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PROJECT NAME:	City of Newport Beach – Corona del Mar
PROJECT NUMBER:	37-7990.00
SUBJECT:	Municipal Parking Study – Corona del Mar

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EXECUTIVE SUMMARY

While most areas of Corona del Mar have adequate public parking available, there are areas that experience significant parking deficits. These areas include the western part of Coast Highway from Avocado Avenue to Dahlia Avenue and the adjacent residential areas, particularly on the south side of Coast Highway. The Corona del Mar Plaza also experiences extremely high occupancy during peak demand periods. Based on our findings and input from the community, we propose increasing parking management efforts in the areas of greatest impact and along Coast Highway to include paid parking using multi-space or pay-and-display meters. This may have the effect of pushing some vehicles into the residential areas of Corona del Mar; we therefore recommend that the surrounding areas establish residential parking permit areas or strictly enforce time-limits in the impacted areas.

OVERVIEW

The Corona del Mar study area is the first of a six part overview of the parking system in six separate districts within the City of Newport Beach. The Corona Del Mar community of Newport Beach is located along the City's coastline following the Coast Highway from approximately Hazel Drive to Avocado Avenue. The neighborhood is primarily composed of retail stores, boutiques, restaurants, offices, single and multifamily residences and the stunning views that outline the coast. The mix of land uses generates a significant and increasing demand for parking. The street parking in Corona del Mar is available free of charge making it potentially more difficult to regulate or control than in other areas of the City where parking meters are used to encourage turnover in short-term spaces. There is some encroachment of parking demand into the residential areas from patrons of and people working in the shops, restaurants and businesses located on the Coast Highway.

The Corona del Mar study area includes the commercial and residential areas along the Coast Highway as well as the Corona del Mar Plaza and the Newport Beach Central Library. A map of the study area is shown in Figure 1. We note that our study area is centered on the neighborhood's commercial core and does not include the blocks immediately adjacent to the coastline, where parking demand, particularly at certain times of the week or year, is driven more by beach visitors than by businesses or neighborhood residents.

PROJECT ASSUMPTIONS

The purpose of this report is to provide recommendations that will result in an efficient use of the existing parking supply in Corona del Mar. In creating such plans, political considerations sometimes come into play, often at the expense of the policies that will utilize the parking system most efficiently. Parking planning is complex as it affects issues as varied as the health of neighborhood businesses and parking for residents. Except where noted in specific instances, such as the parking needs of neighborhood residents, the following analysis is not based on political implications of our recommendations and does not incorporate the eventual input of the Coastal Commission. Our goal is to determine how to use the parking system as effectively as possible so as to provide as many people as possible with appropriate access to Corona del Mar while maintaining reasonable access for residents to park on their streets. We also note that during the busiest beach-going days or seasons, demand for parking at the nearby beach areas is arguably nearly unlimited, particularly when such parking is free or underpriced. We also note that on most days of the year, City staff and residents report that beach parking is not an issue within the study area. As a result, our parking planning for the study area is not designed to accommodate parking demand generated by visitors to the nearby beach.

Figure 1: Study Area

Source: Google Earth Pro, Accessed June 1, 2008

PROJECT METHODOLOGY

Walker relied on data from a number of sources in order to develop our recommendations. The bulk of our data and information comes from field surveys conducted in Corona del Mar by Walker Parking on May 15 and May 17, 2008. In addition, we reviewed previous parking studies prepared for the City of Newport Beach and the Corona del Mar neighborhood.

Currently, managing the parking in Corona del Mar is done primarily by using time limits. As we will discuss, this is not always the best way to manage parking occupancy in high demand areas.

IMPROVING THE EFFICIENCY OF THE EXISTING PARKING SUPPLY

Walker performed the following analysis and developed the recommendations contained in this report based on a combination of our experience with parking in municipal commercial districts and beach areas as well as phone calls with city staff in coastal cities throughout California conducted to gain insight for this report. We then proceeded with the analysis using the following assumptions:

1. The population of the entire region continues to increase while Corona del Mar and the City of Newport Beach continue to be popular local and regional destinations, while the amount of available on-street parking remains constant. On a practical level, spatial and financial constraints will almost certainly make it impossible to provide a parking space for every driver who wishes to park, often in a vehicle occupied solely by one person, for free, particularly if the character and design of an older commercial district is to be maintained.

2. "Turning" spaces provides more drivers with access to parking. ("Turning" is the reuse of a vacated space by a new car.) One parking space occupied by a car left all day may serve one employee or long term beach visitor. In the same eight hour period, eight or more customers are often able to park and transact business.

3. Free on-street parking encourages drivers to leave vehicles on the street that they might otherwise park or store in their garages, or driveways, or maybe not keep at all.

4. Managing parking demand in Corona del Mar will involve trade offs. In order for a commercial and residential district to function properly, certain parking user groups will likely have priority over others. For example, customers are not willing to walk as far as employees to a business and need to have access to the closest spaces. A beach lover or local resident who lives a few blocks away may desire a convenient parking space near certain businesses or the beach throughout the summer, but that parking space may be far more valuable to the family of four spending one day at the beach on their once in a lifetime vacation to Newport Beach and Southern California.

5. The use of parking meters or other forms of paid parking, if enforced, are far more effective at creating turnover than are time limits. The enforcement of time limits is also significantly more

labor intensive, and therefore more expensive than is the enforcement of parking regulations using parking meters. The decision to use paid parking should be addressed as it relates to creating turnover and increased parking availability in those areas that need it.

BASELINE SUPPLY AND DEMAND

For the purpose of this report, we define Baseline Supply and Demand as the conditions that were observed during our inventory and occupancy counts. Note that we do not refer to these counts as "existing conditions" because in many instances, inventories and the demand for parking in an area can change between the time the data is collected and the time the report is completed.

It is also important to note that inventory and occupancy data is a limited sample of actual conditions. For example, the occupancy numbers for the two study days could vary from typical conditions. These variances could result in higher utilization of the parking supply, or lower utilization. Over the study area as a whole, we assume that small positive and negative variations in specific areas tend to balance out and regress toward an average (mean).

In order to estimate the baseline utilization of the existing parking system within the study area, Walker field staff collected inventory and occupancy data on Thursday, May 15 and Saturday, May 17. The days of the week were selected in consultation with City staff and community members. In addition, in Walker's experience Thursday often represents the peak weekday for parking demand in a commercial district while Saturday is typically the busiest weekend day.

Counts were completed three times during the day: at 10:00 AM, 1:00 PM, and 7:00 PM in order to observe the typical morning, afternoon and evening hours for peak parking demand. The weather during the counts was sunny and warm; we note that, with the input of City staff, we chose survey days that did not represent the absolute peak parking demand days of the summer, but appeared to represent busy non-summer days. Detailed inventory and occupancy information throughout the study area is included in Appendix A.

Within the study area, we counted a total of 3,465 parking spaces 2,033 spaces were located on-street, and 1,432 were located in various private and public parking facilities. In addition, there are several private spaces located in "lots" of fewer than five spaces scattered throughout the commercial core. These spaces are often reserved for private tenants of nearby buildings. We do not consider these areas to be useable parking lots for the general public and therefore have omitted them from this analysis. We also identified 711 parking spaces in the Corona del Mar Plaza.

Table 1 illustrates the breakdown of parking between on-street and off-street supply. As seen, the on-street parking represents approximately 59% of the total supply, while the off-street parking represents approximately 41% of the total supply.

Table 1: Parking Inventory

	Total Inventory	%Total Supply
On-Street Parking	2,033	59%
Off-Street Parking	1,432	41%
Total	**3,465**	**100%**

Source: Walker Parking Consultants, 2008

The overall peak demand was observed at 10:00 AM on Saturday when a total of 2,143 parking spaces were occupied (759 cars parked on street and 1,384 cars parked in off-street lots and garages). We will refer to this peak as the Baseline Peak Demand.

During the weekday count, the observed on-street demand was generally lower than the weekend count. The peak for Thursday, May 17 occurred at 10:00 AM. At this time, there were 2,018 parking spaces occupied (777 cars parked off-street and 1,241 cars parked on-street). The overall baseline peak demand of 2,143 parking spaces (Saturday at 10:00 AM) is equivalent to roughly 62% of the total Corona del Mar area supply. Table 2 profiles the occupancy demand during both the weekday and weekend periods.

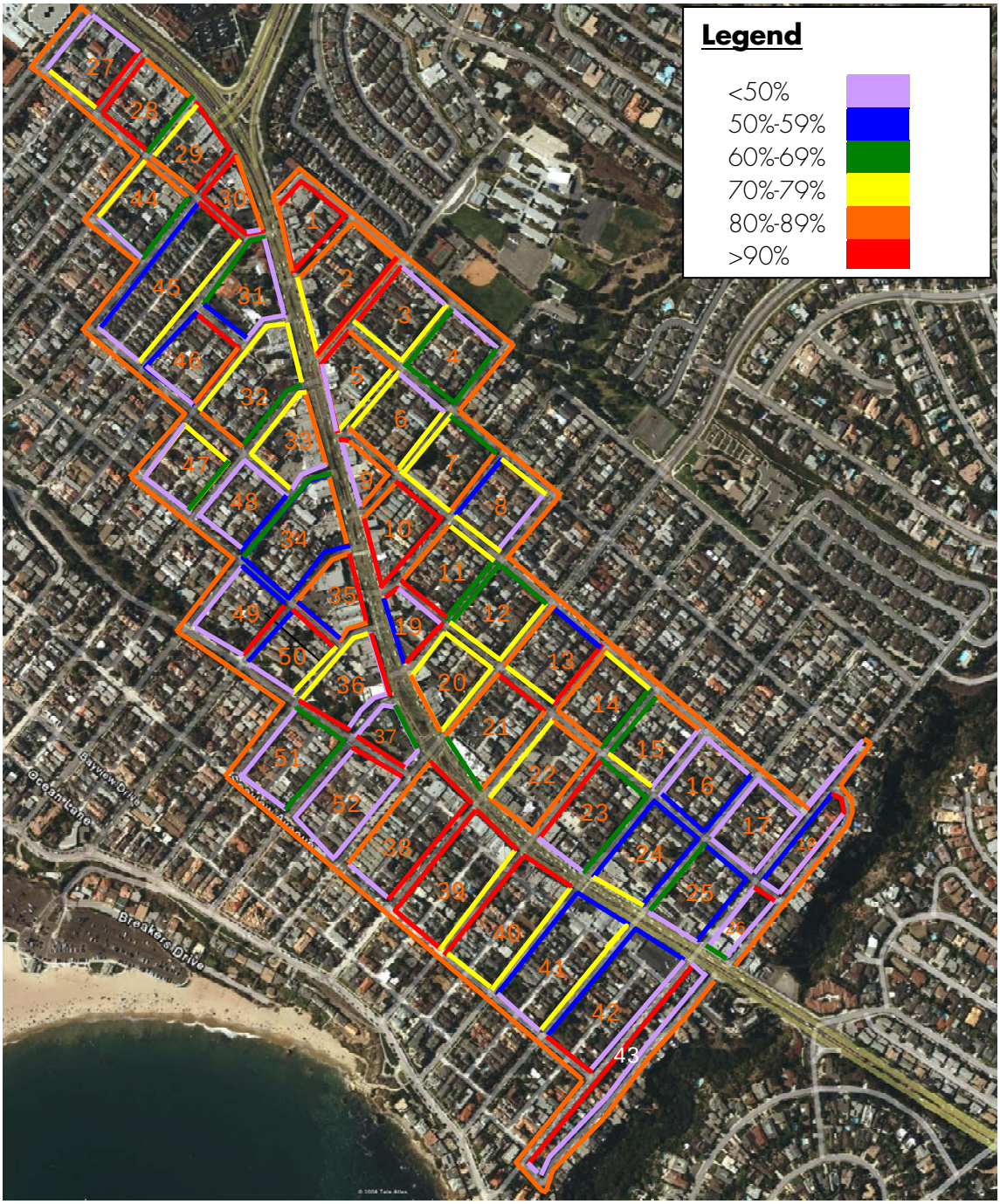
Table 2: Occupancy Summary for Corona del Mar

	10:00 AM	1:00 PM	7:00 PM
Thursday, May 15			
On-Street Occupancy	1241	1246	1323
Off-Street Occupancy	777	770	582
Total Occupancy	2018	2016	1905
% of Total Supply	58%	58%	55%
Saturday, May 17			
On-Street Occupancy	1384	1358	1313
Off-Street Occupancy	759	752	570
Total Occupancy	2143	2110	1883
% of Total Supply	62%	61%	54%

Source: Walker Parking Consultants, 2008

Although the study area overall does not suffer from a parking shortage, a few concentrated areas of impact do occur. Figure 2 highlights the areas that have impacted on-street parking. This figure illustrates the peak on-street parking demand and highlights the areas that experienced significant parking occupancy during our survey period. Appendix B provides detailed maps that illustrate parking occupancy demand for peak on-street, off-street and combined (all parking in the area including off-street and on-street) for both weekday and weekend survey periods.

Figure 1: Peak Parking Occupancy Demand – On-Street (Weekend)



Source: Google Earth Pro, Accessed June 2008, Walker Parking Consultants, 2008

We also conducted parking counts at the Corona del Mar Plaza located between Avocado Avenue and MacArthur Boulevard. The observed peak demand for the Corona del Mar Plaza (including the library lot) occurred at 1:00 PM on Saturday when 685 vehicles were observed in the parking lot. This is equivalent to approximately 96% of the supply located on site. Table 3 shows parking occupancy at the Corona del Mar Plaza.

Table 1: Occupancy Summary Corona del Mar Plaza and Library lots

Type / Description	Inventory	Thursday, May 15, 2008			Saturday, May 17, 2008		
		10:00 AM	1:00 PM	7:00 PM	10:00 AM	1:00 PM	7:00 PM
Corona del Mar Library	209	142	195	95	102	208	6
Corona del Mar Plaza	347	165	304	272	221	334	288
Employee Lot #1	49	51	52	38	32	50	41
Employee Lot #2	26	28	28	10	26	30	10
Gulf Stream Restaurant	80	5	69	78	3	63	80
Total Occupancy	711	391	648	493	384	685	425
% of Total Supply		55%	91%	69%	54%	96%	60%

Source: Walker Parking Consultants, 2008

EFFECTIVE PARKING SUPPLY

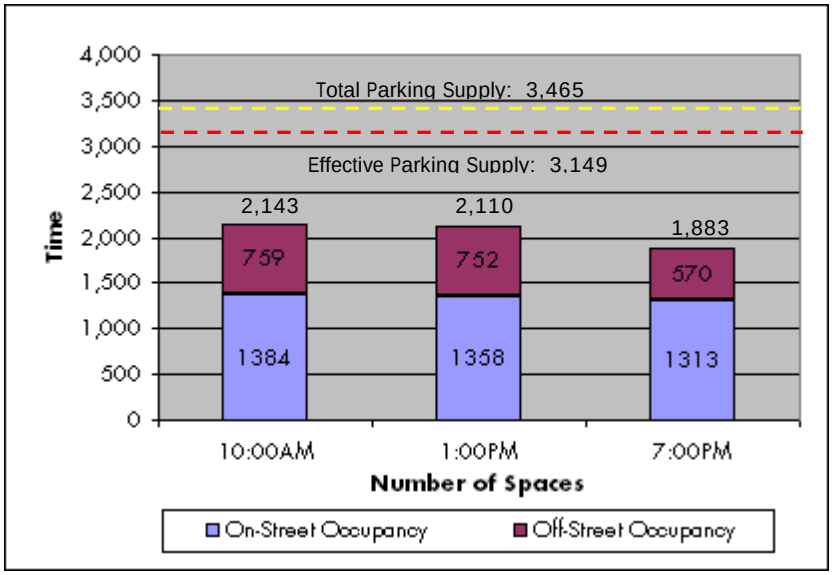
When discussing the utilization of a parking system, it is important to consider the concept of an effective supply. Effective supply is the maximum number of parking spaces that can realistically be used within a given system. An effective supply cushion of spaces helps to protect against the inevitable loss of spaces resulting from temporary disturbances such as mis-parked cars, construction, broken glass, or other disruptions to the supply. This cushion also helps to decrease traffic congestion by minimizing the amount of time visitors must spend looking for an empty space.

For on-street parking in a commercial district we generally recommend an effective supply equal to 85% of the total capacity. This allows a sizable cushion of spaces so that traffic does not back up on surface streets (such as on Coast Highway). Off-street parking requires less of a cushion generally 90% to 95% of the full supply, depending on the type of facility and the anticipated user group. Smaller cushions are needed for long-term parking, since employees and frequent visitors to the area tend to be familiar with the facilities and their spaces are not subject to frequent turnover. For the off-street facilities in Corona del Mar, with a large residential presence, we expect that much of the traffic will be generated by residents, and therefore use a blended effective supply rate of approximately 91% of the total capacity.

Thus, when we evaluate whether the system is currently meeting demand adequately, we do not look for occupancy rates of 100%, but rather occupancy rates over 85% for on-street or 95% for off-street. A weighted average of those effective supplies in the Corona del Mar parking system is approximately 91% of the total supply.

Figure 3 illustrates the hourly demand observed on Saturday, May 17 as compared to the total Corona del Mar supply and the total area effective supply.

Figure 2: Peak Parking Demand (Saturday, May 17)



Source: Walker Parking Consultants, 2008

The perception that there is no available parking in the study area does not match the reality of the area. There are certain streets that do not have an adequate supply of parking to meet demand, but as our survey data indicates, there is usually available parking nearby. This perception needs to be addressed by helping the residents and visitors where they can find available parking and letting them know that available parking in Corona del Mar is typically more abundant and closer to their destination than it is in shopping centers like Fashion Island or South Coast Plaza. The difference between the perception of Fashion Island and Corona del Mar is that many residents maintain an expectation of parking immediately in front of their destination in Corona del Mar; this is not necessarily the case at Fashion Island. Since there are many customers that seek the optimum space in front of a store or restaurant, the limited resource of convenient parking could be allocated. This can be achieved by establishing paid parking in sections of Corona del Mar that may allow and be appropriate for parking meters.

Another educational parking tool that we have seen effectively utilized is posting or distributing maps identifying the City's parking facilities, including the rates and restrictions at the lots and at the meters, if applicable. This information can be placed in public areas, including hotels, restaurants and information bureaus throughout the City and on the City's website.

Overall there is sufficient parking in Corona del Mar to support the current land uses. Without question there are certain areas and certain times of day where parking is impacted at or above the effective supply for the area. However, there is usually available parking nearby, though probably not as close nor as convenient as the resident, patron, or employee would prefer.

