

## MEMORANDUM

Date: June 10, 2019

To: Eric Evans, PE  
Engineering Director  
Emerio Design  
6445 SW Fallbrook Place  
Suite 100  
Beaverton OR 97008

From: Frank Charbonneau, PE, PTOE

Subject: Parking Study Report FL1957  
**Marquis Memory Care**  
Molalla Avenue, Oregon City

Charbonneau Engineering conducted a parking study for the Marquis Memory Care facility located at the corner of Beaver Creek Road and Molalla Avenue in Oregon City. The study was done in conjunction with an upcoming parking lot expansion. Upon review of the original project application City staff determined the need for additional parking information including an assessment of the site's conditions. The scope of the study covered taking multiple on-site parking surveys in order to document usage of the site during normal operations.

The City's planning department and transportation consultant confirmed the study's scope prior to initiating the study. As a result the assessment addressed several parking related elements including the following tasks.

- Performance of a series of parking lot surveys at the existing Marquis of Oregon City Memory Care facility. Site address is 1680 Molalla Avenue.
- On each weekday including a Monday-Thursday the surveys were completed and noted the number of vehicles parking in the lot. The surveys were collected during the peak demand times as related to the various employee shift changes. The shifts with the greatest number of employees occurred from 6AM-2PM (44 employees) and 2PM-5PM (35 employees). The other shifts have less than 14 employees.
- On-Site parking was measured on each of four weekdays at the following times; 9AM, 12 noon, 1:30PM, 1:45PM, 2:00PM, 2:30PM, 4:30PM, 4:45PM, 5:00PM, 5:30PM, & 6:00PM.
- The parking demand was recorded in table format for each survey with the associated survey data detailed in this document.
- A summary of the facility's staff levels and shift change times is presented.
- Document if on-street parking is available within a 500 foot radius of the project site.
- Identify the number of existing parking spaces and the number of parking spaces associated with the proposed expansion. Include the parking demand/capacity ratios in the analysis for each survey recorded.

- Identify measures that may be considered to help moderate the parking demand. Such proposals may include restricting visitation hours and initiating a transportation demand management program related to employee use of transit, ride sharing, and shared parking strategies.

The Marquis facility operates 24 hours per day every day of the week as a memory care and rehabilitation center located in the southwesterly corner of the intersection of Molalla Avenue and Beaver Creek Road. Besides memory care the center provides rehabilitation services for clients recovering from surgery or injuries. Short and long term care is provided.

The attached vicinity map (Figure 'a') highlights the project location. As management has noted that parking demand on the site is at a high level with over-parked conditions the need to increase capacity has been undertaken. The proposed parking plan would increase the lot's capacity from 42 spaces to 64 spaces. A copy of the parking plan showing the number of spaces is attached (Figure 'b'). No building improvements or operational changes are planned in conjunction with the site's parking modification plan.

The memory care site has two driveway accesses on Molalla Avenue located south of the signalized intersection at Beaver Creek Road and Molalla Avenue. Due to the on-site parking layout and traffic circulation pattern the northerly driveway effectively functions as an ingress only access. The southerly access provides two-way traffic operation. Both driveways measure between 25 feet to 28 feet in width.

Parking on the site is provided on the property's east and south sides and is connected by a single two-way drive aisle. The parking observations revealed that from one to two vehicles parked off the main parking surface within the landscaped areas (still on-site). This occurred during the heaviest use times on each of the four survey days. There are seven parking stalls designated for visitors' parking in front of the building's main entrance that remained occupied throughout the day. Two to three times per day larger vehicles and trucks parked in the lot just inside the ingress access off Molalla Avenue for service/delivery purposes. When this activity occurred the parking lot area between the two site access points became more congested and impacted traffic flow in this area.

The parking evaluation has confirmed on-street parking is not available on the site's two adjacent streets (Molalla Avenue & Beaver Creek Road) or within 500 feet of the facility.

Parking use at the site primarily serves the staff and visitors with occasional trips by service, delivery, and utility vehicles such as sanitation trucks. With the primary demand due to staff and management it was important to document the staffing numbers present throughout the day. According to the facility's director the staffing level varies due to fluctuations in the census, however on average the following staff numbers are present on the weekdays and weekends as referenced in Table 1.

Time of Day	Monday - Friday Staff Level	Saturday - Sunday Staff Level
6 AM - 2 PM	44	28
2 PM - 5 PM	35	19
5 PM - 10 PM	13	13
10 PM - 6 AM	7	7

Average Resident Census = 58 Persons (data provided by Marquis)

The highest staffing levels are present on weekdays and accordingly the parking surveys were conducted during the week within the morning and afternoon periods to cover the highest parking demand.

