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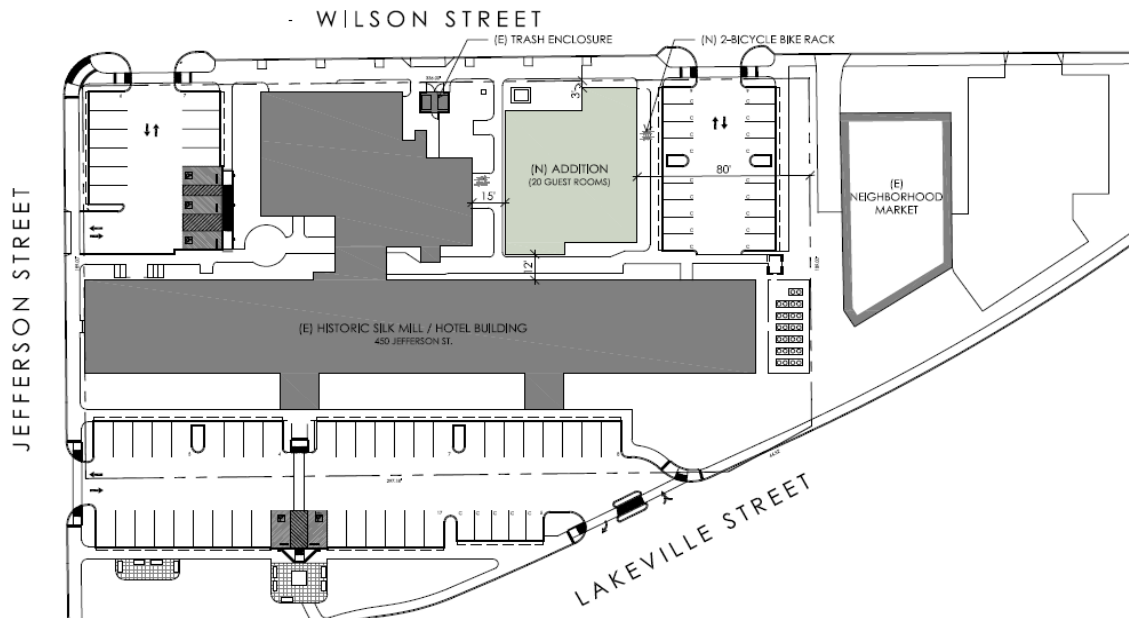
Email: ppatel@bprproperties.com

Date: May 18, 2022

**Subject: Parking Study for Hampton Inn Hotel Expansion at the Historic Silk Mill**

## Introduction

The purpose of the study is to conduct a parking demand estimate for the proposed Hampton Inn Hotel expansion to add 20 guest rooms to the existing 75 guest room hotel at the Historic Silk Mill located at 450 Jefferson Street in the City of Petaluma, CA as shown in **Figure 1**.



**Figure 1: Proposed 20 Guest-Room Expansion Site Plan**

## Project Area

The project site is located at the southwest quadrant of the intersection of Jefferson Street and Wilson Street. The parking lot and site access is provided through driveways on both Jefferson Street and Wilson Street as well as Lakeville Street that forms the southern boundary of the site.

The project proposes a new 2-story building to expand the hotel services of the existing Hampton Inn Hotel at the Historic Silk Mill. The project proposes the addition of 20 new guest rooms which

will add to the existing 75 guest rooms resulting in 95 total number of guest rooms. Currently there are 77 parking spaces available at the project site<sup>1</sup>.

### Parking Spaces Required Per City of Petaluma Municipal Code

AMG estimated the number of parking spaces required for the proposed project per the City of Petaluma’s Municipal Code, Code 11.060 which recommends one (1) space for each living or sleeping unit, plus one (1) space for the owner or manager. Details of the Municipal Code is provided in **Appendix A**.

Therefore, the total parking spaces required would be 96 spaces for the total 95 guest rooms proposed as shown in **Table 1**.

**Table 1: Parking Spaces Required per City Standards**

Total Rooms	City Parking Code	Total Spaces Required
95	1/room +1/manager	96

Note that the City’s minimum parking requirement assumes an estimated 100% occupancy, which is usually not the case for suburban hotels. The U.S. national average is 66.2 % occupancy.<sup>2</sup> It also did not account for ride-hailing services such as Uber and Lyft. Nearly all parking codes that were established more than two decades ago did not reflect the influence of ride-hailing services.

### ITE Parking Trip Generation Analysis and Methodology

As a comparison, AMG utilized Institute of Transportation Engineer’s (ITE) Parking Generation Manual, 5<sup>th</sup> Edition to evaluate if the parking demand created by the proposed hotel expansion would be met by parking-spaces provided.

It is our understanding that the existing Hampton Inn Hotel at the Historic Silk Mill does not contain any conference facility or restaurant for outside visitors. The hotel only has a room that provides continental breakfast for the guests.

#### ITE Average Parking Demand Rates

The ITE Parking Generation Manual contains four different types of hotels: Hotel (ITE Code 310), All Suites Hotel (ITE Code 311), Business Hotel (ITE Code 312) and Resort Hotel (ITE Code 330). Based on AMG’s review of the ITE information and discussions with the client<sup>3</sup>, it was determined that Business Hotel (ITE Code 312) would be the appropriate land use for this study. Detailed descriptions of each hotel types are provided in **Appendix A**.

The ITE Parking Generation Manual provides several statistical information including average, 33<sup>rd</sup> percentile, 85<sup>th</sup> percentile and standard deviation. Additional information provided include

<sup>1</sup> September 23, 2021, email correspondence

<sup>2</sup> HNN Newswire. STR: US hotels post another record year in 2018. January 18, 2019. <http://www.hotelnewsnow.com/Articles/292373/STR-US-hotels-post-another-record-year-in-2018> (Accessed January 4, 2021).

<sup>3</sup> November 5, 2021, email correspondence

time-of-day peaking and place – urban vs. suburban. Many agencies use average parking demand rate as the likely peak parking demand for a land use. However, in some situations such as a large shopping center with major seasonal demand fluctuations (e.g. holiday season), the use of average parking demand might not be appropriate. For this reason, some agencies use 110% of the ITE average rate – with additional 10 % being a safety factor against unexpected parking surges.

85th percentile ITE parking demand rate would provide the most conservative rate for this study. The parking demand estimates based on 110% ITE average rate and 85th percentile rate are summarized in **Table 2**.

**Table 2: ITE Parking Demand Summary**

Project Data			Avg. ITE Rate		110% ITE Ave. Parking Demand		ITE 85th Percentile Rate		85th Percentile Parking Demand	
			Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
Land Use	# Rooms	Unit								
Hotel-Business (ITE Land Use 312)	95	/room	0.72	0.64	75	67	0.83	0.75	79	71

Based on the results of the 110% factored ITE average for peak period parking demand and 85th percentile parking demand analysis, the maximum parking spaces required for the proposed project are 75 spaces and 79 spaces respectively.

**On-Street Parking Occupancy Collection and Review**

AMG conducted parking occupancy surveys of the on-street parking spaces near the project site along Jefferson Street (between Lakeville Street and Edith Street) and along Wilson Street (between Lakeville Street and Jefferson Street). The parking occupancy surveys reflect how the on-street parking spaces are utilized during different times of the day.

Based on the ITE time-of-day information as summarized in **Table 3**, hotel parking peaks around midnight and is reduced to less than 50% parking occupancy after noon for both weekdays and weekends. Based on our discussions, you have indicated that weekends at the hotel are typically busier than the weekdays<sup>4</sup>. Based on this information, AMG conducted parking occupancy surveys between 6:00 a.m. and 2:00 p.m. on Saturday, October 23, 2021, to capture the likely peak parking demand.

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<sup>4</sup> Email, September 23, 2021

**Table 3: ITE Time-of-Day Parking Occupancy for Hotel**

Hour Beginning	Percent of Peak Parking Demand	
	Weekday	Weekend
12:00 – 4:00 a.m.	100	82
5:00 a.m.	-	-
6:00 a.m.	-	96
7:00 a.m.	89	98
8:00 a.m.	64	87
9:00 a.m.	56	74
10:00 a.m.	49	64
11:00 a.m.	45	56
12:00 p.m.	45	48
1:00 p.m.	41	44
2:00 p.m.	39	40

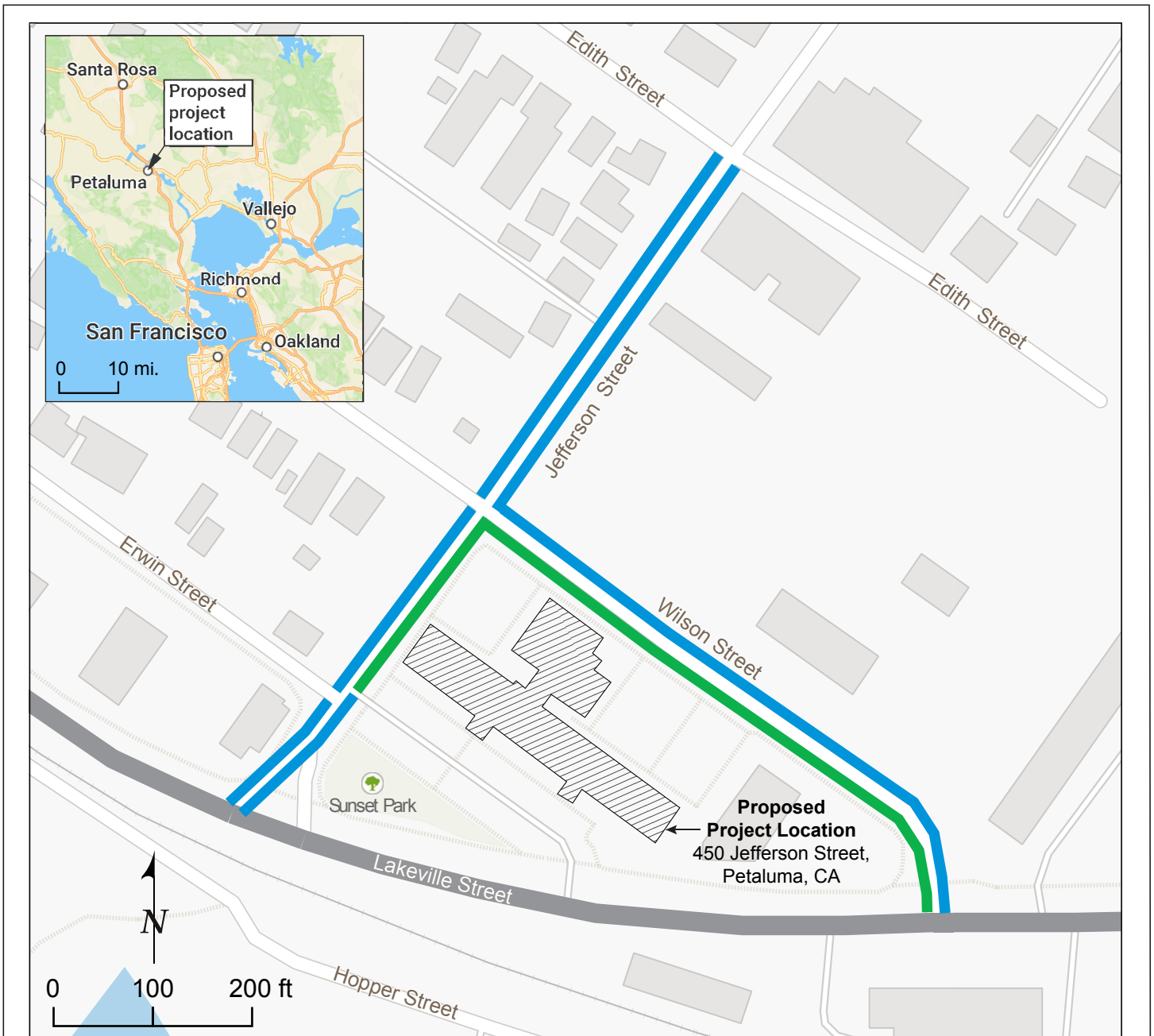
**Note:** This table presents a time-of-day distribution of parking demand on a weekday (two study sites) and a Saturday (one study site) in a general urban/suburban setting.

There are approximately 53 parking spaces on both sides of Jefferson Street (from Lakeville Street to Edith Street). The highest average overall parking occupancy on the street is approximately 26% between 6:00 a.m. and 2:00 p.m.







There are approximately 34 parking spaces on both sides of Wilson Street (from Lakeville Street to Jefferson Street). The highest average overall parking occupancy on the street is approximately 29% between 6 a.m. and 2:00 p.m.

The results indicated that nearly 70% of the on-street parking spaces within two blocks of the proposed hotel expansion are not utilized.

The results of the parking occupancy survey on both streets are shown in **Figure 2**. The parking occupancy survey raw data is provided in **Appendix A**.