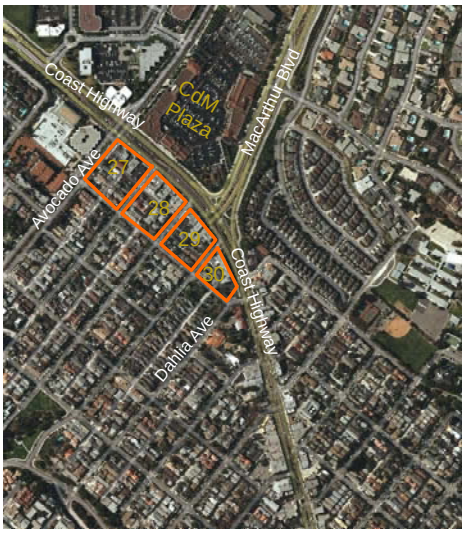
LICENSE PLATE INVENTORY AND TURNOVER ANALYSIS

In many commercial areas including Corona del Mar, congestion occurs around the core shopping streets while more peripheral parking remains at lower utilization rates. Frequently, part of the congestion is caused by employees parking in spaces that are designated for other parkers, including short term or residential parking. It is understandable that employees would rather park close to work than farther from it, but if everyone coming to Corona del Mar competes for the most convenient parking the congestion is magnified. This is not good for business, as it creates a perception that local commercial district shopping is a hassle. Customer parking should be the priority in Corona del Mar area, not only for the sake of the customer and business but also for the sake of efficient circulation and space utilization. Prioritizing parking for different user groups helps to even out the imbalances in parking demand.

To test the extent to which long-term parking makes up a significant portion of the parking demand in the most congested portion of the study area, Walker staff conducted a length of stay analysis of selected on-street facilities, namely areas 27 to 30. By recording license plate numbers every hour during a weekday, we were able to track how long individual cars stayed in a space. Results from this license plate inventory (LPI) analysis show a significant number of vehicles were present throughout the day. Table 4 outlines the number of vehicles that remained in the study area for various amounts of time during the LPI. Appendix C provides a detailed overview of the LPI data. In the entire service area, the LPI analysis identified 411 unique vehicles parked in the 112 spaces. This indicates a turnover ratio of approximately 3.67 vehicles per space over the 11 hour study period (411÷112). One can also look at the results as suggesting that nearly 90 cars were parked for 5 hours or more. Most of the turnover occurred in a small number of spaces. From this preliminary analysis it appears that there are a number of cars parked for extended amounts of time. It is difficult without further analysis to determine if these cars belong to residents or employees, though it appears from the considerable lengths of stay, that many are residents. If this is the case, then it may be beneficial to develop measures, including time restrictions or installing parking meters, to ensure that appropriate vehicles have access to the area and to balance the restaurant demand during the evening hours with the heavy residential demand.

Table 3: License Plate Inventories

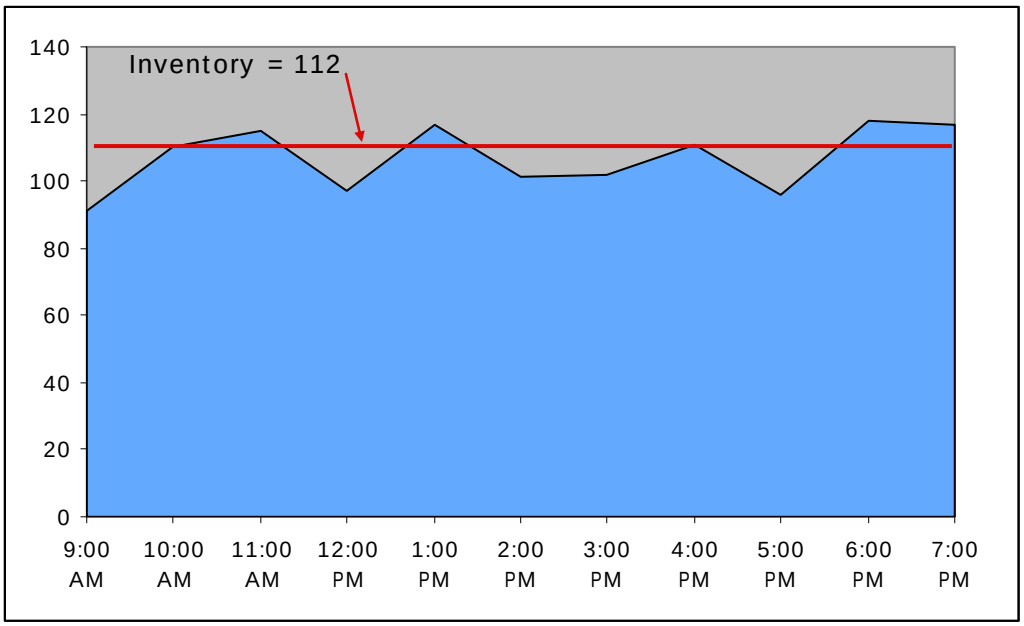
Hours	Vehicles
1	182
2	67
3	41
4	34
5	13
6	9
7	16
8	11
9	10
10	28
Total	411



Source: Walker Parking Consultants, 2008

Figure 4 illustrates how the vehicles in the study area moved. As Figure 4 shows, vehicle occupancy in the area remained high throughout or study period. In fact, the lowest number of vehicles was 91 at 9:00AM and the highest number of vehicles recorded was 118 at 7:00PM. Thus, while some vehicles turned-over during our study period; most vehicles remained parked in the area indicating that they are most likely residents and not employees or customers.

Figure 3: Vehicle Occupancy during LPI – Blocks 27 through 30



UTILIZATION OF SPECIFIC PARKING SUPPLIES

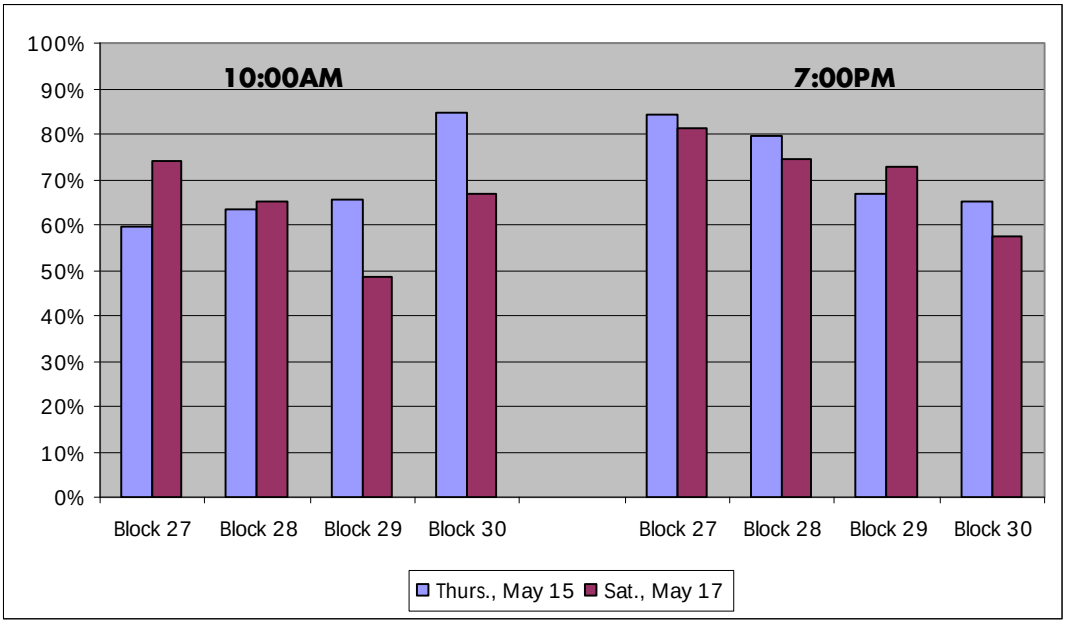
At the peak hours on Thursday and Saturday, certain blocks were more heavily utilized than the total occupancies observed for the study area as a whole. The perception is that parking in the area is constantly congested and typically unavailable. Our findings on the survey days did not necessarily support this perception. Figure 5 shows a block-by-block breakdown for the baseline occupancies (observed on Thursday and Saturday) for the busiest areas. The most heavily used block was Block 30 on Thursday, which reached effective capacity of 85% at peak (10:00AM) conditions. It should be noted that for the four blocks highlighted in Figure 5, 7:00PM actually had higher occupancy rates due to the high restaurant demand. However, it appears that there is still parking available though it may be more difficult to find or possibly not as conveniently located as the patrons or residents would prefer.

As seen in Figure 5, weekends in Corona del Mar are typically busy due to the influx of visitors and tourists that descend on the area throughout the year. This accounted in large part for the overall peak demand occurring on Saturday.

The areas closer to the Corona del Mar commercial and restaurant areas, specifically Blocks 27-30, appear to have the most significant impacts during the two days of our survey counts. The highest occupancy areas:

Blocks 27 through 30, stayed roughly between 60% and 80% occupied. This figure shows that throughout this high impact area, there was available parking on the two study days. It also shows that while the overall study area peak was at 10:00AM, the evening peak, while higher, was not as significant as expected. That is to say, we expected the restaurant demand to create an overall peak for the area but it did not. This is largely the result of off-street lots not being fully utilized during the evening peak hours.

Figure 4: Combined Peak Occupancies (as % of supply)



Source: Walker Parking Consultants, 2008

We also looked at occupancy on a block-by-block basis. Figure 6 outlines the on-street parking block faces that exceeded the recommended level of 85% during the peak occupancy period on Saturday, May 17.

Figure 1: Occupancy by Block Face – On Street Peak

Source: Google Earth Pro, Accessed June 2008, Walker Parking Consultants, 2008

As illustrated in Figure 6, there are several blocks that exceed 85% occupancy during the peak hour period. This does not necessarily mean there is an overall parking shortage throughout the day, but it

does suggest that parking demand is greater than the effective supply in some areas during the peak hour period. Appendix D provides greater detail on the block-by-block occupancy and ratios during the weekday and weekend study periods. The blocks outlined in dark red illustrate the areas with the greatest demand that are good candidates for evaluating paid parking. For comparison, Table 5 highlights occupancy during the weekday and weekend peak demand period in all areas of Corona del Mar.

Table 1: Peak Occupancy by Block

		Weekday		Weekend	
Block	*Inv.*	10 am		10 am	
1	*141*	*75*	*53%*	*75*	**53%**
2	*110*	83	*75%*	80	**73%**
3	*43*	30	*70%*	32	**74%**
4	*41*	17	*41%*	23	**56%**
5	*71*	43	*61%*	29	**41%**
6	*43*	25	*58%*	31	**72%**
7	*42*	27	*64%*	33	**79%**
8	*41*	20	*49%*	21	**51%**
9	*49*	21	*43%*	29	**59%**
10	*65*	36	*55%*	49	**75%**
11	*45*	22	*49%*	35	**78%**
12	*42*	24	*57%*	29	**69%**
13	*36*	19	*53%*	26	**72%**
14	*43*	24	*56%*	32	**74%**
15	*42*	14	*33%*	26	**62%**
16	*46*	13	*28%*	22	**48%**
17	*44*	18	*41%*	15	**34%**
18	*38*	14	*37%*	18	**47%**
19	*59*	27	*46%*	30	**51%**
20	*63*	47	*75%*	38	**60%**
21	*80*	62	*78%*	55	**69%**
22	*96*	61	*64%*	78	**81%**
23	*114*	92	*81%*	88	**77%**
24	*84*	39	*46%*	40	**48%**
25	*53*	22	*42%*	20	**38%**
26	*46*	33	*72%*	16	**35%**
27	*69*	41	*59%*	51	**74%**
28	*63*	40	*63%*	41	**65%**
29	*99*	65	*66%*	48	**48%**
30	*66*	56	*85%*	44	**67%**
31	*88*	65	*74%*	30	**34%**
32	*103*	63	*61%*	64	**62%**
33	*149*	63	*42%*	61	**41%**
34	*82*	47	*57%*	46	**56%**
35	*98*	73	*74%*	75	**77%**
36	*93*	42	*45%*	78	**84%**
37	*73*	27	*37%*	57	**78%**
38	*89*	67	*75%*	68	**76%**
39	*92*	72	*78%*	86	**93%**
40	*89*	46	*52%*	63	**71%**
41	*96*	49	*51%*	51	**53%**
42	*116*	58	*50%*	63	**54%**
43	*13*	11	*85%*	14	**108%**
44	*42*	27	*64%*	29	**69%**
45	*95*	57	*60%*	57	**60%**
46	*43*	23	*53%*	26	**60%**
47	*45*	21	*47%*	25	**56%**
48	*47*	26	*55%*	20	**43%**
49	*32*	11	*34%*	20	**63%**
50	*20*	11	*55%*	18	**90%**
51	*42*	19	*45%*	20	**48%**
52	*44*	30	*68%*	18	**41%**
Total	***3,465***	***2,018***	**58%**	**2,143**	**62%**

Cont'd.

Source: Walker Parking Consultants, 2008

PARKING SUPPLY

Parking is extremely expensive to build, and rarely earns enough income to offset its operating expenses and debt service obligations. In examining parking occupancy and demand from our survey data, it indicates that there is not significant demand to justify adding parking supply in Corona del Mar to meet projected demand.

Currently in Southern California we are seeing garage construction costs starting at approximately $18,000 per space depending on façade, geological considerations, and other construction issues. These costs do not include soft costs (another 20%) or land acquisition. Using an estimate of $18,000 per space, a 220-space garage would cost approximately $3.96 million plus an additional estimated $800,000 for soft costs. The annual debt service for a $4.76 million garage would be approximately $405,000 excluding land costs.[1] For a 220-space garage to cover the debt service it would need to generate approximately $7.90/space, 300 days per year, excluding Sundays and Holidays. [2] Again, this assumes a construction cost of $18,000 per space plus $500 per year in operating costs and an estimated 20% for soft costs.

PARKING DEMAND MANAGEMENT

Parking demand management (PDM) takes parking management a step further than the use of time limits and in some cases meters. Options other than driving and parking are considered for the purpose of maximizing efficiency and personal choice while reducing costs and in most cases reducing the impacts on the environment. Parking management strategies vary widely and include shared parking and trip reduction strategies, pricing cues, and disincentives for those contributing more to congestion. Below we discuss a number of parking demand management strategies, most of which could be applied in varying degrees in Corona del Mar, particularly if some method of pricing on-street parking and increased restrictions such as permit parking were put in place.

PRICING PARKING

MARKET PRICED METERS

In his book, The High Cost of Free Parking, Donald Shoup suggests that many cities are mis-pricing the cost of street parking and thereby creating misguided incentives for customers visiting their commercial

[1] This assumes a 20-year bond with 6% interest and level bi-annual payments.
[2] 220 spaces multiplied by 300 days, multiplied by $7.90 equals $405,000.

areas. He argues that on-street, curb parking is the most desirable and therefore most valuable parking in most municipal parking systems. If curb parking is under priced there will be no available parking on the street front and vehicles will begin circling the block, creating traffic congestion until they find available curb parking. Shoup states that appropriately priced curb parking should create an 85% occupancy, leaving 15% off all the meters on a street available. Ideally, on-street meters should be utilized by shoppers looking to patronize stores and businesses and not by employees or long-term vehicles taking advantage of the relatively cheap meter rates. This concept can be extended in Corona del Mar to help induce vehicles towards off-street parking.

Pros

- Effectively allocates parking
- Increases turnover of spaces
- Reduces cruising for spaces

Cons

- Parking isn't congested enough to justify
- Big jump from no meters to market rate meters
- May just push parking further into residential area
- Can be costly and complicated to establish

METHODS OF PAYING FOR PARKING

Coin-operated meters are often inconvenient, inefficient, unreliable, and can be aesthetically unpleasing. Some cities are beginning to evaluate alternatives such as pay-and-display systems, smart meters, electronic hang-tags or pay-by-phone systems. Below we discuss a few of the different methods of paying for parking which, typically by making payment more convenient, makes market rate parking strategies a more realistic option.

PARKING METERS

City of Berkeley, CA

In reviewing the parking issues in Corona del Mar it appears that there are areas with significant congestion that may benefit from time limit parking or parking meters to help alleviate congestion and increase turnover during high occupancy periods. The current time limits are helpful but their hours may need to be extended to 10:00 PM if there are areas where the parking demand from late night restaurants creates impacts. In addition, the turnover and enforcement could be enhanced by implementing meters. Meters can help ensure that all areas of Corona del Mar have parking available throughout the day and it may discourage employees from parking in the most desirable spaces that should be available to customers. Single-head, coin operated meters are aesthetically unpleasing and require the visitors/patrons to predict how long their shopping or dining experience will be and require that visitors have enough coins with them to satisfy their trip requirements. As an alternative, many cities are using smart meters or pay-by-phone systems.

Pros

- Efficiently allocates parking
- Creates availability for shops and restaurants
- Increases turnover

Cons

- Expensive to set up and maintain
- Initially, paid parking can irritate some visitors
- Additional enforcement will be required
- Education will be necessary to support meters
- Potentially aesthetically unpleasant

Alternate technology

Smart meters are simply meters that accept various forms of payment. Like traditional meters some take coins, but will also accept credit cards or city-wide "smart cards" and can be programmed to reflect different prices during different times of the day.

Pros

- Easy to use
- Con accommodate different payment methods and different pay rates (residential or business
- Increase turnover
- Can track usage and estimate value

Cons

- May push parking into residential area
- Expensive to set up and manage

.

Pay-by-phone

Pay-by-phone systems have also become very popular lately although arguably they may provide more service than most parkers typically need. This service is typically set up by a third-party and allows the user to call a number (typically via mobile phone) to pay for parking. In most instances, this does require a user to be registered with the pay-by-phone service but depending upon the city and the service they may only need to register once and can park in numerous cities if they all subscribe to the same pay-by-phone provider. Most cities contract with the pay-by-phone provider to help with pricing, time limits, location and block numbering.

Pros

- Doesn't require new equipment
- Easy to use and relieves concern about running back to the meter with additional coins
- Con change prices based on demand or scheduled rate reviews

Cons

- Third party is making money off a city resource
- Increased enforcement is essential
- May still need to install meters
- Complex – potentially more "bells and whistles" than the average parker needs.

Multispace Meters

In an area like Corona del Mar, alternatives to the single-head meter would offer drivers a convenience and the community an improved aesthetic as well. Such meters therefore might be better received than conventional meters. If paid parking were implemented in the area, Corona del Mar should evaluate installing multi-space meters. Multispace meters are typically easy to use. They are much less obtrusive than single head meters and can be less expensive depending on how wide an area is covered.

Typically there are two types of multispace meter systems, pay-and-display and pay-by-space. With pay-and-display meters, drivers must go to the multispace meter, purchase a receipt to display on their dashboard and return to their vehicle to display the receipt, which reflects the amount of time purchased. Such a system some benefits but also drawbacks; for example there can be added inconvenience for the driver, who must go to the meter and return to the car to display payment. In addition, a pay-and-display system results in more labor intensive enforcement measures as parking enforcement officers must check the receipts on each dashboard in order to verify compliance. We have also observed complaints of potential maintenance and litter issues with regard to the production and discarding of receipts.

With a pay-by-space meter, there is no receipt. All information is recorded in the pay-by-space (multispace) meter. With several ways to pay, (coins, credit card), their use is fairly simple:

- The driver notes the number of the space where he/she parks.
- Locates multispace meter.
- Pushes buttons to indicate space number and amount of time driver plans to park.
- Enters method of payment (i.e. credit card, coins, or paper money) and finalizes transaction.

Enforcement using a pay-by-space meter is also generally easier, in some cases significantly, than with a pay-and-display system. Parking enforcement can check violations for a number of cars simply by punching a few buttons on the meter. With some systems, this action can be performed remotely.

Pros

- Multiple forms of payment
- Reliability
- Reduced street clutter
- Relative ease of enforcement

Cons

- More expensive than single head meters.
- Learning curve for users

SmartCards/Hang Tag Meters

A SmartPark device or any other similar electronic hang-tag device uses a SmartCard that is loaded with a prepaid amount of parking hours. The amount of free or discounted parking can be determined by the City. This system could replace or augment the current permit system.