Table 2 presents a summary of parking data recorded on four separate weekdays in May. The results indicate that the parking lot demand is greatest ( $\geq 35$  vehicles) during the mornings and early afternoon until after 2:30PM. The parking lot's capacity totals 42 spaces.

Survey Time	Survey #1 May 13, Mon	Survey #2 May 14, Tue	Survey #3 May 15, Wed	Survey #4 May 23, Thur	Average Cars Parked	% Lot Cap
	Cars Parked	Cars Parked	Cars Parked	Cars Parked		
9:00 AM	32	37	36	34	35	83%
12:00 Noon	42	43	39	43	42	100%
1:30 PM	37	42	33	50	41	98%
1:45 PM	37	38	40	51	42	100%
2:00 PM	36	42	38	44	40	95%
2:30 PM	30	36	36	43	36	86%
4:30 PM	24	27	25	27	26	62%
4:45 PM	21	26	20	25	23	55%
5:00 PM	23	24	19	22	22	52%
5:30 PM	16	16	15	20	17	40%
6:00 PM	15	16	13	20	16	38%

The parking lot's average demand-to-capacity ratio in terms of number of cars parked versus the number of total spaces (42 spaces) is shown in the last column in Table 2. The results demonstrate that during the mornings and through the 2:30PM period the parking demand is exceeding a level of 83% demand/capacity. Between the noon hour and 2:00PM the ratios are 95% or higher and at these levels it can be difficult to find a space causing delays for drivers looking to park and also impacting traffic flow within the lot and adjacent to the site access.

The City's parking code includes Table 17.52.020 which stipulates that the maximum parking rate for senior housing, assisted living, and nursing home use is one space per five beds. As the Marquis site contains 69 beds a total of 14 parking spaces is permitted according to the code. Clearly this number of spaces is not adequate for the memory care operations as the

parking demand maximum (42 vehicles) translates to a rate of one space per 1.54 beds or 0.72 spaces per employee with 58 day shift employees.

At the Marquis site the parking demand is heavily driven by the number of employees. In researching the parking demand rates published in the ITE Parking Generation Manual (5<sup>th</sup> edition, 2019) several of the medical and office type uses produced comparative results to the Marquis site. Using 58 employees (# workers on day shift at Marquis) as the basis yielded parking results representative of the demand occurring at the Marquis.

Land Use	ITE Code	ITE Ave Peak Park Demand Per Employee	Comparative Parking Demand w/58 Employees
Nursing Home	#620	0.67	39
Medical Clinic	#630	0.83	48
General Office	#710	0.84	49
Medical Office	#720	1.26	73

The parking rate comparisons along with the parking survey results support that the facility's current demand is typical and there is a need to increase the lot's capacity. Based on the study's results it is recommended that the City of Oregon City support the developer's proposed plan to increase the parking lot's capacity from 42 spaces to 64 spaces.

To help moderate parking demand in the future it is suggested that the Marquis management consider other measures to possibly alleviate demand. These may include the following.

