%	242
Employee			0.66	100%	100%	0.66		0.66	100%	99%	0.66		100%	100%	53	100%	100%	53
Food and Beverage																		
Entertainment and Institutions																		
Hotel and Residential																		
Residential, Suburban																		
Studio Efficiency		units	0.75	100%	100%	0.75	unit	0.75	100%	100%	0.75	unit	40%	100%	-	68%	100%	-
1 Bedroom	28	units	0.75	100%	100%	0.75	unit	0.75	100%	100%	0.75	unit	40%	100%	8	68%	100%	14
2 Bedrooms	20	units	1.60	100%	100%	1.60	unit	1.60	100%	100%	1.60	unit	40%	100%	13	68%	100%	22
3+ Bedrooms		units	1.90	100%	100%	1.90	unit	1.90	100%	100%	1.90	unit	40%	100%	-	68%	100%	-
Reserved		res spaces	0.00	100%	100%	0.00	unit	0.00	100%	100%	0.00	unit	100%	100%	-	100%	100%	-
Visitor	48	units	0.10	100%	100%	0.10	unit	0.10	100%	100%	0.10	unit	20%	100%	1	20%	100%	1
Active Senior Housing	91	units	0.44	100%	100%	0.44	unit	0.44	100%	100%	0.44	unit	99%	100%	40	100%	100%	41
Residents			0.23	100%	100%	0.23		0.23	100%	99%	0.23		99%	100%	21	100%	100%	21
Office																		
Additional Land Uses																		
															Customer/Visitor	284	Customer	285
															Employee/Resident	95	Employee/Resident	110
															Reserved	-	Reserved	-
															Total	379	Total	394

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CONCLUSIONS

Based on the parking analyses provided in the preceding, the following may be concluded:

1. The Mt. Clement development is planned as an integrated mixed-use project consisting of residential and non-residential components served by a street network featuring urban street elements, including on-street parking.
2. Based on a strict application of the Essex County Zoning Ordinance, the proposed Mt. Clement mixed-use development program would require 581 parking spaces.
3. The Applicant proposes to provide a **minimum of 395 parking spaces** to accommodate the proposed mix of uses, representing a reduction of 186 spaces (or 32%) of the required site parking.
4. The County's Zoning Ordinance does not contain parking requirements specific to senior adult housing or workforce (affordable housing). The Institute of Transportation Engineers (ITE) and other sources have published data that support significantly lower parking ratios for those land uses.
5. Based on published ITE peak parking demand ratios, the proposed mixed-use development would generate a peak parking demand of 415 parking spaces.
6. When considering the synergy of the proposed residential and non-residential uses, the Urban Land Institute's (ULI's) Shared Parking model results in a total peak parking demand of 394 spaces for the overall site. This overall parking demand calculation supports the site's proposed parking supply.
7. In order to maximize the utility of the proposed parking supply, all parking (with the exception of six (6) spaces designated for six (6) senior duplex units) will be unreserved for the use of site residents, visitors, employees, and patrons during daytime hours. Parking will be limited to residential occupants and visitors during overnight hours. Enforcement measures will be considered during the zoning and development processes.
8. Designated accessible (i.e., "handicapped") parking will be provided in accordance with state building code requirements.

Questions related to this parking analysis should be directed to Will Johnson at 703.676.3653 or at wfjohnson@wellsandassociates.com.

Attachments: a/s

**Essex County Code – Chapter 36
Zoning & Subdivision Ordinance
Effective November 10, 2022**

Section 36.462. — Schedule of Required Spaces.

Except as otherwise provided in this Ordinance, when any building or structure is hereafter erected or structurally altered, or any building or structure hereafter erected is converted, off-street parking spaces shall be provided according to the requirements for individual uses in the following table. Where fractional spaces result, the parking spaces required shall be construed to be the next highest whole number. Specifications for exemptions to off-street parking requirements are contained in Article VII, Section 36.463, Interpretation of Specific Requirements.