Base map modified from MapTiler (OpenStreetMap)

LEGEND	
	Proposed Project Location
Parking Occupancy (%)	
	0-49%
	50-74%
	75-84%
	85-89%
	90-100%

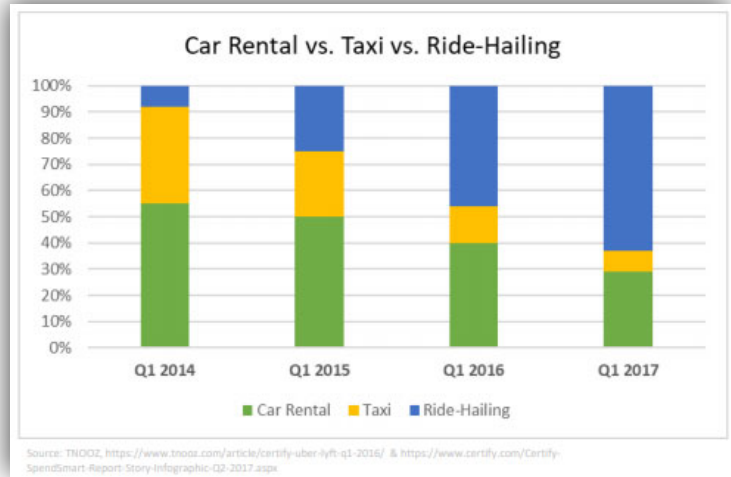
## Potential Factors in Reduction of Parking Demand

### Growth of TNC

As mentioned earlier, major changes in car rental by the hotel guests have been observed by the hotel industry. Several studies have shown that ride-hailing companies, like Uber and Lyft, are changing transportation habits and are having a significant impact on parking demand for many land uses. The largest impacts of ride-hailing services to parking are occurring at hotels, restaurants, events centers, and airports where the demand for ride-hailing is the greatest.

Studies have particularly shown that hotel parking demand seems to have decreased in many places due to ride-hailing; travelers are choosing to use ride-hailing, instead of rental cars, to get to and from the hotel.

**Figure 3** illustrates the progressive use of ride-hailing services between 2014 and 2017 as compared to car rentals and taxis. This figure was referenced from the “Ride-Hailing Impacts on Parking” – An overview created by Walker Consultants<sup>5</sup> study conducted in 2017. The results illustrated in the study were based on actual expense reports by Certify<sup>6</sup>. Based on the study’s analysis results, use of ride-hailing services increased to approximately 62% in 2017 as compared to 8% in 2014. The use of car rentals decreased from approximately 54% in 2014 to 29% in 2017.



**Figure 3: Mode Share of Ground Transportation @ Airports**

Due to the significant increase of TNC usage, many hotels are experiencing a measurable drop in parking demand. New hotel developments across the country are trying to “right-size” the amount of parking spaces. For the city, this would mean less pavement and more sustainable development. The above referenced study is provided in **Appendix B**.

### Transit Use

The location of the project site provides opportunities for daytime employees (eight) to take transit, bike or walk to work. Since the site is approximately 0.2 miles (4–5-minute walk) from the Petaluma Station, it is anticipated that some of the hotel workers might be able to use transit instead of driving to work. This would also reduce parking demand.

<sup>5</sup> Ride-Hailing Impacts on Parking, an overview created by Walker Consultants

<sup>6</sup> Ride-Hailing Report Q2 2017 – On the Road: How Business Travelers Get from A to B, by Certify Inc.

### *Additional Measures to Reduce Auto Trips*

The hotel will also be providing E-bike rentals and EV parking stalls on-site. This will support the City's goal of being carbon neutral by 2030 (Climate Ready 2030).

To provide additional options to driving, the hotel's website will include the following:

- Show option to use a mobile Apps (such as ShuttleQ) or a shuttle call number to ensure effective management of the shuttle.
- Encourage use of Uber/Lyft/and other ride-share Apps.

### *2019 Limited-Service Hotels Study (February 2021 ITE Journal)*

Until recently, there was mostly anecdotal evidence of the impact of TNC on parking at hotels. The February 2021 ITE Journal<sup>7</sup> published an article that documents the potential impacts of TNC at limited-service hotels, based on parking occupancy data collected in September 2019 and February 2020. The study of five limited-service hotels ("hotels") located in South Florida was based on 35 total field-data-collection observations, seven different observations for each hotel, one for each day of the week. All observations were performed at or near the 1:00 a.m. peak hour of parking occupancy for hotel guest rooms.

A limited-service hotel is defined to have little to no meeting room space, sit-down, and full-service restaurants that would attract outside diners. These hotels are not located on golf courses or the beach. Additionally, food service provided by the limited-service hotels is limited to a small food pantry that offers items for sale on a retail basis, complimentary breakfast for hotel guests, and perhaps a limited-menu, order-at-the-counter restaurant. The article also indicated that the analysis is applicable for limited-service hotels in suburban locations. Therefore, it could be concluded that the type of hotels evaluated is similar to the proposed Hampton Inn Hotel expansion project.

As stated in the article, the *"One challenge for planners is to properly determine limited-service hotel parking needs in the absence of significant data and to consider the impacts of ride-app services such as Uber and Lyft."*

The summary of the results includes the following key facts and conclusions:

1. The hotel room occupancies averaged 84% for 27 studies, exceeding the U.S. national average of 66.2% occupancy.
2. The survey results showed parking demand range from a low of 0.05 to a high of 0.76 parked cars per hotel guest room.
3. Survey results showed that 71% of parking demand fall within the 0.20 to 0.50 parked cars per hotel guest room.
4. The 50th percentile (median) observation is 0.39 parked cars per hotel guest room.

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<sup>7</sup> *Parking Requirements for Limited-Service Hotels, February 2021 ITE Journal*

5. The 85<sup>th</sup> percentile is 0.58 parked cars per hotel guest room.
6. Increased reliance on ride-apps such as Uber and Lyft have decreased on-site demand for parking spaces.

The referenced 2021 ITE Journal article are contained in **Appendix B**.

Based on the 85<sup>th</sup> percentile parking demand rate obtained from the February 2021 ITE study, the number of parking spaces required for the proposed Hampton Inn Hotel expansion project is approximately 55 parking spaces as compared to the 79 spaces evaluated using the ITE Parking Generation Manual.

## Conclusion

The conclusions derived from AMG's parking demand analysis conducted for this project are summarized below:

### *Proposed Project*

The project proposes the addition of 20 new guest rooms which will add to the existing 75 guest rooms resulting in 95 total number of guest rooms. Currently there are 77 parking spaces.

### *City Parking Demand Rates*

Results of the parking demand analysis based on the City of Petaluma Municipal Code estimated the need of 96 spaces for the 95 total number of guest rooms at the project site.

### *ITE Parking Generation*

ITE provided several parking demand rates and statistical factors including average and 85<sup>th</sup> percentile parking demand.

- **Average Parking Demand:** Many agencies use average parking demand rate as the likely peak parking demand for a land use. AMG used 110% of ITE average rate – with additional 10 % being a safety factor against unexpected parking surges. Results of the parking demand analysis based on 110% ITE average parking rates estimated that 75 spaces would be required. Therefore, the parking spaces provided by the proposed project meets the estimated parking demand.
- **85<sup>th</sup> Percentile Parking Rate:** The 85<sup>th</sup> percentile parking rate provides a more conservative estimate of parking spaces required. Based on AMG's 85<sup>th</sup> percentile parking rate analysis, 79 spaces would be required. In this scenario, the parking spaces provided by the proposed project would be short by two (2) spaces, given that currently the project site has 77 parking spaces.
- The rates used above did not account for hotel travelers who are choosing to use ride-hailing, instead of rental cars, to get to and from the hotel.
- It is anticipated that some of the hotel workers might be able to use transit instead of driving to work.



### *On-Street Parking Occupancy*

There are approximately 87 on-street parking spaces within two blocks of the hotel. The results indicated that most of the on-street parking spaces within two blocks of the proposed hotel expansion are not utilized. On average, nearly 70% (61 spaces) of the on-street parking spaces are not occupied. These parking spaces could be used for overflow parking during unexpected events that result in an atypical surge in parking demand. To ensure availability of on-site parking spaces for hotel guests, it is highly recommended that employees use the on-street parking spaces.

### *2019 Limited-Service Hotels Study (February 2021 ITE Journal)*

The study of five limited-service hotels (“hotels”) located in South Florida was based on 35 total field-data-collection observations, seven different observations for each hotel, one for each day of the week.

The summary of the results includes the following key facts and conclusions:

- Increased reliance on ride-apps such as Uber and Lyft have decreased on-site demand for parking spaces.
- The survey results showed parking demand range from a low of 0.05 to a high of 0.76 parked cars per hotel guest room.
- Survey results showed that 71% of parking demand fall within the 0.20 to 0.50 parked cars per hotel guest room.
- The 50th percentile (median) observation is 0.39 parked cars per hotel guest room.
- The 85th percentile is 0.58 parked cars per hotel guest room. Based on the 85<sup>th</sup> percentile parking demand rate obtained from the February 2021 ITE study, the number of parking spaces required for the proposed Hampton Inn Hotel expansion project is approximately 55 parking spaces.

This parking study conducted for the Hamptons Inn hotel expansion estimates that the existing 77 parking spaces available at the hotel would be adequate for the 95 total number of guest rooms (with proposed 20 room expansion). Any unexpected or sudden surge in parking demand that exceeds available parking spaces at the hotel could be accommodated by the on-street parking spaces (87 spaces) present within two blocks of the hotel.



## Appendix A – Ordinance, ITE Hotel

## Chapter 11

### PARKING AND LOADING FACILITIES, OFF-STREET

Sections:

- 11.010 Purpose of Off-Street Parking and Loading.
- 11.020 Definitions.
- 11.030 Off-Street Parking – General Regulations.
- 11.035 Exception to Off-Street Parking.
- 11.040 Alternatives to On-Site Parking.
- 11.050 Planned Districts.
- 11.060 Number of Automobile Parking Spaces Required.
- 11.065 Power of the Zoning Administrator (Director) to Modify Requirements.
- 11.070 Standards for Off-Street Automobile Parking Facilities.
- 11.080 Site Plan Approval.
- 11.090 Standards for Bicycle Facilities.
- 11.095 Modifications.
- 11.100 Off-Street Loading Berth Requirements.
- 11.105 Power of the Zoning Administrator to (Director) to Modify or Increase Requirements.
- 11.110 Off-Street Loading Facilities – General Regulations.
- 11.120 Standards for Off-Street Loading Facilities.

#### 11.010 Purpose of Off-Street Parking and Loading.

This chapter establishes regulations to reduce street congestion and traffic hazards in the city of Petaluma by incorporating safe, adequate, attractively designed facilities for off-street parking and loading as an integral part of every use of land in the city requiring such facilities and by providing adequate shower facilities in commercial settings to encourage employee bicycle commuting to and from the workplace. (Ord. 2764 § 3 (Exh. A), 2021.)

#### 11.020 Definitions.

The following definitions shall apply to this chapter:

- A. **Floor Area.** In the case of office, merchandise or service uses, the gross area used or intended to be used by tenants, or for service to the public as customers, patrons, clients, or patients, including areas occupied by fixtures and equipment used for display or sales of merchandise. It does not include areas used principally for nonpublic purposes, such as storage and incidental repair.

**B. Off-Street Parking Space** A permanently surfaced area for automobile and bicycle parking which has been delineated, in accordance with city standards, located either within a structure or in the open, excluding aisles, driveways and access drives.

**C. Off-Street Parking Facility.** A site, or a portion of a site, devoted to off-street parking of automobiles and bicycles, including parking spaces, aisles, access drives and landscaped areas, and providing automobile and bicycle access to a public street or bikeway. (Ord. 2764 § 3 (Exh. A), 2021.)

### 11.030 Off-Street Parking – General Regulations.

The following general requirements apply to off-street parking:

**A. Off-Street Parking.** There shall be provided on the same site with any use off-street parking, spaces for automobiles and bicycles in accordance with the requirements of this chapter, or as provided in Section [11.040](#) (Alternatives to On-Site Parking). In all cases where bicycle parking is required, bicycle parking shall not be more inconveniently located than car parking and attempts should be made to have bicycle parking more convenient. All deviations from the city of Petaluma Municipal Code or the city of Petaluma Zoning Ordinance regarding bicycle parking shall be routed through the PBAC. Where existing buildings not now meeting these requirements are proposed to be enlarged or increased in capacity in excess of 10 percent, in any district except as provided in Table 11.1 for addition of new bedrooms, off-street parking shall be provided as required herein for the entire floor area of the structure.

**B. Off-Street Parking Facilities to Serve One Use.** Off-street parking facilities for one use shall not be considered as providing required off-street parking facilities for any other use except as provided for in Section [11.065\(C\)](#).

**C. More Than One Use on a Site.** If more than one use is located on a site, the number of parking spaces provided shall be equal to the sum of the requirements prescribed in this chapter for each use. (Ord. 2764 § 3 (Exh. A), 2021.)

### 11.035 Exception to Off-Street Parking.

Sites and structures located in a municipal parking assessment district are exempt from the requirement to provide off-street parking facilities. (Ord. 2764 § 3 (Exh. A), 2021.)

## 11.040 Alternatives to On-Site Parking.

A. The requirements of Section [11.030\(A\)](#) shall be considered satisfied if the required parking is provided up to 600 feet from the site of the use being served and the required bicycle parking is provided up to 100 feet from the site, such distance being measured along the shortest available route of pedestrian access to the primary building entrance. The determination of the distance to be permitted (zero to 600 feet) shall be made by the community development director on a case-by-case basis. The director shall consider the following in making the determination: type of use being served; ease of bicycle and pedestrian access from the off-site location to the site being served; characteristics of the off-site parking facility(s); potential adverse effects that reduced on-site parking may present to the immediate area; term of off-site rental/lease arrangements. This alternative does not apply to residential parking.