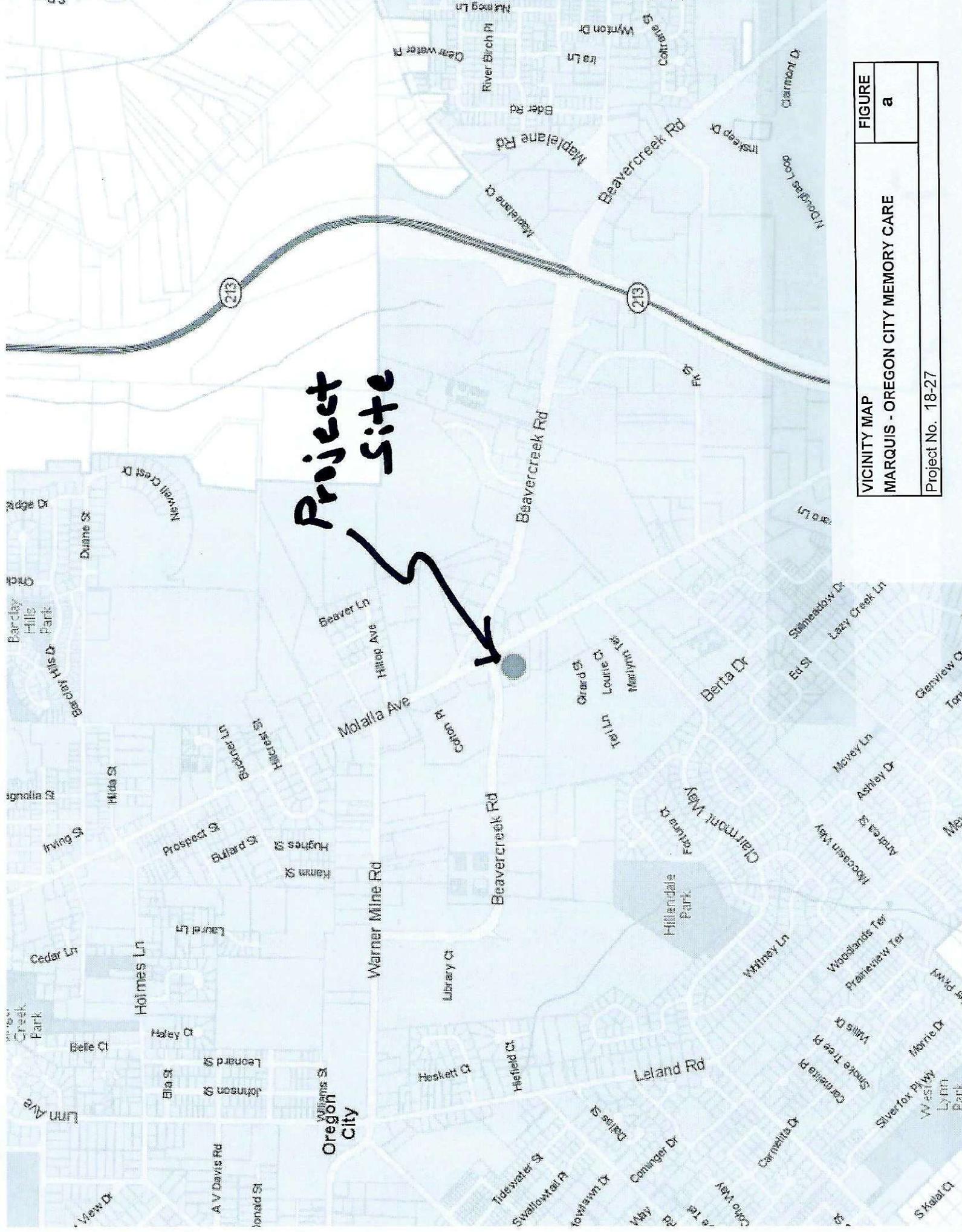
- Restricting visitors' hours to later in the day or after 2:30PM. This would free up some parking if visitors are currently using non-visitor spaces.
- Offer transit passes to employees at reduced cost, or paid for by the employer.
- Initiate a ride-sharing program for employees to promote carpooling, etc.

Please contact Frank Charbonneau, PE, PTOE at 503.293.1118 or email [Frank@CharbonneauEngineer.com](mailto:Frank@CharbonneauEngineer.com) if should have any questions concerning this report.

