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SUBJECT:	Municipal Parking Study – Balboa Island

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EXECUTIVE SUMMARY

Parking demand on Balboa Island is generated by residents, businesses in neighborhood commercial areas, and day visitors using Balboa Island to park for fishing or Catalina Island excursions. The parking demand generated by these groups creates a distinct shortage of parking during peak periods. The fishing and Catalina excursionists shoulder some of the blame for Balboa Island parking woes. However, the Island's parking system is also severely impacted even in areas where it would not seem likely for those visitors to be parking. As a result, we believe that there are systemic parking problems on Balboa Island beyond those that these groups that are causing. Namely, there are too many vehicles on the Island during peak demand periods and residents are likely not efficiently using their garage spaces, thereby constricting supply and causing an apparent parking shortage. A combination of time restrictions and residential parking permits on all Balboa Island streets may help remedy the parking situation but it may also create additional problems. From our meeting with the Balboa Island steering committee we concluded that while residential parking permits may be effective in controlling some amount of transient parking on Balboa Island, it is the community's belief that the cure that residential parking permits offer is worse than the disease of too few parking spaces during peak occupancy periods. That is to say, that while the current system does not act perfectly, given conditions and constraints on Balboa Island, it seems preferable to potentially burdensome permits, meters, or other regulations that were proposed.

OVERVIEW

The Balboa Island study area is the third in a six part overview of the parking system in designated commercial and residential districts located within the City of Newport Beach.

The Balboa Island community of Newport Beach is located in Newport Bay, and is connected to the mainland by Marine Avenue. The Island can also be accessed by taking the Balboa Ferry which has a terminal at Agate Avenue and links Balboa Island with the Balboa Peninsula at Palm Street. The vast majority of the Island is composed of residential areas, but contains a few retail shops and restaurants that are located primarily on Marine Avenue and Agate Avenue.

There is no public off-street parking located on the Island. The street parking is available free of charge and, with the exception of a few commercial blocks, not subject to time restrictions.[1] This makes the management and regulation of on-street parking potentially more difficult than in other areas of the City where paid parking or time-limits are used to encourage turnover, particularly in short-term spaces. There is some encroachment of parking demand into the residential areas from patrons of the shops, restaurants and businesses located on Marine Avenue. Beach and coastal visitors, including charter excursionists, also park their vehicles on the Island, sometimes for extended periods of time, creating significant impacts on the amount of available parking throughout the summer beach season.

According to the 2000 US Census, Balboa Island is one of the densest communities in Orange County. Approximately 3,000 residents live on just 0.2 square miles giving it a population density of 17,621 persons per square mile. Despite having some of the country's most expensive homes, most of the dwellings are on small lots of typically less than 3,000 square feet. The intensity of residential dwellings is significant and has a considerable impact on the demand for parking; there is significantly less curb space per residential dwelling than likely any where else in Orange County.

The Balboa Island study area includes the entire island. A map of the study area is shown below in Figure 1.

Figure 1: Study Area

Source: Google Earth Pro, Accessed August 12, 2008.

[1] We note, however, that there are prohibitions to parking during designated hours for street cleaning.

PROJECT ASSUMPTIONS

The purpose of this report is to provide recommendations that will result in an efficient use of the existing parking supply on Balboa Island. Parking planning is complex as it affects issues as varied as the health of neighborhood businesses and parking availability for residents. Our goal is to determine how to utilize the parking system as effectively as possible so as to maintain reasonable parking access for residents to park while providing as many people as possible with the appropriate access to Balboa Island. It is also important to note that during the busiest days or seasons, demand for parking at the nearby beach areas and waterways is arguably nearly unlimited, particularly when such parking is free.

PROJECT METHODOLOGY

Walker relied on a number of sources in order to create our analysis and develop recommendations. The bulk of our data and information comes from an inventory of parking spaces and subsequent parking occupancy field surveys, which were conducted on Balboa Island by Walker Parking Consultants on July 10 and July 12, 2008. In addition, we reviewed previous parking studies prepared for the City of Newport Beach and other documents related to the Balboa Island neighborhood.

Currently, the management of on-street parking on Balboa Island's commercial blocks (Marine Avenue and Agate Avenue) is done primarily by using time limits, but there is little other parking regulation on the rest of the island except on street cleaning days. As we will discuss, time limits are not always the most effective way to manage parking occupancy in high demand areas.

IMPROVING THE EFFICIENCY OF THE EXISTING PARKING SUPPLY

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

1) Balboa Island and the City of Newport Beach continue to be popular destinations in a region where the population continues to increase. At the same time, the amount of available on-street parking remains constant. On a practical level, spatial and financial constraints appear to make it impossible to provide a public parking space for every driver who wishes to park, often in a vehicle occupied solely by one person, for free. This is particularly true if the character, design features and ambience of the Island are to be respected and maintained.

