Orange County Parking Standards
Emerging Trends and Comparisons

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Introduction

Orange County contracted with Planning Design Group to review, analyze and recommend updates to the existing Orange County parking standards. The intent of work effort is to address specific deficiencies as identified by County staff. This report provides a summary of emerging trends and strategies that are being employed in areas throughout the United States that provide innovative parking solutions. This report also provides an analysis of parking standards in comparable jurisdictions for selected uses. The uses that are reviewed here were selected by Orange County Zoning and Planning Staff for deficiencies in the existing Orange County code.

Review of Literature: Emerging Trends in Parking

The following is a list of emerging trends employed in other cities and counties. The examples given are discussed in greater detail in the supporting documents included with this report and/ or in the publications included in the Works Citied Page. Implementation of these examples should be considered as part of an overall strategy and should be altered to fit the shape and size of Orange County's desires and distinctiveness.

Shared Parking

Example: Montgomery County Maryland, Berkeley California
This solution usually involves parking facilities serving multiple users or destinations. It has the most success when two locations that are close in proximity have different peak times. Churches and restaurants usually have different peak times from each other and different peak times than other land uses such as offices and retail shops. (Litman, 2006, p. 12)

Reducing Parking Requirements or Reduced Minimums

Example: Marin Affordable Housing and Financially Feasible Development Regulations
A feasibility analysis of a hypothetical urban infill project was created to show the effect of parking requirements on financial feasibility. The result was that higher density and lower parking ratios combined to improve the affordability of residential units. This study helped craft a new policy. (Metropolitian Transportation Commission, 2007, p. 28)

Example: Wilton Manors, Florida
The city utilized reduced minimum parking standards in the revitalization of a decaying shopping center. (Team, 2007, pp. 25-7)

Parking Maximums
Example: Portland, Oregon Maximum Requirements
Portland established maximum parking requirements for new development and applied parking maximums for development already in use. Parking maximums are based on distance from and availability of transit. (Metropolitian Transportation Commission, 2007, p. 28)

Variable Rate Parking Prices

Example: New York, New York
On street parking rates in the Mid-Town Commercial District were set at amounts that grow exponentially higher the more time the car is parked. This policy reduced the length of time cars were parked. (Metropolitian Transportation Commission, 2007, p. 32)

Unbundled Parking

Example: San Francisco Central Waterfront Plan
The "Plan includes the elimination of dwelling unit density restrictions, designates residential as a principally permitted use, limits retail and office uses to the first and second stories, eliminates minimum parking requirements and requires unbundled parking from the rental or sale of residential uses" (Metropolitian Transportation Commission, 2007, p. 33).

Parking Payment Technology

Example: Seattle, Washington
The city replaced single meters with multi-spaced meters. The multi-spaced meters are able to take credit cards. "…per space parking revenue with the same fee has increased 40% due to the propensity of motorists to use credit cards (62% of parking revenue) to purchase the maximum parking period allowed and avoid a parking ticket." (Metropolitian Transportation Commission, 2007, p. 36).

Parking Benefit Districts

Example: Old Pasadena Parking District
The city installed parking meters in a district that once had curb parking that was only restricted by 2 hour limits. The city spends the revenues generated from the meters exclusively on items that add value to the district such as maintaining the sidewalks, planting trees, and adding street lights. There is business community support for the use of meters because the revenue generated is spent directly on the community. Because the meters are set at a rate that allows for most of the spaces to be used but not all, there are always some available parking spaces. (Shoup, 2005, pp. 405-8)

In- Lieu Fee

Example: Orlando, Florida
Orlando requires developers to choose whether to provide parking or pay a fee in order to comply with minimum parking requirements. The city sets its fees as the equivalent of construction cost per space for municipal parking structures, exclusive of the cost of land. (Shoup, 2005, pp. 234-5)

Transit Incentive Programs

Example: Santa Clara Valley Transportation Authority Annual Pass Program
The Santa Clara Valley Transportation Authority offers Eco Passes for businesses and residential communities. Both employers and residential communities can purchase passes. The passes are sold for discounted prices. The Authority charges employers between $5 and $80 for annual passes for their employees depending on the locations and proximity to transit. The price is significantly less than the regular value for the passes. The Authority can do this in part because many commuters will not use transit even when it is at no cost to them. The impact of this program is that it increases the use of transit and reduces the necessity for parking spaces. (Shoup, 2005, p. 252)