The SmartCard is inserted into the SmartPark, which is then placed inside the vehicle and displays the parking zone selected. Thus, the SmartPark system operates like an in-car parking meter. To use the SmartPark system, customers make a one-time meter purchase (approximately $50-$60) and then preload

the SmartCard in increments of $20 to $200, similar to FasTrak. A parker simply turns on their meter and hangs the SmartPark device from their review mirror so that parking enforcement can see they have paid. These meters can be loaded for visitors to Corona del Mar and loaded at a lower rate for residents.

The in-car parking device may be used at single-space parking meters, municipal parking lots and municipal garages. Ideally, with SmartPark, motorists pay for actual parking time only, allowing visitors and residents to use the SmartPark only for the time they are parked. Another benefit of this technology that may be attractive to Corona del Mar is that it is a cashless operation that would allow residents and frequent visitors the ability to park in Corona del Mar without carrying coins.

Pros

- Easy to use
- Can easily set or change pricing
- Prepaid so City may see revenue before the meter is actually used
- A convenience for locals and other frequent users

Cons

- Not good for areas with a high number of visitors
- More expensive for both the city and the user than alternatives
- Forgetting to turn the device off will result in high parking fees
- Third party typically required

PARKING DEMAND MANAGEMENT - FUNDING AND MANAGEMENT SYSTEMS

IN-LIEU FEES

Some cities allow developers to pay a fee in lieu of providing the parking spaces required by zoning ordinances, and use this revenue to finance public parking spaces to replace the private parking spaces the developers would have otherwise provided. That is, developers pay a fee in lieu of building new spaces. In-lieu fees work better in larger redevelopment areas like Old Town Pasadena, which was able to sell zoning credits (similar to in-lieu fees) to fund part of the cost of constructing public parking structures. In Corona del Mar, since it is a much smaller area and is not necessarily looking to redevelop large parcels, it is not likely to generate enough funds to develop new parking facilities; however, if the occasion arises, it may supplement revenues for a parking structure or lot or other projects including sidewalk improvements, increased signage, new meter technology, or additional safety measures. Generally, we believe that the fee should be related to either the underlying cost of the real estate or the value of the service (parking) being provided or both. If land in Corona del Mar is expensive enough to justify an in-lieu fee of $80,000, then charging less than that amount is the equivalent of subsidizing parking or subsidizing the land use that the parking is attached (although the benefits and reduced cost of shared parking should be taken into account). However, this number may be too high to actually encourage businesses to support an in-lieu fee program. It is largely incumbent upon the city to determine the policy it wishes to pursue before an appropriate pricing scheme may be for an in-lieu fee that serves to effectively manage parking and to discourage overbuilding supply. Currently, the in-lieu fee is $150. To obtain a Master Parking Permit, the fee is $648. We believe that for the value of the parking in Newport Beach, these fees are significantly under priced.

Pros of In Lieu Fees

- Creates a link between land use and parking
- May help create fund to pay for parking-related
- Projects or improvements

Cons of In Lieu Fees

- Can be expensive from a cash flow perspective
- Does not necessarily reduce the demand for
- Parking since vehicles are not necessarily charged
- Can be expensive for land owner/lesse

PARKING CREDITS

The City of Pasadena has effectively implemented a parking credit system to encourage shared parking as well as fund the construction of two public parking structures, and contribute to the construction of a private structure that is open to the public. The garages in Pasadena are effective because the public spaces in the structures are shared among all adjacent land uses. As a result, following shared parking concepts, fewer spaces are required to meet the total parking demand. For the businesses that support the fees and use the structure, the City issues 1.5 parking credits per space in the public garages. According to the City, the parking credit program began in 1987, and by 2001 the City had allocated 2,350 credits. Businesses that buy credits to meet the City's parking requirements do not receive permits to park in the municipal structures. Their customers and employees still have to pay to park in the public structures at the same rate that other drivers pay. The parking credits do, however, link the public parking spaces with private development in Old Pasadena. This relationship allows businesses to satisfy the city's parking requirements without providing any additional on-site parking spaces for their property. Corona del Mar can implement a similar system if key businesses and other stakeholders support a program that removes the need for increased parking spaces adjacent to their buildings. This is different from in-lieu fees in that, in some instances, the City may only be re-allocating spaces rather than creating spaces in various part of town. The two concepts, however, can be used simultaneously.

Pros

- Uses shared parking concepts to help provide an appropriate amount of parking throughout the day.
- Helps reduce overbuilding parking supply.

Cons

- Requires a shared parking analysis to estimate total supply for an area.
- User may not see benefit or change their behavior; may not reduce supply.

PARKING BENEFIT DISTRICT

The meaning of "Parking Benefit District" (PBD) often changes based on the city where it is put into place. However, in general it is a mechanism which can greatly increase the efficiency with which it funds, manages and makes decisions with regard to parking in a designated area (the district). A PBD typically charges for parking in the District, but with the stipulation that all or a set percentage of the revenue stay in the district to fund improvements. A board or body is created in order to make the decisions regarding

how much to charge and how to manage the parking system. The creation of the PBD and governing body then typically sets off a positive chain of events for the area:

1. A specific body is created whose responsibility it is to maximize the efficiency of the parking system in the district. As a result there is also a political constituency that will defend parking rate increases if necessary while keeping in mind the overall health of the district.
2. Parking is managed to maximize the efficiency of the parking system, increasing turnover and increasing the utilization of parking spaces, which allows for an increase in visitors to the area.
3. An incentive is potentially created for charging for parking in residential areas (either through the selling of a designated number of on-street parking permits or even metering streets) as residents can see the money going to direct improvements on their block, such as repaired sidewalks, landscaping or other benefits.
4. There is a by product of increased parking revenue available for use in the District.
5. The PBD governing body makes decisions as to how to allocate the additional revenue through such projects as funding off-street parking if necessary, neighborhood beautification projects (such as street trees or attractive benches), or potentially creating funding for employees and others to encourage the use alternate forms of transportations such as bicycles, carpools, or transit. This can ultimately reduce the demand for parking in the neighborhood.

Pros	**Cons**
• Promotes alternatives to driving and parking for all trips • Helps manage the existing parking supply • Provides revenue that can be used for neighborhood improvements or amenities.	• Administrative burden and expense to set up and maintain • Typically requires active neighborhood participation to effectively maintain PBD.

PARKING ASSESSMENT DISTRICT

An alternative to the in-lieu fee is the parking assessment district (PAD). In a PAD, each business owner in the district is assessed a yearly fee based on their square footage. The advantage of a PAD over in-lieu fees is that the assessment is spread over the entire business district rather than being placed only on new developments; this keeps the fees lower for any given business and allows new investment without seemingly punitive fees placed on the investment. The disadvantage of a PAD is that it typically must be voted in by a two-thirds majority of property owners within the district, and can thus easily be vetoed by one or two major property owners (who would have the largest assessments based on square footage). Furthermore, since PADs assess every business owner whether they use public parking or not, many small business owners as well as major landowners will be reluctant to vote for them. It would be difficult to get someone who pays property tax plus the cost of upkeep for their own surface lot to pay fees to support new parking for waiver recipients.

Another drawback to PADs is that they generally do not bring in enough revenue to fully support construction of a facility. Their revenue is generally sufficient to cover operating expenses (lighting, cleaning, security, etc.) but not to pay hundreds of thousands of dollars worth of debt service each year.

The City of Pasadena uses its PAD to help educate residents and visitors about parking in Old Town Pasadena. This education and awareness initiative has helped re-frame the perception that there is a parking shortage in Old Town Pasadena. The City of Corona del Mar could initiate a similar campaign to help increase awareness about parking in the CBD. Additional parking management strategies may be necessary to help increase awareness of the availability of parking in Corona del Mar. As we discuss later in this section, these strategies could include increased signage near meters, on benches or in structures. It could also include greater visibility on the City's website.

Cons

- Difficult to establish – may require a supermajority to implement
- Administrative burden may be greater than benefit

Pros

- Associates price for parking with demand of underlying land use
- Can fund improvement or new facilities in the area.

TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) and Parking Demand Management techniques are often used to reduce driving and parking demand in high-intensity areas. TDM is a general term for parking management strategies that result in more efficient use of transportation resources but may include carpools, vanpools or subsidized transit passes for employees that would also help with parking issues at the terminal end of trips. These strategies could be deployed in Corona del Mar with little financial outlay. However, they are not effective where free or very cheap long-term parking options are available.

Pros

May decrease number of trips
Can use electronic message boards to coordinate
Will decrease congestion
Area more residential than commercial
OCTA has transit center nearby

Cons

Hard to measure improvements
Difficult in Corona del Mar because of dispersed employer and residential area
Transit may not be effective due to off hour schedules
Some measures are costly to set up and maintain

TRANSPORTATION MANAGEMENT ASSOCIATIONS

Transportation Management Associations (TMAs) are typically private, non-profit organizations that provide transportation services in a particular area, such as a commercial district like Corona del Mar. Transportation Management Associations can provide a variety of services that encourage more efficient use of transportation and parking resources including bicycle facilities, van pool or rideshare operations, or even coordinating shared parking facilities . Transportation Management Associations allow small employers to provide Commute Trip Reduction services comparable to those offered by large companies. As a result of their cooperative resources, they are usually more cost effective than programs managed by individual businesses.

Pros

- Simple to organize and easy to set-up
- Inexpensive
- Promotes non-single user vehicle activities
- Can be run by residents without city cost or Involvement

Cons

- Requires active participation by residents / owners
- May have some facility costs

PARKING SIGNAGE

Walker staff reviewed signage directing traffic towards Corona del Mar or to parking. Walker was not able to identify significant way finding signage or directional parking signage in Corona del Mar. This is due in large part to the relative scarcity of public parking facilities in Corona del Mar. We understand that the city is currently working on adding way finding signs throughout the city, including Corona del Mar. Corona del Mar is different than other areas in that access to its business area is less direct than in some other places, as is access to the parking. For the most part, large public lots are not available in Corona del Mar. This does not mean that additional signage directing visitors or guests to available parking would not be valuable. In fact, some cities are experimenting with on-street systems that notify a central computer that a vehicle has vacated a parking spot. This type of system can be used by enforcement and for identifying available spaces. This type of signage may not be appropriate for Corona del Mar but increased reflective signs could be useful.

Image Courtesy of TCS International

Pros

- Helps visitors navigate to appropriate areas
- May reduce congestion because drivers won't
  Have to cruise for parking
- Helps visitors navigate to appropriate areas

Cons

- May add visual clutter to pristine area
- May be confusing if directions are not clear
- May add visual clutter to pristine area
- More expensive that not providing any information

PARKING GUIDANCE SYSTEMS

Another enhancement to signage is a parking guidance and information (PGI) system, which presents drivers with dynamic information on parking in a controlled area, such as Corona del Mar. The systems combine traffic monitoring, communication, and electronic message sign technologies to provide parking information using simple electronic sensors and monitors.

PGI systems are designed to aid in the search for vacant parking spaces by directing drivers to lots or areas where occupancy levels are low. This can be done with convenient and aesthetically pleasing electronic signs located throughout the commercial core or near parking structure entrances. The ultimate objective of this technology is to increase convenience and satisfaction by reducing search time, which in turn reduces congestion on the surrounding roads.

Pros

- May reduce congestion because drivers would not have to cruise for parking
- Enhances City's image as technology innovator
- Helps visitors navigate and parking in appropriate areas

Cons

- More expensive than not providing any information or using traditional signs
- May add visual clutter to pristine area
- Unproven technology
- May be confusing if directions are not clear

RECOMMENDATIONS AND CONCLUSIONS FOR CORONA DEL MAR AREA

The results of Walker's parking occupancy surveys indicate that overall the Corona del Mar area does not experience a parking deficit. However, there are concentrated areas of impacted on-street parking. These areas are typically located along Coast Highway and, when busy, can result in a significant number of drivers parking in adjacent residential neighborhoods.

The most concentrated area of parking impacts occurs in the northwestern part of the district, where a number of restaurants operate adjacent to a residential zone and impacted parking conditions occur frequently during busy periods. The area is located along the western portion of Coast Highway, roughly from Avocado to Fernleaf Avenues. Based on an analysis of the data and input from members of the community, it was determined that, this area was most suited for the implementation of new parking policies in the form of a Pilot Program that would manage the impacted parking conditions.

We note that in making our recommendations for a new parking policy we attempt to achieve the following goals:

- Making efficient use of the available parking in the area.
- Making parking available and minimizing parking impacts on residential streets while still providing adequate parking for employees of businesses in the area.

We also note that a parking plan implemented in this area will likely require approval from the California Coastal Commission (CCC). Because the Commission has indicated that it does not provide input during the formation of plans but only once the plan has been completed, we point out that the following recommendations are preliminary in that the Commission has not commented on them.

RECOMMENDATIONS

Formulating parking policy is challenging due to the number of variables that are typically involved. The first are differing goals, often conflicting, which may be held not only by the same community but within different stakeholder groups or even by one individual. Often the goals are to make parking plentiful (or at least available), free and convenient. Additional goals may be to preserve parking only for residents, promote or maintain the existing neighborhood ambience and encourage, or at least not hinder, business in the area.

A second variable is enforcement procedures and policies. More than one policy may work to achieve specific goals. However it is important to recognize that:

- Some parking policies are easier to enforce than others. This is in part what may make some policies more effective than others.
- Any policy that is not enforced with the necessary level of diligence is very unlikely to be effective.

- Effective enforcement of parking policies can create negative public perceptions even if it improves parking conditions.

Taking these considerations into account we put forth the following three possible recommendations. Based on our understanding of the conditions and wishes of the community as a whole, we recommend Alternative #1 below, although we note the advantages of Alternatives #2 and #3 as well.

ALTERNATIVE #1 BALANCING COMMERCIAL PARKING DEMAND WITH LIMITING PARKING ENCROACHMENT ON RESIDENTIAL BLOCKS USING PERMITS

We make the following recommendations for the Pilot Program area (see Figure 7) with the goal of maximizing the utilization of on-street commercial spaces while limiting spillover parking from the commercial into the residential areas. Available off street parking spaces would be used to accommodate employees and other long term parkers.

PARKING ON COMMERCIAL BLOCK FACES WITHIN THE PILOT PROGRAM AREA - ALTERNATIVE 1

- Meter on-street parking in commercial areas, for the purpose of ensuring that the preferred spaces are utilized by customers and visitors and not long term parkers, thus maximizing the number of people that these spaces serve.[3] The goal of metered parking would be an approximately 85% occupancy rate on street. We recommend an initial rate of $1.00 per hour, which should then be adjusted higher or lower in order to achieve the desired occupancy rate if necessary. Part of this recommendation includes the implementation of multi-space ("pay and display") meters in the northwest part of the study area. The hours of operation should go beyond the typical 8:00AM to 6:00PM and possibly extend to 10:00PM to ensure that restaurant employees and patrons are not deleteriously impacting the parking system. Reasonable rates will also ensure that there is sufficient turnover in the area, and patrons will be able to find a space to park near their destination.

PARKING ON RESIDENTIAL BLOCK FACES WITHIN THE PILOT PROGRAM AREA - ALTERNATIVE 1

- Extend the metered area beyond the immediate area of impacted commercial streets in order to minimize the spillover from the impacted areas that are the focus of the metering policy, and to create consistent parking regulations for the public along Coast Highway (see Figure 7).
- Implement an on-street parking permit program for residents along the residential streets impacted by commercial parking areas. The area covered by the permit parking will need to extend beyond the area currently impacted by businesses in order to address spillover issues, and potentially some blocks east of Coast Highway across from the area that is the focus of the Pilot Program. We recommend that a quantifiable occupancy threshold per block, i.e. 75%, be established in order to ensure that only impacted blocks receive permit restrictions.
- Implement additional policies to make underutilized off-street parking in the area available, particularly to employees and other long term parkers including:

[3] See discussion of parking turnover in earlier discussion of parking meters.

  - Lower parking rates in the existing metered parking lot if necessary to maximize the utilization of those spaces.
  - Facilitate agreements, either between businesses or between businesses and the City, for the purpose of making underutilized off-street parking available to parkers.
  - Encourage the use of shared parking agreements in the code.
- Consider issuing a limited number of permits that would allow employees to park on residential blocks if parking on residential blocks becomes significantly underutilized after the residential permit program is put in place.
- Consider the creation of a parking benefit district for the area, using a set portion of funds from meter and parking permit revenue to help monitor parking demand in the area, provide the necessary parking enforcement and provide parking and other transportation benefits to the community, including transportation alternatives such as those mentioned in the earlier discussion of transportation management associations.[4]

RECOMMENDATIONS AND THE COASTAL COMMISSION

While preferential parking permit programs within the Coastal Zone can be issues of concern to the Commission, we believe that the recommendations above can be acceptable to the Commission for the following reasons:

1. The proposed plan is designed to regulate parking demand that is generated by the nearby commercial uses, not beach goers or others accessing the coast.
2. Whether it is the time of day or time of year, parking impacts from the commercial area generally are not likely to occur when demand for beach parking is at its peak.
3. Although it is located in the Coastal Zone, the area covered by the Pilot Program does not offer immediate beach access. This may increase the Coastal Commission's willingness to be flexible in the type of program that it allows.

[4] See earlier discussion of Parking Benefit Districts and Transportation Management Associations.

Figure 5


Test Area
Paid Parking
Potential Permit Area
Ocean Blvd
Breakers Drive
Ocean Blvd

ALTERNATIVE #2 - MAXIMIZING EFFICIENCY WITHOUT EXCLUSIVE PARKING RIGHTS FOR RESIDENTS - CHARGING FOR PARKING ON RESIDENTIAL STREETS

Despite the benefits of charging for parking on residential streets, we recognize that it is understandably unfamiliar and uncomfortable for members of the public. For residents in particular, it charges them "close to home" for something that they have received previously at no monetary cost.[5] No matter how convenient the technology used to facilitate such a policy, paying for parking represents an added level of inconvenience. For this reason we believe it is worth discussing Alternative 2, but do not recommend it as our first choice.

In commercial areas, pricing parking is a common practice and is usually done with parking meters,[6] which have generally become more convenient to use and less unsightly owing to improvements in technology, including the ability of drivers to pay with credit cards. Paid parking in commercial areas ensures that the most convenient on-street spaces are used by short term parkers, generally customers, and not by business owners, employees or other long term parkers, who are encouraged to park in off-street locations.

Pricing parking along residential blocks is far less common than pricing on commercial streets but has been done in a few instances. Ideally, the resident sees a marginal cost for parking. By identifying a parking space as a finite resource and attaching a marginal cost for each additional hour that it is used, the parking space is utilized most efficiently. A "sunk" cost such as an annual parking permit is far less effective as it often encourages the holder to maximize the use of their lump sum payment for parking rather than discouraging longer stays.

From the standpoint of maximizing the efficiency of the parking system and ensuring the utilization of underutilized off-street spaces, we note that pricing residential parking offers significant benefits, including those described in our earlier discussion of parking benefit districts. Nonetheless, due to the inconveniences, constraints and typically the level of discomfort among the public, we do not recommend this alternative.

