



# Shared Parking, 3rd Edition: What to Expect

BY MARY S. SMITH, P.E. (M)

**A** new 3rd Edition of *Shared Parking* along with a new and enhanced Excel model is being finalized by the Parking Consultants Council (PCC) of the National Parking Association (NPA), in coordination with the 5th Edition of *Parking Generation Manual* from the Institute of Transportation Engineers (ITE). It is expected to be published by The Urban Land Institute, the International Council of Shopping Centers, and NPA in the first quarter of 2019.

There is not a significant change in methodology; base ratios are provided for each land use based on a suburban location that has few or no transit options. This “big decision” at the beginning of the update process was based not only on the collective opinion of the PCC, but a group of interested ITE member-consultants, who convened to discuss the need to update *Shared Parking*. It is simply impossible to develop other sets of base ratios, for example for a Central Business District (CBD) or Transit-Oriented Development (TOD), because 1) there simply isn’t enough data to develop complete sets of ratios and 2) they would still need to be adjusted for local conditions, just with adjustment from the inherent driving ratio embedded in CBD and TOD ratios. The publication instead provides significantly more guidance on how to do driving adjustments using Census Bureau data on vehicle ownership and journey to work data. There is also a new subroutine in the Excel model that automatically calculates non-captive ratios based on the presence of employees, hotel guests, and residents who will patronize retail/dining/entertainment uses in the project. The user can adjust the assumptions on what percentage of those persons will patronize other uses, or even override the default calculation, but the subroutine will replace fundamentally guessing at captive market adjustments.

The 3rd Edition significantly increases the number of land uses—from 20 to 32—for which recommended parking ratios and adjustment factors are presented, and it subdivides some land uses into more refined categories while eliminating subdivisions of others.

For retail, this update continues the 2nd Edition’s use of the recommended ratios from *Parking Requirements for Shopping Centers* (1999). There are simply not any new data to support changing the ratios that cannot be explained and thus accomplished by adjusting driving ratios for Transportation Network Company (TNC) rides—such as Uber and Lyft—at a particular project. Based on consultant experience since the 2nd Edition was published, a new ratio has been added for mega-malls larger than 1,000,000 sq. ft., Both *Parking Requirements for Shopping Centers* and the 2nd Edition of *Shared Parking* indicated that a reduction of the parking ratio for these very large shopping centers was likely appropriate. Monthly and time-of-day factors for retail have been modified considerably to represent more recent shopping patterns.

We have added new land uses for Supermarkets, Pharmacies, Discount Superstores, and Home Improvement Stores all based on the 5th Edition of *Parking Generation Manual*. Another land use added is Day Care Centers, which are an important amenity to many mixed-use projects.

A number of new entertainment uses have also been added to the model. These uses are increasingly being added to shopping centers, converting them to retail/dining/entertainment venues. The new entertainment uses in *Shared Parking* will include:

- Amusement Park/Water Park: The inclusion of these uses in modern shopping centers was pioneered by Triple Five, developer of the West Edmonton Mall in Edmonton, AB, Canada, which has an enclosed water park, and Mall of America, which has an indoor amusement park. Others have emulated the concept, although typically at a lower scale.
- Active Entertainment Uses: This encompasses a wide variety of participatory and active uses, such as indoor ski venues, go-cart tracks, miniature golfing, and ice rinks.
- Family Entertainment Centers: These are a little more densely occupied than active entertainment and oriented primarily to school-age children. They may have small rides, such as a carousel and arcade games. Others may have role-playing or themed activities. The ratios are slightly higher than Active Entertainment. The hours end earlier in the evening, and the seasonality follows the school year.
- Adult Active Entertainment: These facilities, such as Dave and Busters or Jillian’s, and Lucky Strike or Jupiter Bowl (bowling and billiards), etc., combine active entertainment with a significant food and beverage component, and can have sports bars with much longer stay than the quick food service at Active Entertainment or Family Entertainment uses. The density of persons is higher than both given they have bars. The hours typically begin mid-afternoon on weekdays, and earlier on weekends. Open hours typically run later than other entertainment venues.
- Museum/Aquarium
- Outdoor Amphitheatres and Park and Destination Open Space: As part of place-making, many projects have significantly more outdoor open spaces that may generate parking demand independently from the rest of the project. Outdoor amphitheatres may have lunchtime concerts or evening events that are particularly dense generators of parking demand. Similarly, park areas may be anchors of mixed-use projects and generate incremental parking demand not simply from within the project but from nearby residential neighborhoods if not the entire region. A great example is Hemisfair in San Antonio, TX, USA that is anchored by park space, but has added retail, a children’s theatre, office, and residential uses.