#### Appendix

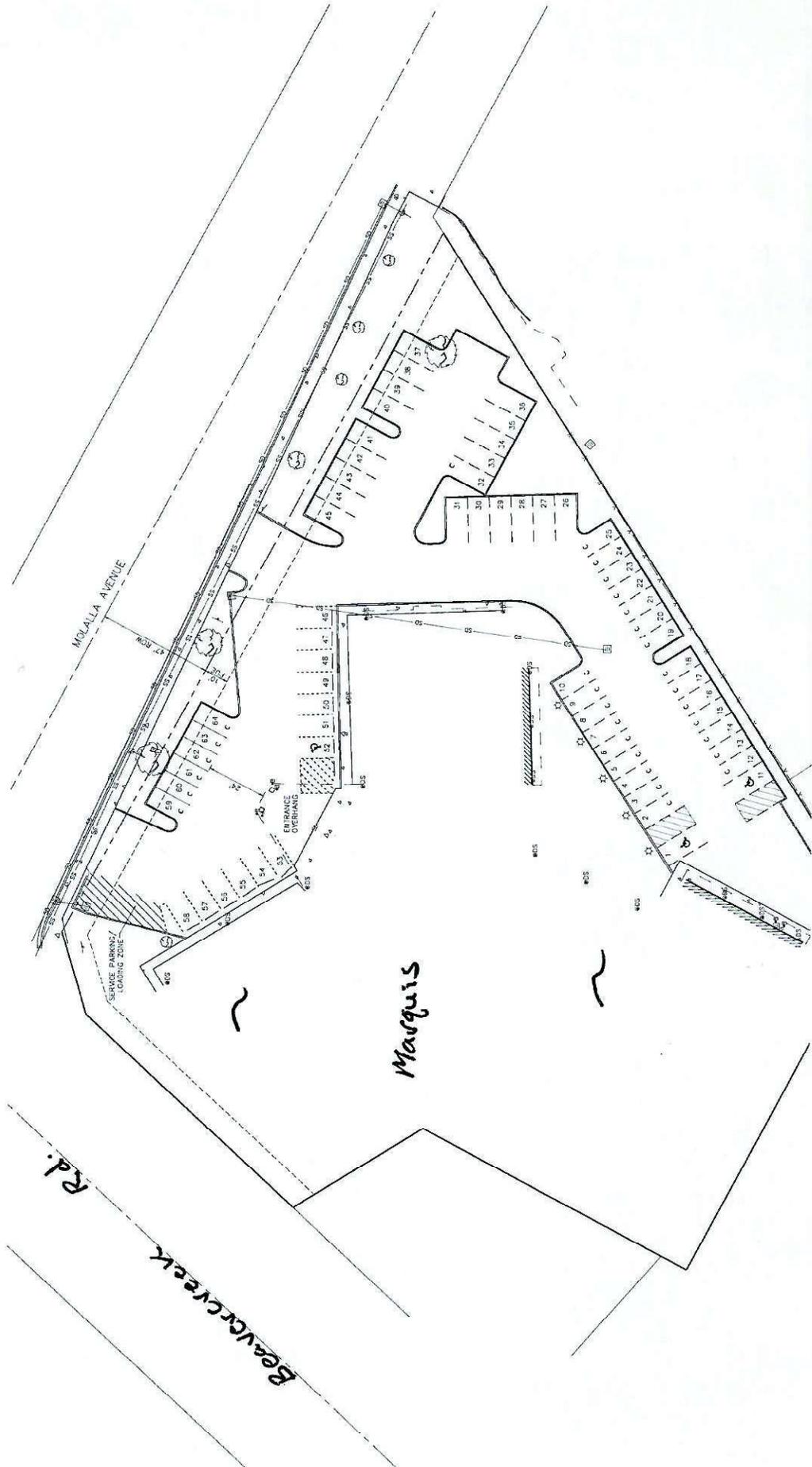
- Figure `a` - Vicinity Map
- Figure `b` - Parking Lot Layout
- ITE Parking Demand Figures





**Project Site**

VICINITY MAP MARQUIS - OREGON CITY MEMORY CARE	FIGURE
	a
Project No. 18-27	



PARKING LOT PLAN MARQUIS - OREGON CITY MEMORY CARE	FIGURE b
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Project No. 18-27

# Nursing Home (620)

## Peak Period Parking Demand vs: Employees

On a: **Weekday (Monday - Friday)**

**Setting/Location: General Urban/Suburban**

Peak Period of Parking Demand: 9:00 a.m. - 3:00 p.m.