Table 36.15. Minimum Off-Street Parking Requirements	
Uses	Minimum Number of Required Parking Spaces
Residential Uses	
Manufactured dwelling, single-family or two-family dwellings, accessory dwellings, townhouses, and group home	2 for each dwelling unit; 1 for each accessory dwelling
Manufactured home park	2 for each dwelling unit, plus 1 for owner/employee
Multi-family dwellings	2 for each dwelling unit, or 1 for each bedroom, whichever is greater
Shelter, life care facility	1 for each 2 residents
Public/Civic/Recreation Uses	
Cultural facility	3 for each 1,000 square feet of exhibit area, plus 1 for each employee on largest shift
Education facility, high/college	1 for each employee on largest shift, plus 1 per 3 full time equivalent students, if a stadium is built in conjunction with the school, only the parking spaces in excess of the current spaces shall be required.
Education facility, primary/secondary	1 for each employee on largest shift, plus 1 space for each 4 seats in the largest assembly room
Public Park and recreation area	1 space per 4 visitors at peak service
Recreational facility, private, country club, golf club or other private clubs	1 per 5 members, or 1 for each 400 square feet of floor area, whichever is greater

Essex County Code – Chapter 36
Zoning & Subdivision Ordinance
Effective November 10, 2022

Table 36.15. Minimum Off-Street Parking Requirements	
Uses	Minimum Number of Required Parking Spaces
Religious assembly, place of assembly, day or youth camp	1 per 4 fixed seats in main assembly area or 1 for each 100 square feet of assembly floor space without fixed seating
Commercial Uses	
Automobile and commercial vehicle repair service, car washes and gasoline stations	3 for each bay, stall, rack, or pit, plus 1 for each gasoline pump; minimum 5 spaces
Automobile and equipment sales, rental/leasing	1 customer vehicle space for each 500 square feet of building floor space
Brewery, distillery, winery, tasting room	1 for each 150 square feet of food beverage preparation and consumption area, plus 1 per 800 square feet of operations
Business or trade school	1 per employee on largest shift, plus 1 per 4 students
Commercial indoor amusement and recreation, bowling alleys, skating rinks	1 space for each 3 persons based on maximum occupancy, plus 1 space per employee on largest shift
Commercial indoor entertainment, theaters, concert halls	1 for each 3 seats, plus 1 space per employee on largest shift
Commercial outdoor recreation and amusement, motor vehicle racing, driving ranges, amusement park, shooting range	1 per each 3-person based on maximum occupancy load, plus 1 space per employee on largest shift
Day care center	1 for each 250 square feet
Farmer's market, seasonal outdoor sales	6, plus 1 per 250 square feet
Financial institutions	1 for each 250 square feet of floor area, plus 4 stacking spaces per service window
Funeral homes	1 for each 50 square feet of main assembly area, 30 spaces minimum
Garden center	1 for each 300 square feet

Essex County Code – Chapter 36
Zoning & Subdivision Ordinance
Effective November 10, 2022

Table 36.15. Minimum Off-Street Parking Requirements	
Uses	Minimum Number of Required Parking Spaces
Hospitals	1 per patient bed
Hotel	1 for each bedroom or unit, plus required parking for any restaurant or assembly space
Nursing homes	1 per 2 beds
Office, general	1 for each 400 square feet of floor area
Offices, medical or clinic	1 per 200 square feet of floor area; 10 spaces minimum for a clinic
Personal services, personal improvement services, consumer repair service, business support service, fine arts studio, tattoo parlor	1 for each 500 square feet of floor area
Restaurants (except drive-in)	1 for each 150 square feet of floor space, including outside seating
Restaurants, drive-in	1 for each 150 square feet of floor area plus stacking spaces as required in the Use Performance Standards section
Retail store (all types)	1 for each 250 square feet of floor area
Tradesperson service, catering facility, janitorial business	1 per 3 employees on maximum working shift plus space for storage of trucks or other vehicles used in connection with business
Veterinary hospital, commercial kennel	1 for each 400 square feet of floor area
Industrial Uses	
Construction yard, junkyard	1 per employee on maximum working shift plus space for storage of trucks or other vehicles used in connection with business
Manufacturing, light or heavy, laboratory research and development	1 per employee on maximum working shift plus space for storage of trucks or other vehicles used in connection with the business or industry

**Essex County Code – Chapter 36
Zoning & Subdivision Ordinance
Effective November 10, 2022**

Table 36.15. Minimum Off-Street Parking Requirements	
Uses	Minimum Number of Required Parking Spaces
Warehouses, wholesales sales, distribution	1 for each 1,250 square feet of floor area
Accessory Uses	
Accessory dwelling unit	1 per unit
Bed-and-breakfast, short-term rental	1 for each bedroom in addition to parking spaces required for permanent residents of the building
Family home day care (1-4 individuals)	1 plus residential requirement
Home occupation	Type A: 1 plus residential requirement, Type B: 3 plus residential requirement

Section 36.463. — Interpretation of Specific Requirements for Table 36.15.