The ratios for restaurants have been updated based largely on the 5th Edition of the *Parking Generation Manual*, with the fine/casual dining ratio declining, the family restaurant increasing, and the fast casual/fast food ratio being tweaked. When it comes to cinemas, ratios have been lowered slightly based on the *Parking Generation Manual*; however, the big change for this use is the seasonality factors. The most popular movie-going season was previously between Christmas and New Year’s—now it is the entire month of December. This has impact on shared parking

---

## The 3rd Edition significantly increases the number of land uses—from 20 to 32—for which recommended parking ratios and adjustment factors are presented.

in shopping centers with large multiplexes and may explain why *Parking Generation Manual* shows an increase in parking demand for shopping centers in December.

The ratios for residential units have been significantly changed. Previously, there were separate ratios for rental and owner-occupied residential units. The 5th Edition of *Parking Generation Manual* does not find any significant variation between owned and rental, and less than five percent variation between low and mid-rise residential. However, it finds that ratios based on bedrooms are more statistically reliable than a ratio per dwelling unit. Therefore, the basis of the ratios has been changed to use the distribution of bedroom types (studio, 1 bedroom, 2 bedrooms, and 3+ bedrooms) with the overall ratio per bedroom calibrated to the findings of the 5th Edition of the *Parking Generation Manual*. Another change is that the time of day factors are different for general urban/suburban project than for CBD and TOD projects, particularly on weekdays. In CBD/TOD projects, the cars that are owned by residents are more likely to be left parked at the complex in the daytime on weekdays, with the tenants using transit, biking, or walking for commuting to work. The accumulation of vehicles for all residential mid-day has been lowered, which will have significant impact on many shared parking studies.

For hotels, we have not changed the base ratios, but do discuss the significant impact that TNC use is having on overnight guest parking at many hotels.

The 3rd Edition keeps the same four categories of offices and scale ranges for general office but changes the name of data processing offices to “High Density Offices.” The general office ratios have not been changed. It is noted that while employee density has clearly increased in office space today, there is no indication that parking ratios have increased. Indeed, a special sort of data by the ITE Team indicates that parking ratios for general office space have declined since 2010, which the PCC believes is due to more telecommuting and flexible hours. Among the resources discussed in the 3rd Edition, a white paper by the Building Owners and Managers Association International (BOMA) notes that the densification is “real, but uneven,” and that those tenants who truly are densifying are a small subset of all new leases, but that they tend to be individually significant tenants, i.e., occupy big chunks of space. Additional data on parking, specifically, indicates that parking is still oversupplied today at most office buildings.

As an example of the parking supply challenge, Granite Properties completed a portfolio-wide parking study across its 7 million square feet (ft.) of properties in 2018. At one large campus of more than 2.5 million square ft. of multi-tenant office buildings in Plano, Texas, USA, Granite has provided 4 spaces/one-thousand square feet (ksf) parking ratios across the office park, with six parking garages. The study found that when adjusted for 100 percent occupancy and using the peak occupancy over multiple days surveyed, more than 47 percent of the stalls would be vacant on the average peak day. Actual utilized parking at this complex equated to 1.834 spaces/ksf.<sup>1</sup> The Dallas, TX, USA-wide study found that during peak hours, an average of 37 percent of Granite’s parking spaces remain empty; most of the properties had parking ratios of 3 to 4 spaces/ksf.<sup>2</sup>

Granite is exploring the idea of unbundling parking from leases, then charging tenants for a specific number of spaces. This way, all tenants would not have to pay for the excessive spaces demanded by one. David Cunningham, Granite’s senior director of development and construction, stated that the company has “\$100 million worth of investment that’s not being used.” He continued, “If I accomplish one thing in my career, I hope it’s that we quit wasting money on parking spots.” It is also noted by Cushman Wakefield in their 2018 white paper that “densification should progress at a slower pace than the last eight years as occupiers strike a balance between individual space usage and the communal conference and focus-room space required for workers to be effective.”<sup>1</sup>

In sum, data reviewed by the PCC for *Shared Parking* does not indicate that office worker density and parking demand, when tabulated across multiple tenants of undoubtedly different lease rollovers in existing buildings, is increasing significantly. It is recognized that some offices today do have higher worker densities.