ALTERNATIVE #3 PARKING MANAGEMENT USING TIME LIMITS ONLY

The two alternatives discussed above represent a significant change in the way that on-street parking is managed in Corona del Mar. It is reasonable to ask if the impacted parking situation currently observed in the study area could be addressed with fewer changes, such as time limits, which already exist along much of Coast Highway in the area.

We note that it is theoretically possible to address many of the parking problems currently experienced with a policy of time limits, but our experience in cities which only use time limits suggests that doing so is ineffective for the following reasons:

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[5] However arguably there is a real cost in time and convenience linked to the lack of availability of spaces.

[6] A related discussion of this issue occurs in our section on parking meters.

- Although new (and often expensive) technology can ameliorate the problem, time limits are difficult and labor intensive to enforce. A parking enforcement officer typically needs to visit a location at least twice as many times to enforce a time limit restriction as to enforce metered parking.
- Parkers often find ways to avoid time restriction enforcement. It is extremely common for employees parking in visitor spaces to move their cars several times a day or wipe off identifying marks left by parking enforcement to avoid receiving a parking citation.

As a result of these factors, only extremely aggressive, potentially labor intensive and expensive parking enforcement measures make parking management using time limits viable. Recently new technology has become available that allows for less labor intensive and more effective enforcement of time limits. However, regardless of the method of enforcement, such aggressive monitoring of drivers' length of stay, with no flexibility allowed for the driver, can become a negative point for people visiting the area; visitors and others suffer from "ticket anxiety" or other inconveniences associated with the necessary level of enforcement.

Nonetheless, if the community strongly prefers such a policy over the more drastic changes to policy discussed in the other alternatives, we would likely recommend maintaining the time limits that currently exist on Coast Highway, along with the implementation of a two-hour time limit on the adjacent side streets, in order to encourage long term parkers to park in off-street parking facilities.

RECOMMENDATIONS FROM THE COMMUNITY

THE PROGRAM

In response to the parking policy recommendations developed by Walker for Corona del Mar in its report dated September 10, 2008, the community and the City jointly created a separate set of parking policy recommendations to be included in a one-year test program for the area (referred to in this section as the Community Plan). Under the Plan, Walker's proposed recommendations would be considered as a possible long-term policy solution if the incremental approach within the Community Plan did not produce the desired results.

The Community test program is to be comprised of the following policy points:

- Coast Highway will be subject to "highly enforced" two-hour time limits along the entire length of the study area.
- One block into the residential area along the south side of Coast Highway from Avocado to Heliotrope, residents are to receive up to three residential on-street parking permits per household, good for one year from the time that the test program is implemented. Should the test program become permanent, it would be required that residents demonstrate to the City that their required off-street parking is "functional" in order to receive permits.
- "Cover" the parking meters in the public parking lot located on Carnation, thus making them free. The purpose of this policy is to encourage employees in the area that would be subjected to residential permits to park in this lot rather than on the street. According to the Plan, the policy is

directed toward those employees whose businesses either A) currently do not direct them per CUPs to park in a specific location or B) whose employers have leased off-street spaces for them.
- Prohibit overnight parking in the public lot on Carnation. Should overnight parking "become a problem," enforcement would be implemented to "clear" it.
- Improve directional signage for parking in the area.

It is proposed that after six, and possibly nine months, occupancy and LPI (vehicle length of stay) analyses would be performed along Coast Highway and the residential streets subject to the parking permit program to determine the effectiveness of the program. If the results that are sought are not observed, metering parking along Coast Highway from either Avocado to Goldenrod or potentially the length of the study area would be considered. The metered parking spaces would be subject to two-hour time limits and meters would accept a variety of payment types, including credit cards.

EVALUATION OF COMMUNITY RECOMMENDATIONS

It is Walker's understanding that the elements of the community's test program were designed to meet the policy goals of Walker's recommendations but with a more incremental and less dramatic change in parking policy in the area. Below we review what we see as the potential benefits and drawbacks of the community's plans:

1. Coast Highway Time Limits. Whereas Walker recommended paid parking to help manage on-street spaces along Coast Highway, the CDM community has recommended doing so with time limits. The goal of both policies is to ensure that the spaces fronting businesses in this commercial area be used by customers of nearby businesses and not long term parkers; long term parking in these spaces would displace these customers and potentially dissuade them from patronizing businesses in the area or encourage them to park on residential streets.

   With considerable effort, a policy of aggressive enforcement may have effects similar to paid on-street parking measures without drivers having to put money in a meter. A significant investment in technology to track cars' length of stay may be required in order to ensure that long term parkers are not simply moving their cars to other locations on the street. However, we suggest that the community be aware of some issues and challenges that may come up as well:

   - Difficulties of enforcement. As discussed earlier, based on our experience time limits are difficult to enforce effectively due to the manpower required to monitor the spaces with the frequency necessary for proper enforcement. In addition, some long term parkers go to significant lengths to evade detection by enforcement officers including the frequent moving of their cars. However, there are also political difficulties involved in enforcement as those who frequently receive tickets (or the businesses those drivers patronize) may encourage the City not too enforce as strictly as has been proposed. When this occurs, enforcement may be relaxed and the benefits diminished.

   - "Ticket anxiety." A common side effect of aggressive parking enforcement is "ticket anxiety" among visitors to the area. Ticket anxiety is caused when parkers feel they must

remain vigilant or risk getting ticketed due to an oversight. Such feelings may lead to shorter restaurant stays, fewer "trip chains" to a variety of businesses in the area or even the decision, after perhaps a parking ticket or two, not to patronize businesses in the area. A policy benefit of parking meters, particularly with flexible time limits, is that the parker monitors his/her time parked at the curb and has the flexibility to pay for as much time as s/he requires. We note that whatever policy is chosen for curb parking spaces along Coast Highway, a similar or complementary policy should be implemented for the curb spaces along the short commercial portion of the residential streets that intersect with Coast Highway, where applicable.

- Hours of enforcement. Defining the hours of enforcement of any policy impacting the commercial curb spaces is crucial, given the fact that many of the impacted parking conditions occur during evenings and weekends. Without the hours of any time limit enforcement extended into these time periods, the policy will be far less effective.

- Cost of enforcement. As noted above, additional enforcement such as that which would be consistent with the aggressive enforcement discussed above requires a significant amount of labor. Walker has not studied whether or not the manpower currently exists within the City's parking enforcement operations for the level of enforcement that Community Plan has proposed. While anyone who has received a parking ticket might think that parking enforcement "pays for itself," often the reality is not so straightforward; many municipal parking operations are not self funding. As we discuss later, the parking benefit district program (PBD) which was described earlier in the report should also be considered in this light, as PBDs often allow some self-funding of the parking system within a given area.

2. Residential parking permit program. We note that the extent to which a residential permit program is effective, or creates additional issues and challenges, is largely related to the details of the program just as much as the actual policies. The Corona del Mar Community Plan has merits, but as is often the case the success of the policy is likely to depend on the details involved in the implementation. Issues such as permit allocation, the level of enforcement of the program (including the hours of enforcement) and the extent to which non-residents may park on the permitted blocks will be as important in the success or failure of the program as the actual policy itself. As noted, the Community Plan is similar to Walker's residential permit parking recommendations, but with some important differences.

   - One block "deep" permit district. The community's recommendation for a one-block-deep permit area would, in some places, likely cause the parking demand to spill over into adjacent residential blocks, creating the necessity for a larger permitted area; parking problems could arise where they had not arisen before.
   - Determining which blocks need a permit program. We recommend that a process be put in place to quantify whether parking demand on a given block truly necessitates permitting. A quantifiable occupancy threshold of the kind we recommended earlier (i.e. 75%) is helpful when implementing residential permitted parking.

- Monitoring of off-street parking availability, permit allocation, and paying for parking. The plan to require garage inspections is recognition that some residents use their parking places for storage at the same time that complaints are voiced about impacted parking on the street. While recognition of this problem is important, once again the challenge in using this measure will likely arise in the details. Logistical and political problems in implementing such a policy are likely to occur but, there is also a question of what one does with the information once it is determined how a garage space is being used.

  How to allocate permits to residents who have "functional" off-street spaces becomes more complicated, especially if a number of people share a residence. Along some dense residential streets it is possible that there is not enough curb space to park three cars per household.[7] If three permits are the maximum allocation, but some households receive less, perceptions of fairness may become an issue. In cities such as West Hollywood for example, permits are issued one per licensed driver per household. The City should also consider that it may be a priority to provide residents who live in older structures that do not have adequate off-street parking with permits before providing permits to those who have off-street spaces.

  We recommend directly addressing the parking issue on the street by allocating parking permits using a system of pricing. We do this for several reasons including the following:

  - A fee will need to be charged for those who receive residential parking permits in order to cover the administration and enforcement costs of such a program.
  - Charging for on-street parking is typically the best way to allocate a scarce resource for which demand is greater than supply. Charging for an on-street parking permit is one way to do this, although without the benefits of a marginal (additional) cost for each use. The price for each additional permit can be higher than that of the first permit. It is reasonable to charge what would essentially be a "market" price for permits in order to manage the on-street parking supply and demand.
  - Monitoring residents' use of off-street parking spaces is ultimately an indirect way to reduce parking impacts on the street. Pricing on-street parking addresses the issue directly, with more control over the results.

- Hours of permit program operation. It is important to consider the extent of the parking restrictions in the permitted area based on when impacts typically occur. There are parking permit districts which prohibit non-residents from parking during the day only, in the evening only, or allow non-residents to park for a restricted period of time, i.e. two hours. While residents may wish to restrict the right of others to park on their street 24 hours per day, such a policy may not be necessary or practical. Allowing for two-hour parking along permitted streets could allow for customer parking but, if properly enforced,

[7] We note that in many cases residents may have one or two cars parked off-street but simply may want the option of parking any of their cars on street at some point.

compel employees to park in other, designated locations. It would also likely be easier to gain Coastal Commission approval for a parking permit program if the restrictions were only in effect for certain hours of the day or week, particularly if those hours are not the same as peak beach-going times.

3. "Unmeter" the Carnation lot. Because Walker's field surveys found that this lot is often underutilized, it makes sense to reduce the fee when demand is already low. In combination with the additional restrictions on curb parking in residential and commercial areas proposed above, it could become a viable source of parking for some employees and reduce parking impacts on on-street customer spaces. In our experience, under such circumstances fairness issues are sometimes raised by some business owners as some businesses that may be subject to CUPs or have already leased parking for their employees may complain that other businesses need not do so as the result of the new free rate in the Carnation Lot.

   We also noted in the report that in addition to the Carnation lot much of the private off-street parking in the study area is underutilized. While we generally agree with this recommendation, we again suggest that more be done to maximize the use of the existing private spaces in the area as well.

4. Improving parking signage. We support this needed recommendation.

FINAL NOTES REGARDING COMMUNITY'S RECOMMENDATIONS

Walker's recommendations, particularly those for the Pilot Program, were produced based on the data from our analysis as well as concerns expressed by the Corona del Mar community regarding parking impacts in the residential and commercial blocks located in the northwest portion of the study area. While the parking policy recommendations developed by the community have some merit, ultimately how effective they are in ameliorating parking impacts will depend not only on how each element of the plan works (whether commercial or residential, on street or off street) but how they interact together.

Finally, we note that an important part of the Community Plan is that which monitors effects of the policies that are to be implemented. Regardless of the policies, it is likely that adjustments will need to be made - and agreed upon – by the different stakeholder groups involved. This is where a body such as a parking benefit district, which was discussed earlier in the report can facilitate the community's management of its parking system. Parking benefit district members monitor the state of parking in the area and determine whether or not to increase or reduce parking fees, the lengths of stay permitted for parking spaces, or the decision to one day build more off-street parking in the area. The body allows the community the flexibility to address parking issues and adjust parking policies to achieve a reasonable number of available parking spaces, the right mix of residential and commercial parking demand on its streets and, overall, a well run parking system that serves the community while maintaining the character of the neighborhood.

CONCLUSION: PARKING POLICIES AND TRADEOFFS

The designated Pilot Program area experiences impacted parking along both commercial and residential blocks. Our recommendations are designed to make finding parking spaces easier and to use existing spaces more efficiently. However, it is important to note that while the recommended measures will relieve the parking impacts, as we have alluded, there are trade offs involved.
One trade off is the implementation of paid on-street parking. If implemented correctly paid parking increases the turnover and thus the availability of parking spaces to the public.[8] The tradeoff between unavailable or difficult to find parking that is free or available parking at a price is often, though not always, an acceptable one to the public; typically the public favors reasonably priced available parking over free parking spaces that are often not available.

A system of parking permits for residents also involves trade offs. While such a system may make more spaces available to residents on residential blocks, applying for and receiving permits can be time consuming and inconvenient, particularly when proof of residency is required. Residents and their guests may be ticketed due to an inadvertent lack of compliance or more aggressive enforcement, particularly if the permit policy is not in effect twenty four hours.[9] In addition, more spaces available on the street could draw more residential cars; residents who formally parked their cars in garages, driveways or perhaps other locations may now choose to park on the street given the increased availability of parking. On the City side, the creation of parking permit programs generally requires new or expanded bureaucracies and processes as well as a means to cover their costs.

The trade offs of new management policies may also extend to people who were not suffering impacts in the first place. For example, residents of an impacted residential street one block from a commercial area may want residential parking permits put in place on their street. However, some employees or visitors who had previously parked at that location may decide to park one block farther away. The result for residents on this second block may be more cars parked on their street or newfound desire for a parking permit system of their own. In either case, it potentially represents an added level of inconvenience for people who may not have been negatively impacted at the outset.

We note that on-street parking spaces are a valuable public resource and one that is potentially very expensive to replace (with off-street parking). Whether or not residents find the use of these spaces by visitors, employees, or business owners to be an annoyance or an inconvenience is a trade off. The spaces are a resource that supports amenities along an attractive commercial area that is convenient for residents to access. The on-street spaces are a convenience to residents and businesses; limiting businesses' access to these spaces must be done with some care so as not to negatively impact the commercial section of the neighborhood. Even if it were an option, building more parking along Coast Highway would result in the replacement of businesses with asphalt and parking spaces. As stated earlier, when new off-street parking is provided, proper parking management measures would likely

[8] As noted, many new technologies have also reduced the inconvenience of paid parking through their acceptance of bills and credit cards.
[9] In some cities it appears that residential parking permit zones are granted only if they are in effect for a partial amount of time.

need to be in place to make sure that new parking facilities were used and that drivers did not simply continue to park in convenient on-street parking spaces.

Finally, we note that any policy is only as effective as the level of enforcement that supports it. Our intent has been to make recommendations taking into account what policies can be reasonably enforced. No policy is sustainable without active participation and "buy in" from those members of city staff responsible for enforcement.

Appendix A: Combined Inventory and Occupancy

			Weekday Occupancies Thursday, May 15, 2008				*Weekday Occupancies Saturday, May 17, 2008*			
Block	**Face**	**Inv.**	**10 am**	**1 pm**	**7 pm**	**% Peak**	**10 am**	**1 pm**	**7 pm**	**% Peak**
1	N	6	3	5	6		6	5	5	
	E	7	7	7	7		7	7	4	
	S	11	11	9	7		10	7	6	
	W	8	4	4	5		7	8	11	
	Off-street	109	50				45			
1	**Total**	**141**	**75**			**53%**	**75**			**53%**
2	N	15	15	15	10		12	13	8	
	E	6	7	6	7		5	7	4	
	S	20	16	16	18		18	17	12	
	W	9	9	8	5		7	11	4	
	Off-street	60	36				38			
2	**Total**	**110**	**83**			**75%**	**80**			**73%**
3	N	13	8	14	11		12	10	10	
	E	7	7	3	2		2	3	4	
	S	14	10	8	11		11	10	9	
	W	9	5	7	7		7	7	2	
3	**Total**	**43**	**30**			**70%**	**32**			**74%**
4	N	15	6	10	12		9	10	12	
	E	8	2	3	4		2	3	4	
	S	12	7	7	9		8	9	9	
	W	6	2	3	4		4	5	0	
4	**Total**	**41**	**17**			**41%**	**23**			**56%**
5	N	5	5	5	3		5	5	6	
	E	8	7	7	4		7	5	3	
	S	13	7	10	10		10	11	6	
	W	8	6	3	2		1	1	3	
	Off-street	37	18				6			
5	**Total**	**71**	**43**			**61%**	**29**			**41%**
6	N	15	9	7	13		11	11	9	
	E	7	2	2	5		3	3	2	
	S	13	8	8	10		10	9	7	
	W	8	6	6	5		7	7	2	
6	**Total**	**43**	**25**			**58%**	**31**			**72%**
7	N	12	11	9	9		9	8	6	
	E	6	1	2	4		4	4	4	
	S	15	12	10	12		13	3	10	
	W	9	3	5	2		7	7	7	
7	**Total**	**42**	**27**			**64%**	**33**			**79%**
8	N	14	7	9	12		8	9	12	
	E	8	3	1	4		6	5	6	
	S	12	5	5	8		2	6	12	
	W	7	5	2	5		5	6	4	
8	**Total**	**41**	**20**			**49%**	**21**			**51%**
9	N	1	1	1	1		1	1	1	
	E	10	5	3	2		8	7	3	

			Weekday Occupancies Thursday, May 15, 2008				*Weekday Occupancies Saturday, May 17, 2008*			
Block	**Face**	**Inv.**	**10 am**	**1 pm**	**7 pm**	**% Peak**	**10 am**	**1 pm**	**7 pm**	**% Peak**
	S	9	5	9	3		8	7	5	
	W	8	3	6	1		3	2	0	
	Off-Street	21	7				9			
9	**Total**	**49**	**21**			**43%**	**29**			**59%**
10	N	8	7	8	4		7	5	6	
	E	6	2	6	5		6	5	6	
	S	12	12	5	10		11	12	9	
	W	4	2	4	2		4	4	3	
	Off-street	35	13				21			
10	**Total**	**65**	**36**			**55%**	**49**			**75%**
11	N	14	9	14	10		12	14	11	
	E	8	4	3	5		6	4	4	
	S	15	6	3	9		10	10	9	
	W	8	3	5	9		7	6	5	
11	**Total**	**45**	**22**			**49%**	**35**			**78%**
12	N	14	10	9	6		9	6	10	
	E	8	2	2	5		5	5	6	
	S	13	7	6	8		10	6	9	
	W	7	5	6	5		5	5	6	
12	**Total**	**42**	**24**			**57%**	**29**			**69%**
13	N	10	5	4	8		8	10	10	
	E	7	1	1	5		4	5	3	
	S	12	8	4	12		9	13	12	
	W	7	5	5	5		5	6	5	
13	**Total**	**36**	**19**			**53%**	**26**			**72%**
14	N	13	9	5	10		11	13	12	
	E	7	6	4	5		5	5	7	
	S	15	5	5	9		10	10	12	
	W	8	4	2	1		6	7	6	
14	**Total**	**43**	**24**			**56%**	**32**			**74%**
15	N	13	7	7	9		8	7	13	
	E	7	3	4	6		6	5	5	
	S	15	4	2	5		7	5	11	
	W	7	0	5	3		5	4	2	
15	**Total**	**42**	**14**			**33%**	**26**			**62%**
16	N	15	3	4	7		7	4	11	
	E	9	0	1	0		4	5	4	
	S	14	5	5	7		7	4	7	
	W	8	5	5	5		4	4	9	
16	**Total**	**46**	**13**			**28%**	**22**			**48%**
17	N	14	9	3	6		5	5	6	
	E	8	3	3	3		3	3	1	
	S	13	3	2	4		3	6	5	
	W	9	3	2	4		4	4	5	
17	**Total**	**44**	**18**			**41%**	**15**			**34%**
18	N	14	3	7	7		6	3	6	
	E	4	3	4	3		4	5	3	
	S	20	8	4	4		8	10	9	