Example: Boulder, Colorado Program
The city has employed a free Eco Pass bus program. This program is funded from parking revenues collected. Eco passes are provided to all downtown employees at an annual cost of $160,000 paid in full by parking revenues. Roughly 42% of downtown employees make use of the program which frees up parking space for tourists, clients, and customers of businesses. (Team, 2007, pp. 27-8)

Land Banking

Example: Iowa City, Iowa
"In some commercial zones in Iowa City, minimum parking requirements may be waived or relaxed, and land banking used in place of up to 30 percent of the otherwise required parking" (Development, Community, and Environment Division Environmental Protection Agency, 2006, p. 22).

Preliminary Recommendations

Some solutions are compatible with Orange County: reducing parking requirements or minimums, parking maximums, shared parking, unbundled parking, in-lieu fees, and transit incentive programs. These strategies, when used in conjunction with each other, should be looked into further as candidates for consideration. The combination of these strategies, tailored to Orange County's urban environment, may reduce the number of parking spaces while accommodating Orange County's parking needs.

Reduction in parking requirements or parking minimums is a solution that can work well in Orange County amongst the existing landscape. Precedent is set; maximums are employed for "big box" land use in Orange County. This would be relevant where there is more than adequate supply of parking spaces. Parking maximums can and should fit into the same equation. The minimums and maximums should be considered with availability of and proximity to public transit.

Shared parking is another strategy that should be considered. Shared parking makes sense in many places across the county. This is especially true at locations such as International Drive resort area, where there are many businesses that have uses that have different peak times for

parking need. Many locations with different peak times are in close proximity to each other. Therefore, shared parking is a viable strategy. One common problem associated with implementing shared parking agreements is the liability issue. Because many developments in the International Drive resort area have the same owner there are opportunities for shared parking to work without the liability problem.

Bundled Parking is a strategy that can allow for tradeoffs to be made by showing the real costs of parking. For instance, if an apartment building charged rent separate from the parking cost a family could make the decision to have only one parking spot or none if they happened to not need a vehicle. This can reduce the amount of parking spaces needed by letting the market determine the need. Certainly, there most likely would not be a substantial reduction of parking spots needed, but even a small reduction can go a long way.

In-lieu fees for parking has been employed locally. Orlando sets its fees as the equivalent of construction cost per space for municipal parking structures, excluding the cost of land. Orange County may want to adopt this policy or a variation of it as part of the parking strategy. In-lieu parking fees could give developers the option of whether to pave extra parking or not.

A transit incentive program can help ease any of the burdens placed by the other pieces of the parking puzzle. By giving reduced rate or free transit passes to employees the need for parking spaces can be alleviated somewhat. The less parking spaces occupied by employees, the more parking spaces there would be available for customers. International Drive, among other areas, can be a prime contender for a transit incentive program because of its already existing efficient transit system and high volume of both employees and customers many of whom are tourists.

Another solution that may be considered is land banking. Land banking could work in areas where growth projections are inconclusive and there happens to be extra land available where it would be needed for potential future parking needs.

Finally, other solutions are not viable at this time. Solutions such as variable rate parking prices, parking payment technology, and parking benefit districts may work in the future as Orange County becomes more urbanized. These solutions are not currently recommended because a sizeable stock of “free” parking spaces is presently available.

In regards to alternative paving for parking, the data is inconclusive. While using this technology can reduce flooding and capture more storm water there are issues: the storm water may be directed the wrong way and it is expensive. Several case studies are provided in the supported documents. It is recommended that Orange County consider alternative paving in a case by case basis.

Review of Parking Standards for Other Jurisdictions

The attached matrix compares the parking requirement ratios for select uses in Orange County with other Florida counties and municipalities. The select uses are those that have been identified by Orange County for deficiencies in the current code. Additional information is provided on each use below. All standards not citied were taken directly from the applicable jurisdiction's code.

Assisted Living Facilities or ACLF

Orange County utilizes 2 spaces per bedroom. As shown on the matrix, other comparable jurisdictions consider the number of employees and/or square footage of the facility. The Institute of Transportation Engineers studies on parking for assisted living facilities indicates an average peak hour demand of .33 vehicles per dwelling unit on weekdays and .24 vehicles per dwelling unit on a Saturday. In addition to those listed in the matrix, the following were reviewed:

Jefferson County, KY (Pop. 693,604)
Minimum: 0.5 for each dwelling unit, plus 1 space for each 2 employees on maximum shift.
Maximum: 1.5 spaces for each dwelling unit, plus 1 space for each employee on maximum shift. (Davidson & Dolnick, 2002, p. 92).