2) "Turning" spaces increases drivers' access to parking. ("Turning" is the reuse of a vacated space by a another 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 or other visitors 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 in their garages, driveways, or perhaps not keep at all.

4) Managing parking demand on Balboa Island will involve trade offs. In order for a recreational 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 should 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 the afternoon in the area on their once in a lifetime vacation driving down the Southern California coast.

5) The use of parking meters or other forms of paid parking, if enforced, are far more effective at managing the parking supply and creating turnover than are time limits. The enforcement of time limits is also significantly more labor intensive, and therefore more expensive to perform than is the enforcement of parking regulations using paid parking. 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).

Having identified these limitations, we note several trends we have observed in our experience gathering data in cities and towns, including in coastal areas. First, once seasonal variations are taken into account, parking behavior tends not to experience significant variations and is surprisingly consistent. For this reason, counts performed on a given weekday and weekend day tend to be representative of typical parking patterns for that season. In addition, based on our experience, it is reasonable to assume that Thursday and Saturday tend to be the peak (non-Friday) weekday and weekend days for parking demand in a mixed residential and

commercial area, particularly one that attracts heavy recreational use. As noted earlier, 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, July 10 and Saturday, July 12. The days of the week were selected in consultation with City staff and community members.

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 necessarily represent the absolute peak parking demand days of the summer (holiday weekends), but represented busy summer days. Detailed inventory information throughout the study area is included in Appendix A.

Within the study area, we counted a total of 1,943 parking spaces, all of which were located on street.

PEAK DEMAND PERIODS

The overall peak demand was observed at 1:00 PM on Saturday when a total of 1,917 parking spaces were occupied. We will refer to this peak as the *Baseline Peak Demand*. It is important to note the 7:00 PM count on Saturday was only 1% lower when a total of 1,898 parking spaces were occupied.

During the weekend count, the observed on-street demand was generally higher than the weekday count. The peak for Thursday, July 10 occurred at 7:00 PM. At this time, there were 1,691 parking spaces occupied. This represents approximately 87% of the total Balboa Island supply. The overall baseline peak demand of 1,917 parking spaces (Saturday at 1:00 PM) is equivalent to roughly 99% of the total Balboa Island supply. As we will discuss later, this far exceeds what we typically see as an "effective supply" of parking. Table 1 profiles the occupancy during both the weekday and weekend periods.

Table 1: Occupancy Summary for Balboa Island

	Inventory	10:00 AM	1:00 PM	7:00 PM
Thursday, July 10				
On-Street Occupancy	1,943	1,275	1,340	1,691
% of Total Supply		66%	69%	87%
Saturday, July 12				
On-Street Occupancy	1,943	1,852	1,917	1,898
% of Total Supply		95%	99%	98%

Source: Walker Parking Consultants, 2008

We recognize that residents and their guests, recreational visitors (including in some cases drivers who park on the Island to board the Catalina Flyer or engage in other off-shore recreational activities), and perhaps business owners and employees all contribute to the amount of parking generated on the Island. However,

we believe that the data suggest that by far the largest share of the parking demand is generated by Island residents. This would in part explain the increase in the number of vehicles parked between the daytime and the evening on weekdays and the significant difference in the demand for parking on a weekday morning versus a weekend morning. This is not to suggest that other parking user groups do not have an impact on parking conditions, potentially pushing conditions from already bad to worse. Nonetheless, the total number of cars that these secondary groups generate is very likely a significantly smaller share than is the total number of cars that belong to residents of the Island. We understand that like many residential areas the garage space on Balboa Island may be used for personal storage rather than vehicle storage. This is more of a problem during the summer weekends than it is during the remainder of the year. Some of the weekend parking supply is absorbed by vehicles that could be parked in garages if the garages were properly cleaned. Any improvement in the number of vehicles stored in garages will help alleviate some of the parking issues currently observed on Balboa Island.

Although the study area overall does not suffer from a parking shortage during a majority of time (weekdays), summer weekends do experience significant parking shortages. Figure 2 highlights the areas that have impacted on-street parking during the peak period (weekend). Unlike other areas in Newport Beach where parking is locally impacted, shortages on Balboa Island are area-wide and appear to be systemic. 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 both weekday and weekend survey periods.

Figure 2: Peak Parking Occupancy Demand – On-Street (Weekend)

Source: Google Earth Pro, Accessed July 2008, 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 or mixed-use 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. For reference purposes, 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, residents and frequent visitors to the area tend to be familiar with the facilities and their spaces are not subject to frequent turnover. Given that many residents that park on Balboa Island are familiar with the area, we can use a more conservative 90% residential effective supply ratio for our on-street analysis. However, even using this ratio, Balboa Island is above its effective capacity during the summer weekends and during many summer weekdays.