Therefore, a key conclusion of the 3rd Edition analysis of office parking trends is that shared parking analysis should include defining the percent of High Density office in the development, and using two separate sets of ratios: those for General Office and those for High Density Office. Although there is some indication that the parking ratios in general office have actually declined slightly, we have maintained the same ratios as in the 2nd Edition, to allow for some additional densification in the typical building.

There is also an entire chapter on regional variations in parking demand, as well as future projections based on expected mobility changes due to TNCs and autonomous vehicles (AV.) While those impacts are still difficult to predict both in terms of timeline and ultimate impact on parking, “high disruption” and “low disruption” projections of impact on parking demand nationally are provided with a timeline that is much slower than the oft-quoted 90 percent reduction in parking by 2030. The latter projection has largely been discredited as unrealistic, even in urban CBDs. While TNCs may very shortly launch true driverless service in selected cities, there is increasing acceptance that they will only be driverless in areas that have been mapped in the cars’ programming, and in good weather conditions. An autonomous vehicle that can operate anywhere, anytime, is at least a decade away if not longer, according to auto experts and even the TNCs themselves. Even then, a 90 percent reduction in parking is simply impossible to reach due to the demographics of urban, suburban, and rural populations, much less the idea that 90 percent of Americans who could give up vehicle ownership and use TNCs and transit will do so.

The 3rd Edition of *Shared Parking* is intended to facilitate a “Just Enough, No Regrets”<sup>1</sup> parking supply for mixed-use projects being developed in the foreseeable future. [itej](#)

## References

1. Mobley, Phil. “Decoding Densification: Insights and Opportunities for CRE Professionals,” *D Magazine*, June 2016. Available at [www.boma.org/BOMA/Research-Resources/Trends/Densification.aspx/](http://www.boma.org/BOMA/Research-Resources/Trends/Densification.aspx/).
2. Powell, Don. “CRE Opinion: Stop Over-Parking,” *D Magazine*, April 19, 2018, [www.dmagazine.com/business-economy/2018/04/cre-opinion-stop-over-parking](http://www.dmagazine.com/business-economy/2018/04/cre-opinion-stop-over-parking).
3. Bunch, Julia. “Dallas Is Over-Parked.” [www.dmagazine.com/publications/d-ceo/2018/october/dallas-is-over-parked](http://www.dmagazine.com/publications/d-ceo/2018/october/dallas-is-over-parked).
4. Space Matters: Key Office Trends and Metrics for U.S. Occupiers, [www.cushmanwakefield.com/en/research-and-insight/2018/space-matters/](http://www.cushmanwakefield.com/en/research-and-insight/2018/space-matters/).



**Mary S. Smith, P.E. (M)** is a senior vice president and director of parking consulting for Walker Consultants. She is co-chair and principal author of the forthcoming 3rd Edition of *Shared Parking*, and has served on the committee for the 5th Edition of the *Parking Generation Manual*. She was also the author of the *Second Edition of Shared Parking*, as well as authoring the parking chapter for the *Second and Third Editions (2000, 2009) of the Transportation Planning Handbook*. She is also co-author of the parking chapter of the *Transportation Engineering Handbook, 7th Edition (2016)*. She is a member of ITE.

<sup>i</sup> Trademark of Walker Consultants

# SET YOURSELF APART WITH CERTIFICATION!

Gain a competitive advantage and demonstrate your credibility and competency by achieving one of the below certifications.



**PTOE® (Professional Traffic Operations Engineer)** indicates established proficiency in functional areas of traffic operations



**PTP® (Professional Transportation Planner)** Certification recognizes demonstrated expertise in transportation planning



**RSP (Road Safety Professional) Level 1** Certification establishes competency for professionals involved in transportation, safety, and health professions who provide for the safety of the traveling public.

For more information and applications, visit [www.tpcb.org](http://www.tpcb.org)

**THE DEADLINE TO APPLY FOR THE JUNE 2019 EXAM PERIOD IS APRIL 4, 2019**