Seattle, WA (Pop. 563,374)
1 space for each 4 assisted living units plus 1 space for each 2 staff members on-site at peak staffing time; plus 1 barrier-free passenger loading and unloading space; plus loading berth requirements per Section 23.54.035.

Shopping Centers

Orange County's parking requirements for shopping centers is on-par with many other jurisdictions in Florida. Most of these standards are based on demand studies that often provide an oversupply of parking. (Litman, 2006, p. 12). Some jurisdictions are utilizing parking maximums to address oversupply, especially in shopping centers. For example, Orange County recently adopted standards for Big Box development with a minimum of 4 spaces and a maximum of 5 spaces per 1,000 square feet. Alachua County is the only other Florida jurisdiction reviewed in the matrix that has utilized parking maximums. Locally, the City of Orlando utilizes parking maximums. Also, as shown below, Jefferson County, Kentucky (Louisville) uses parking maximums to address large-scale retail shopping centers. The only exception in Jefferson County is that restaurants and movie theaters are calculated independently. Interviews with planners in Alachua County and Jefferson County indicate that their adopted maximums have been accepted by the development community and are successful in limiting oversupply. (Davidson & Dolnick, 2002, p. 160)

Jefferson County, KY (Pop. 693,604)

< 400,000 sq ft of gross leasable area:

Minimum: 4 for each 1,000 sq ft of gross leasable area

Maximum: 5 for each 1,000 sq ft of gross leasable area

400,000 – 600,000 sq ft of gross leasable area

Minimum: 4.5 for each 1,000 sq ft of gross leasable area

Maximum: 5.5 for each 1,000 sq ft of gross leasable area

>600,000 sq ft of gross leasable area

Minimum: 5 for each 1,000 sq ft of gross leasable area

Maximum: 6 for each 1,000 sq ft of gross leasable area

Warehouse

Orange County's parking requirements for warehousing is addressed as either industrial or mini-warehousing. The problem arises in that certain types of warehousing in industrial areas are now automated to the point that they may have very few employees in large warehouses, requiring very different parking that other industrial uses. As shown on the matrix, other jurisdictions have addressed this concern by having a certain number of spaces per employee.

Condo-Hotel, Motel

Like Orange County, the other jurisdictions shown in the matrix address condo-hotel the same as hotels or motels. Some places have unique requirements for extended-stay hotels. Two examples are as follows:

Olathe, KS (Pop. 92,962)

1 per each 2 employees on the largest shift. 1 per each guest room or each 2 guest beds. (Davidson & Dolnick, 2002, p. 93)

Dade County, FL

1.5 for each guest room, efficiency or 1 bedroom unit; 1.75 parking spaces for each 2bed-room unit; 2 for each 3 bedroom or more unit. (Davidson & Dolnick, 2002, p. 93)

Timeshares

Of the eight Florida jurisdictions reviewed in the matrix, only Broward County has regulations specific to timeshare. The rest treat timeshare uses the same as hotel/motel. Other jurisdictions are reviewed in Table 1 below.

Table 1: Timeshare Comparisons

Sparks, NV	Litchfield Park, AZ	Vail, CO	Ormond Beach, FL
1.2 parking spaces must be provided per time-share unit.	Parking shall be provided at a ratio of 1.2 spaces per timeshare unit.	Within commercial core: .7 per accommodation unit; outside commercial core: .4 per accommodation unit, plus .1 per 100 sq ft of gross floor area (Davidson & Dolnick, 2002, p. 169)	1 per guest room, plus 1 per 100 sq ft of office space. Restaurant and retail sales parking criteria must be met when applicable (Davidson & Dolnick, 2002, p. 169)

Source, PDG 2008

Places of Worship and Assembly

As shown on the matrix, parking requirements for places of worship and assembly are applied in many different ways. Unlike the others on the list, Orange County groups "Assembly Places" with "Amusement Places". The other examples typically consider places for assembly or worship separate from theaters or stadiums. Certain types of places of assembly that are used on an intermittent basis and are often good candidates for shared parking or alternative pavement technology. As shown below, Jefferson County, KY utilizes parking maximums for specific places of assembly. (Davidson & Dolnick, 2002, p. 92)

Jefferson County, KY (Pop. 693,604)

Churches, synagogues and similar religious uses where permanent seats are installed:

Minimum: 1 space for each 3 seats in the sanctuary or primary assembly area**.**
Maximum: 125% the minimum number of spaces required.