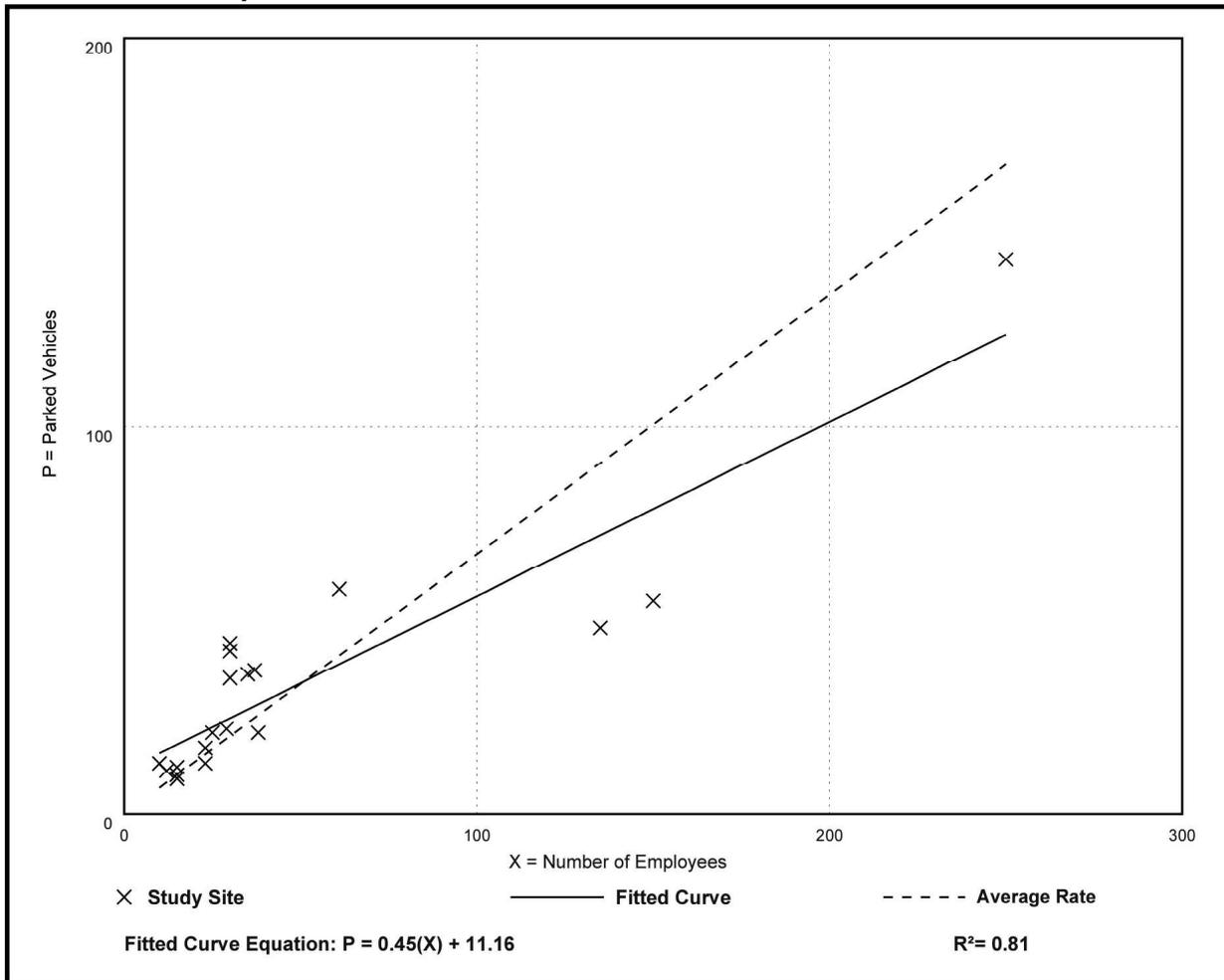
Number of Studies: 19

Avg. Num. of Employees: 51

### Peak Period Parking Demand per Employee

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
0.67	0.36 - 1.47	0.64 / 1.30	***	0.32 ( 48% )

### Data Plot and Equation



# Clinic (630)

## Peak Period Parking Demand vs: Employees

On a: **Weekday (Monday - Friday)**

**Setting/Location: General Urban/Suburban**

Peak Period of Parking Demand: 9:00 a.m. - 3:00 p.m.