B. Requirements for the provision of parking facilities, with respect to two or more establishments on the same or different sites, may be satisfied by the permanent allocation of the requisite number of spaces for each use in a common parking facility, located not farther than 300 feet measured along the shortest available route of pedestrian access from the site of any such participating use. In such cases, bicycle parking shall still be required adjacent to each building.

C. The director may approve valet parking in place of on-site parking. For purposes of this section, “valet parking” is defined as an approved parking facility more than 300 feet from the facility served, together with a developer or occupant-provided service which either provides on-demand customer transportation to the facility from the parking area, and vice-versa, or which provides attendants to park and retrieve customer vehicles from the parking area. The following standards shall apply to valet parking:

1. The lot to be used for valet parking must be able to accommodate the number of parking spaces that are required in Section [11.060](#). The on-site parking spaces being provided for this use may be deducted from the total number required in Section [11.060](#).
2. The standards for off-street parking facilities in Section [11.070](#) shall apply to valet parking lots except that, if attendants will park the cars, the requirements of Sections [11.070\(A\)](#) and [\(B\)](#) may be relaxed, consistent with practical design standards.
3. Valet parking lots shall not be permitted in residential zoning districts (RR, R1, R2, R3, R4, R5, MH, or residential P.U.D. districts).
4. The valet parking lot shall be located within one-half mile of the use that it serves.
5. If the valet parking lot serves more than one use, the number of spaces provided shall be equal to the sum of the requirements prescribed in Section [11.060](#) for each use.
6. The valet parking service (attendants or transportation) shall be maintained in service during all hours of operation of the facility served.

7. At any time that the valet parking lot is no longer available for use as a valet parking lot for the approved use, that use shall cease or be reduced to an intensity consistent with available off-street parking until such time as the required off-street parking can be provided.

8. The applicant for valet parking shall be required to submit proof of entitlement to use the proposed valet parking area (lease, rental agreement, ownership) and any permit granted pursuant to this chapter may be conditioned upon the duration of such entitlement. (Ord. 2764 § 3 (Exh. A), 2021.)

### 11.050 Planned Districts.

Separate parking requirements may be adopted pursuant to Chapter [19](#) for planned unit. The more restrictive requirements of this Zoning Ordinance or the planned district regulations shall prevail. (Ord. 2764 § 3 (Exh. A), 2021.)

### 11.060 Number of Automobile Parking Spaces Required.

The number of automobile parking spaces required shall be determined as indicated in Table 11.1.

Table 11.1.

Use	Number of Parking Spaces Required
Artisan/Craft Product Manufacturing	1 space per 500 square feet of gross floor area
Artisan Shop	1 for each 300 gross square feet of floor area
Auto and Vehicle Sales	1 for each 400 square feet of gross floor area
Auto Parts Sales	1 for each 300 gross square feet of floor area
Banks and Financial Services	1 for each 300 gross square feet of floor area
Bars, Taverns, Nightclubs	1 for each 2.5 seats
Bed and Breakfast Inns	1 for each guest room, plus 1 for the inn owner/manager
Child Care Center	1 for each staff member (employee, parent volunteer, etc.), plus 1 loading/unloading space for each 10 children
Commercial Recreation – Bowling Alleys	5 for each alley

Use	Number of Parking Spaces Required
Commercial Recreation – Indoor Dance halls, coin operated amusement arcades, electronic games arcades, ice and roller skating, pool and billiard rooms	1 for each 50 square feet of gross floor area
Conference/Convention Facility	1 for each 3.5 seats of maximum seating capacity or 1 for each 60 square feet of gross floor area if there are no fixed seats
Dwelling – Accessory	No additional parking requirements apply beyond what currently exists for the existing primary dwelling. See specific use regulations in Section <a href="#">7.030</a> .
Dwelling – Single Household, Including Attached Townhomes	1 covered space, plus 2 additional covered or uncovered spaces
Dwelling – Single Household Addition of New Bedrooms	1 additional space for each additional bedroom over 4 bedrooms
Dwelling – Single Household Conversion of Required Covered Parking to Living Space	Space(s) converted to living quarters replaced with covered or uncovered parking space No replacement parking required for conversions to accessory dwelling units or junior accessory dwelling units.
Dwelling – Mobile Home Park	2 for each mobile home space in the park
Dwellings – Multiple Household	1 which may be covered or uncovered for each bedroom, studio, or efficiency unit In no case shall a project provide an overall parking ratio of less than 1.5 spaces per unit.
Funeral Homes, Mortuaries	1 for each 5 seats for the aggregate number of seats provided in all assembly rooms of the mortuary
General Retail Groceries, Specialty Foods	1 for each 300 square feet of gross floor area
<b>Hotels and Motels</b>	<b>1 for each living or sleeping unit, plus 1 for the owner or manager</b>
Libraries, Museums and Art Galleries	1 for each 1.5 employees, plus 1 for each 200 square feet of gross floor area
Maintenance/Repair Service	1 for each 400 square feet of gross floor area
Manufacturing/Processing	1 space per 500 square feet of gross floor area

Use	Number of Parking Spaces Required
Medical Services – Health Care Facility Medical Services – Major	1 for each 3 beds, plus 1 for each employee on the maximum shift, plus 1 for each 2 staff doctors
Medical Services – Minor	1 for each 200 square feet of gross floor area
Offices – Business/Service, Government, Processing, Professional	1 for each 300 gross square feet of floor area
Public/Civic Buildings and Grounds Other than Schools and Administrative Offices	1 for each 2 employees on the maximum shift
Religious Facilities	1 for each 4 seats
Restaurant, Coffee Shop, Café	1 for each 2.5 seats
Rooming, Boarding, Lodging Houses	1 for each bedroom
School – Private Elementary and Junior High	1 for each employee on the maximum shift
School – Private High School and College	1 for each employee on the maximum shift 1 for each 2 students
School – Specialized Education and Training	1 for each employee on the maximum shift 1 for each 2 students
Sports and Entertainment Assembly Facility	1 for each 3.5 seats of maximum seating capacity or 1 for each 60 square feet of gross floor area if there are no fixed seats
Studio – Art, Dance, Martial Arts, Music	1 for each employee on the maximum shift 1 for each 2 students
Theater, Cinema or Performing Arts	1 for each 3.5 seats of maximum seating capacity or 1 for each 60 square feet of gross floor area if there are no fixed seats
Vehicle Services – Major and Minor	1 for each 400 square feet of gross floor area
Wholesaling and Warehouse	1 space per 500 square feet of gross floor area
Unspecified Uses of Buildings, Structures, or Premises	The number of spaces shall be determined by the zoning administrator (director) in accordance with the general purposes standards herein. All new structures in industrial zones shall provide no less than 35 spaces per acre of land.

(Ord. 2764 § 3 (Exh. A), 2021; Ord. 2738 § 5, 2020; Ord. 2711 § 5, 2020; Ord. 2690 § 4, 2019.)



### 11.065 Power of the Zoning Administrator (Director) to Modify Requirements.

The provisions of this section as to number of spaces may be modified by the zoning administrator (director) in the following cases only. Any other request for modification shall be submitted as, and meet the tests for, a variance. If the modification pertains to bicycle parking, it shall be routed through the PBAC as well.

- A. Compact spaces may be proposed as set forth within the adopted city standards, subject to review and approval of the planning commission.
- B. The number of spaces required may be modified for uses such as elderly housing or retirement homes where it can be demonstrated that automobile use or ownership is significantly lower than for other dwelling or lodging houses.
- C. When a common off-street parking facility, located within 300 feet of the uses served, will provide 20 or more parking spaces, the total number of parking spaces required for all the uses served may be reduced by not more than 25 percent upon the obtaining of a conditional use permit. The zoning administrator (director) shall determine prior to granting a conditional use permit for such a reduction that the typical use of the off-street parking facility would be staggered to such an extent that the reduced number of spaces would be adequate to serve all uses sharing the facility. (Ord. 2764 § 3 (Exh. A), 2021.)

### 11.070 Standards for Off-Street Automobile Parking Facilities.

All off-street parking facilities shall conform with the following standards:

- A. *Aisles.* Access to each off-street automobile or bicycle parking space shall be from a driveway or aisle, which is sufficient for readily turning and maneuvering automobiles and bicycles.
- B. *Access.* Each parking space shall be accessible from a street or alley or from an aisle or drive connecting with a street or alley. No off-street parking facility for five or more spaces in an R district shall be designed so that vehicles must back across a sidewalk in order to gain access to a street or alley.

When a parking facility does not abut a public or private street, alley, or access easement, there shall be provided an access drive of not less than 20 feet in width, except as follows:

1. Drives furnishing access to parking facilities serving from three to 10 dwelling units shall be not less than 12 feet in width and drives serving two or fewer dwelling units shall be not less than 10 feet in width.
  2. Where separated one-way access drives are proposed, these shall consist of two drives each of which shall not be less than 12 feet in width.
- C. *Site Distance.* Each entrance and exit to a parking lot or driveway shall be constructed and maintained so that any vehicle entering or leaving such parking lot shall be clearly visible a distance of not less than 15 feet

to a person approaching such entrance or exit on any abutting pedestrian walk or foot path and not less than 30 feet to a person approaching such entrance or exit on any abutting bikeway.

D. *Driveway Gradients.* The maximum gradient for an aisle or drive connecting off-street parking space(s) with the public right-of-way shall not exceed 15 percent except in hilly areas where maximum gradient shall not exceed 18 percent and the maximum change in gradient of any such aisle or drive shall not exceed 12 percent rise or eight percent decline in any 30 linear feet.

E. *Parking in Required Yards.* Parking areas for other than single-family, residential duplex, and bed and breakfast structures shall not be permitted in required front setback or required street side setback.

F. *Permanent Surface.* Parking areas, aisles, and access drives shall be constructed and maintained to provide a durable, dustless surface and shall be graded and drained to dispose of surface water without damage to private or public properties, streets, or alleys.

G. *Lighting.* Any lights provided to illuminate a parking facility shall be arranged so as to reflect the light away from any adjacent properties, streets or highways.

H. *Repair Work.* No repair work or servicing of vehicles shall be conducted on parking area.

I. *Parking Stall Size.* Parking stall size shall be determined by the planning commission in the Site Plan and Architectural Review Procedures and Guidelines.

J. *Landscape Reserve.* Parking spaces required in industrial and business parks zoning districts that exceed current employment needs may be reserved as landscaped area, subject to approval by the director. (Ord. 2764 § 3 (Exh. A), 2021.)

## 11.080 Site Plan Approval.

All parking facilities except those provided for permitted principal uses in the A, RR, R1, R2, and R3 districts shall be subject to site plan approval as provided in Section [24.010](#), and all areas not used for parking spaces and access drives shall be landscaped in accordance with the standards of Chapter [14](#). (Ord. 2764 § 3 (Exh. A), 2021.)

## 11.090 Standards for Bicycle Facilities.

The following bicycle facilities shall be provided:

A. *Number of Bicycle Parking Spaces Required.* The number of bicycle parking spaces required shall be a minimum of 10 percent of the automobile spaces required, except for commercial recreation and community facilities which shall provide a minimum of 25 percent of the automobile spaces required.

B. *Type of Bicycle Parking.* The city shall require the installation of a certain percentage of bicycle parking (bicycle locker and guarded parking, covered and uncovered bicycle racks) depending on the type of land use. Unless otherwise specified on a case-by-case basis, of the total bicycle spaces required 60 percent should be bicycle lockers, another form of enclosed bicycle parking, or guarded parking and 40 percent should be bicycle racks covered. The intent of this requirement is to provide secure parking at locations where employees and customers will be parking for long periods of time, in particular adjacent to any areas close to public transportation. All deviations from this requirement shall be routed through the PBAC.

C. *Showers.* Employee shower facilities shall be provided for any new building constructed or for any addition to or enlargement of any existing building in compliance with the Table 11.2:

Table 11.2

Use	Number of Showers Required
Medical, Professional General Business Offices, Financial Services, Business and Trade Schools, General Business Services, Research and Development, Manufacturing	
Less than 10,000 gross square feet	None
10,000 – 19,999 gross square feet	1
20,000 – 49,999 gross square feet	2
More than 50,000 gross square feet	4
Retail, Personal Services, Eating and Drinking Establishments	
Less than 10,000 gross square feet	None
10,000 – 24,999 gross square feet	1
25,000 – 49,999 gross square feet	2
More than 100,000 gross square feet	4

(Ord. 2764 § 3 (Exh. A), 2021.)

**11.095 Modifications.**

The provisions of this section as to square footage requiring showers may be modified. Any request for modification shall be routed through the Petaluma bicycle advisory committee for recommendation to the planning commission. (Ord. 2764 § 3 (Exh. A), 2021.)

**11.100 Off-Street Loading Berth Requirements.**

For every building or addition, the number of off-street loading berths required shall be as indicated in Table 11.3.