Churches, synagogues and similar religious uses where no permanent seats are installed:

Minimum: 1 space for each 50 sq. ft. of seating area in the sanctuary or primary assembly area**.**
Maximum: 125% the minimum number of spaces required.

Coliseums, stadiums, and similar facilities

Minimum: 1 space for each 4 seats or 4 people accommodated at maximum capacity
Maximum: 1 space for each 2.5 seats or 2.5 people accommodated at maximum capacity

Pharmacies and Drug Stores

In addition to the uses reviewed in the Matrix, Orange County also requested a review of how other jurisdictions address the specific use of pharmacies and drug stores. In preface to comparison to other jurisdictions, Table 2 below is a summary of the Institute of Transportation Engineers (ITE) Studies on Parking for Pharmacies with a drive-through window.

Table 2: ITE Demand Analysis for Pharmacies without a Drive-through

Peak Period	Saturday, 11: 00 a.m. – 2:00 p.m.
Number of Study Sites	14
Average Size of Study Sites	10,900 sq. ft. GFA
Average Peak Period Parking Demand	2.10 per 1,000 sq. ft. GFA
Standard Deviation	0.65
Coefficient of Deviation	31%
Range	.97-3.58 vehicles per 1,000 sq. ft. GFA
85th Percentile	2.59 vehicles per 1,000 sq. ft. GFA
363rd percentile	1.87 vehicles per 1,000 sq. ft. GFA

Source: McCourt & Hooper, 2004

It should also be noted that pharmacies without drive-through have a higher incidence of parking use at a peak hour maximum of 3 spaces per 1,000 sq. ft. GFA. Although pharmacies may have a high volume of traffic, the trips and parking are short term when compared to other shopping center uses. Since Orange County considers pharmacies as a shopping center use, the required parking of 5.5 spaces for each 1,000 square feet is more than adequate to meet the demand observed in the ITE study. A review of several pharmacies throughout unincorporated Orange County reveals that they often build more spaces that is required by the current code. A comparison of the parking requirements for pharmacies for other jurisdictions is as follows:

Tampa, FL
3 spaces per 1,000 sq. ft. GFA (Davidson & Dolnick, 2002, p. 143)

San Antonio, TX (Pop. 1,144,646)
Minimum: 1 per 300 sq ft of gross floor area
Maximum: 1 per 200 sq ft of gross floor area. (Davidson & Dolnick, 2002, p. 83)

Jefferson County, KY (Pop. 693,604)
Minimum: 1 for each 300 sq ft of gross floor area used by pharmacist and related waiting areas, plus 1 space for each 250 sq ft of gross floor area of retail space.
Maximum: 1 space for each 200 sq ft of gross floor area used by pharmacist and related waiting areas, plus 1 space for each 150 sq ft of gross floor area of retail space.
(Davidson & Dolnick, 2002, p. 83)

Conclusion

Improving the parking situation in Orange County requires a comprehensive approach that utilizes a variety of emerging trends. The process needs to be compatible with the attributes of the community. The recommendations included in this summary are only preliminary.

There are enormous social, environmental, and fiscal costs associated with providing too many parking spaces. The goal should be to reduce parking area, by at least removing unnecessary spaces so that there can be a more compact urban design, and a reduction in housing costs, pollution, suburban sprawl, traffic, and traffic accidents. There is no one fits all size parking solution for Orange County. The solution is based on a combination of various innovative parking strategies that best fit the unique needs and characteristics of Orange County.