			Weekday Occupancies Thursday, May 15, 2008				*Weekday Occupancies Saturday, May 17, 2008*			
Block	**Face**	**Inv.**	**10 am**	**1 pm**	**7 pm**	**% Peak**	**10 am**	**1 pm**	**7 pm**	**% Peak**
	W	0	0	0	4		0	0	0	
18	**Total**	**38**	**14**			**37%**	**18**			**47%**
19	N	2	2	2	0		2	1	0	
	E	10	4	5	4		4	5	5	
	S	6	5	6	4		6	5	4	
	W	8	4	5	2		4	2	2	
	Off-street	33	12				14			
19	**Total**	**59**	**27**			**46%**	**30**			**51%**
20	N	7	7	6	6		5	6	5	
	E	11	7	9	7		8	8	7	
	S	8	7	7	7		6	6	6	
	W	5	4	2	4		4	6	5	
	Off-street	32	22				15			
20	**Total**	**63**	**47**			**75%**	**38**			**60%**
21	N	9	9	6	8		7	10	8	
	E	10	7	5	7		9	8	7	
	S	15	13	12	12		12	8	8	
	W	6	4	6	3		4	6	2	
	Off-street	40	29				23			
21	**Total**	**80**	**62**			**78%**	**55**			**69%**
22	N	11	7	6	6		8	6	5	
	E	8	3	7	4		7	2	5	
	S	16	8	10	14		14	13	18	
	W	6	2	5	2		5	3	3	
	Off-street	55	41				44			
22	**Total**	**96**	**61**			**64%**	**78**			**81%**
23	N	18	15	14	16		17	13	20	
	E	8	3	2	3		5	5	4	
	S	17	11	7	11		10	8	12	
	W	6	6	4	8		2	4	7	
	Off-street	65	57				54			
23	**Total**	**114**	**92**			**81%**	**88**			**77%**
24	N	16	9	10	7		9	9	11	
	E	8	4	4	4		4	4	5	
	S	12	8	10	9		6	7	11	
	W	9	2	4	3		7	7	2	
	Off-street	39	16				14			
24	**Total**	**84**	**39**			**46%**	**40**			**48%**
25	N	16	9	11	11		10	6	6	
	E	9	4	5	3		5	4	5	
	S	8	5	3	2		4	4	6	
	W	3	0	2	1		0	1	2	
	Off-street	17	4				1			
25	**Total**	**53**	**22**			**42%**	**20**			**38%**

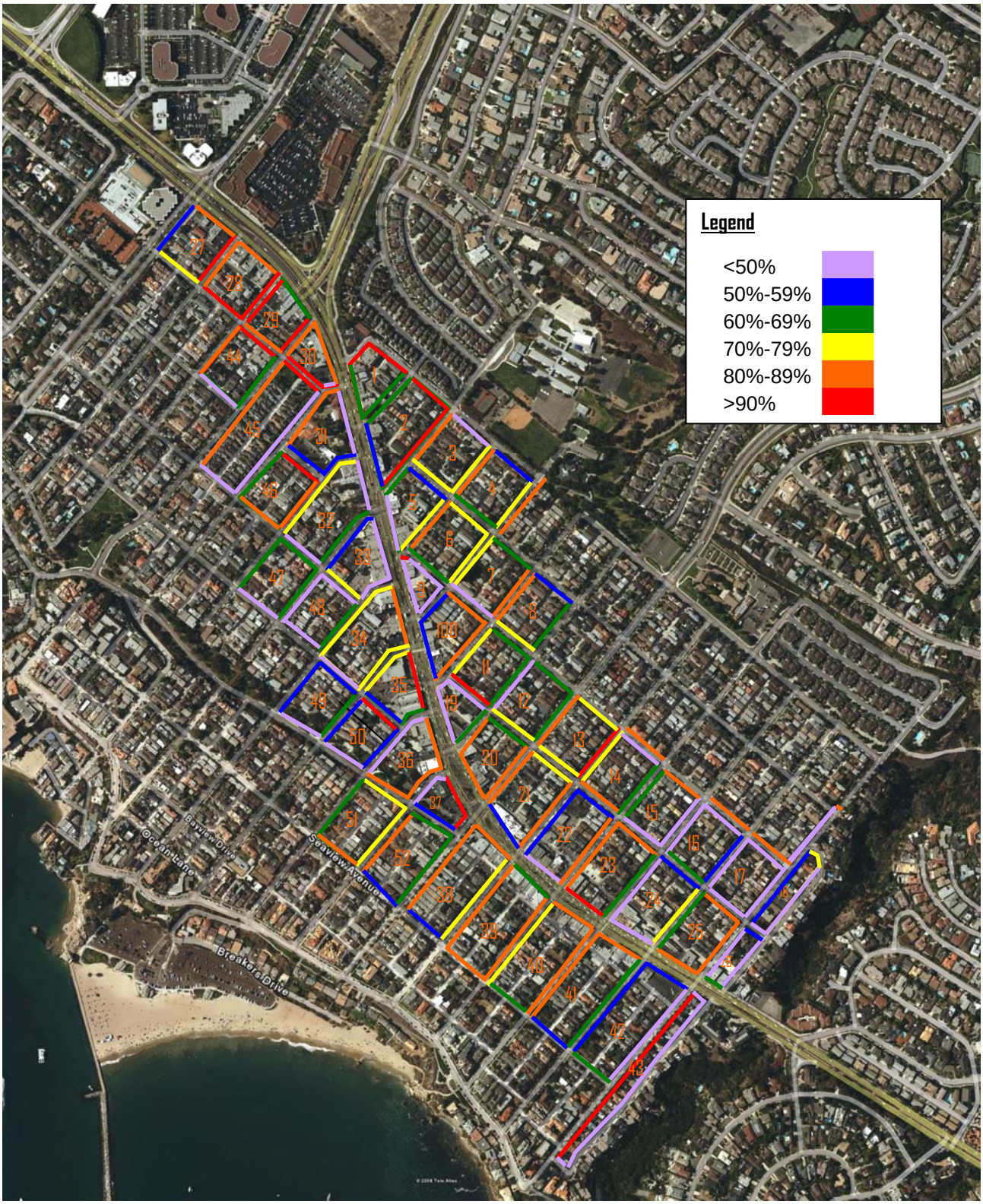
			Weekday Occupancies Thursday, May 15, 2008				*Weekday Occupancies Saturday, May 17, 2008*			
Block	**Face**	**Inv.**	**10 am**	**1 pm**	**7 pm**	**% Peak**	**10 am**	**1 pm**	**7 pm**	**% Peak**
26	N	11	10	4	1		4	7	9	
	E	2	0	2	1		2	3	0	
	S	9	4	5	4		2	3	2	
	W	3	2	3	2		2	1	0	
	Off-street	21	17				6			
26	**Total**	**46**	**33**			**72%**	**16**			**35%**
27	N	7	2	7	4		3	3	5	
	E	10	7	10	8		1	1	7	
	S	7	7	7	7		7	7	7	
	W	4	4	2	3		3	4	4	
	Off-street	41	21				37			
27	**Total**	**69**	**41**			**59%**	**51**			**74%**
28	N	8	7	6	7		10	6	7	
	E	7	7	6	6		6	6	6	
	S	11	10	10	11		7	11	11	
	W	6	6	6	6		6	5	5	
	Off-street	31	10				12			
28	**Total**	**63**	**40**			**63%**	**41**			**65%**
29	N	7	8	7	7		5	5	7	
	E	8	7	4	5		8	7	6	
	S	6	6	6	6		6	5	5	
	W	9	8	7	8		8	8	7	
	Off-street	69	36				21			
29	**Total**	**99**	**65**			**66%**	**48**			**48%**
30	N	2	2	2	2		5	2	2	
	E	8	8	6	8		7	9	11	
	S	0	0	0	0		0	0	0	
	W	12	9	11	11		10	7	4	
	Off-street	44	37				22			
30	**Total**	**66**	**56**			**85%**	**44**			**67%**
31	N	13	11	11	11		9	6	7	
	E	10	9	8	4		1	4	2	
	S	7	7	4	4		3	5	2	
	W	12	8	9	6		7	6	6	
	Off-street	46	30				10			
31	**Total**	**88**	**65**			**74%**	**30**			**34%**
32	N	19	17	15	15		15	13	10	
	E	8	2	4	3		6	5	2	
	S	13	6	10	9		8	11	9	
	W	5	4	2	2		4	5	1	
	Off-street	58	34				31			
32	**Total**	**103**	**63**			**61%**	**64**			**62%**
33	N	8	3	4	4		6	7	4	
	E	13	8	7	5		11	13	5	

			Weekday Occupancies Thursday, May 15, 2008				*Weekday Occupancies Saturday, May 17, 2008*			
Block	**Face**	**Inv.**	**10 am**	**1 pm**	**7 pm**	**% Peak**	**10 am**	**1 pm**	**7 pm**	**% Peak**
	S	7	3	3	3		1	0	7	
	W	7	3	5	5		5	5	5	
	Off-street	114	46				38			
33	**Total**	**149**	**63**			**42%**	**61**			**41%**
34	N	22	14	16	17		15	14	17	
	E	5	5	4	4		4	6	4	
	S	8	9	6	6		4	5	5	
	W	7	3	2	3		4	7	2	
	Off-street	40	16				19			
34	**Total**	**82**	**47**			**57%**	**46**			**56%**
35	N	8	6	4	6		7	6	6	
	E	4	3	2	4		4	6	2	
	S	6	5	3	4		5	2	5	
	W	8	5	4	4		4	4	3	
	Off-street	72	54				55			
35	**Total**	**98**	**73**			**74%**	**75**			**77%**
36	N	17	6	2	6		12	11	8	
	E	6	6	4	4		6	2	6	
	S	5	1	1	3		0	1	6	
	W	7	0	1	1		7	1	6	
	Off-street	58	29				53			
36	**Total**	**93**	**42**			**45%**	**78**			**84%**
37	N	5	5	2	2		0	1	5	
	E	3	0	0	3		2	0	3	
	S	0	0	0	0		0	0	0	
	W	9	4	3	5		11	3	6	
	Off-street	56	18				44			
37	**Total**	**73**	**27**			**37%**	**57**			**78%**
38	N	18	11	15	16		15	17	17	
	E	7	7	6	6		8	3	7	
	S	21	17	18	16		20	19	10	
	W	8	2	3	4		3	5	4	
	Off-street	35	30				22			
38	**Total**	**89**	**67**			**75%**	**68**			**76%**
39	N	20	17	15	15		19	18	14	
	E	6	7	8	4		6	2	0	
	S	19	12	17	17		24	17	8	
	W	8	8	7	4		6	5	2	
	Off-street	39	28				31			
39	**Total**	**92**	**72**			**78%**	**86**			**93%**
40	N	22	12	17	16		21	13	14	
	E	7	6	6	6		7	2	2	
	S	24	14	14	14		18	18	11	
	W	8	4	5	5		6	6	3	
	Off-street	28	10				11			

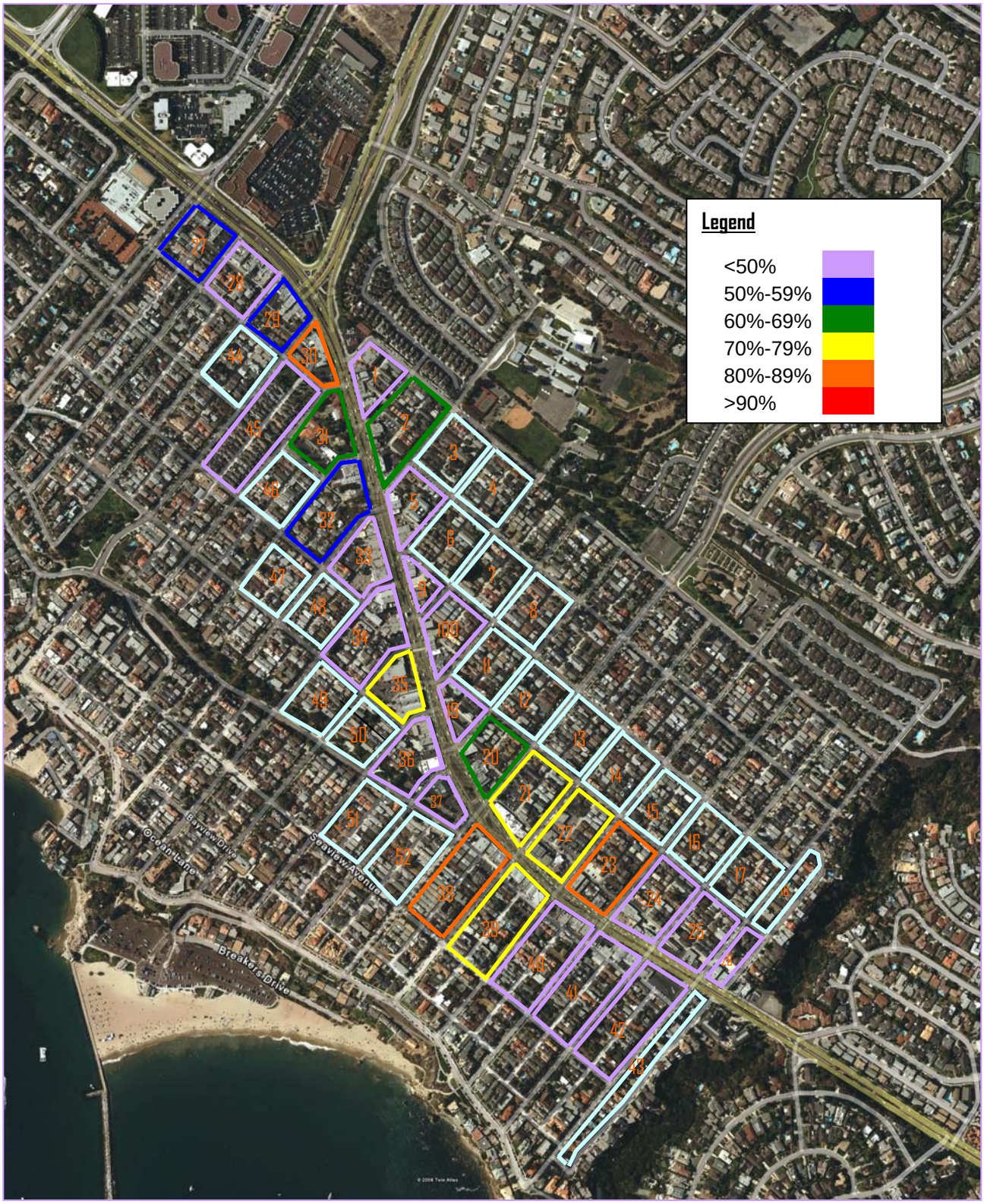
			Weekday Occupancies Thursday, May 15, 2008				*Weekday Occupancies Saturday, May 17, 2008*			
Block	**Face**	**Inv.**	**10 am**	**1 pm**	**7 pm**	**% Peak**	**10 am**	**1 pm**	**7 pm**	**% Peak**
40	**Total**	**89**	**46**			**52%**	**63**			**71%**
41	N	22	18	19	18		13	15	13	
	E	8	2	8	7		4	4	2	
	S	29	19	26	20		21	25	14	
	W	6	0	0	3		1	8	4	
	Off-street	31	10				12			
41	**Total**	**96**	**49**			**51%**	**51**			**53%**
42	N	28	19	16	16		16	21	15	
	E	8	3	5	4		4	4	6	
	S	0	0	0	0		0	0	0	
	W	6	5	4	4		6	7	6	
	Off-street	74	31				37			
42	**Total**	**116**	**58**			**50%**	**63**			**54%**
43	N	13	11	13	14		14	14	14	
	E	0	0	0	0		0	0	0	
	S	0	0	0	0		0	0	0	
	W	0	0	0	0		0	0	0	
43	**Total**	**13**	**11**			**85%**	**14**			**108%**
44	N	15	9	15	13		11	9	14	
	E	7	7	11	11		6	7	8	
	S	13	8	12	9		9	8	11	
	W	7	3	2	2		3	3	2	
44	**Total**	**42**	**27**			**64%**	**29**			**69%**
45	N	23	15	17	20		12	15	23	
	E	7	9	7	7		8	10	9	
	S	24	15	12	11		19	20	9	
	W	9	3	3	3		4	2	2	
	Off-street	32	15				14			
45	**Total**	**95**	**57**			**60%**	**57**			**60%**
46	N	13	4	3	8		7	7	6	
	E	6	7	7	7		6	7	3	
	S	15	11	11	13		13	11	13	
	W	9	1	0	1		0	1	2	
46	**Total**	**43**	**23**			**53%**	**26**			**60%**
47	N	13	5	6	8		6	9	9	
	E	8	5	5	5		6	4	6	
	S	15	9	5	9		10	10	11	
	W	9	2	1	4		3	4	4	
47	**Total**	**45**	**21**			**47%**	**25**			**56%**
48	N	15	5	5	7		6	8	8	
	E	9	5	5	4		4	3	6	
	S	15	12	8	10		8	7	11	
	W	8	4	3	3		2	4	4	
48	**Total**	**47**	**26**			**55%**	**20**			**43%**
49	N	12	5	6	6		5	6	6	
	E	9	4	4	5		5	5	4	

			Weekday Occupancies Thursday, May 15, 2008				*Weekday Occupancies Saturday, May 17, 2008*			
Block	**Face**	**Inv.**	**10 am**	**1 pm**	**7 pm**	**% Peak**	**10 am**	**1 pm**	**7 pm**	**% Peak**
	S	11	2	3	7		10	8	8	
	W	0	0	0	0		0	0	0	
49	**Total**	**32**	**11**			**34%**	**20**			**63%**
50	N	6	3	2	3		6	6	5	
	E	2	5	2	6		8	5	3	
	S	4	3	2	2		3	1	3	
	W	8	0	0	2		1	0	0	
50	**Total**	**20**	**11**			**55%**	**18**			**90%**
51	N	12	4	5	8		5	8	10	
	E	8	2	4	7		5	5	5	
	S	15	11	12	11		10	9	10	
	W	7	2	1	2		0	4	5	
51	**Total**	**42**	**19**			**45%**	**20**			**48%**
52	N	15	11	13	13		6	12	12	
	E	6	2	1	4		8	3	5	
	S	18	14	11	11		3	17	15	
	W	5	3	4	4		1	7	5	
52	**Total**	**44**	**30**			**68%**	**18**			**41%**
Grand Total		**3465**	**2018**			**58%**	**2143**			**62%**