For Balboa Island with it's nearly 100% peak occupancy, the effective supply metric may not be relevant because the motivation to find the few available spots is high, and at certain times even desperate. During peak occupancy periods, residents will circle their neighborhoods looking for a space and may have established areas or methods that they use to ensure that they find a space. Many of the visitors to the Island may simply circulate through the entire area, increasing congestion until they find a space or they may give up and suspend their visit or allocate their patronage elsewhere.

DELINIATION OF PARKING SPACES

The parking system on most residential streets does not have painted or striped parking spaces. During our meetings with Balboa Island residents, requests were made to evaluate painting spaces on some streets. Generally we believe that painted on-street parking spaces are not efficient for a number of reasons. It is true that they at times may reduce or prevent inefficient on-street parking by essentially guaranteeing a minimum number of spaces on the street. However, they may also essentially create a cap on how many vehicles may be parked on the street as well, reducing the parking efficiencies that may be gained from smaller vehicles and drivers who otherwise may park their cars in a more efficient manner. If it can be shown on specific blocks that cars are consistently misparked (i.e., if parking along these street segments is consistently not being efficiently used), these locations could benefit from designating parking spaces on the roadway. Street segments shorter than 60 feet would be the most likely candidates for such a policy.

CURB CUTS

As a result of our steering committee meeting, we identified a limited number of driveway curb cuts that no longer lead to active driveways. We recommend that the inactive or non-existent driveways are reported to the City's Public Works department so they can appropriately address whether these areas should be filled in to effectively create additional parking supply on some Balboa Island streets.

LICENSE PLATE INVENTORY AND TURNOVER ANALYSIS

In many commercial areas 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 their work location rather than farther from it, but if everyone coming to Balboa Island competes for the most convenient parking the congestion is magnified. On Balboa Island, however, much of the parking is occupied by residents, beach and coastal visitors, and cruise or charter passengers; retail and restaurant employees likely represent a small percentage of the total vehicles on the Island. Prioritizing parking for different user groups helps to even out the imbalances in parking demand and can greatly improve the management of the system. We note that one vehicle parked for 8 to10 hours in a space designated for short term parkers can displace the cars belonging to ten or more short term visitors. Long-term parkers, particularly when they occupy designated short-term spaces, can therefore negatively impact the parking system in a manner far greater than simply the number of cars that they add to parking demand.

To test the extent to which long-term parking makes up a significant portion of the parking demand in short-term areas, two commercial areas that experience a significant amount of visitors were studied. On August 28 Walker staff conducted a length of stay analysis of selected on-street facilities, namely along Marine and Agate Avenues. 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 minority of the vehicles parked along these thoroughfares during our inventory parked beyond the posted time limits. Table 2 outlines the number of vehicles that remained in the study area for various amounts of time during the LPI. We note that these findings are unusual. Frequently, a majority of the spaces in a commercial area, where the "turning" of short-term spaces is desirable and necessary for the peak performance of the parking system, are found to be occupied by owners' and employees' cars for long periods of time. Appendix C provides a detailed overview of the LPI data.

Along Marine Avenue, the LPI analysis identified 366 unique vehicles parked in the 64 spaces. This indicates a turnover ratio of approximately 5.72 vehicles per space over the 11 hour study period (366 ÷64). Approximately 14 percent of the vehicles parked beyond the 2-hour time limit. Along Agate Avenue we found approximately 91 vehicles parked in the 33 spaces we studied. Since LPI was conducted on a weekday, there were also a number of empty spaces throughout the day and the 3-hour time limit is not enforced. With that in mind, we still only found 18 percent of the vehicles parked beyond three hours on Agate Avenue.

From this preliminary analysis it appears that the majority of vehicles are adhering to the time limits and there is not a serious problem of vehicles staying beyond the posted time limits. Granted, there are a percentage of vehicles in both areas that are remaining in the same space, but the problem is not as significant as we typically witness in small commercial districts and therefore anticipated.