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Matrix of Parking Standards for Select Florida Jurisdictions

Parking Standards	Orange County	Tampa	Alachua County	Broward County	Bay County	Jacksonville	Hillsborough County	Altamonte Springs	Palm Beach
ACLF	2 spaces per bedroom	0.35 space per bed	1 space per 2 persons liscensed capacity	1 space per 2 beds plus 1 per 200 sq. ft. of office area	1 space for every 4 beds, plus 1 space for for each 4 employees	1 space per 4 beds plus 1 space per employee	0.35 space per bed	1 space per 5 residents with a min. of 2 spaces (This is for an ACLF with more than 6 residents)	1 space per each 4 resident occupants plus 1 per employee in largest workshift.
Shopping Center A) Up to 50,000 sq. ft.	5.5 spaces for each 1,000 sq. ft. with no less than 5 spaces	4 spaces per 1,000 sq. ft.	Min. 5 - Max. 5.5 per 1,000 sq. ft for up to 20,000 sq. ft.	1 space per 200 sq. ft. From 10,000 to 40,000 sq. ft.	6 spaces per 1,000 sq. ft.	1 space for each 150 sq. ft. of nonstorage floor area	5 spaces per 1,000 sq. ft.	4 spaces per 1,000 sq. ft.	1 space per 200 sq. ft.
B) Over 50,000 sq. ft.	5 spaces for each 1,000 sq. ft.		Min. 4.5-Max. 5 per 1,000 sq. ft. for 20,000 sq. ft. - 200,000 sq. ft.	1 space per 250 sq. ft. From 40,000 to 200,000 sq. ft.			4.5 spaces per 1,000 sq. ft.		
C) More than 200,000 sq. ft.			Min. 4 - Max. 4.5 per 1,000 for over 200,000 sq. ft.	1 space per 300 sq. ft. For more than 200,000 sq. ft.			4 spaces per 1,000 sq. ft. For more than 400,000 sq. ft.		
Warehouse A) Up to 200 units/ "Mini Warehouse"	4 spaces plus min. 25 ft. btw buildings for driveway parking purposes	1 space per employee on largest shift Plus 1 for each 20 storage units	1 space per 1,000 sq. ft.	1 space per 500 sq. ft. For under 20,000 sq.ft 1 space per 1,000 sq.ft For 20,000-40,000sq.ft	4 spaces per 5,000 sq. ft.	1 space for 5,000 sq.ft. or 1 per employee on the peak shift, whichever is greater	1 per 10 storage units plus 1 per employee	1 space plus 1 space per each additional 50,000 sq. ft.	
B) Over 200 units	6 spaces plus min. 25 ft. btw buildings for driveway parking purposes	0.6 per employee on largest shift		1 space per 2,000 sq.ft For over 40,000 sq. ft.			0.6 per employee of the largest shift		
Condo-Hotel, Motel,	1 space per 1.5 rooms plus 1 space per 100 sq. ft. of office, plus restaurant and retail sales criteria must be met when applicable	1.0 per room, plus 0.5 per employee	1 per guest room	1 Per guest room	1.1 per unit room or suite, plus 10 per 1000 sq. ft. of floor for restaurant and lounge area	1 Per guest room plus the spaces required for accessory uses such as restaurants and meeting rooms.	1.1 per room	1 Per guest room plus one space for per 3 employees plus parking as may be required for accessory uses	
Timeshare	1.25 spaces per unit plus .25 spaces for each lockout unit			1.5 per each unit, plus 1 per each 10 units for guests and staff.					
Places for Assembly or Worship	Amusement or Assembly Places containing fixed seats: 1 for each 3 fixed seats provided for patron use, plus 1 per employee	0.3 per seat	1 per 5 seats of maximum seating capacity in the principal area of assembly	1 per each 4 seats or 1 per 50 sq ft of worship area, whichever results in a greater amount of required parking	1 per 3 seating spaces	1 for each 3 seats in a sanctuary or chapel area, or 1 per 35 sq ft of gross floor area in the main auditorium, whichever is greater	0.3 per seat	1 for each 3 seating places in the main auditorium	1 per 4 permanent seats in the main auditorium
Stadium	Amusement or assembly places without fixed seats (go-cart tracts, mini-golf courses, driving ranges and other similar outdoor uses): 1 per each 3 patrons, plus 1 per each employee			1 per each 5 seats		1 per each 4 seats	0.3 per seat	1 for each three seats, plus one for each 25 sq ft of gross floor area for exhibits or portable seating	
Sports Arena/Auditorium		Theatre: 0.3 per seat		1 per 4 fixed seats	1 per 3 seating spaces	1 per each 4 seats		1 for each 3 seats, plus 1 for each 25 sf of gross floor area for exhibits or portable seating	1 per 4 permanent seats in the main auditorium

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