Number of Studies: 2

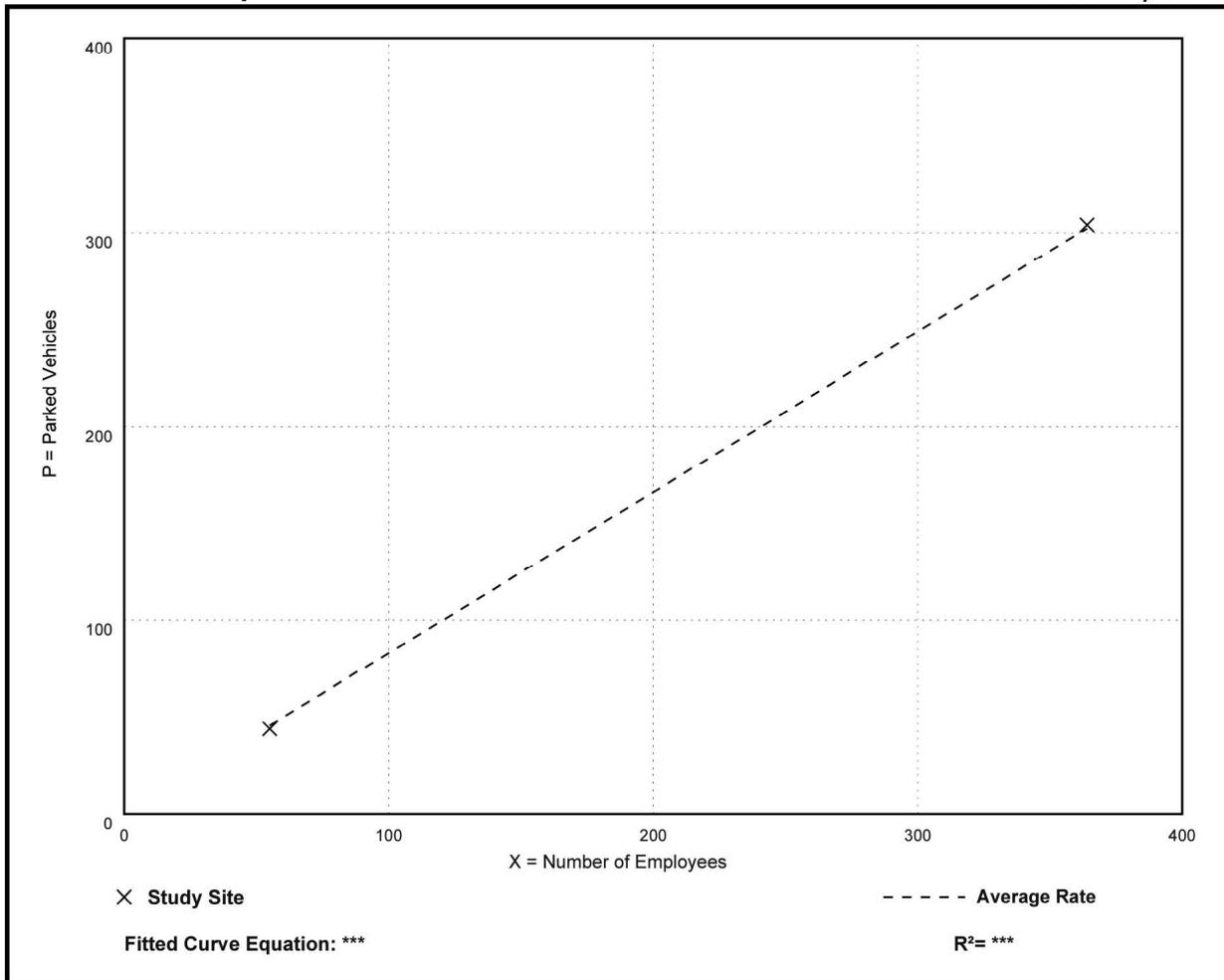
Avg. Num. of Employees: 210

### Peak Period Parking Demand per Employee

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
0.83	0.80 - 0.84	*** / ***	***	*** ( ***)

### Data Plot and Equation

*Caution – Small Sample Size*



# General Office Building (710)

## Peak Period Parking Demand vs: Employees

On a: **Weekday (Monday - Friday)**

**Setting/Location: General Urban/Suburban**

Peak Period of Parking Demand: 9:00 a.m. - 3:00 p.m.