Table 2: License Plate Inventories (weekday)

Marine Avenue		Agate Avenue	
Hours	Vehicles	Hours	Vehicles
1	237	1	56
2	80	2	14
3	35	3	2
4	7	4	3
5	3	5	4
6	2	6	5
7	0	7	2
8	1	8	4
9	1	9	1
10	0	10	0
Total	366	Total	91
Spaces Surveyed	64	Spaces Surveyed	33

Source: Walker Parking Consultants, 2008

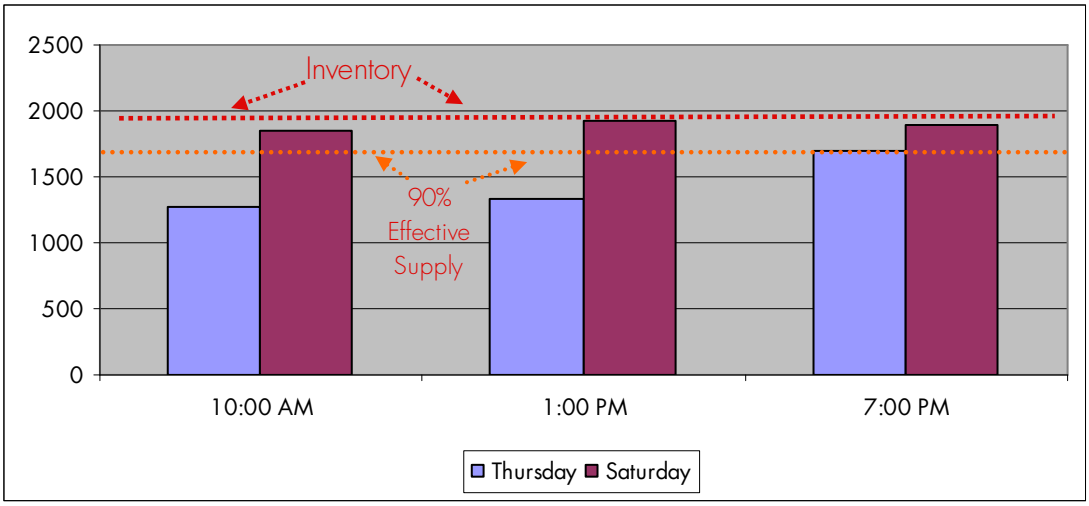
UTILIZATION OF SPECIFIC PARKING SUPPLIES

During the peak hour count on Thursday, certain blocks were more heavily utilized than others, but overall the study area did have some available occupancy. During the Saturday (weekend) counts, the entire Island was effectively at capacity. Our survey indicates that most areas were at 100 percent occupancy, indicating that cars were occupying every available space. Some areas even exceeded the inventory number, indicating that cars were blocking a driveway or alley, or otherwise parked illegally.

As seen in Figure 3, weekends on Balboa Island are typically busy due to the influx of visitors and tourists that descend on the area throughout the year. In addition, it appears that residents (and possibly guests staying at the vacation rentals located on the Island) are more likely to be on the Island on weekends, as opposed to weekdays. Some of the homes on Balboa Island are part-time residents who often visit on weekends. We believe these factors accounted in large part for the overall peak demand occurring on Saturday.

Virtually all day on Saturday the Island is significantly impacted. It also shows that while the overall study area peak was at 1:00 PM, the evening peak, while lower, still exceed the effective supply of the area.

Figure 3: Combined Peak Occupancies (as % of supply)



Source: Walker Parking Consultants, 2008

We also looked at occupancy on a block-by-block basis. Figure 4 outlines the on-street parking block faces that exceeded the recommended level of 85% during the peak occupancy period on Saturday, July 12.

Figure 4: Occupancy by Block Face – On Street Peak

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

As illustrated in Figure 4, most blocks exceed the 85 percent occupancy during the peak hour period. For comparison, Table 5 highlights occupancy during the weekday and weekend peak demand period in all areas of Balboa Island. Detailed occupancy information is located in Appendix D.

Table 3: Peak Occupancy by Block

		Weekday		*Weekend*	
Block	Inv.	7 pm	Occupancy	1 pm	Occupancy
1	19	17	89%	19	100%
2	21	17	81%	21	100%
3	33	32	97%	33	100%
4	38	34	89%	38	100%
5	40	39	98%	40	100%
6	51	51	100%	51	100%
7	41	37	90%	41	100%
8	54	55	102%	54	100%
9	47	46	98%	47	100%
10	49	51	104%	48	98%
11	48	48	100%	48	100%
12	51	40	78%	47	92%
13	48	45	94%	48	100%
14	17	16	94%	15	88%
15	28	28	100%	28	100%
16	36	36	100%	36	100%
17	41	28	68%	39	95%
18	36	31	86%	36	100%
19	38	36	95%	38	100%
20	43	33	77%	43	100%
21	48	35	73%	48	100%
22	45	43	96%	45	100%
23	43	32	74%	43	100%
24	48	41	85%	48	100%
25	38	33	87%	37	97%
26	45	33	73%	45	100%
27	47	36	77%	47	100%
28	36	26	72%	36	100%
29	45	35	78%	45	100%
30	49	33	67%	49	100%
31	36	31	86%	36	100%
32	42	40	95%	42	100%
33	51	47	92%	51	100%
34	38	33	87%	38	100%
35	45	45	100%	45	100%
36	53	53	100%	53	100%
37	39	33	85%	39	100%
38	38	39	103%	38	100%
39	45	46	102%	45	100%
40	17	15	88%	17	100%
41	22	22	100%	22	100%
42	22	22	100%	22	100%
43	19	16	84%	19	100%
44	29	24	83%	28	97%
45	15	7	47%	15	100%
46	39	30	77%	37	95%
47	49	33	67%	47	96%
48	15	10	67%	15	100%
49	16	14	88%	16	100%
50	38	28	74%	30	79%
51	30	21	70%	30	100%
52	19	12	63%	16	84%
53	3	3	100%	3	100%
Total	1,943	1,691	87%	1,917	99%