Table 11.3

<b>Use</b>	<b>Number of Loading Berths Required</b>
Motels, hotels, restaurants, public and private business and administrative office, post offices, hospitals, sanitariums, nursing homes, and charitable and religious institutions and clubs	
less than 5,000 sq. ft. of gross floor area	<b>0</b>
5,001 to 50,000 sq. ft. of gross floor area	<b>1</b>
50,001 to 150,000 sq. ft. of gross floor area	<b>2</b>
each additional 150,000 sq. ft. of gross floor area	<b>1</b>
Commercial and industrial establishments, including retail stores, personal service establishments, commercial service enterprises, warehouses, storage facilities, manufacturing plants, and other industrial uses	
less than 12,500 sq. ft. of gross floor area	<b>1</b>
12,501 to 20,000 sq. ft. of gross floor area	<b>2</b>
20,000 to 30,000 sq. ft. of gross floor area	<b>3</b>
30,000 to 50,000 sq. ft. of gross floor area	<b>4</b>
50,000 to 75,000 sq. ft. of gross floor area	<b>5</b>
each additional 25,000 sq. ft. of gross floor space	<b>1</b>
Offices, public buildings other than administrative offices, schools and colleges, places of public assembly, charitable and religious institutions and clubs not used for human habitation, and public utility and public service	One loading berth, plus such additional berths as may be prescribed by the zoning administrator (director)

Use	Number of Loading Berths Required
structures and installations, when any of the foregoing requires the recurring receipt, delivery, or distribution of goods or equipment by truck	
Mortuaries	
less than 5,000 sq. ft. of gross floor area	1
5,000 to 10,000 sq. ft. of gross floor area	2
each additional 5,000 sq. ft. of gross floor space	1
Cemeteries, columbaria and crematories	One berth plus the number of additional berths prescribed by the zoning administrator (director)
Any other use which requires the recurring receipt or distribution of goods or equipment by truck	One berth plus the number of additional berths prescribed by the zoning administrator (director)

(Ord. 2764 § 3 (Exh. A), 2021.)

### 11.105 Power of the Zoning Administrator to (Director) to Modify or Increase Requirements.

The provisions of this section as to number of spaces may be modified or increased by the zoning administrator (director) in the following cases only. Any other request for modification shall be submitted as, and meet the tests for, a variance. If the modification pertains to bicycle parking, it shall be routed through the PBAC as well.

A. The number of off-street loading spaces may be reduced by not more than 10 percent when a common loading facility is provided within 300 feet of the uses served, upon the obtaining of a conditional use permit. The zoning administrator (director) shall determine prior to granting a conditional use permit for such a reduction that the typical use of the off-street loading facility would be staggered to such an extent that the reduced number of spaces would be adequate to serve all uses sharing the facility.

B. Off-street loading berths in addition to those prescribed in the schedule of off-street loading berth requirements shall be provided if the zoning administrator (director) finds that such additional berths are necessary to ensure that trucks will not be loaded, unloaded, or stored on public streets. A finding of the zoning administrator (director) shall be based on an investigation of the anticipated frequency of truck pick-ups and deliveries and of the truck storage requirements of the use for which the off-street loading berths are required.

(Ord. 2764 § 3 (Exh. A), 2021.)

## 11.110 Off-Street Loading Facilities – General Regulations.

The following general requirements apply to off-street parking:

- A. At the time of initial occupancy, major alteration, or enlargement of a site, or of completion of construction of a structure or of a major alteration or enlargement of a structure, there shall be provided off-street loading facilities for trucks in accordance with the schedule of off-street loading berth requirements prescribed in Section [11.100](#). For the purpose of this section, the terms “major alteration” or “enlargement” shall mean a change of use or an addition which would increase the number of loading berths required by not less than 10 percent of the total number required. The number of loading berths provided for a major alteration or enlargement of a site or structure shall be in addition to the number existing prior to the alteration or enlargement, unless the pre-existing number is greater than the number prescribed in Section [11.100](#) in which instance the number in excess of the prescribed minimum shall be counted in calculating the number provided to serve the major alteration or enlargement.
- B. *Location of Off-Street Loading Facilities.* Off-street loading facilities prescribed in Section [11.100](#), inclusive, shall be located on the same site with the use for which the berths are required or on an adjoining site.
- C. *Off-Street Loading Facilities to Serve One Use.* Off-street loading facilities for one use shall not be considered as providing required off-street loading facilities for any other use except as provided for in Section [11.105](#).
- D. *More Than One Use on a Site.* If more than one use is located on a site, the number of loading berths provided shall be equal to the sum of the requirements prescribed in this article for each use. If more than one use is located on a site and the gross floor area of each use is less than the minimum for which loading berths are required, off-street loading berths shall be provided as if the aggregate gross floor area were used for the use requiring the greatest number of loading berths.
- E. Space allocated to any off-street loading berth shall not, while so located, be used to satisfy the space requirements for any off-street parking facility. (Ord. 2764 § 3 (Exh. A), 2021.)

## 11.120 Standards for Off-Street Loading Facilities.

All off-street loading facilities shall conform to the following standards:

- A. Each loading berth shall be not less than 45 feet in length and 12 feet in width exclusive of aisle or maneuvering space, and shall have an overhead clearance of not less than 14 feet, except that for mortuaries, cemeteries, columbariums and crematories, a loading berth used exclusively for hearses shall be not less than 24 feet in length and 10 feet in width and shall have an overhead clearance of not less than eight feet.

- B. Such space may occupy all or any part of any required setback, except front and street side setbacks, and shall not be located closer than 50 feet to any lot in any R district, unless enclosed on all sides by a wall not less than eight feet in height.
- C. Sufficient room for turning and maneuvering vehicles shall be provided on the site.
- D. Each loading berth shall be accessible from a street or alley or from an aisle or drive connecting with a street or alley.
- E. Entrances from and exits to streets and alleys shall be designed to minimize traffic congestion and shall be placed at locations approved by the zoning administrator (director).
- F. The loading area, aisles, and access drives shall be paved so as to provide a durable, dustless surface and shall be so graded and drained so as to dispose of surface water without damage to private or public properties, streets, or alleys.
- G. Bumper rails shall be provided at locations approved by the zoning administrator (director) where needed for safety or to protect property.
- H. If the loading area is illuminated, lighting shall be deflected away from abutting residential sites so as to cause no annoying glare.
- I. No repair work or servicing of vehicles shall be conducted in a loading area.
- J. Landscaping and screening, in accordance with the standards of Chapter [14](#). (Ord. 2764 § 3 (Exh. A), 2021.)

**The Petaluma Implementing Zoning Ordinance is current through Ordinance 2772, passed April 19, 2021.**

Disclaimer: The city clerk's office has the official version of the Petaluma Implementing Zoning Ordinance. Users should contact the city clerk's office for ordinances passed subsequent to the ordinance cited above.

**Note:** This site does not support Internet Explorer. To view this site, Code Publishing Company recommends using one of the following browsers: Google Chrome, Firefox, or Safari.

[City Website: cityofpetaluma.net](http://cityofpetaluma.net)

[Code Publishing Company](#)

## 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, cocktail lounge, meeting rooms, banquet room, and convention facilities. It typically provides a swimming pool or another recreational facility such as a fitness room. All suites hotel (Land Use 311), business hotel (Land Use 312), motel (Land Use 320), and resort hotel (Land Use 330) are related uses.

### Time of Day Distribution for Parking Demand

The following table presents a time-of-day distribution of parking demand (1) on a weekday (four study sites) and a Saturday (five study sites) in a general urban/suburban setting and (2) on a weekday (one study site) and a Saturday (one study site) in a dense multi-use urban setting.

Hour Beginning	Percent of Peak Parking Demand			
	General Urban/Suburban		Dense Multi-Use Urban	
	Weekday	Saturday	Weekday	Saturday
12:00-4:00 a.m.	96	74	93	100
5:00 a.m.	–	–	–	–
6:00 a.m.	91	62	97	95
7:00 a.m.	89	62	100	95
8:00 a.m.	90	72	93	89
9:00 a.m.	100	74	72	85
10:00 a.m.	98	76	69	74
11:00 a.m.	89	77	65	61
12:00 p.m.	85	79	78	47
1:00 p.m.	75	78	78	42
2:00 p.m.	81	67	63	41
3:00 p.m.	70	64	59	43
4:00 p.m.	74	67	58	48
5:00 p.m.	65	73	52	53
6:00 p.m.	73	83	63	64
7:00 p.m.	78	92	74	67
8:00 p.m.	93	97	78	78
9:00 p.m.	96	100	72	81
10:00 p.m.	95	91	84	93
11:00 p.m.	95	83	92	98

Land Use Descriptions and Data Plots

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## Land Use: 311 All Suites Hotel

### Description

An all suites hotel is a place of lodging that provides sleeping accommodations, a small restaurant and lounge, and small amounts of meeting space. Each suite includes a sitting room and separate bedroom. An in-room kitchen is often provided. Hotel (Land Use 310), business hotel (Land Use 312), motel (Land Use 320), and resort hotel (Land Use 330) are related uses.

### Time of Day Distribution for Parking Demand

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

Hour Beginning	Percent of Peak Parking Demand	
	Weekday	Saturday
12:00-4:00 a.m.	100	100
5:00 a.m.	–	–
6:00 a.m.	89	76
7:00 a.m.	81	77
8:00 a.m.	72	74
9:00 a.m.	71	69
10:00 a.m.	48	50
11:00 a.m.	41	45
12:00 p.m.	29	35
1:00 p.m.	30	33
2:00 p.m.	25	34
3:00 p.m.	34	40
4:00 p.m.	43	43
5:00 p.m.	38	58
6:00 p.m.	40	68
7:00 p.m.	36	50
8:00 p.m.	56	45
9:00 p.m.	74	54
10:00 p.m.	85	74
11:00 p.m.	98	89

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## Land Use: 312 Business Hotel

### Description

A business hotel is a place of lodging aimed toward the business traveler but also accommodates a growing number of recreational travelers. These hotels provide sleeping accommodations and other limited facilities, such as a breakfast buffet bar and afternoon beverage bar. Some provide a full-service restaurant geared toward hotel guests. Some provide a swimming pool; most provide fitness facilities. Limited space for meeting facilities may be provided. Each unit is a large single room. Hotel (Land Use 310), all suites hotel (Land Use 311), motel (Land Use 320), and resort hotel (Land Use 330) are related uses.

### Time of Day Distribution for Parking Demand

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

Hour Beginning	Percent of Peak Parking Demand	
	Weekday	Saturday
12:00-4:00 a.m.	100	82
5:00 a.m.	–	–
6:00 a.m.	–	96
7:00 a.m.	89	98
8:00 a.m.	64	87
9:00 a.m.	56	74
10:00 a.m.	49	64
11:00 a.m.	45	56
12:00 p.m.	45	48
1:00 p.m.	41	44
2:00 p.m.	39	40
3:00 p.m.	39	46
4:00 p.m.	44	48
5:00 p.m.	48	55
6:00 p.m.	51	60
7:00 p.m.	54	64
8:00 p.m.	62	67
9:00 p.m.	72	81
10:00 p.m.	86	88
11:00 p.m.	93	100

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Parking Generation Manual, 5th Edition



## Land Use: 330 Resort Hotel

### Description

A resort hotel is similar to a hotel (Land Use 310) in that it provides sleeping accommodations, full-service restaurants, cocktail lounges, retail shops, and guest services. The primary difference is that a resort hotel caters to the tourist and vacation industry, often providing a wide variety of recreational facilities/programs (golf courses, tennis courts, beach access, or other amenities) rather than convention and meeting business. Hotel (Land Use 310), all suites hotel (Land Use 311), business hotel (Land Use 312), and motel (Land Use 320) are related uses.

It is recognized that some resort hotels cater to convention business as well as the tourist and vacation industry. The sites in the database do not have convention facilities. A resort hotel with convention facilities is likely to have a different level and pattern of parking demand than is presented below and in the data plots.

### Time of Day Distribution for Parking Demand

The following table presents a time-of-day distribution of parking demand on a weekday (one study site) and a Saturday (one study site) in a dense multi-use urban setting.