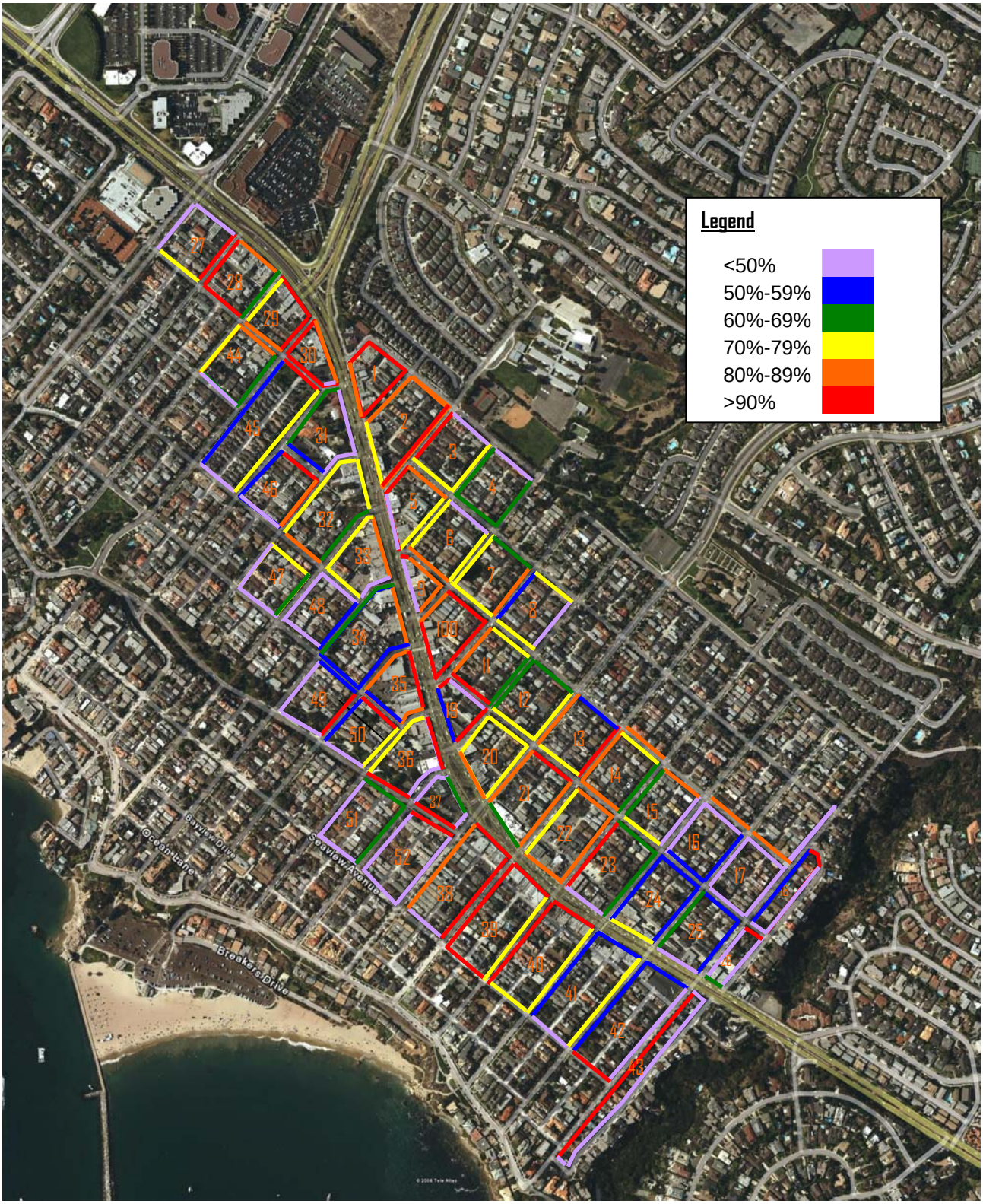
APPENDIX B: ON-STREET WEEKDAY PEAK OCCUPANCY



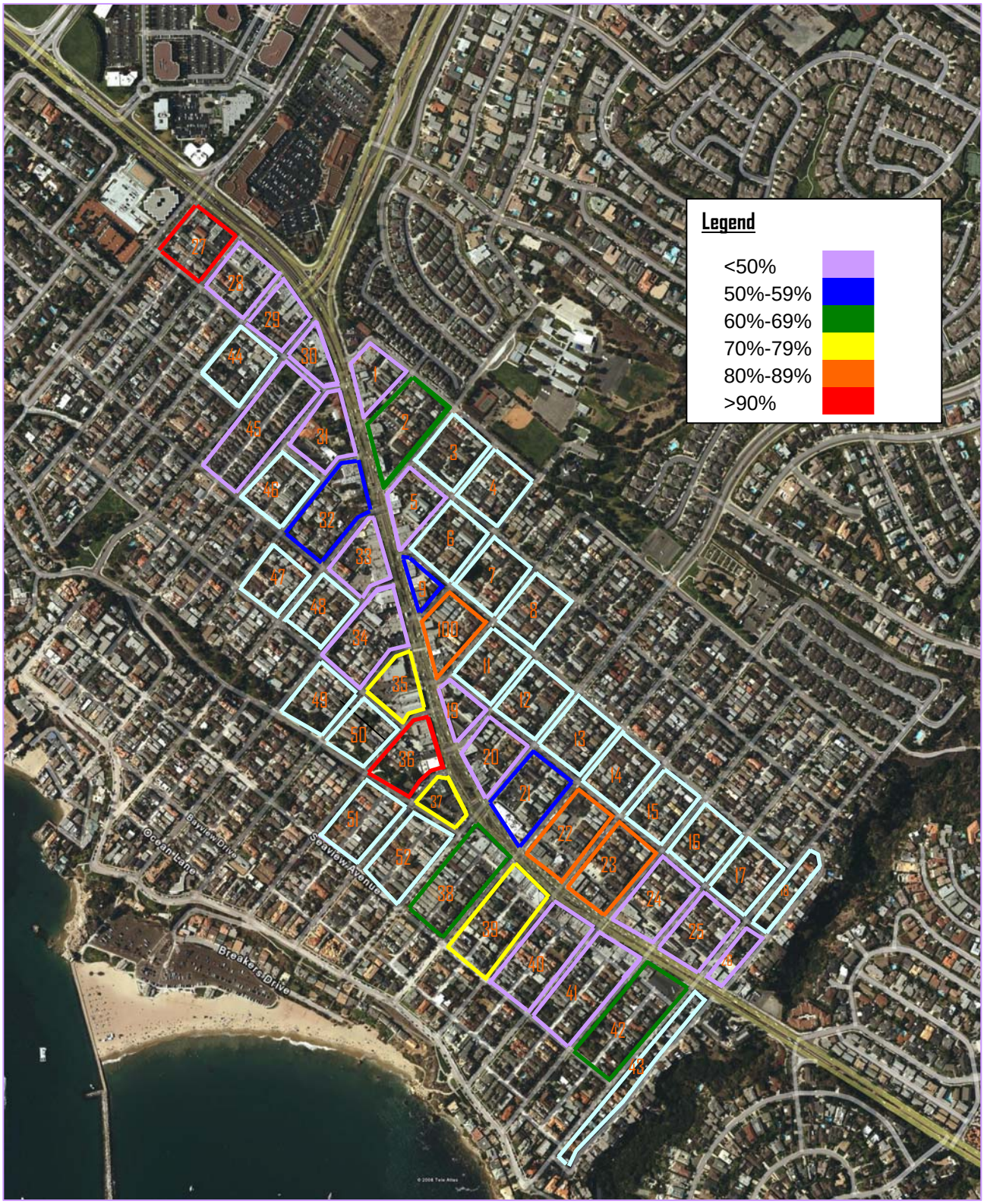
APPENDIX B: OFF-STREET WEEKDAY PEAK OCCUPANCY



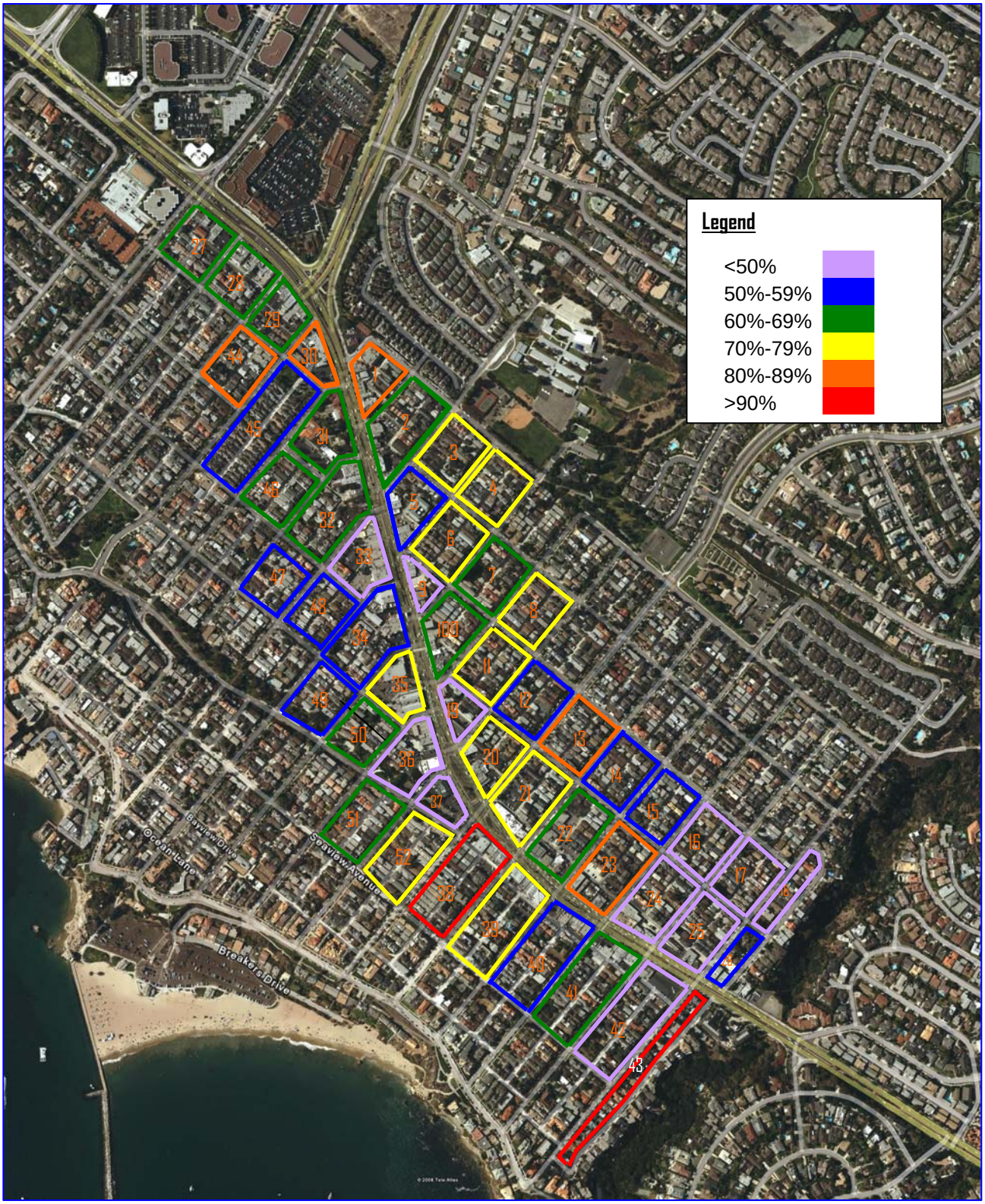
APPENDIX B: ON-STREET WEEKEND PEAK OCCUPANCY



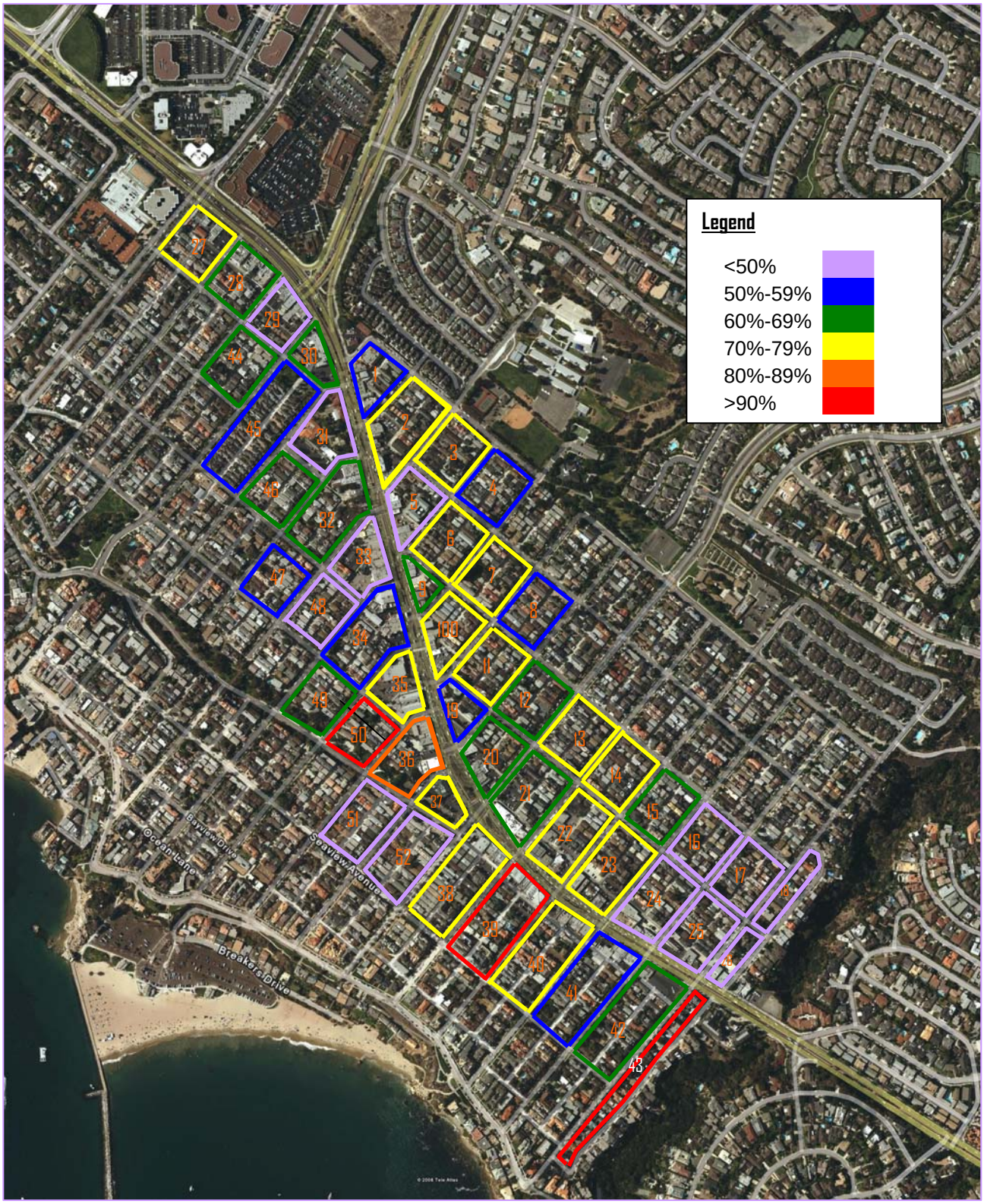
APPENDIX B: OFF-STREET WEEKEND PEAK OCCUPANCY



APPENDIX B: AGGREGATE WEEKDAY PEAK OCCUPANCY



APPENDIX B: AGGREGATE WEEKEND PEAK OCCUPANCY



APPENDIX C

Count of MASTER	Time										
Plate	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	Grand Total
132		1	1									2
654								1				1
663									1	1	1	3
1023						1	1	1				3
1660			1									1
2707	1	1	1	1	1	1	1					7
2715										1	1	2
3014											1	1
3120										1		1
4116										1		1
4520										1	1	2
4678						1						1
5027	1											1
5205									1			1
5465								1				1
5542		1										1
6027						1	1	1	1	1	1	6
6264								1				1
6280			1									1
6301								1				1
6440						1						1
6459		1										1
6500							1					1
6759											1	1
6773									1			1
6885								1	1	1	1	4
6963											1	1
7025											1	1
7056											1	1
7102								1		1	1	3
7240	1	1	1	1	1	1						6
7337	1											1
7582										1		1
7970									1	1		2
8453	1	1	1	1	1	1	1	1	1			9
8460								1	1	1	1	4
8501		1	1	1								3

Plate	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	Grand Total
8508		1	1									2
8775	1	1	1				1	1				5
8833	1											1
9086		1	1	1	1	1	1					6
9107					1	1	1	1				4
9684			1									1
9937					1							1
SAT	1	1	1	1	1	1	1					7
0SJL			1									1
1S63	1											1
38HS								1				1
4PCH	1	1	1	1								4
4WLI									1			1
7EZE										1	1	2
A001										1	1	2
A054							1					1
A141								1				1
A210	1	1	1									3
A318					1							1
A459							1					1
A533				1								1
A573					1							1
A583						1	1	1	1	1		5
A595		1	1	1								3
A795									1	1	1	3
AMGL		1					1	1			1	4
ASSE			1	1	1							3
AUDI				1								1
B097								1				1
B192	1	1	1	1	1	1	1					7
B355									1	1	1	3
B473	1	1	1	1	1	1	1	1	1			9
B666					1	1						2
B761	1	1	1	1	1							5
B798						1						1
B970					1							1
B997								1				1
BMW								1				1
C217										1	1	2
C269									1	1		2

Plate	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	Grand Total
C282								1	1	1	1	4
C2BP									1	1	1	3
C426	1											1
C522					1							1
C542	1	1	1	1	1	1	1	1				8
C571	1	1	1	1	1	1	1	1				8
C594		1	1									2
C690							1					1
C803						1						1
C902									1	1	1	3
C928							1					1
C940						1						1
C960									1	1	1	3
C961	1	1	1	1	1	1	1					7
C982								1				1
C992	1	1	1	1	1	1	1	1	1	1	1	11
CSC										1	1	2
D251		1	1									2
D361		1	1									2
D459	1	1	1	1								4
D473						1						1
D479										1	1	2
D868									1	1	1	3
D924											1	1
E021	1	1	1	1	1	1	1					7
E045			1									1
E147						1						1
E224								1	1	1	1	4
E245					1							1
E246	1	1	1	1	1	1	1					7
E287					1	1	1					3
E332					1							1
E390									1	1		2
E421									1	1		2
E504		1	1	1								3
E553					1							1
E624							1	1	1	1	1	5
E821										1	1	2
EARL								1				1
ECOL	1	1	1	1	1	1	1	1	1	1	1	11

Plate	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	Grand Total
ENNE			1									1
F055								1	1	1	1	4
F149	1	1										2
F225				1	1	1	1					4
F261							1					1
F377				1								1
F418	1	1	1	1	1	1	1					7
F454						1	1	1				3
F455	1	1	1				1					4
F599	1	1	1	1	1	1	1	1				8
F662	1	1	1	1	1							5
F696								1				1
F731							1					1
F792					1	1	1					3
F793	1	1	1	1	1	1	1					7
F810	1											1
F958			1									1
F988							1					1
FIVA									1	1		2
FMLY					1							1
FOCUS											1	1
G019	1	1	1	1	1	1	1	1	1	1	1	11
G129	1	1	1	1	1	1	1	1	1	1	1	11
G131				1	1	1	1	1	1	1	1	8
G209										1	1	2
G427					1	1	1	1	1	1	1	7
G440						1						1
G457										1	1	2
G504									1	1	1	3
G519											1	1
G786	1	1	1	1	1	1	1					7
G847	1	1	1	1	1	1	1	1	1			9
G931	1											1
G977											1	1
G998								1				1
GIRLZ					1							1
GREG			1	1								2
H040					1	1	1					3
H053		1	1	1	1	1	1	1	1	1		9
H054					1							1