See Figure 2 for full page map.

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, we found that while there is significant demand to justify adding parking supply on Balboa Island, the demand is spread along mostly residential streets and overall there is little space to add new parking inventory that could realistically and cost effectively serve this demand, which in many respects is spread out throughout the island.

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.[2] 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.[3] Again, this assumes a construction cost of $18,000 per space plus $500 per year per space in operating costs and an estimated 20% for soft costs.

PARKING MANAGEMENT

Parking Management includes any of myriad strategies aimed at making better use of the available parking supply in any defined area. Parking management strategies include pricing cues, trip reduction strategies, incentives for modes of transportation other than the single occupancy automobile, preferential parking or price discounts for carpools, and disincentives for those contributing more to congestion.

RESIDENTIAL PARKING PERMITS

Residential Parking Permits are permits for residents whose neighborhoods are impacted by certain public facilities or land uses (such as beaches or adjacent commercial areas) that result in non-residents parking on neighborhood streets. There are many different ways to develop a residential permit system and the City of Newport Beach currently has some areas that already provide such a program to residents.

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[2] This assumes a 20-year bond with 6% interest and level bi-annual payments.
[3] 220 spaces multiplied by 300 days, multiplied by $7.90 equals $405,000.

For Balboa Island we would suggest a program that accommodates Island residents but also allows appropriate beach access for visitors to the area. To accomplish this, a combination of time limits and residential parking permits may be required. If four hour time limits are enacted on the entire Island, vehicles with residential parking permits could park on-street and exceed the four hour limit. This would allow visitors access to the Island for a reasonable amount of time without using parking on the Island essentially for accessing other destinations or for vehicle storage. It would also increase the ability of residents to park on their streets or on nearby spaces as they do currently. Ideally, the four hour time limits would be enforced 24 hours per day to reduce the number of overnight vehicles that may be parking on the Island and then going on excursions to Catalina or on local fishing charters.

To ensure that this type of system engenders the appropriate use of parking (and the use of real estate) on the Island, the City should charge a fee for the Balboa Island residential parking permits. Ideally, the parking permits should at least cover the administrative and enforcement costs that the City must bear plus encourage residents to use their off-street spaces. Since annual Blue Pole meters fees are $100 and Master Permit fees are $648, residential parking permits on Balboa Island should probably fall somewhere between these two fees, perhaps $300 per annum ($25/month). A graduated system that allows the first two permits to be $300 and the next two permits to be $600 may discourage abuse or over use of the permits. Existing homes that were built before the advent of contemporary zoning that requires off-street residential parking could obtain two permits at the approximate cost of the appropriate administrative fee (with confirmation from code enforcement). We would also recommend that a very limited number of daily guest passes be provided to all residents (perhaps as few as 10 passes per year). If more daily passes are required they could be purchased from the City for a fee.

The advantage of residential parking permits on Balboa Island is that they allow residents and guests to park near their homes while providing appropriate access to beach patrons.

A disadvantage of residential parking permits is the administrative and enforcement burden that will be placed on the City. Again, this is why it is important to charge an appropriate fee for the permits because without enforcement, there is no point in establishing a residential permit area. For permits to truly be an effective parking management tool, they need to have a meaningful cost associated with their use and this may not be agreeable with many part-time residents. While permits may help alleviate some of the parking constraint, the amount of enforcement and additional administrative requirements are likely to be overly burdensome to many residents and visitors to the Island. In addition, the California Coastal Commission may need to be consulted to ensure that this type of permit program complies with their mission. Finally, there is the possibility that by making more parking available, some residents would have less incentive to park their cars off street, resulting in few if any net new parking spaces actually being made available.