Hour Beginning	Percent of Peak Parking Demand	
	Weekday	Saturday
12:00-4:00 a.m.	93	84
5:00 a.m.	–	–
6:00 a.m.	71	58
7:00 a.m.	74	58
8:00 a.m.	88	63
9:00 a.m.	100	65
10:00 a.m.	95	60
11:00 a.m.	92	60
12:00 p.m.	86	59
1:00 p.m.	87	50
2:00 p.m.	85	51
3:00 p.m.	87	49
4:00 p.m.	87	54
5:00 p.m.	85	52
6:00 p.m.	73	63
7:00 p.m.	72	80
8:00 p.m.	80	94
9:00 p.m.	83	99
10:00 p.m.	94	100
11:00 p.m.	96	93



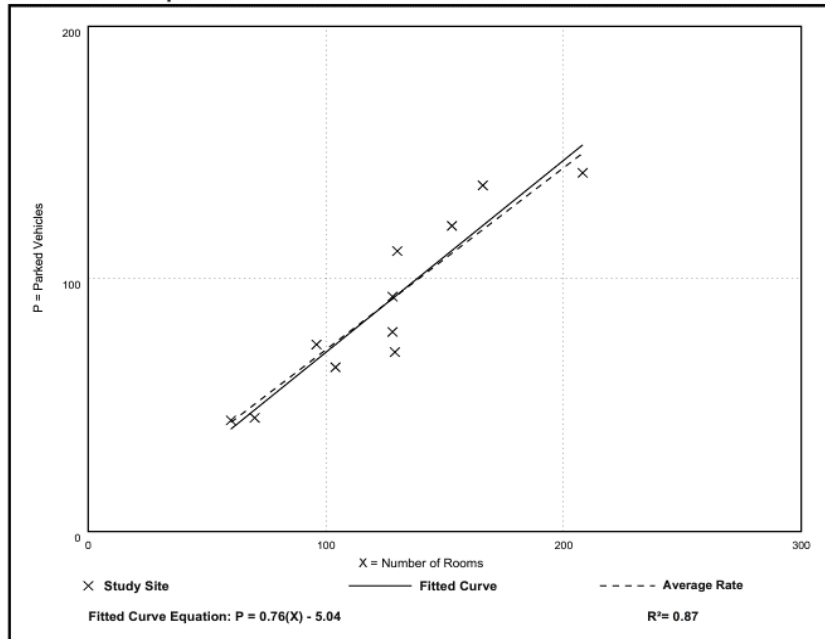
## Business Hotel (312)

**Peak Period Parking Demand vs: Rooms**  
 On a: **Weekday (Monday - Friday)**  
**Setting/Location: General Urban/Suburban**  
 Peak Period of Parking Demand: 10:00 p.m. - 7:00 a.m.  
 Number of Studies: 11  
 Avg. Num. of Rooms: 125

### Peak Period Parking Demand per Room

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
0.72	0.55 - 0.85	0.64 / 0.83	***	0.10 ( 14% )

### Data Plot and Equation



## Business Hotel (312)

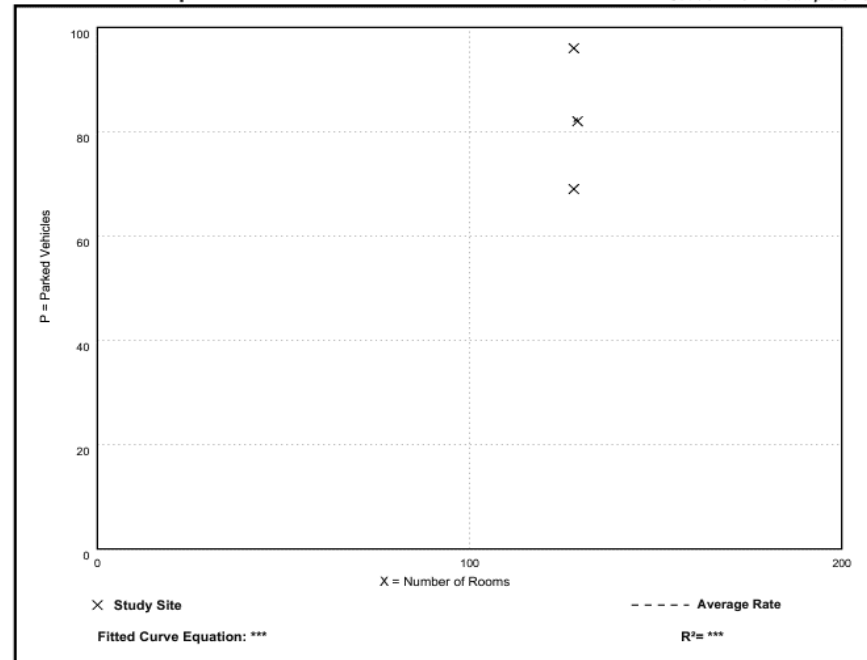
**Peak Period Parking Demand vs: Rooms**  
 On a: **Saturday**  
**Setting/Location: General Urban/Suburban**  
 Peak Period of Parking Demand: 10:00 p.m. - 8:00 a.m.  
 Number of Studies: 3  
 Avg. Num. of Rooms: 128

### Peak Period Parking Demand per Room

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
0.64	0.54 - 0.75	0.57 / 0.75	***	0.11 ( 17% )

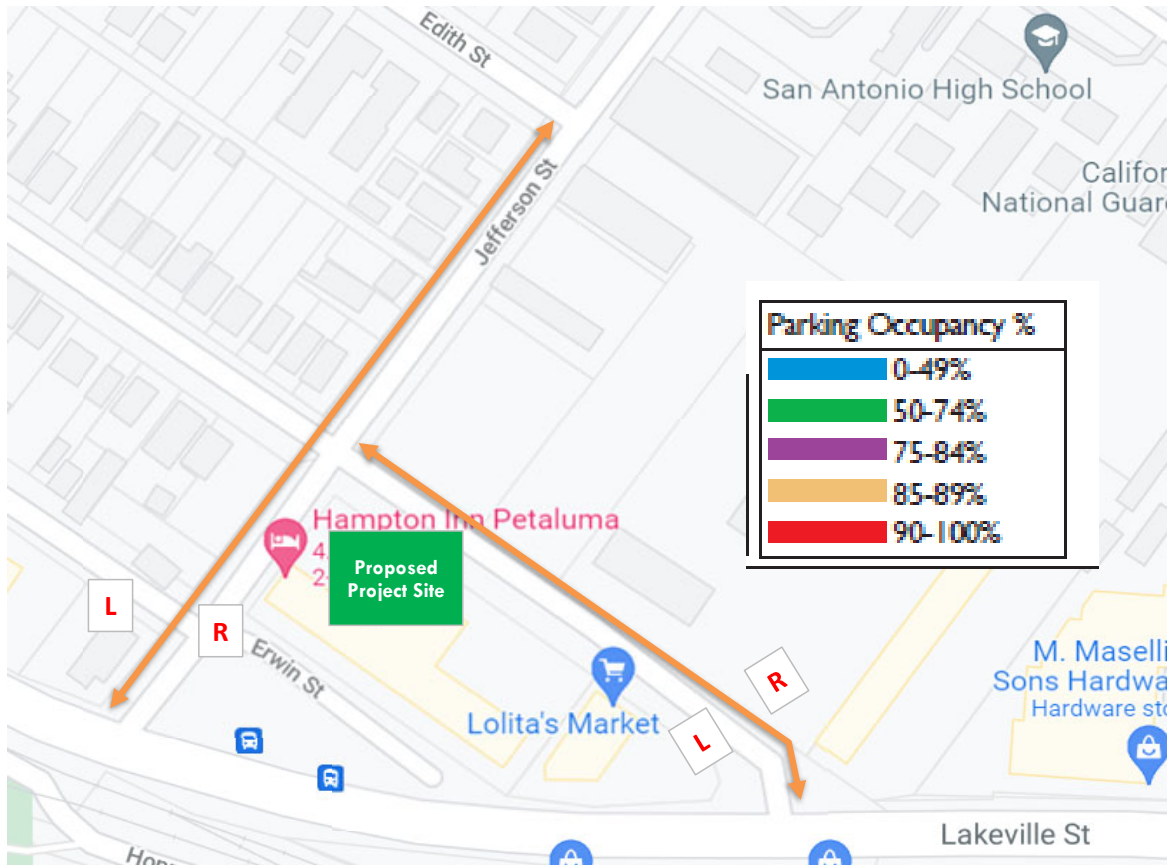
### Data Plot and Equation

*Caution – Small Sample Size*



Jefferson St		Hourly	6:00 AM	7	8	9	10	11	12 Noon	1	2	On-Street Parking Spaces
Lakeville to Erwin	L	0	0	0	0	0	0	0	0	0	0	3
	Occupancy	0	0	0	0	0	0	0	0	0	0	
	R	0	0	0	0	0	0	0	0	0	0	3
Erwin to Wilson	L	0	0	0	0	1	1	0	0	0	0	11
	Occupancy	0%	0%	0%	0%	9%	9%	0%	0%	0%	0%	
	R	1	1	1	1	1	1	1	1	2	2	3
Wilson to Edith	L	7	7	6	6	5	6	6	6	5	5	15
	Occupancy	47%	47%	40%	40%	33%	40%	40%	40%	33%	33%	
	R	6	6	6	6	6	6	6	5	6	5	18
	Occupancy	33%	33%	33%	33%	33%	33%	33%	28%	33%	28%	
	Average Parking Occupancy	26%	26%	25%	25%	25%	26%	23%	25%	23%		53

Wilson St		Hourly	6:00 AM	7	8	9	10	11	12 Noon	1	2	On-Street Parking Spaces
Jefferson to Lakeville	L	4	4	6	5	5	5	5	8	8	6	14
	Occupancy	29%	29%	43%	36%	36%	36%	36%	57%	57%	43%	
	R	1	1	2	2	1	1	1	2	2	2	20
	Occupancy	5%	5%	10%	10%	5%	5%	5%	10%	10%	10%	
Average Parking Occupancy	15%	15%	24%	21%	18%	18%	18%	29%	29%	24%	34	





## **Appendix B – TNC, ITE, Parking Occupancy, Ltd Serv Hotel**

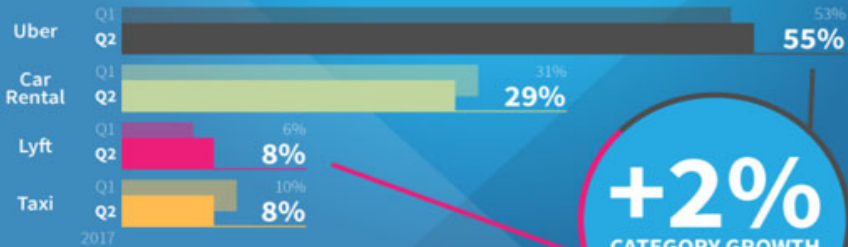
# On the Road: How Business Travelers Get from A to B

Midway through 2017 and ride-hailing's growth among business travelers shows little signs of slowing. Share of receipts and expenses for taxi and car rental dropped over the second quarter, while category leaders Uber and Lyft saw matching increases, and increased head-to-head competition.



## NATIONAL GROUND TRANSPORTATION

Uber grew and car rental dropped, while taxi slowed down enough in the quarter to let Lyft catch up



**+2%**  
CATEGORY GROWTH  
FOR UBER AND LYFT

Taxi in single-digit territory for the first time on record



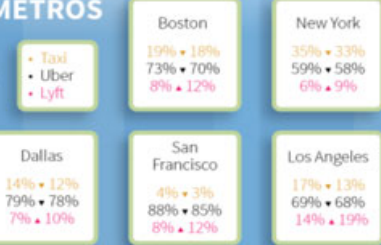
## UBER V. TAXI V. LYFT

A look at share of rides with car rental removed from the data



## TAXI V. RIDE-HAILING IN MAJOR METROS

Uber lost ground in all but Chicago, while taxi gained only a small share in Miami and Atlanta; Lyft picked up between 2-5% in most cities across the country



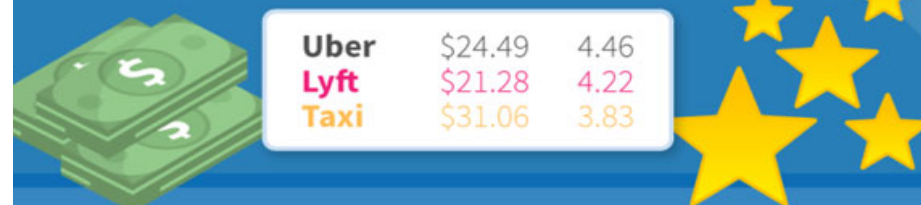
## THE GOOD, THE BAD, THE FUNNY

With competition shaping up between Uber and Lyft, here's what business travelers are saying about each—the good, the bad and the funny



## AVERAGE COSTS AND RATINGS

Average cost per ride continues to decline across the category, and despite what recent headline would indicate users love Uber most



## Opinions

# What the rise of Uber means for hotel parking lots

25 JANUARY 2017 1:13 PM

What could Uber's potential impact on transportation mean for hotel guests' need for their cars? The hotel parking lot might be living on borrowed time.



By **George Jordan**  
george.jordan@ohrllc.com

Recently, I was bemoaning to a colleague about how I often struggle to find a relevant topic to write about for this column. Angie said, "You should write about Uber." And I thought to myself, well you are "uber-duber-whack-a-doodle-doesky. ... What does that have to do with hotels?" It turns out, quite a bit, and Angela is one smart lady.

Uber and other ride-sharing services—and the rise of social media applied to a smartphone—translates into a highly diminished desire for Generation Z citizens (and others) to own and drive a car. Indeed, lots of chatter online recently makes a very valid case that for the most part, private auto ownership is one of the worst capital investments anyone could make.

The very expensive car sits mostly un-utilized most hours of the day. It's parked in a garage overnight, is driven to/from work, or potentially shopping, and these activities may chew up a few hours a day of actual drive time. Otherwise, it sits idle. Factor in the recurring costs of ownership, and Gen Z has figured out it's cheaper and less stressful to "Uber it" to the next location.

With the added benefit of being able to "text and ride" and communicate via social media as a passenger, why drive when you can ride? Car ownership, and parking utilization, may have peaked in urban communities.

**Ride-sharing works well in dense major metropolitan areas but not quite so well in ex-urban locations,** where distances and wait times compel some form of car ownership. Finally, the cost of renting a car and parking (whether valet or self-park) often exceeds the cost of overnight hotel accommodations in larger cities—e.g. \$70 per night in Chicago.