Plate	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	Grand Total
H115								1				1
H139										1		1
H289	1	1	1	1	1							5
H316	1	1	1	1	1	1	1	1				8
H322		1	1	1								3
H394		1	1	1								3
H494										1		1
H550								1		1		2
H556									1			1
H599									1	1		2
H601							1	1	1			3
H624	1	1	1	1								4
H658								1	1	1	1	4
H796			1									1
H818	1	1										2
H952											1	1
HE59										1	1	2
HEEL		1	1	1	1	1	1	1	1	1	1	10
HO49	1	1	1									3
HYBRO	1											1
J012						1	1					2
J040					1							1
J149							1	1	1	1	1	5
J263								1				1
J294	1	1	1	1	1			1	1	1	1	9
J302	1	1	1	1	1	1	1	1	1	1		10
J364			1									1
J371	1	1	1	1	1	1	1					7
J471	1	1	1	1	1	1	1					7
J489									1	1		2
J505					1	1	1					3
J634								1				1
J675				1								1
J818	1	1	1	1	1	1	1	1	1	1	1	11
J823							1					1
J856						1						1
J964	1	1	1	1	1	1	1	1	1	1	1	11
K022					1							1
K046						2						2
K057				1	1	1	1					4

Plate	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	Grand Total
K068								1				1
K132					1							1
K179		1	1	1								3
K195								1				1
K306								1	1	1	1	4
K769		1	1	1	1	1	1	1	1	1	1	10
K978				1	1							2
L118				1								1
L236		1	1	1	1	1						5
L272		1	1	1	1	1	1	1	1	1	1	10
L303					1							1
L328			1									1
L490	1	1	1			1	1	1	1	1	1	9
L504										1		1
L515	1	1	1	1	1							5
L602	1	1	1	1	1	1	1	1				8
L671										1	1	2
L693						1						1
L735										1	1	2
L779		1										1
L782		1	1	1	1	1	1					6
L833										1	1	2
L938									1			1
LIEI						1						1
LOT			1									1
LYLU											1	1
M043								1				1
M206										1	1	2
M449											1	1
M462								1	1	1	1	4
M536									1			1
M540							1					1
M547										1	1	2
M566	1	1	1	1	1	1	1	1	1			9
M583	1	1										2
M609	1	1	1	1	1							5
M616											1	1
M664	1	1	1	1	1	1	1					7
M847					1							1
M871					1	1						2

Plate	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	Grand Total
M881	1	1	1									3
M888							1	1	1	1		4
M936								1				1
MN1									1			1
MZV	1	1	1									3
N065							1					1
N128									1	1	1	3
N227											1	1
N398										1		1
N420							1					1
N449	1	1	1	1	1	1						6
N717								1	1	1	1	4
N763							1					1
N799		1	1									2
N847											1	1
N888	1	1	1	1	1							5
nN976									1	1	1	3
NTS	1											1
O188					1	1						2
P074									1	1	1	3
P209					1	1						2
P280									1	1	1	3
P302					1							1
P336		1	1									2
P342							1					1
P372	1	1										2
P458									1			1
P489						1						1
P570	1	1	1	1	1	1	1					7
P583					1							1
P648								1				1
P658											1	1
P809											1	1
P866					1	1	1					3
PNER									1	1		2
R087								1	1	1	1	4
R115	1	1	1	1	1	1	1	1				8
R149	1	1	1	1	1							5
R302								1	1	1	1	4
R322		1	1	1								3

Plate	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	Grand Total
R354								1	1	1	1	4
R402						1						1
R404								1	1	1	1	4
R464											1	1
R615										1	1	2
R647										1	1	2
R658						1	1	1	1	1	1	6
R873								1				1
R909						1						1
R912	1											1
RAT								1				1
ROVER								1				1
RP67										1	1	2
S015										1	1	2
S038	1	1	1	1	1	1	1	1	1			9
S191											1	1
S332						1						1
S452	1											1
S651	1	1	1	1	1	1	1					7
s658										1	1	2
S687								1				1
S799		1	1									2
S815					1							1
S974	1											1
S979										1		1
T229	1	1	1	1	1	1	1					7
T296						1						1
T375						1						1
T527										1	1	2
T633	1	1	1	1	1							5
T658					1	1						2
T731	1	1	1									3
T810					1							1
T827								1				1
T928	1	1		1	1	1	1	1	1	1	1	10
T969		1	1									2
TCC				1	1							2
U010									1	1	1	3
U504							1					1
U549							1					1

Plate	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	Grand Total
U605								1	1	1	1	4
U630					1							1
U720							1					1
U868								1				1
UCLA				1	1	1						3
V021											1	1
V057								1				1
V100					1							1
V178							1					1
V204										1	1	2
V223								1				1
V247									1	1	1	3
V249							1					1
V275								1	1			2
V339											1	1
V610	1	1	1	1								4
V647	1	1	1	1	1	1	1	1				8
V727					1							1
V759								1	1	1	1	4
V833		1	1	1								3
V903					1							1
V906			1									1
W087							1					1
W089								1				1
W201	1	1	1	1	1	1	1	1	1	1		10
W204							1					1
W302				1	1	1						3
W474										1	1	2
W494	1	1	1	1	1	1	1	1				8
W499										1	1	2
W504	1	1	1	1	1	1	1	1	1	1	1	11
W543	1	1	1	1	1	1	1	1	1			9
W559	1	1	1	1	1	1	1	1				8
W710		1	1	1	1							4
W881									1	1		2
W973					1							1
X125								1	1	1	1	4
X187			1	1	1	1	1	1	1	1	1	9
X1N1								1				1
X220							1					1

Plate	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	Grand Total
X425									1	1		2
X841	1	1	1	1								4
X845					1							1
X869								1	1			2
X897								1	1	1	1	4
X961							1					1
XB218				1								1
Y070											1	1
Y164									1	1	1	3
Y166										1		1
Y368		1	1									2
Y445										1	1	2
Y479											1	1
Y507											1	1
Y522		1	1									2
Y584									1	1	1	3
Y707								1	1	1	1	4
Y717	1	1	1	1								4
Y726	1	1	1	1	1	1	1	1	1	1	1	11
Y774								1	1	1	1	4
Y790	1	1	1	1	1	1	1	1				8
Y832											1	1
Y906		1	1			1			1	1	1	6
Y940		1	1									2
YZ27				1	1	1	1	1	1			6
Z043	1	1	1	1	1	1						6
Z057	1											1
Z073	1	1	1	1	1	1	1	1	1	1	1	11
Z079	1											1
z088					1							1
Z167					1							1
Z604								1				1
Z607								1	1	1	1	4
Z646								1				1
Z666										1	1	2
Z679					1							1
Z697										1		1
Z870	1	1										2
Z988								1	1	1	1	4
ZAL6							1					1

Plate	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	Grand Total
ZJOE										1	1	2
Grand Total	160	160	160	160	160	160	160	160	160	160	160	1760
Total												**28**

On-Street Occupancy

			Weekday Occupancies Thursday, May 15, 2008						*Weekend Occupancies Saturday, May 17, 2008*			
Block	**Face**	**Inv.**	**10 am**	**1 pm**	**7 pm**	**Thursday**	**Block**	**Inv.**	**10 am**	**1 pm**	**7 pm**	**Saturday**
1	N	6	3	5	6	100%	1	6	6	5	5	100%
1	E	7	7	7	7	100%	1	7	7	7	4	100%
1	S	11	11	9	7	64%	1	11	10	7	6	91%
1	W	8	4	4	5	63%	1	8	7	8	11	88%
1		32	25	25	25	78%	**1**	32	30	27	26	94%
2	N	15	15	15	10	67%	2	15	12	13	8	80%
2	E	6	7	6	7	117%	2	6	5	7	4	83%
2	S	20	16	16	18	90%	2	20	18	17	12	90%
2	W	9	9	8	5	56%	2	9	7	11	4	78%
2		50	47	45	40	94%	**2**	50	42	48	28	84%
3	N	13	8	14	11	85%	3	13	12	10	10	92%
3	E	7	7	3	2	29%	3	7	2	3	4	29%
3	S	14	10	8	11	79%	3	14	11	10	9	79%
3	W	9	5	7	7	78%	3	9	7	7	2	78%
3		43	30	32	31	70%	**3**	43	32	30	25	74%
4	N	15	6	10	12	80%	4	15	9	10	12	60%
4	E	8	2	3	4	50%	4	8	2	3	4	25%
4	S	12	7	7	9	75%	4	12	8	9	9	67%
4	W	6	2	3	4	67%	4	6	4	5	0	67%
4		41	17	23	29	41%	**4**	41	23	27	25	56%
5	N	5	5	5	3	60%	5	5	5	5	6	100%
5	E	8	7	7	4	50%	5	8	7	5	3	88%
5	S	13	7	10	10	77%	5	13	10	11	6	77%
5	W	8	6	3	2	25%	5	8	1	1	3	13%
5		34	25	25	19	74%	**5**	34	23	22	18	68%
6	N	15	9	7	13	87%	6	15	11	11	9	73%
6	E	7	2	2	5	71%	6	7	3	3	2	43%
6	S	13	8	8	10	77%	6	13	10	9	7	77%
6	W	8	6	6	5	63%	6	8	7	7	2	88%
6		43	25	23	33	58%	**6**	43	31	30	20	72%
7	N	12	11	9	9	75%	7	12	9	8	6	75%
7	E	6	1	2	4	67%	7	6	4	4	4	67%
7	S	15	12	10	12	80%	7	15	13	3	10	87%
7	W	9	3	5	2	22%	7	9	7	7	7	78%
7		42	27	26	27	64%	**7**	42	33	22	27	79%
8	N	14	7	9	12	86%	8	14	8	9	12	57%
8	E	8	3	1	4	50%	8	8	6	5	6	75%
8	S	12	5	5	8	67%	8	12	2	6	12	17%
8	W	7	5	2	5	71%	8	7	5	6	4	71%
8		41	20	17	29	49%	**8**	41	21	26	34	51%
9	N	1	1	1	1	100%	9	1	1	1	1	100%
9	E	10	5	3	2	20%	9	10	8	7	3	80%
9	S	9	5	9	3	33%	9	9	8	7	5	89%
9	W	8	3	6	1	13%	9	8	3	2	0	38%
9		28	14	19	7	50%	**9**	28	20	17	9	71%
10	N	8	7	8	4	50%	10	8	7	5	6	88%
10	E	6	2	6	5	83%	10	6	6	5	6	100%
10	S	12	12	5	10	83%	10	12	11	12	9	92%
10	W	4	2	4	2	50%	10	4	4	4	3	100%
10		30	23	23	21	77%	**10**	30	28	26	24	93%

			Weekday Occupancies Thursday, May 15, 2008					*Weekend Occupancies Saturday, May 17, 2008*				
Block	**Face**	**Inv.**	**10 am**	**1 pm**	**7 pm**	**Thursday**	**Block**	**Inv.**	**10 am**	**1 pm**	**7 pm**	**Saturday**
11	N	14	9	14	10	71%	11	14	12	14	11	86%
11	E	8	4	3	5	63%	11	8	6	4	4	75%
11	S	15	6	3	9	60%	11	15	10	10	9	67%
11	W	8	3	5	9	113%	11	8	7	6	5	88%
11		45	22	25	33	49%	**11**	45	35	34	29	78%
12	N	14	10	9	6	43%	12	14	9	6	10	64%
12	E	8	2	2	5	63%	12	8	5	5	6	63%
12	S	13	7	6	8	62%	12	13	10	6	9	77%
12	W	7	5	6	5	71%	12	7	5	5	6	71%
12		42	24	23	24	57%	**12**	42	29	22	31	69%
13	N	10	5	4	8	80%	13	10	8	10	10	80%
13	E	7	1	1	5	71%	13	7	4	5	3	57%
13	S	12	8	4	12	100%	13	12	9	13	12	75%
13	W	7	5	5	5	71%	13	7	5	6	5	71%
13		36	19	14	30	53%	**13**	36	26	34	30	72%
14	N	13	9	5	10	77%	14	13	11	13	12	85%
14	E	7	6	4	5	71%	14	7	5	5	7	71%
14	S	15	5	5	9	60%	14	15	10	10	12	67%
14	W	8	4	2	1	13%	14	8	6	7	6	75%
14		43	24	16	25	56%	**14**	43	32	35	37	74%
15	N	13	7	7	9	69%	15	13	8	7	13	62%
15	E	7	3	4	6	86%	15	7	6	5	5	86%
15	S	15	4	2	5	33%	15	15	7	5	11	47%
15	W	7	0	5	3	43%	15	7	5	4	2	71%
15		42	14	18	23	33%	**15**	42	26	21	31	62%
16	N	15	3	4	7	47%	16	15	7	4	11	47%
16	E	9	0	1	0	0%	16	9	4	5	4	44%
16	S	14	5	5	7	50%	16	14	7	4	7	50%
16	W	8	5	5	5	63%	16	8	4	4	9	50%
16		46	13	15	19	28%	**16**	46	22	17	31	48%
17	N	14	9	3	6	43%	17	14	5	5	6	36%
17	E	8	3	3	3	38%	17	8	3	3	1	38%
17	S	13	3	2	4	31%	17	13	3	6	5	23%
17	W	9	3	2	4	44%	17	9	4	4	5	44%
17		44	18	10	17	41%	**17**	44	15	18	17	34%
18	N	14	3	7	7	50%	18	14	6	3	6	43%
18	E	4	3	4	3	75%	18	4	4	5	3	100%
18	S	20	8	4	4	20%	18	20	8	10	9	40%
18	W	0	0	0	4	NA	18	0	0	0	0	NA
18		38	14	15	18	37%	**18**	38	18	18	18	47%
19	N	2	2	2	0	0%	19	2	2	1	0	100%
19	E	10	4	5	4	40%	19	10	4	5	5	40%
19	S	6	5	6	4	67%	19	6	6	5	4	100%
19	W	8	4	5	2	25%	19	8	4	2	2	50%
19		26	15	18	10	58%	**19**	26	16	13	11	62%
20	N	7	7	6	6	86%	20	7	5	6	5	71%
20	E	11	7	9	7	64%	20	11	8	8	7	73%
20	S	8	7	7	7	88%	20	8	6	6	6	75%
20	W	5	4	2	4	80%	20	5	4	6	5	80%
20		31	25	24	24	81%	**20**	31	23	26	23	74%
21	N	9	9	6	8	89%	21	9	7	10	8	78%

			Weekday Occupancies Thursday, May 15, 2008						*Weekend Occupancies Saturday, May 17, 2008*			
Block	**Face**	**Inv.**	**10 am**	**1 pm**	**7 pm**	**Thursday**	**Block**	**Inv.**	**10 am**	**1 pm**	**7 pm**	**Saturday**
21	E	10	7	5	7	70%	21	10	9	8	7	90%
21	S	15	13	12	12	80%	21	15	12	8	8	80%
21	W	6	4	6	3	50%	21	6	4	6	2	67%
21		40	33	29	30	83%	**21**	40	32	32	25	80%
22	N	11	7	6	6	55%	22	11	8	6	5	73%
22	E	8	3	7	4	50%	22	8	7	2	5	88%
22	S	16	8	10	14	88%	22	16	14	13	18	88%
22	W	6	2	5	2	33%	22	6	5	3	3	83%
22		41	20	28	26	49%	**22**	41	34	24	31	83%
23	N	18	15	14	16	89%	23	18	17	13	20	94%
23	E	8	3	2	3	38%	23	8	5	5	4	63%
23	S	17	11	7	11	65%	23	17	10	8	12	59%
23	W	6	6	4	8	133%	23	6	2	4	7	33%
23		49	35	27	38	71%	**23**	49	34	30	43	69%
24	N	16	9	10	7	44%	24	16	9	9	11	56%
24	E	8	4	4	4	50%	24	8	4	4	5	50%
24	S	12	8	10	9	75%	24	12	6	7	11	50%
24	W	9	2	4	3	33%	24	9	7	7	2	78%
24		45	23	28	23	51%	**24**	45	26	27	29	58%
25	N	16	9	11	11	69%	25	16	10	6	6	63%
25	E	9	4	5	3	33%	25	9	5	4	5	56%
25	S	8	5	3	2	25%	25	8	4	4	6	50%
25	W	3	0	2	1	33%	25	3	0	1	2	0%
25		36	18	21	17	50%	**25**	36	19	15	19	53%
26	N	11	10	4	1	9%	26	11	4	7	9	36%
26	E	2	0	2	1	50%	26	2	2	3	0	100%
26	S	9	4	5	4	44%	26	9	2	3	2	22%
26	W	3	2	3	2	67%	26	3	2	1	0	67%
26		25	16	14	8	64%	**26**	25	10	14	11	40%
27	N	7	2	7	4	57%	27	7	3	3	5	43%
27	E	10	7	10	8	80%	27	10	1	1	7	10%
27	S	7	7	7	7	100%	27	7	7	7	7	100%
27	W	4	4	2	3	75%	27	4	3	4	4	75%
27		28	20	26	22	71%	**27**	28	14	15	23	50%
28	N	8	7	6	7	88%	28	8	10	6	7	125%
28	E	7	7	6	6	86%	28	7	6	6	6	86%
28	S	11	10	10	11	100%	28	11	7	11	11	64%
28	W	6	6	6	6	100%	28	6	6	5	5	100%
28		32	30	28	30	94%	**28**	32	29	28	29	91%
29	N	7	8	7	7	100%	29	7	5	5	7	71%
29	E	8	7	4	5	63%	29	8	8	7	6	100%
29	S	6	6	6	6	100%	29	6	6	5	5	100%
29	W	9	8	7	8	89%	29	9	8	8	7	89%
29		30	29	24	26	97%	**29**	30	27	25	25	90%
30	N	2	2	2	2	100%	30	2	5	2	2	250%
30	E	8	8	6	8	100%	30	8	7	9	11	88%
30	S	0	0	0	0	NA	30	0	0	0	0	NA
30	W	12	9	11	11	92%	30	12	10	7	4	83%
30		22	19	19	21	86%	**30**	22	22	18	17	100%
31	N	13	11	11	11	85%	31	13	9	6	7	69%
31	E	10	9	8	4	40%	31	10	1	4	2	10%