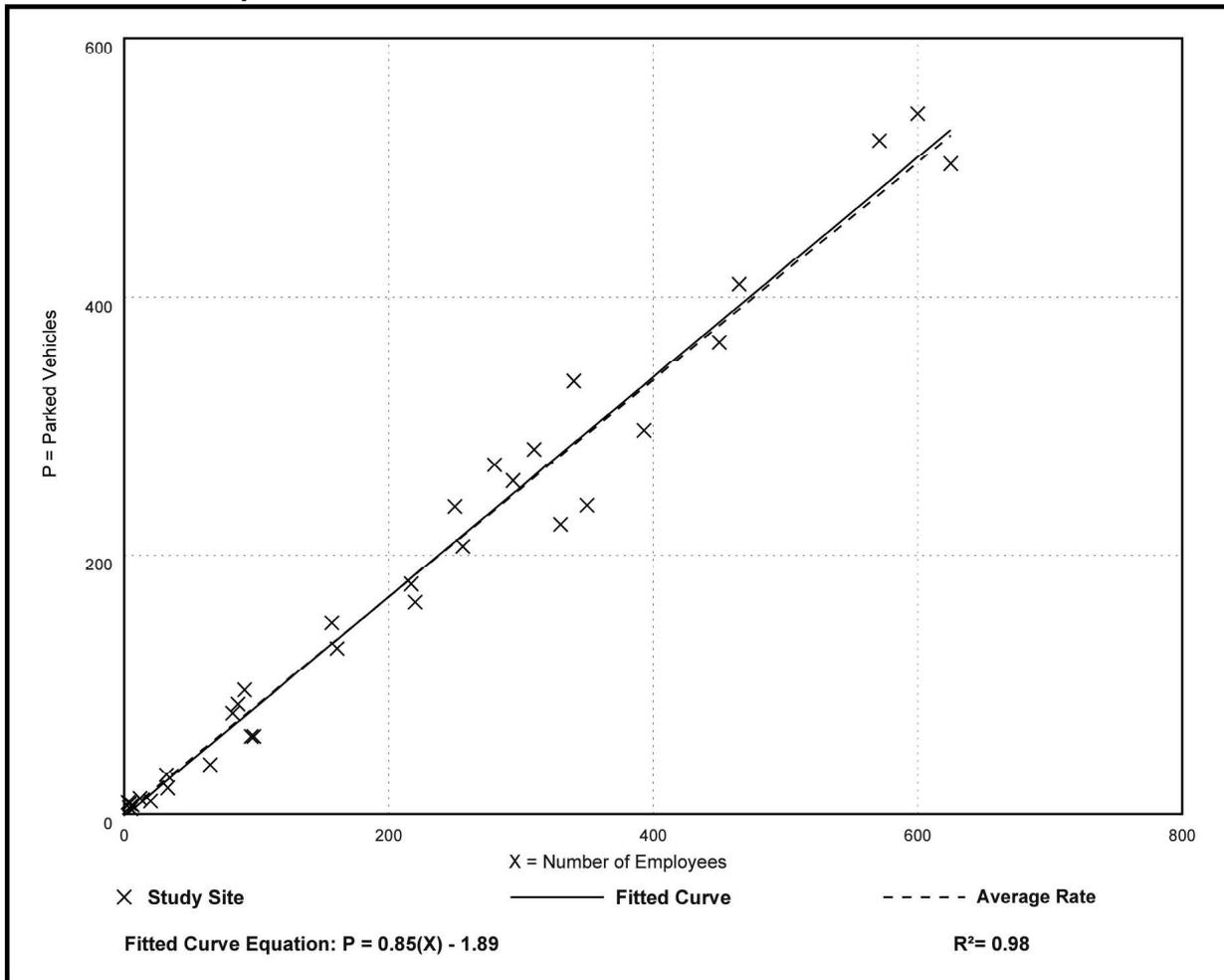
Number of Studies: 33

Avg. Num. of Employees: 209

### Peak Period Parking Demand per Employee

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
0.84	0.50 - 3.00	0.80 / 1.05	0.80 - 0.88	0.12 ( 14% )

### Data Plot and Equation



# Medical-Dental Office Building (720)

**Peak Period Parking Demand vs: Employees**

**On a: Weekday (Monday - Friday)**

**Setting/Location: General Urban/Suburban**

Peak Period of Parking Demand: 9:00 a.m. - 4:00 p.m.