- (a) The parking requirements above are in addition to space for storage of trucks, campers, recreation vehicles, or other similar vehicles used in connection with the use.
- (b) The parking requirements in this division do not limit other parking requirements contained in the district regulations.
- (c) The parking requirements in this division do not limit special requirements, which may be imposed for approval of a conditional use or special exception.
- (d) For residential uses, the total number of off-street parking spaces provided inside a private garage shall be calculated based on the intended design of the garage.
- (e) Except as otherwise provided, the number of employees shall be compiled on the basis of the maximum number of persons employed on the premises at one time on an average day or average night, whichever is greater. Seasonal variations in employment may be recognized in determining an average day.
- (f) The parking space requirements for a use not specifically listed in the chart shall be the same as for a listed use of similar characteristics of parking demand generation.
- (g) In the case of mixed uses, uses with different parking requirements occupying the same building or premises, or in the case of joint use of a building or premises by more than one use having the same parking requirements, the parking spaces required shall equal the sum of the requirements of the various uses computed separately.
- (h) Whenever a building or use is changed or enlarged in floor area, number of employees, number of dwelling units, seating capacity or otherwise, to create a need under the requirements of this division for an increase in parking spaces of 10 percent or more, such additional spaces shall be provided on a basis of the change or enlargement. No additional spaces shall be required for the first change or enlargement which would result in an increase of spaces of less than 10 percent of those required before the change or enlargement, but this exception shall not apply to a series of changes or enlargements which together result in a need for an increase in parking space of 10 percent or more.

Senior Adult Housing - Attached (252)

Peak Period Parking Demand vs: Dwelling Units

On a: Weekday (Monday - Friday)

Setting/Location: General Urban/Suburban

Peak Period of Parking Demand: 10:00 p.m. - 8:00 a.m.