			Weekday Occupancies Thursday, May 15, 2008					*Weekend Occupancies Saturday, May 17, 2008*				
Block	**Face**	**Inv.**	**10 am**	**1 pm**	**7 pm**	**Thursday**	**Block**	**Inv.**	**10 am**	**1 pm**	**7 pm**	**Saturday**
31	S	7	7	4	4	57%	31	7	3	5	2	43%
31	W	12	8	9	6	50%	31	12	7	6	6	58%
31		42	35	32	25	83%	**31**	42	20	21	17	48%
32	N	19	17	15	15	79%	32	19	15	13	10	79%
32	E	8	2	4	3	38%	32	8	6	5	2	75%
32	S	13	6	10	9	69%	32	13	8	11	9	62%
32	W	5	4	2	2	40%	32	5	4	5	1	80%
32		45	29	31	29	64%	**32**	45	33	34	22	73%
33	N	8	3	4	4	50%	33	8	6	7	4	75%
33	E	13	8	7	5	38%	33	13	11	13	5	85%
33	S	7	3	3	3	43%	33	7	1	0	7	14%
33	W	7	3	5	5	71%	33	7	5	5	5	71%
33		35	17	19	17	49%	**33**	35	23	25	21	66%
34	N	22	14	16	17	77%	34	22	15	14	17	68%
34	E	5	5	4	4	80%	34	5	4	6	4	80%
34	S	8	9	6	6	75%	34	8	4	5	5	50%
34	W	7	3	2	3	43%	34	7	4	7	2	57%
34		42	31	28	30	74%	**34**	42	27	32	28	64%
35	N	8	6	4	6	75%	35	8	7	6	6	88%
35	E	4	3	2	4	100%	35	4	4	6	2	100%
35	S	6	5	3	4	67%	35	6	5	2	5	83%
35	W	8	5	4	4	50%	35	8	4	4	3	50%
35		26	19	13	18	73%	**35**	26	20	18	16	77%
36	N	17	6	2	6	35%	36	17	12	11	8	71%
36	E	6	6	4	4	67%	36	6	6	2	6	100%
36	S	5	1	1	3	60%	36	5	0	1	6	0%
36	W	7	0	1	1	14%	36	7	7	1	6	100%
36		35	13	8	14	37%	**36**	35	25	15	26	71%
37	N	5	5	2	2	40%	37	5	0	1	5	0%
37	E	3	0	0	3	100%	37	3	2	0	3	67%
37	S	0	0	0	0	NA	37	0	0	0	0	NA
37	W	9	4	3	5	56%	37	9	11	3	6	122%
37		17	9	5	10	53%	**37**	17	13	4	14	76%
38	N	18	11	15	16	89%	38	18	15	17	17	83%
38	E	7	7	6	6	86%	38	7	8	3	7	114%
38	S	21	17	18	16	76%	38	21	20	19	10	95%
38	W	8	2	3	4	50%	38	8	3	5	4	38%
38		54	37	42	42	69%	**38**	54	46	44	38	85%
39	N	20	17	15	15	75%	39	20	19	18	14	95%
39	E	6	7	8	4	67%	39	6	6	2	0	100%
39	S	19	12	17	17	89%	39	19	24	17	8	126%
39	W	8	8	7	4	50%	39	8	6	5	2	75%
39		53	44	47	40	83%	**39**	53	55	42	24	104%
40	N	22	12	17	16	73%	40	22	21	13	14	95%
40	E	7	6	6	6	86%	40	7	7	2	2	100%
40	S	24	14	14	14	58%	40	24	18	18	11	75%
40	W	8	4	5	5	63%	40	8	6	6	3	75%
40		61	36	42	41	59%	**40**	61	52	39	30	85%
41	N	22	18	19	18	82%	41	22	13	15	13	59%
41	E	8	2	8	7	88%	41	8	4	4	2	50%
41	S	29	19	26	20	69%	41	29	21	25	14	72%

			Weekday Occupancies Thursday, May 15, 2008						*Weekend Occupancies Saturday, May 17, 2008*			
Block	**Face**	**Inv.**	**10 am**	**1 pm**	**7 pm**	**Thursday**	**Block**	**Inv.**	**10 am**	**1 pm**	**7 pm**	**Saturday**
41	W	6	0	0	3	50%	41	6	1	8	4	17%
41		65	39	53	48	60%	**41**	65	39	52	33	60%
42	N	28	19	16	16	57%	42	28	16	21	15	57%
42	E	8	3	5	4	50%	42	8	4	4	6	50%
42	S	0	0	0	0	NA	42	0	0	0	0	NA
42	W	6	5	4	4	67%	42	6	6	7	6	100%
42		42	27	25	24	64%	**42**	42	26	32	27	62%
43	N	13	11	13	14	108%	43	13	14	14	14	108%
43	E	0	0	0	0	NA	43	0	0	0	0	NA
43	S	0	0	0	0	NA	43	0	0	0	0	NA
43	W	0	0	0	0	NA	43	0	0	0	0	NA
43		13	11	13	14	85%	**43**	13	14	14	14	108%
44	N	15	9	15	13	87%	44	15	11	9	14	73%
44	E	7	7	11	11	157%	44	7	6	7	8	86%
44	S	13	8	12	9	69%	44	13	9	8	11	69%
44	W	7	3	2	2	29%	44	7	3	3	2	43%
44		42	27	40	35	64%	**44**	42	29	27	35	69%
45	N	23	15	17	20	87%	45	23	12	15	23	52%
45	E	7	9	7	7	100%	45	7	8	10	9	114%
45	S	24	15	12	11	46%	45	24	19	20	9	79%
45	W	9	3	3	3	33%	45	9	4	2	2	44%
45		63	42	39	41	67%	**45**	63	43	47	43	68%
46	N	13	4	3	8	62%	46	13	7	7	6	54%
46	E	6	7	7	7	117%	46	6	6	7	3	100%
46	S	15	11	11	13	87%	46	15	13	11	13	87%
46	W	9	1	0	1	11%	46	9	0	1	2	0%
46		43	23	21	29	53%	**46**	43	26	26	24	60%
47	N	13	5	6	8	62%	47	13	6	9	9	46%
47	E	8	5	5	5	63%	47	8	6	4	6	75%
47	S	15	9	5	9	60%	47	15	10	10	11	67%
47	W	9	2	1	4	44%	47	9	3	4	4	33%
47		45	21	17	26	47%	**47**	45	25	27	30	56%
48	N	15	5	5	7	47%	48	15	6	8	8	40%
48	E	9	5	5	4	44%	48	9	4	3	6	44%
48	S	15	12	8	10	67%	48	15	8	7	11	53%
48	W	8	4	3	3	38%	48	8	2	4	4	25%
48		47	26	21	24	55%	**48**	47	20	22	29	43%
49	N	12	5	6	6	50%	49	12	5	6	6	42%
49	E	9	4	4	5	56%	49	9	5	5	4	56%
49	S	11	2	3	7	64%	49	11	10	8	8	91%
49	W	0	0	0	0	NA	49	0	0	0	0	NA
49		32	11	13	18	34%	**49**	32	20	19	18	63%
50	N	6	3	2	3	50%	50	6	6	6	5	100%
50	E	2	5	2	6	300%	50	2	8	5	3	400%
50	S	4	3	2	2	50%	50	4	3	1	3	75%
50	W	8	0	0	2	25%	50	8	1	0	0	13%
50		20	11	6	13	55%	**50**	20	18	12	11	90%
51	N	12	4	5	8	67%	51	12	5	8	10	42%
51	E	8	2	4	7	88%	51	8	5	5	5	63%
51	S	15	11	12	11	73%	51	15	10	9	10	67%
51	W	7	2	1	2	29%	51	7	0	4	5	0%

			Weekday Occupancies Thursday, May 15, 2008						*Weekend Occupancies Saturday, May 17, 2008*			
Block	**Face**	**Inv.**	**10 am**	**1 pm**	**7 pm**	**Thursday**	**Block**	**Inv.**	**10 am**	**1 pm**	**7 pm**	**Saturday**
51		42	19	22	28	45%	**51**	42	20	26	30	48%
52	N	15	11	13	13	87%	52	15	6	12	12	40%
52	E	6	2	1	4	67%	52	6	8	3	5	133%
52	S	18	14	11	11	61%	52	18	3	17	15	17%
52	W	5	3	4	4	80%	52	5	1	7	5	20%
52		44	30	29	32	68%	**52**	44	18	39	37	41%
Grand Total		2033	1241	1246	1323	61%		2033	1384	1358	1313	68%

CITY OF NEWPORT BEACH/CORONA DEL MAR: Off-Street Occupancy Counts

Block	Letter	Address	Inventory	Occupancies Thursday, May 15, 2008			Occupancies Saturday, May 17, 2008		
				10:00 AM	1:00 PM	7:00 PM	10:00 AM	1:00 PM	7:00 PM
1	A	2600 East Coast Hwy	84	34	39	42	31	35	6
	B	2640 East Coast Hwy	19	14	14	8	14	13	3
	C	2660 East Coast Hwy	6	2	2	-	-	-	-
Total			**109**	**50**	**55**	**50**	**45**	**48**	**9**
2	A	2700 East Coast Hwy	24	15	15	17	22	17	5
	B	2712-2728 East Coast Hwy	17	11	8	2	8	6	3
	C	2744 East Coast Hwy	19	10	15	12	8	15	18
Total			**60**	**36**	**38**	**31**	**38**	**38**	**26**
5	A	2800 East Coast Hwy	8	3	2	-	-	-	-
	B	2816 East Coast Hwy	7	7	6	2	3	3	2
	C	2828-2854 East Coast Hwy	15	3	3	-	3	4	2
	D	611 Heliotrope Avenue	7	5	3	-	-	-	1
Total			**37**	**18**	**14**	**2**	**6**	**7**	**5**
9	A	2900-2912 East Coast Hwy	4	-	1	-	1	2	-
	B	2920 East Coast Hwy	11	6	7	7	7	3	5
	C	2948 East Coast Hwy	6	1	-	-	1	1	1
Total			**21**	**7**	**8**	**7**	**9**	**6**	**6**
10	A	3000 East Coast Hwy	14	6	4	-	4	5	1
	B	3038 East Coast Hwy	9	3	3	3	9	8	1
	C	3050 East Coast Hwy	12	4	8	7	8	7	8
Total			**35**	**13**	**15**	**10**	**21**	**20**	**10**
19	A	3100 East Coast Hwy	14	5	2	2	6	2	1
	B	3111 Second Avenue	5	3	3	-	1	-	-
	C	3140 East Coast Hwy	14	4	5	3	7	5	2
Total			**33**	**12**	**10**	**5**	**14**	**7**	**3**
20	A	3200 East Coast Hwy	6	1	6	-	1	1	-
	B	3222 East Coast Hwy	10	10	9	1	10	8	-
	C	3224 East Coast Hwy	10	5	3	8	3	2	8
	D	3242-3244 East Coast Hwy	6	6	3	2	1	-	1
Total			**32**	**22**	**21**	**11**	**15**	**11**	**9**
21	A	3300 East Coast Hwy	33	25	25	13	19	22	13
	B	3326-3348 East Coast Hwy	7	4	4	4	4	3	5
Total			**40**	**29**	**29**	**17**	**23**	**25**	**18**
22	A	3420-3426 East Coast Hwy	6	5	4	3	3	4	3
	B	3446 East Coast Hwy	33	25	18	15	27	24	15
	C	420 Marigold Avenue	16	11	10	13	14	12	7
Total			**55**	**41**	**32**	**31**	**44**	**40**	**25**
23	A	3500-3520 East Coast Hwy	53	53	49	29	49	46	20
	B	3536 East Coast Hwy	12	4	4	2	5	3	2
Total			**65**	**57**	**53**	**31**	**54**	**49**	**22**
24	A	3600 East Coast Hwy	9	-	-	-	-	-	-
	B	406 Orchid Avenue	15	9	9	-	6	7	4
	C	3636 East Coast Hwy	15	7	9	5	8	10	5
Total			**39**	**16**	**18**	**5**	**14**	**17**	**9**

CITY OF NEWPORT BEACH/CORONA DEL MAR: Off-Street Occupancy Counts

Block	Letter	Address	Inventory	Occupancies Thursday, May 15, 2008			Occupancies Saturday, May 17, 2008		
				10:00 AM	1:00 PM	7:00 PM	10:00 AM	1:00 PM	7:00 PM
25	A	3700 East Coast Hwy	11	2	1	-	-	2	-
	B	3748 East Coast Hwy	6	2	2	2	1	-	3
Total			**17**	**4**	**3**	**2**	**1**	**2**	**3**
26	A	3800-3810 East Coast Hwy	21	17	17	2	6	6	2
Total			**21**	**17**	**17**	**2**	**6**	**6**	**2**
27	A	2305 E. Coast Hwy	24	10	20	23	23	24	20
	B	2229 E. Coast Hwy	13	9	12	10	12	10	10
	C	2229 E. Coast Hwy	4	2	2	3	2	3	3
Total			**41**	**21**	**34**	**36**	**37**	**37**	**33**
28	A	2301 E. Coast Hwy	3	-	2	1	1	2	2
	B	2325 E. Coast Hwy	15	3	7	7	5	5	6
	C	2333 E. Coast Hwy	5	4	5	5	5	4	5
	D	2345 E. Coast Hwy	8	3	7	7	1	2	5
Total			**31**	**10**	**21**	**20**	**12**	**13**	**18**
29	A	2411 E. Coast Hwy	13	4	7	7	2	9	4
	B	2411 E. Coast Hwy	7	3	2	7	1	4	3
	C	2421 E. Coast Hwy	11	-	1	-	1	1	-
	D	2435 E. Coast Hwy	10	9	8	6	2	4	12
	E	2441 E. Coast Hwy	18	10	3	10	5	9	18
	F	2441 E. Coast Hwy	10	10	10	10	10	10	10
Total			**69**	**36**	**31**	**40**	**21**	**37**	**47**
30	A	2515 E. Coast Hwy	19	18	12	17	20	18	14
	B	2647 E. Coast Hwy	22	17	16	5	1	11	7
	C	700 Carnation Ave.	3	2	2	-	1	1	-
Total			**44**	**37**	**30**	**22**	**22**	**30**	**21**
31	A	2647 E. Coast Hwy	46	30	33	12	10	12	5
Total			**46**	**30**			**10**		
32	A	2711 E. Coast Hwy	28	19	20	6	8	9	1
	B	2731 - 2737 E. Coast Hwy	11	6	3	-	3	6	-
	C	2747 E. Coast Hwy	19	9	4	-	20	12	1
Total			**58**	**34**	**27**	**6**	**31**	**27**	**2**
33	A	2801 E. Coast Hwy	18	11	12	8	11	10	4
	B	2823 E. Coast Hwy	6	2	-	-	1	-	-
	C	2831 - 2859 E. Coast Hwy	42	17	17	3	10	11	1
	D	2855 E. Coast Hwy	10	3	2	1	2	2	2
	E	2865 - 2867 E. Coast Hwy	38	13	13	10	14	19	23
Total			**114**	**46**	**44**	**22**	**38**	**42**	**30**
34	A	2929 E. Coast Hwy	10	2	4	-	2	6	6
	B	2937 E. Coast Hwy	15	8	10	9	11	9	13
	C	436 Helitrope Ave.	15	6	7	3	6	8	4
Total			**40**	**16**	**21**	**12**	**19**	**23**	**23**
35	A	3049 E. Coast Hwy	72	54	42	39	55	57	47
Total			**72**	**54**	**42**	**39**	**55**	**57**	**47**
36	A	3107. E. Coast Hwy	3	2	1	-	1	1	-
	B	3127 E. Coast Hwy	10	4	3	-	7	6	1

CITY OF NEWPORT BEACH/CORONA DEL MAR: Off-Street Occupancy Counts

Block	Letter	Address	Inventory	Occupancies Thursday, May 15, 2008			Occupancies Saturday, May 17, 2008		
				10:00 AM	1:00 PM	7:00 PM	10:00 AM	1:00 PM	7:00 PM
	C	3137 E. Coast Hwy	3	4	4	1	3	3	-
	D	3141 E. Coast Hwy	23	16	15	9	23	14	8
	E	Larkspur & Bayside	19	3	3	19	19	19	19
Total			**58**	**29**	**26**	**29**	**53**	**43**	**28**
37	A	3201 E. Coast Hwy	22	5	5	20	10	8	22
	B	Marguerite & Larkspur	34	13	12	33	34	34	33
Total			**56**	**18**	**17**	**53**	**44**	**42**	**55**
38	A	3309 E. Coast Hwy	3	1	2	2	1	2	-
	B	3331 E. Coast Hwy	3	2	1	2	1	-	1
	C	3347 E. Coast Hwy	29	27	24	3	20	17	4
Total			**35**	**30**	**27**	**7**	**22**	**19**	**5**
39	A	3401- 3411 East Coast Hwy	8	4	2	1	3	2	-
	B	3429-3435 East Coast Hwy	2	1	1	-	-	1	-
	C	3451 East Coast Hwy	29	23	26	5	28	25	-
Total			**39**	**28**	**29**	**6**	**31**	**28**	**-**
40	A	3501 East Coast Hwy	8	-	1	6	1	2	-
	B	3519 - 3537 East Coast Hwy	13	9	9	1	7	4	1
	C	3565 East Coast Hwy	7	1	5	-	3	5	-
Total			**28**	**10**	**15**	**7**	**11**	**11**	**1**
41	A	3617 E. Coast Hwy	16	4	8	1	6	5	4
	B	3637 E. Coast Hwy	6	-	1	-	1	1	1
	C	3653 E. Coast Hwy	9	6	6	-	5	5	-
Total			**31**	**10**	**15**	**1**	**12**	**11**	**5**
42	A	3701 E. Coast Hwy	2	1	1	-	1	2	-
	B	3801 E. Coast Hwy	72	30	28	48	36	25	96
Total			**74**	**31**	**29**	**48**	**37**	**27**	**96**
45	A	4th & Dalia Ave	32	15	16	18	14	17	7
Total			**32**	**15**	**16**	**18**	**14**	**17**	**7**
Grand Total:			**1,432**	**777**	**754**	**576**	**759**	**746**	**568**

Appendix E: Parking Management Strategies

Strategy	Description	Typical Reduction
Shared Parking	Parking spaces serve multiple users and destinations.	10-30%
Parking Regulations	Regulations favor higher-value uses such as service vehicles, deliveries, customers, quick errands, and people with special needs.	10-30%
Parking Maximums	Establish maximum parking standards.	10-30%
Remote Parking	Provide off-site or urban fringe parking facilities.	10-30%
Smart Growth	Encourage more compact, mixed, multi-modal development to allow more parking sharing and use of alternative modes.	10-30%
Walking and Cycling Improvements	Improve walking and cycling conditions to expand the range of destinations serviced by a parking facility.	5-15%
Increase Capacity of Existing Facilities	Increase parking supply by using otherwise wasted space, smaller stalls, car stackers and valet parking.	5-15%
Mobility Management	Encourage more efficient travel patterns, including changes in mode, timing, destination and vehicle trip frequency.	10-30%
Parking Pricing	Charge motorists directly and efficiently for using parking facilities.	10-30%
Improve Pricing Methods	Use better charging techniques to make pricing more convenient and cost effective.	Varies
Financial Incentives	Provide financial incentives to shift mode, such as cash out.	10-30%
Unbundle Parking	Rent or sell parking facilities separately from building space.	10-30%
Parking Tax Reform	Change tax policies to support parking management objectives.	5-15%
Bicycle Facilities	Provide meaningful bicycle storage and changing facilities.	5-15%
Improve User Information and Marketing	Provide convenient and accurate information on parking availability and price, using maps, signs, brochures and electronic communication.	5-15%
Improve Enforcement	Insure that parking regulation enforcement is efficient, considerate and fair.	Varies
Transportation Management Associations	Establish member-controlled organizations that provide transport and parking management services in a particular area.	Varies
Overflow Parking Plans	Establish plans to manage occasional peak parking demands.	Varies
Address Spillover Problems	Use management, enforcement and pricing to address spillover problems.	Varies
Parking Facility Design and Operation	Improve parking facility design and operations to help solve problems and support parking management.	Varies

Source: Victoria Transport Policy Institute, vtpi.org, Accessed June 2008; Walker Parking Consultants, 2008.

*Reductions are projections based on parking management strategies outlined at vtpi.org