**The end result of these burgeoning trends is a precipitous drop in parking demand. New hotels are reducing the amount of parking stalls or eliminating parking altogether. In some major urban markets, residential parking ratios are extremely low, and cities are requiring fewer parking spots in order to encourage greater use of public transportation.**

Autonomous vehicles make headlines on a daily basis. Every car manufacturer is in deep research and development and is looking forward to the day when vehicles are effectively robotic transports controlled by computers. Watch out Uber drivers: Uber will remain, but soon enough, the human driver won't.

The day is coming when citizenry doesn't drive, they ride. They do not park, they exit. Traffic jams and gridlock will be stricken from the urban dictionary. Vehicles will be computerized and unattended means of conveyance that are nearly fully utilized capital investments. Parking may become an afterthought, and its revenue streams like the telephone department deleted. You remember landlines, right?

**All of this buildup is to point out a major trend at urban hotels: parking is on the decline, no qualifiers.** For hotel owners and managers, this means "right-sizing" parking garages, moving to valet operations, and otherwise creating value for those that still do park. (Squeegee the windshield clean upon departure, perhaps?) It means less land requirements for new builds, and greater return on investment when sized right.

But none of this happens overnight or even in the next five years. So in the short term, what are you doing to maximize convenience and parking revenues to enhance the guest experience? Cleaning the windshield, offering a bottle of water on a hot summer day, combining door/bell services with valet are a means to improve the guest experience and the bottom line.

Short term, we find a new form of gridlock in the urban core, "Uberlock." The ride-share drivers have activated their idle capital (cars) and are circling the city blocks like vultures in the desert, waiting for something to die. And it will; it's called parking.

George Jordan is senior vice president – operations for Oxford Hotels & Resorts, overseeing a cluster of three-, four-, and 4 ½ -star hotels, both operating and under development. Mr. Jordan has worked in hotels for over 30 years including the Arizona Biltmore, The St. Paul, The Marquette, The Drake, Raffaello Hotel, Hotel Felix, and most recently The Godfrey Hotel Chicago. New openings currently orchestrated by Mr. Jordan include the Godfrey Hotel Boston, and LondonHouse Chicago. Mr. Jordan rose through the ranks while attending college at University of Southern California and Arizona State University, where he obtained a B.S. in finance. George has served as area food and beverage director for Hilton International, based out of the Drake Hotel Chicago, and also as hotel

Change Language:  ▼

## The Uber Effect

The “Uber Effect” refers to the influence of mobility sharing services, such as Uber and Lyft, on traditional transportation generators like commercial establishments, entertainment complexes, airports and hotels.

Ride-hailing, mobility-on-demand, ride-sharing: Whatever you call it, the media have extolled these app-based services as “disrupters” and “category killers.” The taxi and parking industries appear to be the “disrupted” and “killed” in these dire-future forecasts.

Outside this media echo chamber, there is evidence where Uber and Lyft are affecting the parking industry in certain markets. Uber doesn't release financials. Lyft has yet to make a dime. Nonetheless, parking facility owners, managers and other industry experts see ride-hailing companies affecting several specific demand sectors.

Are ride-hailing apps a trend? A spreading contagion dooming parking? Or just a fad, a blip in the nonstop, 100-year growth curve of commercial parking?

### Airports Handle Ride Apps Differently

Uber and Lyft entered the Richmond, Va. market in August 2014. Richmond International Airport's (RIC) chief financial officer Doug Blum is closely monitoring the situation, but says, thus far, the “effect” has been minimal.

“Our enplanements have been growing the last four years and our parking income has also grown apace,” he notes. “The ride shares are taking a good bit of business from taxis, but the taxis are surviving. I think an overlooked part of the Uber traffic is from people that would have otherwise asked a friend, relative or co-worker to drive them.”

For airport administrators, an early warning of storms ahead might be diminishing terminal curb space availability.

As fewer vehicles exit airport roadways to park, more will destinate at the airport's front door. Competition for parking at airport curbsides has always been challenging, but now, with ride-hailing vehicles in the mix, congestion has worsened.

### BUR Ride-Sharing Drivers Pick Up in Parking Lot

Hollywood Burbank Airport (BUR) has addressed curbside congestion and concern over potential lost parking revenues. The airport requires ride-hailing drivers to pick up their arriving passengers in the short-term parking lot.

This has added an estimated \$2,700 per month in parking fees, according to reports in the Los Angeles Times. It's not clear whether these new fees offset parking revenue losses created by the on-demand services spiriting away their customers.

### LAX Drivers Pay Airport Access Fees

Also according to the LA Times, Los Angeles International Airport (LAX), has reached an agreement with Uber and Lyft that treats the on-demand services more like taxis, which pay commercial vehicle access fees to the airport.

LAX has created special waiting areas and curbside pick-up zones for the ride hailers. In return, Uber and its peers have each agreed to guarantee LAX a minimum of \$25,000 per month in commercial vehicle fees.

To date, these fees have greatly exceeded set minimums, but it's unknown if these gains offset potential parking revenue losses.

### End of the Designated Driver?

Worldwide, restaurants, bars and concert venues are attributing a drop in parking demand directly to Uber and its competitors.

In São Paulo, Brazil, city managers blame Uber for a 40 percent decline in the parking tax income flowing from parking demand.

Recent articles from a variety of sources, such as the New York Times, indicate that app-users are partying longer and harder, freed from concerns about parking hassles and driving under the influence.

In Chicago, a Crain's Business Weekly article, "Will Uber and driverless cars turn the parking biz into roadkill?," identified one garage near the famed Rush Street nightlife zone citing a revenue decline of five percent. (Yes, the garage is still in business.)

NPA stalwarts John Hammerschlag of Hammerschlag Parking and SpotHero's Mark Lawrence were also cited in the Crain's article.

Hammerschlag noted the "Uber Effect" had produced "some impact" in certain locales, but that overall, his year-to-year traffic volumes were up.

Lawrence observed his nighttime customers were still driving, but perhaps more likely to park once, then Uber between hotspots.

### Getting a Lyft to the Hotel

The hospitality parking sector has been hammered as guests, especially those from out-of-town who previously might have rented a car, choose to be driven to their hotel destination.

In an article in the Hotel News entitled, "What the Rise of Uber Means for Hotel Parking Lots," George Jordan, senior vice president for operations at Oxford Hotels & Resorts wrote recently, "[A] major trend at urban hotels: parking is on the decline, no qualifiers. For hotel owners and managers, this means 'right-sizing' parking garages, moving to valet operations, and otherwise creating value for those that still do park. . . It means less land requirements for new builds, and greater return on investment when sized right."

Annapolis-based Towne Park is a parking management leader in the hospitality sector. Chuck Heskett, president of the firm, agrees that on-demand services have reduced hospitality parking needs, but adds a caveat.

"Our hotel business has been negatively impacted. That's the bad news. The good news is the impact has been modest. The most severe loss in vehicle volume counts is occurring on the coasts and in larger event and entertainment hotels."

### Most Commuters Still Prefer to Drive Themselves

Jerry Skillett of New York-based Citizens Parking has been quoted on numerous occasions as not fearing the onset of ride hailing and driverless cars.

In a recent article in the Atlanta Journal & Constitution, Skillett recounted that 90 percent of the vehicles arriving in his premium-rate, Manhattan garages are commuters piloted by a single occupant. Most observers agree that for commuting, Uber is not competitive. . . yet.

To date, ride hailing has not noticeably penetrated the suburban retail sector, known for its ubiquitous parking acreages. However, it has enlivened a few downtown residential and specialty shopping areas.

Condominiums have been listed for sale in San Francisco with no parking, but a year's worth of Uber rides. Leaders of Washington, DC's 14th Street retail corridor credit Uber with the area's revival. Medical markets have also not been significantly impacted.

Towne Park's Chuck Heskett reports, "Our healthcare business has been immune to the ride hailing apps."

### Apps Growing, But So is Parking

Heskett keeps competitive concerns over the "Uber Effect" in perspective. "We have data that show the percent of annual passenger miles traveled using these apps (Uber, Lyft, etc.) going from 1.9 percent today to 5.3 percent by 2030," Heskett says.

"Overall, the parking business still grows. In absolute terms, we believe we will still be parking more cars as time goes on. The adoption rate of people that use ride-sharing apps seems to have leveled off at most of our affected locations as well."

Something's in the air with the "Uber Effect". But it's too early to tell whether it's burning rubber or simply hot exhaust.

# Parking Demand Trends: The Impact of Transportation Network Cos.

Walker Consultants Vice President Mary Smith discusses the impact of TNCs and autonomous vehicles on parking demand and how some sectors are affected by this growing industry.

By Adina Marcut (/author/adina-marcut/)

APR 02, 2018



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(http://www.walkerconsultants.com/314-214-2142) The impact of Transportation Network Companies (TNCs) on parking demand trends - the the the- impact of transportation network cos. (2/2/2018) (The Parking) Demand+T

Ride-sharing services such as Uber and Lyft are disrupting the status quo by offering cheaper, more flexible transportation, changing the way we get around. On one hand, these companies present challenges to traditional county revenue streams, while on the other hand, they provide new opportunities to improve county planning, mobility and service models. Walker Consultants' Vice President of Parking Consulting Mary Smith spoke with *Commercial Property Executive* about how Transportation Network Companies (TNCs) are affecting parking demand and how that impact could play out in the next few years.

### Where do you currently have projects under development?

**Smith:** Personally, I am working on projects in Doha, Cairo, Dubai as well as in Atlanta, Los Angeles and New Jersey.

### Do you think TNCs are a positive or a negative? Why?

**Smith:** There are many positives, including providing additional mobility options, and for urban dwellers, supporting a car-free lifestyle. Someone can use transit for most trips and TNCs when transit doesn't work well. However, studies are finding TNCs are negatively impacting transit, walking, biking and car sharing, proportionately more than driving and parking. A study by UC Davis found that roughly half of the trips by TNCs would have been made otherwise by transit, walking or biking or not going at all. They found that TNC use reduces bus ridership by 6 percent and light-rail usage by 3 percent, but increases heavy rail transit by 3 percent. Other studies have similar findings. So there are legitimate concerns about TNCs' impact on traffic and congestion, transit etc.

### Which businesses are impacted the most by TNCs and how are they affected?

**Smith:** Aside from parking, the biggest issue for TNC rides right now is the impact of passenger loading. Airports are finding increased congestion at the curb and are moving pickup for TNCs inside parking facilities. Sports and event facilities are dealing with problems staging vehicles for pickup after events, with the volumes still growing rapidly year over year.



(https://www.cpexecutive.com/wp-content/uploads/2018/04/Mary-Smith-Walker-Consultants.jpg)

Mary Smith





# Parking Requirements for Limited-Service Hotels

BY JOHN W. DORSETT, AICP

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**A**n empirical study of five limited-service hotels (“hotels”) located in South Florida, USA was performed to measure actual parking demand. This study is based on 35 total field-data-collection observations, seven different observations for each hotel, one for each day of the week, all performed at or near the 1 a.m. peak hour of occupancy for hotel guest rooms (all times are Eastern Standard Time). Following is a summary of key findings and conclusions:

- Based on **Total Number of Hotel Guest Rooms (Occupied Rooms Plus Vacant Rooms)**:
  - The 35 field data observations range from a low of 0.05 to a high of 0.76 parked cars per hotel guest room.
  - The 50th percentile (median) and mean observations are 0.39 and 0.38 parked cars per hotel guest room, respectively.
  - The 85th percentile observation, the industry standard for informing parking supply recommendations for hotels, is 0.58 parked cars per guest room. The 95th percentile observation, which exceeds the industry standard for hotel parking supply recommendations, is 0.67 parked cars per guest room.
- The hotel room occupancies averaged 84 percent for 27 studies (5 hotels x 7 days, less 8 occupancies that hotel operators were unwilling to provide), exceeding the U.S. national average of 66.2 percent occupancy.<sup>1</sup>
- Based on Number of **Occupied Hotel Guest Rooms**:
  - The 27 field data observations range from a low of 0.09 to a high of 1.05 parked cars per occupied hotel guest room.
  - The 50th percentile (median) and mean observations are 0.45 and 0.51 parked cars per occupied hotel guest room, respectively.
  - The 85th percentile observation, the industry standard for informing parking supply recommendations for hotels, is 0.70 parked cars per occupied hotel guest room. The 95th percentile observation, which exceeds the industry standard for hotel parking supply recommendations, is 0.88 parked cars per occupied hotel guest room.
- Many communities require one parking space for every built hotel guest room. This study demonstrates that for some locations, this standard could be excessive. Therefore, communities are encouraged to consider relaxing the standard, to acknowledge that ride-hailing companies, such as Uber and Lyft, have decreased hotel parking demand.

### Study Purpose

Hotel development continues in response to our increasingly mobile society and the need for temporary lodging associated with business and pleasure travel. One challenge for planners is to properly determine limited-service hotel parking needs in the absence of significant data and to consider the impacts of ride-app services such as Uber and Lyft. In response to this challenge, Walker Consultants (Walker) conducted a study documenting the parking requirements of limited-service hotels in a specific geographic market. A major component of this study includes new primary research.