Number of Studies: 3

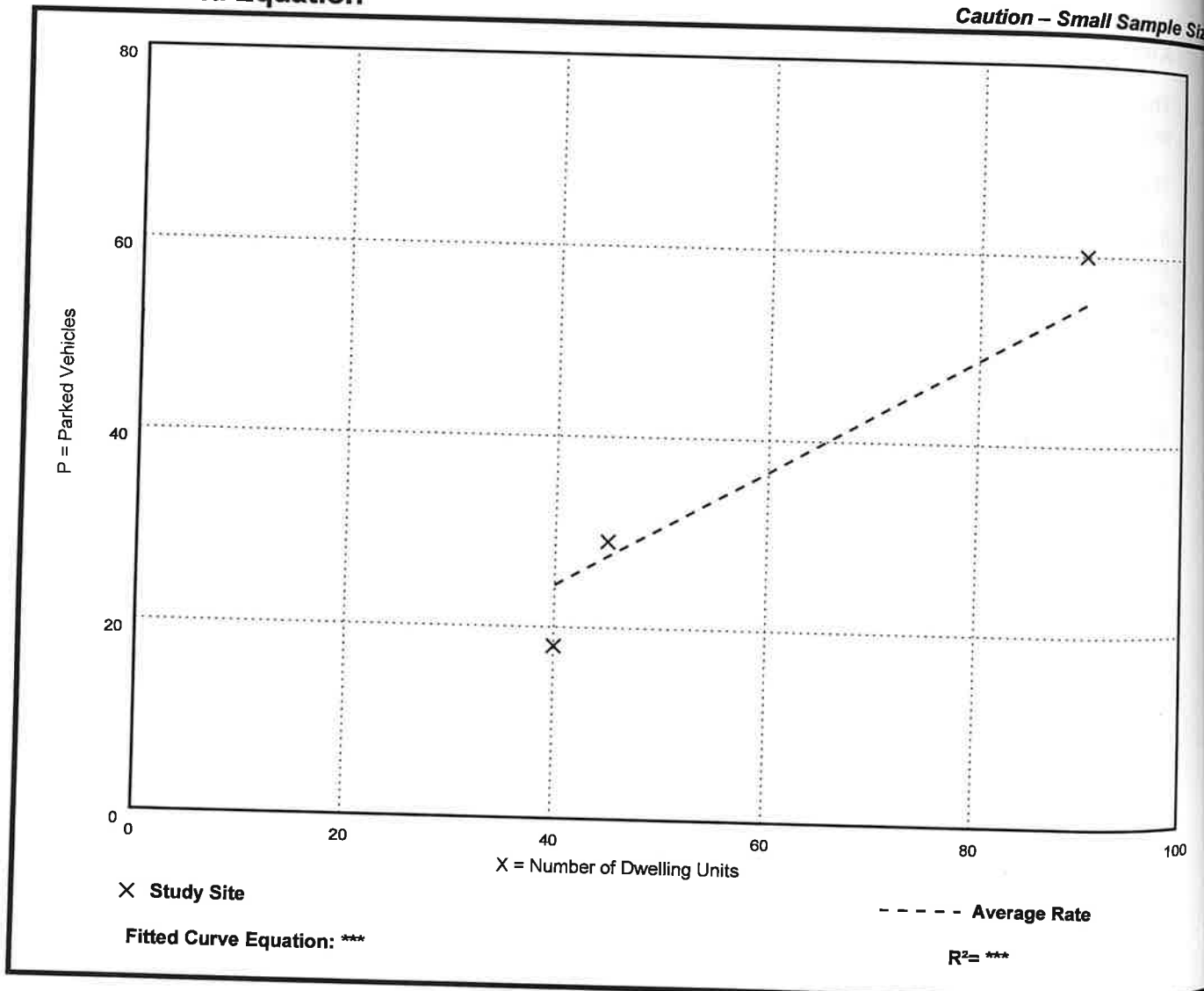
Avg. Num. of Dwelling Units: 58

Peak Period Parking Demand per Dwelling Unit

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
0.61	0.45 - 0.67	0.51 / 0.67	***	0.11 (18%)

Data Plot and Equation

Caution - Small Sample Size



Affordable Housing - Income Limits (223)

Peak Period Parking Demand vs: Bedrooms

On a: Weekday (Monday - Friday)

Setting/Location: General Urban/Suburban

Peak Period of Parking Demand: 10:00 p.m. - 5:00 a.m.