PARKING BENEFIT DISTRICT

A Parking Benefit District (PBD) is a combination of residential permit parking and traditional paid parking. A parking benefit district is created by metering the on-street parking and dedicating the net revenue towards neighborhood improvements that promote alternatives to parking. This may include increased facilities for walking, cycling and transit use, such as sidewalks, curb ramps, and bicycle lanes. Charging for parking and promoting alternatives can help reduce the number of people parking in the neighborhood, but for those that do park and pay the meter, the neighborhood benefits.

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) The by product of increased parking revenue throughout the district occurs.
5) The PBD governing body makes decisions as to how to allocate the additional revenue through such projects as contributing to the funding of 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.

ADVANTAGES OF PBDs

Promotes Alternatives. Many PBDs promote alternatives to driving and parking for all trips, this may help provide an incentive for more people to evaluate alternative transportation to move in and around the area.

Existing supply. Many PBDs are not developed to provide revenues for additional lots or structures, rather they seek to maximize their existing supply or provide alternatives to unsafe, unsightly lots and structures.

Improvements and amenities. PBDs provides revenue that can be used for neighborhood improvements or amenities. A PBD can help ensure that funds that are created from visitors and patrons using the meters or public lots stay in the area to help with improvements, landscaping, safety or lighting.

DISADVANTAGES OF PBDs

Administrative burden. There is some administrative burden and expense to set up and maintain a PBD.

Requires active neighborhood participation. This type of organization typically requires active neighborhood participation to effectively maintain the PBD. If there is a sufficient base of enthusiastic and knowledgeable proponents this is not a problem, but in areas without a champion of PBDs, this type of structure loses its ability to effect change.

PAID PARKING

If the City and the Balboa Island community are not interested in pursuing the residential permit options, paid parking is another alternative that can shift the cost of parking from the residents to the visitors. Coin-operated meters, as noted, are inconvenient, inefficient, sometimes unreliable, and often unsightly. Some cities are beginning to evaluate other types of modern meters or even alternatives such pay-and-display systems, smart meters, electronic hang-tags or pay-by-phone systems.

City of Berkeley, CA

PARKING METERS

In reviewing the parking issues on Balboa Island, 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. Meters may help ensure that all areas of Balboa Island have parking available throughout the day and it may encourage some residents use their garage spaces for parking rather than storage. Single-head, coin operated meters are aesthetically unpleasing and require the visitors/patrons to know how long their visit, shopping or dining experience will be and ensure that they have enough coins with them to satisfy their trip requirements. Alternatively, 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
- Additional enforcement will be required
- Education will be necessary to support meters
- Aesthetically unpleasant

SMART METERS

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

Pros

- Easy to use
- Can 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 areas
- Expensive to set up and manage
- Additional enforcement will be necessary

PAY-BY-PHONE

Pay-by-phone systems have also become very popular lately. 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. Depending upon the city and the service, the user may only need to register once and can park in numerous cities if these cities 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 city-owned equipment
- Easy to use and relieves concern about running back to the meter with additional coins
- Technologically proven
- Can change prices based on demand or scheduled rate reviews

Cons

- Third party is making money off a city resource
- Increased enforcement is essential
- Allows people to leave cars parked a long time
- Discourages turnover

MULTISPACE PARKING METERS

In an area like Balboa Island, alternatives to the single-head meter would be well received. Rather than cluttering the sidewalk and streetscape with traditional coin meters, Balboa Island could evaluate installing multi-space, or pay-and-display meters. Multi-space meters are typically easy to use and easy to install. They are much less obtrusive than single head meters and can be less expensive depending on how wide an area is covered. With two ways to pay, coins or credit card, their use is fairly simple:

- Insert coins or credit card and indicate the time.
- Next push the print button for your receipt.
- Finally, place the receipt face upon your dashboard to curbside window.

Pros

- Multiple forms of payment
- Receipt for all transactions
- Reduced street clutter
- Reliable

Cons

- May push parking into residential areas
- More expensive than single head meters
- Potentially creates litter

SMARTCARDS

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.

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. When visitors come to Balboa Island, they simply turn on their

meter and hang the SmartPark device from their review mirror so that parking enforcement can see they have paid. These meters can be loaded for visitors to the City of Balboa Island and loaded at a lower rate for residents.

These in-car parking devices may be used at single space parking meters, municipal parking lots and municipal garages. Ideally, with SmartPark device motorists pay for actual parking time only, allowing visitors and residents to use the card only for the time they are parked. Another benefit of this technology that may be attractive to Balboa Island is that it is a cashless operation that allows residents and frequent visitors the ability to park 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

Cons

- Not good for areas with a high number of visitors
- Third party typically required
- More expensive for both the city and the user than alternatives
- May generate complaints from users who forget to turn them off after leaving a space

ALTERNATIVE FORMS OF TRANSPORTATION

Access to public transportation on Balboa Island is limited. Due to its size and small streets, the Island is well suited to other transportation modalities for many local trips. There are already a number of residents that use neighborhood electric vehicles (NEVs) or DMV approved electric "golf" carts for some trips. Additional parking areas for these vehicles could be evaluated.