This study is important to planners and developers of limited-service hotels because prior to this study, there was limited published data regarding parking requirements for this land use type. Many area and U.S. municipalities commonly require one parking space for each hotel guest room per their local zoning ordinance—in many cases, this requirement is excessive.

The following are the objectives of this research project:

- To identify and reference industry standards for limited-service hotel parking requirements;
- To create a database of limited-service hotel peak hour parking generation ratios that is based on the number of parking spaces needed per hotel guest room, the variable most commonly referenced by municipal codes; and
- To summarize findings by mean, median, and 85th percentile values.

Meeting these objectives provides information useful to planners in right-sizing limited-service hotel parking capacity.

### TNC Impacts on Hotel Parking Demand

Transportation network companies (TNCs), sometimes referred to as ride-apps or ride-hailing companies like Uber and Lyft, have and are continuing to change peoples’ transportation habits and are materially reducing parking demand for some land uses including hotels, restaurants, event centers, and airports.

For business travelers, including those requiring hotel guest rooms, depending on location, TNCs are becoming or have become a preferred ground transportation option in lieu of taxis and rental cars, thus reducing hotel parking demand. As a consequence of TNCs, car rental companies such as Hertz and Avis have experienced a reduction in their revenues over the last several years.<sup>2</sup>

Travel and expense management service provider Certify found that of the three ground transportation segments for business expense reimbursement—ride-hailing, rental cars, and taxis—the share of Uber and Lyft combined, reached 71 percent of the ground transportation share in Q1 2018.<sup>3</sup>

Professional experience, which includes multiple conversations with hotel parking operators and published reports, confirms that hotel parking demand has decreased as a result of increased usage of TNCs.<sup>4</sup>

## Types of Hotels

There are reportedly 55,900+ hotel properties in the United States, representing more than 5.3 million hotel guest rooms.<sup>5</sup> Not all hotels are created equal. There are many different kinds and types of hotels, and the term “hotel” really does not accurately depict the scope, breadth, or depth of activities that take place. The following is an attempt at classifying various types of hotels:<sup>6</sup>

- Size (number of rooms) – under 50, 50 up to 150, 150 to 299, 300 to 600, and more than 600 rooms;
- Location – airport, casino, city center, suburban, and resort;
- Level of service – economy/limited, mid-level, and luxury service;
- Market and function – airport, all-inclusive, bed and breakfast, business, boutique, casino, conference center, convention center, extended-stay, leisure, resort, suite, and timeshare and condominium;
- Ownership and affiliation – chain with a brand affiliation and independent;
- Amenities – accessibility, airport, beach, casino, city center, childcare, fitness club, golf, pool, ski, spa, tennis, and weddings;
- Industry standards – AAA Diamond Rating, Trip Advisor Traveler’s Choice, etc.; and
- Brand standards – Aloft, Element, Four Points by Sheraton, Le Meridien, Sheraton, St. Regis.

## Methodology

This study focuses on limited-service hotels ranging in size from 151 to 233 hotel guest rooms in a suburban location in northern Miami-Dade and southern Broward Counties, Florida, about 13 miles (21 kilometers [km]) south of the Fort Lauderdale-Hollywood International Airport and 19 miles (30.5 km) northeast of

Miami International Airport. Additionally, the closest Tri-Rail Station is the Golden Glades Station (5.6 miles [9 km] or 12 minutes). Properties were studied in this geographic area and hotel type in response to a developer’s proposal to build a similar property in this area.

To complete our primary research, we performed the following steps:

- Researched and summarized industry-standard base ratios for hotel parking generation
- Researched the following variables for each hotel:
  - Freestanding location dedicated exclusively to hotel use and very unlikely to experience parking-related encroachments from adjacent land uses and very unlikely that a portion of the hotel’s parking needs were being met off site
  - City, state, and zip code
  - Number of hotel guest rooms
  - Parking space supply
- Counted the number of parked vehicles during the typical peak time of a weekday
- Determined the number of vehicles counted at typical peak hour of parking occupancy
- Summarized, by occupied spaces per hotel guest room, the mean, median, and 85th percentile
- Developed recommendation regarding the number of spaces to be provided by limited-service hotels for the subject location

Internet searches were conducted to identify freestanding limited-service hotels for study. For purposes of this study, a limited-service hotel is one that is likely a two- or three-star hotel offering very little in the way of personal services. For example, there would be no doorman, bellhops, or concierge; typically, as staffing is limited. The limited-service hotels studied have little to no meeting room space or sit-down, full-service restaurants that would attract outside diners, and these are not located on golf courses or the beach. Food service provided by the limited-service hotels is limited to a small food pantry that offers items for sale on a retail basis, complimentary breakfast for hotel guests, and perhaps a limited-menu, order-at-the-counter restaurant.

Note that the fifth edition of ITE’s *Parking Generation Manual* includes Hotel Land Use Category (LUC) 310 and Business Hotel LUC 312. The properties surveyed for this study do not fall within LUC 310 because of the limited service nature of the properties; no significant convention center or meeting space is included at the properties surveyed for this study, nor is there a full-service, sit-down restaurant. Additionally, unlike the surveyed hotels, LUC 312 Business Hotels includes some hotels with full-service, sit-down restaurants. Therefore, ITE may want to consider creating a new category of lodging for a limited-service hotel that provide very little to no meeting room space or sit-down, full-service restaurants;

without these amenities, a hotel property typically generates parking demand that is limited to hotel guest room occupants and a few hotel employees, and excludes parking demand associated with those accessing meeting rooms and restaurant space without lodging at the hotel.

### Secondary Research

The following is a summary of several published sources that were reviewed for purposes of documenting hotel parking requirements within the parking consulting and transportation planning professions:

- The third edition of *Shared Parking*, a joint publication of the International Council of Shopping Centers, the National Parking Association, and the Urban Land Institute, presents a base parking generation rate of 1.15 parking spaces per hotel guest room and this ratio is separated into two components, 1.0 spaces per hotel guest room for guest parking and 0.15 spaces per hotel guest room for hotel employee parking. These base ratios apply to the hotel guest room component for all hotel types including business,

leisure, and convention center hotels, irrespective of location. These base rates are then adjusted downward to account for month of year, time of day, non-captive, and driving ratio adjustments.

- The fifth edition of the *ITE Parking Generation Manual* documents the following parking generation rates for hotels and business hotels:

Hotel Type		Hotel	Business Hotel
ITE Land Use Code		310	312
Peak Period (EST)		11 p.m. – 8 a.m.	10 p.m. – 7 a.m.
No. of Studies		22	11
Avg. No. of Rooms		321	125
No. of Parked Cars/Guest Room	Average Rate	0.74	0.72
	Range	0.43-1.47	0.55-0.85
	85th Percentile	0.99	0.83

These industry standards can be assumed to inform the one space per hotel guest room parking requirement that is so common with many municipal zoning ordinances.

# ITE Transportation Transforms Communities Video Challenge

**Enter Now! Submission Portal Closes May 1, 2021**

ITE is seeking short-cut videos (two-minutes max) celebrating the theme: Transportation Transforms Communities. Work with a team (one member of a team must be an ITE member) or on your own to get creative *and* get people excited about the transportation profession!

The challenge is to create an original video that

- Showcases the many exciting facets of transportation; and
- Highlights ways in which transportation positively affects our communities.

ITE members will vote on submissions during May 2021.

The winning video will be shown during the Opening Session at the Joint ITE International and Mountain and Western Districts Annual Meeting and Exhibition in July 2021. Recognition will also be provided to the 2nd and 3rd place videos.

The submission portal opens February 1, 2021, and entries must be received by **May 1, 2021**.

**Submit Your Videos at**  
<https://itechallenge.secure-platform.com/a>

**Questions?**  
**Email Bridget Wendling**  
 at [bwending@ite.org](mailto:bwending@ite.org)

For more information and for inspiration, visit  
[www.ite.org/video-challenge](http://www.ite.org/video-challenge).

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## Field Data Collection Results

To present an empirical case for an opportunity of less than one parking space per hotel guest room, parking-space occupancy data was collected at five existing limited-service hotel properties in Aventura (four hotels) and Hallandale Beach (one hotel) to ascertain parking occupancies and parking demand ratios. Properties were selected based on the experience of the consulting team with an aim to select properties that did not share parking with adjacent land uses and vice versa; the intent is to collect “clean” data that is exclusive to the hotels studied and unencumbered by unrelated properties.

Walker recorded parking space inventory and occupancies, as well as total room counts and room occupancies for multiple survey days, specifically targeting overnight parking-space occupancy rates during each night of the week. As a result, Walker performed 35 total observations over the seven survey days, which were as follows:

- September 21, 2019 (Friday night);
- December 29, 2019 (Saturday night);
- December 30, 2019 (Sunday night);
- February 4, 2020 (Monday night);
- February 5, 2020 (Tuesday night);
- February 6, 2020 (Wednesday night); and
- February 7, 2020 (Thursday night).

Vehicles were surveyed across the overnight hours (between 12:45 a.m. to 2:15 a.m.) to ensure that cars counted were hotel-use only and not impacted by other land uses, and to also reflect a typical peak-hour parking occupancy rate for hotel guest rooms. Room occupancies (%) were sought by phone and in-person site visits. The hotel-guest-room occupancy data is provided as supplemental data and does not influence the observed demand ratios.

The data collected is plotted in Figure 1. The X-axis represents the seven days of the week, one representing each day of the data collection dates. The Y-axis is the number of parked cars observed around the 1 a.m. hour per hotel guest room, for each of the five hotels.

As shown in Figure 1, the data points range from a low of 0.05 to a high of 0.76 parked cars per hotel guest room. As can be seen, 25 of the 35 observations, or 71 percent, fall within the 0.20 to 0.50 band. Six data points are between 0.60 to 0.80 parked cars per hotel guest room and four data points are below 0.20 parked cars per hotel guest room.

The 50th percentile (median) observation is 0.39 parked cars per hotel guest room. The 85th percentile observation, the industry standard for informing parking supply recommendations, is 0.58 parked cars per hotel guest room. The 95th percentile observation, which exceeds the industry standard for parking supply recommendations, is 0.67 parked cars per hotel guest room.

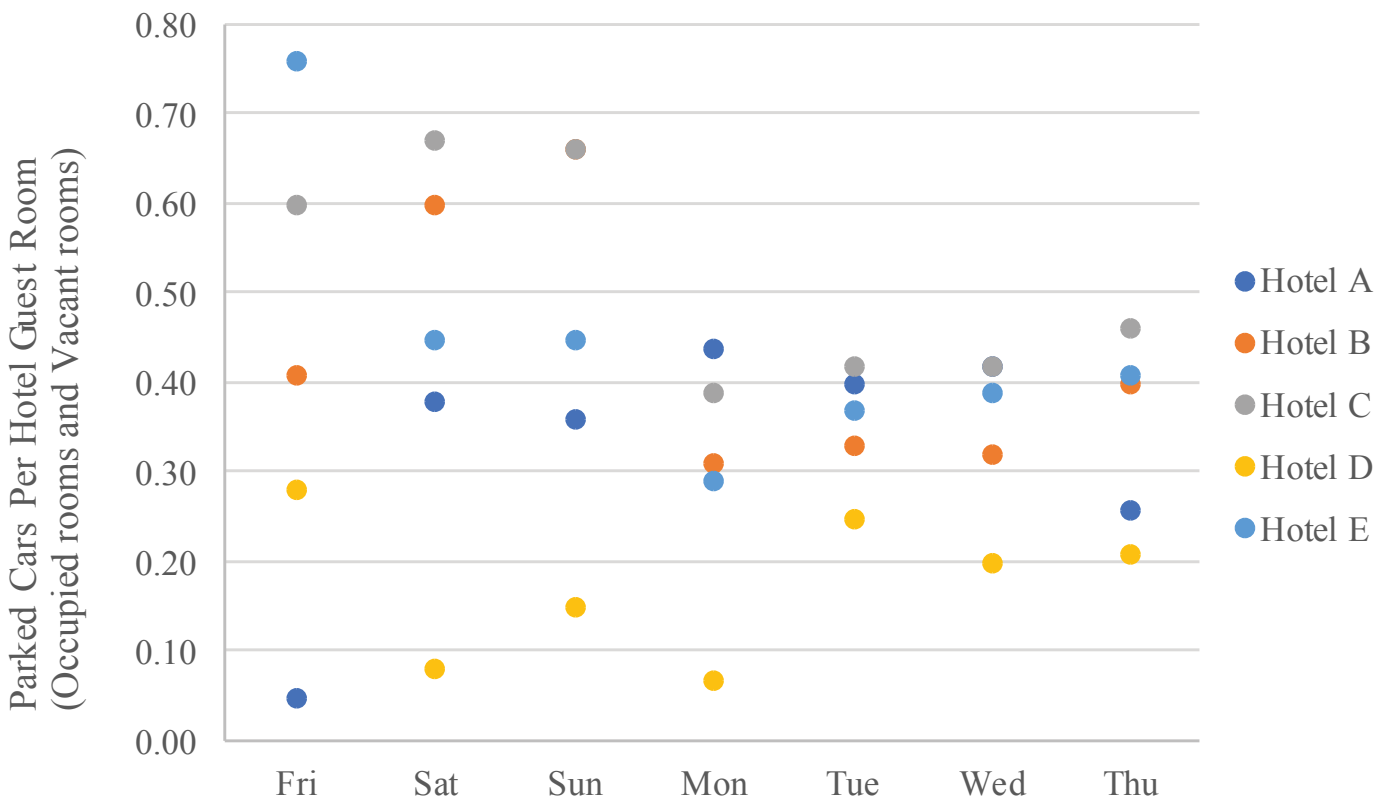


Figure 1. Observed Number of Parked Cars per Hotel Guest Room.