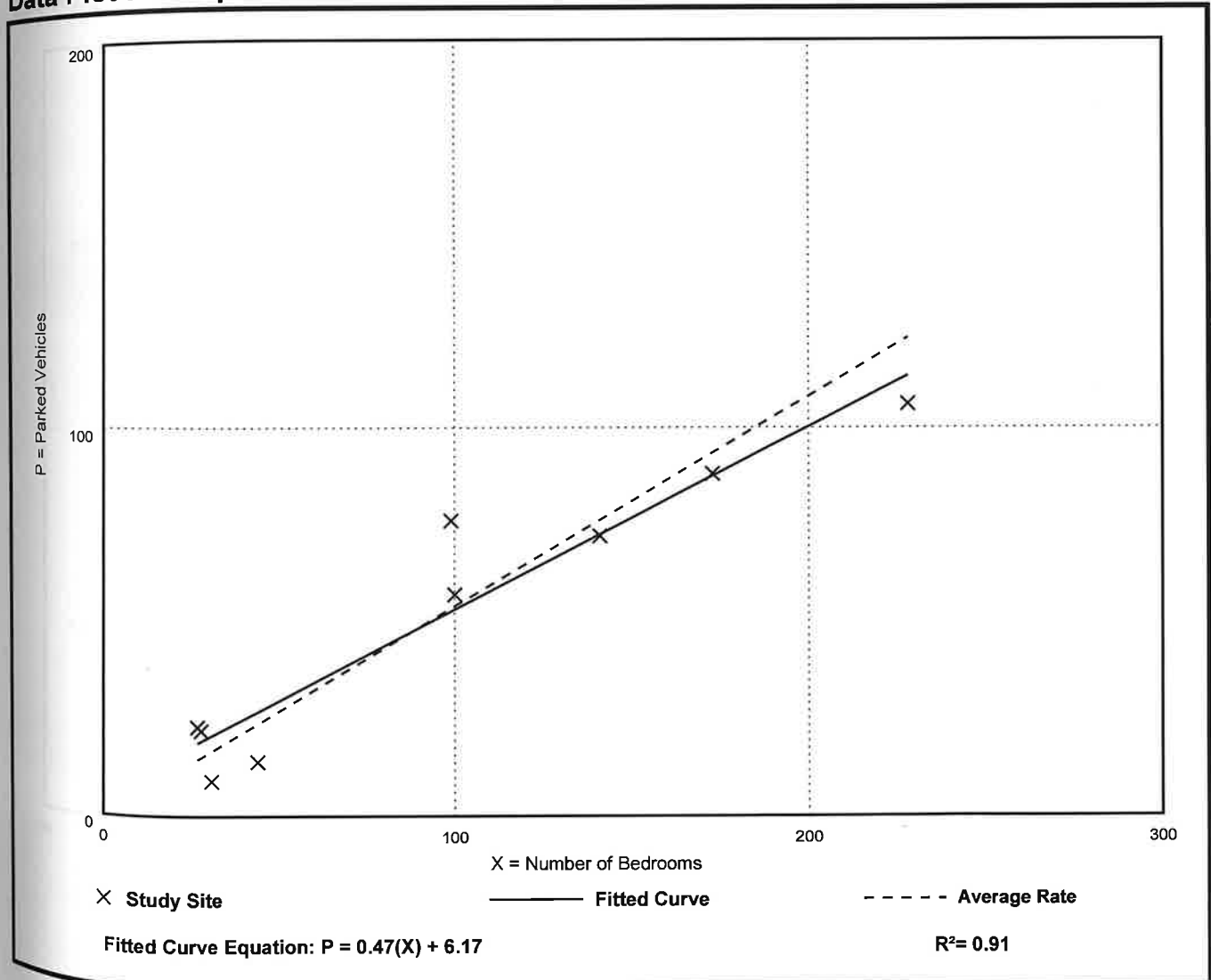
Number of Studies: 9

Avg. Num. of Bedrooms: 97

Peak Period Parking Demand per Bedroom

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
0.54	0.29 - 0.85	0.48 / 0.82	***	0.14 (26%)

Data Plot and Equation



Shopping Center - Non-December (820)

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

On a: Weekday (Monday - Thursday)

Setting/Location: General Urban/Suburban

Peak Period of Parking Demand: 12:00 - 6:00 p.m.

Number of Studies: 46

Avg. 1000 Sq. Ft. GLA: 218

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)
1.95	1.27 - 7.98	1.99 / 3.68	1.73 - 2.17	0.75 (38%)