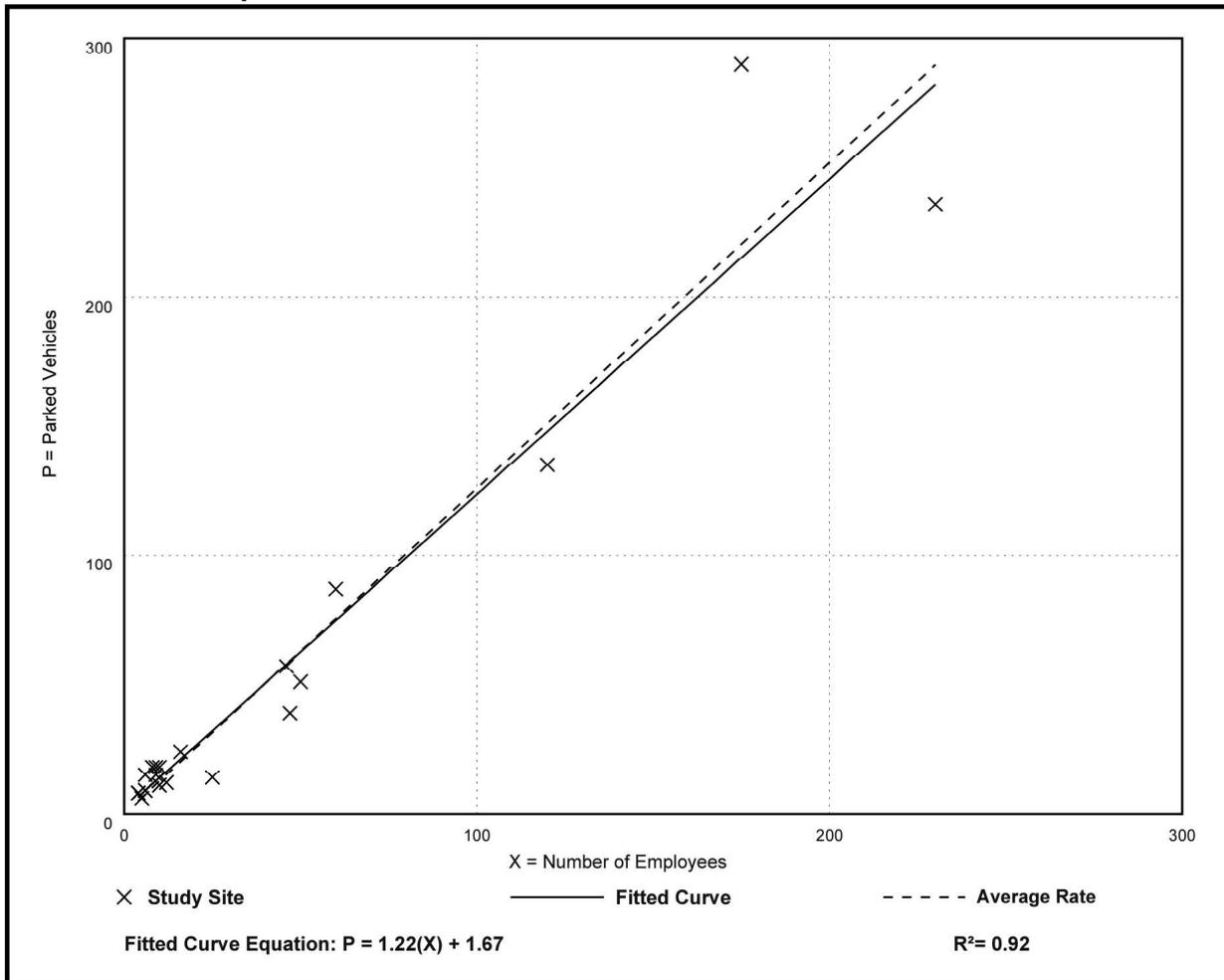
Number of Studies: 20

Avg. Num. of Employees: 43

## Peak Period Parking Demand per Employee

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
1.26	0.56 - 2.50	1.12 / 2.00	1.11 - 1.41	0.35 ( 28% )

## Data Plot and Equation



## Trisha Clark

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**From:** Trisha Clark  
**Sent:** Friday, June 21, 2019 1:58 PM  
**To:** Pam Boyd  
**Subject:** FW: Parking/Employee Transportation

**From:** Jordan R Turner  
**Sent:** Wednesday, May 15, 2019 11:23 AM  
**To:** Scott Miller <[smiller@marquiscompanies.com](mailto:smiller@marquiscompanies.com)>  
**Subject:** Parking/Employee Transportation

Hey Scott,

Here is an email to follow up on our conversation a little bit ago about our parking lot and employee's using other types of transportation to get to work.

We currently have 95 employees on our payroll. Of those 95 employees 37 of them utilize public transportation, carpool with coworkers/family, or walk to work.

I visited all of the surrounding businesses and asked if we could use their parking lot for our employee's. None of the businesses were open to allowing employee use their parking lot and stated to me that "They would be towed." If they parked there. I asked them if they could give me some sort of letter stating that to which only one business said they would. The business complex directly across the street is owned by management company that I haven't heard back from but the parking lot it owns is very well signed to say that the parking is reserved for patrons of those businesses. If you feel it would be helpful I would be open to going back around to see if there is anything that they can give me showing that they have refused to let us use parking spots.

Though Parking for our employee's is important the parking lot expansion would be more to serve the patients families that come to visit. We average 60 plus residents which at anyone time could have a visitor. This applies especially to our skilled wing of the facility that runs about 18 patients on average. The skilled patients have visitors more frequently and in greater numbers. Also, many of our visitors are elderly themselves and having to park a good distance away then to walk across a busy street creates a safety issue.

Another thought I had was that our state staffing ratio requirements have changed in over the years which require us to have more staff. We have a lot more staff than when this facility and parking lot were initially built. At the time that the building was built I am sure the parking lot was more than enough.

I hope this is close to what you were looking for. Just let me know if I can give you any other info!

Thanks,



**Jordan Turner**  
**Administrator**  
Marquis Oregon City

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