Appendix – Field Data Collection

		<b>Hotel Property ID</b>	Total Spaces	Occupied Spaces	Parking Occupancy %	Total Rooms	Room Occupancy %	Generation Rate
<b>Table 1</b>	Overnight Hotel Parking Occupancy Survey – ±1 a.m. on September 21, 2019 (Friday night)	Hotel A	163	8	5%	162	20%	0.05
		Hotel B	141	79	56%	191	48%	0.41
		Hotel C	129	90	70%	151	67%	0.60
		Hotel D	84	57	68%	207	68%	0.28
		Hotel E	220	176	80%	233	72%	0.76
<b>Table 2</b>	Overnight Hotel Parking Occupancy Survey – ±1 a.m. on December 29, 2019 (Saturday night)	Hotel A	163	61	37%	162	100%	0.38
		Hotel B	173	115	66%	191	95%	0.60
		Hotel C	129	101	78%	151	95%	0.67
		Hotel D	84	17	20%	207	96%	0.08
		Hotel E	220	106	48%	233	100%	0.45
<b>Table 3</b>	Overnight Hotel Parking Occupancy Survey – ±1 a.m. on December 30, 2019 (Sunday night)	Hotel A	163	59	36%	162	100%	0.36
		Hotel B	173	127	73%	191	95%	0.66
		Hotel C	129	100	78%	151	100%	0.66
		Hotel D	84	32	38%	207	98%	0.15
		Hotel E	220	104	47%	233	100%	0.45
<b>Table 4</b>	Overnight Hotel Parking Occupancy Survey – ±1 a.m. on February 4, 2019 (Monday night)	Hotel A	163	72	44%	162	83%	0.44
		Hotel B	141	60	43%	191	93%	0.31
		Hotel C	129	59	46%	151	100%	0.39
		Hotel D	84	15	18%	207	-	0.07
		Hotel E	220	68	31%	233	-	0.29
<b>Table 5</b>	Overnight Hotel Parking Occupancy Survey – ±1 a.m. on February 5, 2019 (Tuesday night)	Hotel A	163	64	39%	162	77%	0.40
		Hotel B	173	63	36%	191	77%	0.33
		Hotel C	129	63	49%	151	100%	0.42
		Hotel D	84	51	61%	207	-	0.25
		Hotel E	220	87	40%	233	-	0.37
<b>Table 6</b>	Overnight Hotel Parking Occupancy Survey – ±1 a.m. on February 6, 2019 (Wednesday night)	Hotel A	163	68	42%	162	65%	0.42
		Hotel B	173	62	36%	191	68%	0.32
		Hotel C	129	64	50%	151	100%	0.42
		Hotel D	84	41	49%	207	-	0.20
		Hotel E	220	91	41%	233	-	0.39
<b>Table 7</b>	Overnight Hotel Parking Occupancy Survey – ±1 a.m. on February 7, 2019 (Thursday night)	Hotel A	163	42	26%	162	61%	0.26
		Hotel B	173	77	45%	191	73%	0.40
		Hotel C	129	69	53%	151	87%	0.46
		Hotel D	84	44	52%	207	-	0.21
		Hotel E	220	96	44%	233	-	0.41

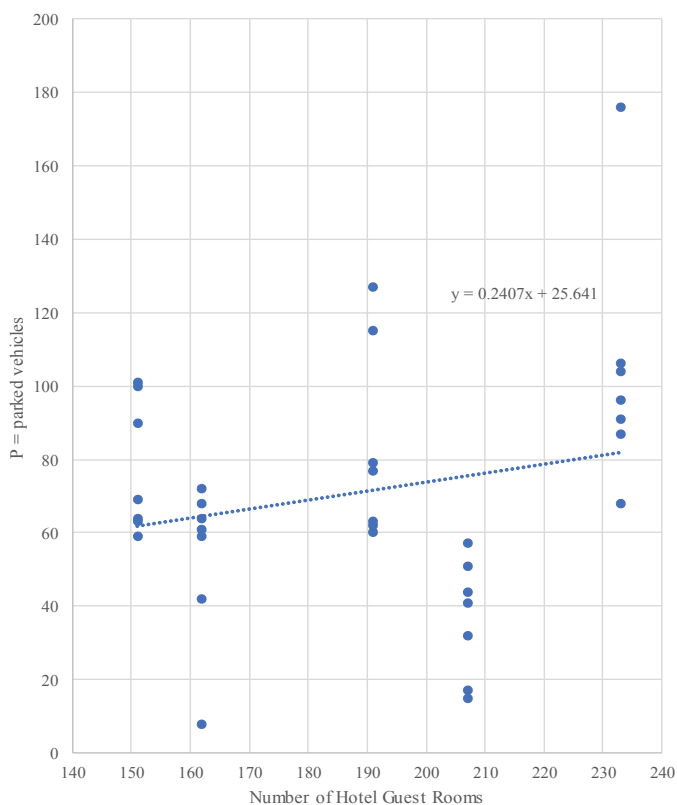
SOURCE: WALKER CONSULTANTS, 2019-2020

The hotel room occupancies averaged 84 percent for 27 studies (5 hotels x 7 days, less 8 occupancies that hotel operators were unwilling to provide), exceeding the U.S. national average of 66.2 percent occupancy.<sup>1</sup>

Based on number of **occupied hotel guest rooms**, the 27 field data observations range from a low of 0.09 to a high of 1.05 parked cars per occupied hotel guest room. The 50th percentile (median) and mean observations are 0.45 and 0.51 parked cars per occupied hotel guest room, respectively. The 85th and 95th percentile observations are 0.70 and 0.88 parked cars per occupied guest room, respectively.

### Data Limitations

This analysis is applicable for **limited-service hotels in suburban locations**. Ancillary hotel uses including conference and meeting room space, restaurants, spas, casinos, golf courses, etc. would be additive to the base ratios studied herein.



Peak hour parking spaces occupied per hotel guest room between 1 a.m. and 3 a.m. EST

### Parking Generation Rates

Average Rate	Range of Rates	Standard Deviation	Number of Studies	Avg. Number of Guest Rooms
0.38	0.05 – 0.76	0.17	35	189

Figure 2. Data Plot and Statistical Summary.

The author has experience with hotel parking generation rates for other types of hotels located in city centers and other places including beachfront properties. Some city center properties have reportedly seen their parking demand drop to levels of 0.20 spaces per hotel guest room or lower.

### Conclusions

Based upon the information gathered and the available data analyzed, the parking supply ratio for the limited-service hotel guest room component can potentially be reduced from the required one space per room to 0.58 spaces per room. Note that this is applicable for a suburban location and that the increased reliance on ride-apps such as Uber and Lyft have decreased on-site demand for parking spaces. Other studies are encouraged and documented to build on this research and to inform a more fully-developed view of this topic. **itej**

### References

1. HNN Newswire. STR: US hotels post another record year in 2018. January 18, 2019. <http://www.hotelnewsnow.com/Articles/292373/STR-US-hotels-post-another-record-year-in-2018> (Accessed January 4, 2021).
2. Renae Reints. Car rental companies are losing customers to rideshares, report says. March 6, 2019. <https://fortune.com/2019/03/06/car-rental-rideshare-market-share/> (Accessed January 4, 2021).
3. Certify. Infographic – Certify SpendSmart™ Story Report Q1 2018. <https://www.certify.com/Certify-SpendSmart-Report-Story-Infographic-Q1-2018.aspx> (Accessed January 4, 2021).
4. Jeanette Steele. Ace Parking says Uber, Lyft have cut parking business up to 50% in some venues. February 22, 2018. <https://www.sandiegouniontribune.com/business/growth-development/sd-fi-ace-parking-uber-lyft-competition-20180222-story.html> (Accessed January 4, 2021).
5. American Hotel and Lodging Association. <https://www.ahla.com/dreams> (Accessed April 7, 2020).
6. Wilson-Mah, Rebecca. Introduction to Tourism and Hospitality in BC – Chapter 3. Accommodation. Retrieved from <https://opentextbc.ca/introtourism/chapter/chapter-3-accommodation/> (Accessed April 7, 2020).



For the last three decades, **John Dorsett, AICP**, senior vice president and managing director of Walker Consultants' parking and mobility planning, operations, and technology practice, has successfully delivered or led the delivery of thousands of consulting engagements for architects, airports, hospitals, municipalities, real estate developers and universities located in all 50 U.S. states and several foreign countries. Consulting engagements have helped improve quality of life and users' experiences, minimized project waste, and saved developers millions of dollars through right-sizing parking capacity, and supported the financing of billions of dollars in real estate development projects.

**We think there will be a maximum reduction in parking demand across the U.S. of about 40 percent, and that the full impact won't be achieved until at least 2050.**

Mary Smith,  
Vice President of Walker Consultants

(<https://www.cpexecutive.com/wp-content/uploads/2018/04/Interview-quote-CPE-Mary-Smith.jpg>)

#### How do TNCs impact cities?

**Smith:** Cities are beginning to have to turn on-street parking to passenger loading zones. Over time, they will lose parking revenue if TNC use outpaces parking development growth.

#### How are ride-sharing services impacting parking demand?

**Smith:** From a parking perspective, airport parking transactions per enplanement are down by 5-20 percent with parking by business travelers appearing to be most impacted. It depends upon the parking rates and convenience of parking at the specific airport. Moreover, the impact is even greater on taxis and rental cars at airports and the fees that airports receive from those transactions. In turn, hotels are seeing up to a 70 percent decline in parking by business travelers, although there is much less impact on leisure traveler parking, as well as banquet and local event parking. Restaurants and bars, particularly those with valet parking, are seeing up to an 80 percent reduction in parking, apparently due to concerns both for convenience and cost of parking, and to avoid drinking and driving. Sports and events facilities are seeing a 3-6 percent reduction in parking from a few years ago.

#### How will driverless cars impact parking demand?

**Smith:** While many in the planning community project as much as a 90 percent reduction in parking demand in the U.S. within a decade or so due to autonomous vehicles (AVs), we believe it will be slower and much less impactful. We simply don't believe that 90 percent of Americans can or will give up cars and use driverless cars (<https://www.cpexecutive.com/post/4-big-trends-that-will-shape-cre-a-futurists-guide/>) instead, particularly shared-ride providers like UberPool and Lyft Line, which are necessary to get to the 90 percent figure cited in most articles.

#### How will parking demand change in the next years?

**Smith:** About one-third of Americans live in areas with a population less than 200,000 people, where shared TNC rides are unlikely to be nearly as cost-effective and convenience and comfort will play a bigger role. Further, we have 260 million non-automated vehicle (AV) cars on the road today, and millions more that will be sold in the next decade (before AVs are available to consumers). We think there will be a maximum reduction in parking demand across the U.S. of about 40 percent, and that the full impact won't be achieved until at least 2050. Where a parking facility serves activities that grow with population, like airports, downtowns and universities, the parking demand will continue to rise through about 2030 and then come back down to the demand today around 2050. Certainly, the impact will be much higher than a 40 percent reduction in the urban core areas, but it will be lower in suburbs and much lower in rural areas and smaller cities and towns.

#### How do you think self-driving vehicles will impact parking planning?

**Smith:** In addition to the reduction of parking due to driverless TNC rides, "autonomous parking" by privately owned AVs, will allow passengers to be dropped at the door and then the car will go and park itself, perhaps at a lower cost parking facility a few blocks away. Wherever they park, they can park closer together, because car doors don't need to be opened at the parking stall. As a result, the capacity of parking facilities may go up at the same time parking demand goes down. We need to plan for significantly increased passenger loading zones in the future for most parking structures designed today.

There is significant potential for the seas of asphalt surrounding most suburban developments to be redeveloped with office, residential, hotels, restaurants and even retail that would share with existing parking resources (<https://www.cpexecutive.com/post/right-sizing-your-parking/>).

#### Can you name a few metros that are experiencing parking issues?

**Smith:** We are hearing the above referenced reductions to hotels, airports, bars/restaurants are pretty consistent in major metro areas across the US. Las Vegas is having enough problems with TNC loading that they are starting to turn on-street parking into loading zones.

#### What are the future plans regarding parking demand?



**Smith:** The impacts on parking in downtowns, universities and others land uses that have multiple parking facilities, will be absorbed by the market over time; surface lots in prime locations will be developed with little or no new parking, and older deteriorated garages will be torn down and redeveloped as well. While many talk about designing new parking facilities to be completely converted to other uses in the future, we haven't found a single client willing to pay any significant premium to do much more than provide more floor-to-floor height now.

And if you don't take other design steps now, like strengthening the structure for the heavier loads of office, retail and apartment uses and/or providing a façade that is easily converted, it will cost much more to convert in the future, while you will end up with a space that is probably significantly compromised compared to what the future market wants and needs.

*Image courtesy of Walker Consultants*

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