Data Plot and Equation

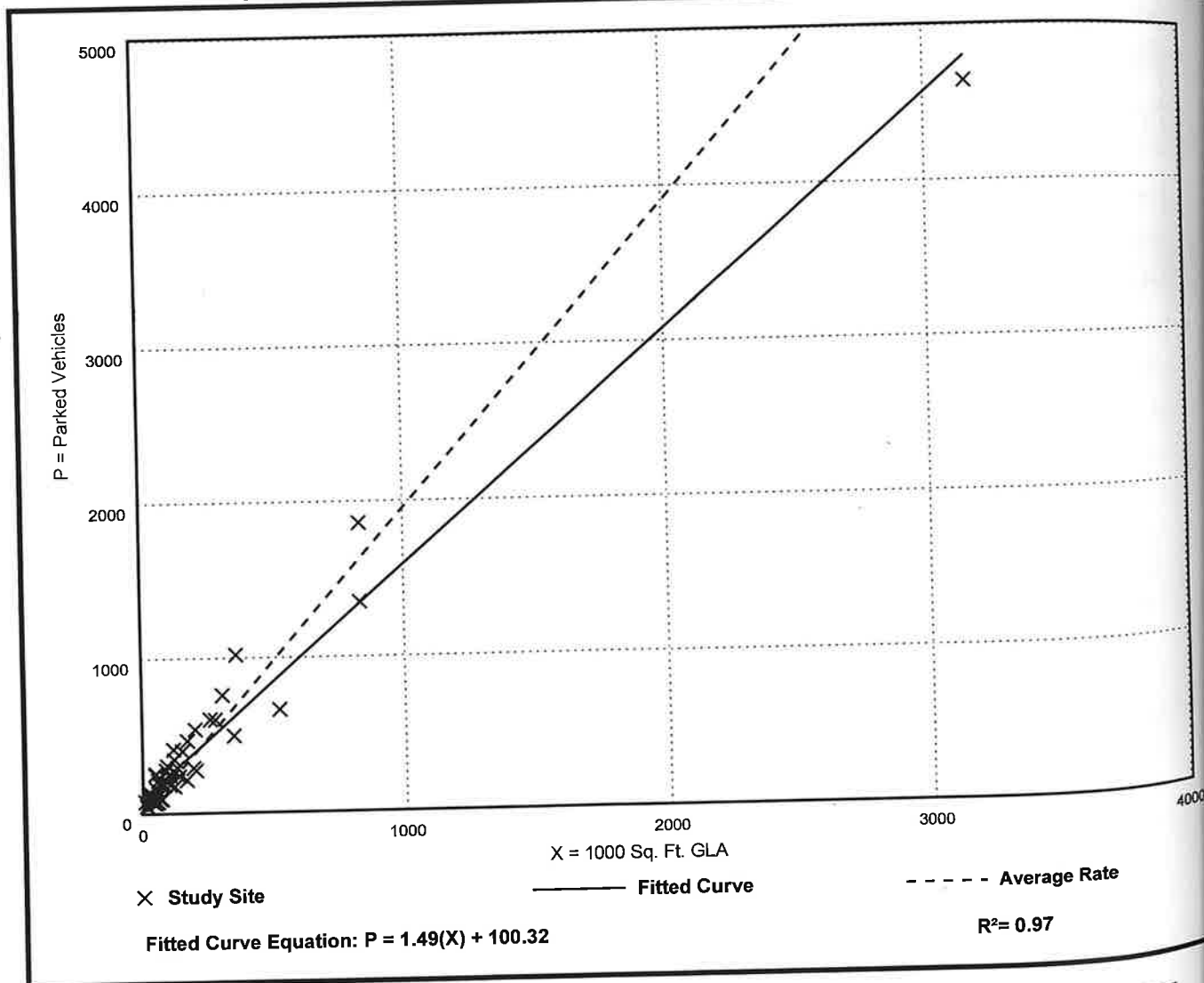


FIGURE 2-3 Monthly Adjustment Factors

Land use	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Late Dec ¹	Notes
Retail														
Retail	59%	61%	70%	67%	72%	72%	70%	73%	66%	69%	76%	100%	85%	5
Employee	69%	71%	79%	77%	82%	82%	80%	83%	76%	78%	86%	100%	95%	
Supermarket/grocery	93%	86%	94%	92%	97%	94%	96%	95%	92%	95%	95%	100%	95%	6
Employee	100%	96%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Pharmacy	89%	85%	92%	89%	91%	89%	89%	90%	88%	92%	89%	100%	95%	6
Employee	99%	95%	100%	99%	100%	98%	98%	99%	98%	100%	98%	100%	100%	
Discount stores/ superstores	72%	72%	79%	76%	81%	79%	79%	81%	74%	79%	85%	100%	90%	6
Employee	82%	82%	88%	86%	91%	89%	89%	91%	84%	89%	95%	100%	100%	
Home improvement stores/garden	63%	62%	79%	90%	100%	92%	87%	84%	80%	85%	80%	75%	65%	6
Employee	72%	71%	89%	100%	100%	100%	97%	94%	90%	94%	90%	85%	75%	
Food and beverage														
Fine/casual dining	88%	87%	98%	94%	99%	94%	96%	96%	89%	93%	89%	100%	95%	6
Employee	99%	98%	100%	100%	100%	100%	100%	100%	99%	100%	100%	100%	100%	
Family restaurant	88%	87%	98%	94%	99%	94%	96%	96%	89%	93%	89%	100%	95%	6
Employee	99%	98%	100%	100%	100%	100%	100%	100%	99%	100%	100%	100%	100%	
Fast casual/fast food/ food court/food halls	85%	85%	97%	95%	99%	98%	100%	100%	93%	96%	92%	96%	95%	6
Employee	96%	96%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Bar/lounge/nightclub	87%	87%	100%	93%	97%	94%	97%	96%	94%	98%	92%	96%	95%	7
Employee	95%	96%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Entertainment and institutions														
Family entertainment (weekdays) ²	20%	26%	36%	50%	23%	45%	87%	68%	22%	25%	20%	48%	100%	8
Employee	50%	50%	50%	60%	50%	55%	97%	78%	50%	50%	50%	58%	100%	
Family entertainment (weekends)	79%	90%	91%	100%	60%	70%	72%	76%	70%	72%	74%	60%	80%	8
Employee	89%	100%	100%	100%	70%	80%	82%	86%	80%	82%	84%	70%	90%	
Active entertainment	79%	90%	91%	100%	60%	70%	72%	76%	70%	72%	74%	60%	100%	8
Employee	89%	100%	100%	100%	70%	80%	82%	86%	80%	82%	84%	70%	100%	
Amusement park/ water park	79%	90%	91%	100%	60%	70%	72%	76%	70%	72%	74%	60%	100%	8
Employee	89%	100%	100%	100%	70%	80%	82%	86%	80%	82%	84%	70%	100%	
Adult active entertainment	85%	86%	95%	92%	96%	95%	98%	99%	91%	96%	93%	100%	95%	8
Employee	95%	96%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
All movies (weekdays) ²	50%	50%	45%	33%	55%	50%	75%	55%	25%	25%	55%	55%	100%	5
Employee	60%	60%	55%	50%	65%	60%	85%	65%	50%	50%	65%	65%	100%	
All movies (weekends)	25%	40%	60%	35%	70%	75%	75%	45%	35%	40%	80%	90%	100%	
Employee	50%	50%	70%	50%	80%	85%	85%	55%	50%	50%	90%	100%	100%	
Live theater	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	100%	100%	5
Employee	75%	70%	90%	100%	95%	90%	85%	80%	75%	85%	90%	85%	100%	
Outdoor amphitheater	0%	0%	0%	10%	100%	100%	100%	100%	100%	50%	10%	10%	0%	5
Employee	10%	10%	10%	50%	100%	100%	100%	100%	100%	60%	50%	50%	10%	

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FIGURE 2-3 (continued)

Land use	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Late Dec ¹	Notes
Entertainment and institutions (continued)														
Public park/ destination open space	25%	25%	50%	75%	100%	100%	100%	100%	100%	100%	75%	75%	25%	5
Employee	50%	50%	60%	85%	100%	100%	100%	100%	100%	100%	85%	85%	50%	
Museum/aquarium (weekdays) ²	20%	26%	36%	50%	23%	45%	87%	68%	22%	25%	20%	48%	100%	8
Employee	50%	50%	50%	60%	50%	55%	97%	78%	50%	50%	50%	58%	100%	
Museum/aquarium (weekends)	79%	90%	91%	100%	60%	70%	72%	76%	70%	72%	74%	60%	80%	
Employee	89%	100%	100%	100%	70%	80%	82%	86%	80%	82%	84%	70%	90%	
Arena	90%	100%	100%	100%	100%	75%	0%	0%	60%	65%	90%	100%	95%	8
Employee	100%	100%	100%	100%	100%	100%	10%	10%	75%	75%	100%	100%	100%	
Pro football stadium ³	0%	0%	0%	0%	90%	90%	90%	90%	100%	100%	100%	100%	100%	8
Employee	10%	10%	10%	10%	10%	10%	10%	100%	100%	100%	100%	100%	100%	
Pro baseball stadium	0%	0%	0%	100%	100%	100%	100%	100%	100%	100%	0%	0%	0%	8
Employee	10%	10%	25%	90%	100%	100%	100%	100%	100%	100%	10%	10%	10%	
Health club	100%	95%	85%	70%	65%	65%	65%	70%	80%	85%	85%	100%	95%	9
Employee	100%	100%	95%	80%	75%	75%	75%	80%	90%	95%	95%	100%	10%	
Public library	75%	75%	80%	85%	90%	90%	90%	90%	95%	95%	90%	65%	50%	8
Employee	85%	85%	85%	90%	95%	95%	90%	95%	100%	100%	95%	65%	50%	
Convention center ⁴	75%	100%	90%	55%	60%	50%	45%	75%	80%	85%	100%	100%	0%	8
Employee	85%	100%	100%	65%	70%	60%	55%	85%	90%	95%	100%	100%	0%	
Hotel and residential														
Hotel-business	60%	75%	90%	100%	95%	95%	95%	85%	90%	95%	80%	60%	55%	10,11
Hotel-leisure	80%	90%	100%	100%	90%	90%	100%	100%	75%	75%	75%	50%	100%	
Hotel employees	Use same factor as guests for type of hotel													
Restaurant/lounge	85%	86%	95%	92%	96%	95%	98%	99%	91%	96%	93%	100%	95%	
All meeting banquet (<100 sq ft/key)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Convention (>100 sq ft/key)	75%	100%	90%	55%	60%	50%	45%	75%	80%	85%	100%	100%	0%	
Restaurant/meeting employees	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Residential unreserved residents	100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	100%	8
Reserved residents	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Visitor	100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	100%	
Active senior housing	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	8
Residents	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	

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FIGURE 2-3 (continued)

Land use	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Late Dec ¹	Notes
Office														
Office	100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	80%	12
Reserved	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Employee	100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	80%	
Open plan/ high-density office	100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	80%	12
Reserved	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Employee	100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	80%	
Medical/dental office	100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	80%	5
Employee	100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	80%	
Daycare center	100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	80%	5
Employee	100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	80%	
Bank (drive-in branch)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	5
Employee	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	

1. December = December 1–24; Late December = December 25–31.

2. Land uses particularly affected by school year on weekdays.

3. Because there is only one weeknight game and no Saturday games per NFL team September through November, and activity patterns are modified at adjacent uses, this category is not considered a design day for parking planning.

4. Many convention centers are completely dark in Late December.

5. Developed by team members from a combination of sources.

6. U.S. Census Bureau Unadjusted Estimates of Retail Sales, 2008–2017.

7. U.S. Census Bureau Unadjusted Estimates of Retail Sales, 2012–2017.

8. Confidential data provided by facility managers.

9. John W. Dorsett, "Parking Requirements for Health Clubs," *The Parking Professional*, April 2004.

10. <https://catalog.data.gov/dataset/monthly-hotel-occupancy-b2f197>.

11. <https://www.statista.com/statistics/206546/us-hotels-occupancy-rate-by-month/>.

12. Parking Study conducted by Patton Harris Rust & Associates for the Peterson Companies, 2001.

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	1%	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%	100%	100%	100%	100%	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%	0%	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%	10%	50%	60%	60%	75%	75%	100%	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%	30%	100%	100%	100%	100%	30%	10%
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%	30%	100%	100%	100%	100%	30%	10%
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%

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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%
	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	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%	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	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
		a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	a.m.
Retail typical	Visitors	1%	5%	30%	50%	70%	90%	95%	100%	100%	95%	90%	80%	75%	70%	65%	50%	30%	10%	0%	
	Employees	1%	5%	10%	35%	60%	85%	100%	100%	100%	100%	90%	80%	65%	60%	55%	50%	35%	15%	1%	
December	Visitors	1%	5%	10%	20%	40%	60%	80%	95%	100%	100%	95%	85%	70%	60%	50%	30%	20%	10%	0%	
	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%	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%	0%	0%	0%	
	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%	80%	65%	65%	35%	5%	
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%	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 No matinee	Visitors	0%	0%	0%	1%	1%	1%	1%	25%	95%	95%	81%	1%	1%	25%	100%	100%	0%	0%	0%	
	Employees	0%	10%	10%	20%	20%	20%	30%	100%	100%	100%	100%	30%	100%	100%	100%	100%	30%	10%	5%	

(continued on next page)

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 8 p.m. start	Visitors	0%	0%	1%	1%	5%	5%	50%	100%	100%	85%	25%	0%	0%	0%	0%	0%	0%	0%	0%
	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%	100%	0%
	Employees	0%	0%	0%	5%	5%	5%	5%	5%	5%	5%	5%	20%	75%	75%	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%	0%	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.