Source: www.italcarev.com

Source: www.webridestv.com

Bicycle facilities should also be considered. This could include additional storage facilities or lockers along Marine Avenue or at different beach locations throughout the area. It could also include providing Class III (shared) bikeways along streets throughout the Island. If possible, Class II (Bike Lanes) routes could also be evaluated on certain roads.

Source: www.josta.de

Source: www.josta.de

Alternative forms of transit are a legitimate and valuable tool to reduce driving, but unlikely to make a dramatic difference in short term. Ideally, these transportation alternatives work best in concert with financial (dis)incentives to drive traditional automotive vehicles.

STATUS QUO APPROACH

Living on an island presents unique situations and unique problems. Balboa Island has many facets that make it an attractive and compelling place to live or visit. These attractions also bring an influx of vehicles to the island. This is especially noticeable during the summer months from June to September. During summer weekends parking availability is below what we would consider effective for a residential or commercial area. During summer weekdays and throughout much of the remainder of the year, parking is still a challenge but it does not choke the Island to the point where it is dysfunctional. Nearly all of the remedies that we have outlined previously have some shortcomings or implementation difficulties that do not necessarily outweigh their likely benefits. While some of these recommendations may elicit a change in behavior for a small group of visitors to the Island it is not likely that they will effectively change the overall behavior enough to significantly alleviate parking difficulty on the Island. Therefore, our final alternative is to not make any wholesale changes to the parking system on Balboa Island.

CONCLUSION AND RECOMMENDATIONS

During the peak summer season, Balboa Island has a significant parking shortage that is exacerbated by dense residential housing, recreational users and limited parking regulations. Our understanding is that the parking shortage on Balboa Island is not as problematic during the remainder of the year. Thus, the recommendations for a solution are centered on simple strategies that can help alleviate parking issues during the summer months but that are not unduly burdensome or punitive during the non-peak season.

The combination of Balboa Island's compact design and picturesque location creates a predictable shortage of parking during the peak beach and coastal access season. The desirability of Balboa Island as an attractive destination creates a significant demand for people to drive to the Island. The lack of parking regulations on the Island also seems to contribute to the demand for people to drive and park on the Island even if they are not necessarily spending time on the Island. It is our understanding that some Catalina Flyer patrons and charter boat excursionists also park on the Island for long periods of time. Without any parking regulations to prevent this sort of activity, Island residents and visitors are having some difficulty finding parking, particularly on weekends.

While we do encourage alternative forms of transportation for local trips including NEVs and bicycles, we also believe that some form of parking regulation and enforcement plan could be developed for the Island. However, during our steering committee meeting, the group established that they felt residential parking permits might be overly punitive and administratively burdensome for the current residents and visitors. As a result, we feel that the best solution is to leave the current regulations and restrictions in place. While the current system is imperfect, any alternatives or changes to the current system would come with externalities that are less desirable than the current parking difficulties they are designed to remedy. Further, in some cases the demand for on-street parking is high enough that any improvement in parking availability through increased regulations could potentially be diminished by latent demand for on-street parking from residents and others. As a result, we recommend that parking regulations and restrictions on Balboa Island remain the same.

Balboa Island will remain a compelling destination and access to the Island should remain a priority. If parking continues to be a concern and change is required, a combination of time limits and metered parking could be established. However, we agree with the views expressed during the steering committee meeting that the current impacts on the Island do not necessitate any wholesale changes to the parking system at this time.

APPENDIX A:

Balboa Island - On-Street Inventories

Block	Face	Standard	Yellow	White	Green	Total Inv	Notes	Parking Restrictions
1	N	8				8	Park Ave.	Tuesday
	E	11				11	Emerald Ave.	Tuesday
	S	0				0	Bayfront Ave.	No Parking Anytime
	W	0				0		
2	N					0		
	E	12				12	Emerald Ave.	Thursday
	S	9				9	Park Ave.	Monday
	W	0				0		
3	N	6				6	Park Ave.	Tuesday
	E	16				16	Garnet Ave.	Thursday
	S	0				0	Bayfront Ave.	No Parking Anytime
	W	11				11	Emerald Ave.	Wednesday
4	N	0				0	Bayfront Ave.	No Parking Anytime
	E	19				19	Garnet Ave.	Thursday
	S	6				6	Park Ave.	Monday
	W	13				13	Emerald Ave.	Wednesday
5	N	6				6	Park Ave.	Tuesday
	E	19				19	Pearl Ave.	Thursday
	S	0				0	Bayfront Ave.	No Parking Anytime
	W	15				15	Garnet Ave.	Wednesday
6	N	0				0	N. Bayfront	No Parking Anytime
	E	24				24	Pearl Ave.	Thursday
	S	6				6	Park Ave.	Monday
	W	21				21	Garnet Ave.	Wednesday
7	N	6				6	Park Ave.	Tuesday
	E	16		1		17	Agate	Thursday
	S	0				0	S. Bayfront	No Parking Anytime
	W	18				18	Pearl Ave.	Wednesday
8	N	0				0	N. Bayfront	No Parking Anytime
	E	27				27	Agate	Thursday
	S	6				6	Park Ave.	Monday
	W	21				21	Pearl Ave.	Wednesday
9	N	5			1	6	Park Ave.	Tuesday
	E	21				21	Opal	Thursday
	S	0				0	S. Bayfront	No Parking Anytime
	W	13	4		3	20	Agate	Wednesday
10	N	4				4	Collins	
	E	20				20	Opal	Wednesday
	S	0				0	Park Ave.	No Parking Anytime
	W	25				25	Agate	Wednesday
11	N	6				6	Park Ave.	Tuesday
	E	24				24	Topaz Ave.	Thursday
	S	0				0	S. Bayfront	No Parking Anytime
	W	18				18	Opal	Wednesday
12	N	9				9	Collins	Thursday
	E	11				11	Topaz Ave.	Thursday
	S	7				7	Park Ave.	Monday
	W	24				24	Opal	Thursday
13	N	5				5	Park Ave.	Tuesday
	E	19				19	Turquoise Ave.	Thursday

Block	Face	Standard	Yellow	White	Green	Total Inv	Notes	Parking Restrictions
	S	0				0	S. Bayfront	No Parking Anytime
	W	24				24	Topaz Ave.	Wednesday
14	N	0				0		
	E	6				6	Collins	Thursday
	S	4				4	Park Ave.	Monday
	W	7				7	Topaz Ave.	Wednesday
15	N	0				0		
	E	11				11	Collins	Thursday
	S	0				0	S. Bayfront	No Parking Anytime
	W	17				17	Turquoise Ave.	Wednesday
16	N	5				5	Park Ave.	Tuesday
	E	16				16	Ruby Ave.	Thursday
	S	0				0	S. Bayfront	No Parking Anytime
	W	15				15	Collins	Wednesday
17	N	0				0	Balboa Ave.	No Parking Anytime
	E	18				18	Ruby Ave.	Tuesday
	S	5				5	Park Ave.	Monday
	W	18				18	Collins Ave.	Wednesday
18	N	0				0	N. Bayfront	No Parking Anytime
	E	19				19	Ruby Ave.	Tuesday
	S	3				3	Balboa Ave.	Monday
		14				14	Collins Ave.	Wednesday
19	N	6				6	Park Ave.	Tuesday
	E	16				16	Diamond Ave.	Tuesday
	S	0				0	S. Bayfront	No Parking Anytime
	W	16				16	Ruby Ave.	Wednesday
20	N	0				0	Balboa Ave.	No Parking Anytime
	E	19				19	Diamond Ave.	Tuesday
	S	6				6	Park Ave.	Monday
	W	18				18	Ruby Ave.	Wednesday
21	N	0				0	N. Bayfront	No Parking Anytime
	E	21				21	Diamond Ave.	Tuesday
	S	6				6	Balboa Ave.	Monday
	W	21				21	Ruby Ave.	Wednesday
22	N	6				6	Park Ave.	Tuesday
	E	17				17	Sapphire Ave.	Tuesday
	S	0				0	S. Bayfront	No Parking Anytime
	W	22				22	Diamond Ave.	Monday
23	N	0				0	Balboa Ave.	No Parking Anytime
	E	18				18	Sapphire Ave.	Tuesday
	S	6				6	Park Ave.	Monday
	W	19				19	Diamond Ave.	Monday
24	N	0				0	N. Bayfront	No Parking Anytime
	E	22				22	Sapphire Ave.	Tuesday
	S	6				6	Balboa Ave.	Monday
	W	20				20	Diamond Ave.	Monday
25	N	4				4	Park Ave.	Tuesday
	E	17				17	Coral Ave.	Tuesday
	S	0				0	S. Bayfront	
	W	17				17	Sapphire Ave.	Monday
26	N	0				0	Balboa Ave.	No Parking Anytime
	E	20				20	Coral Ave.	Tuesday
	S	6				6	Park Ave.	Monday

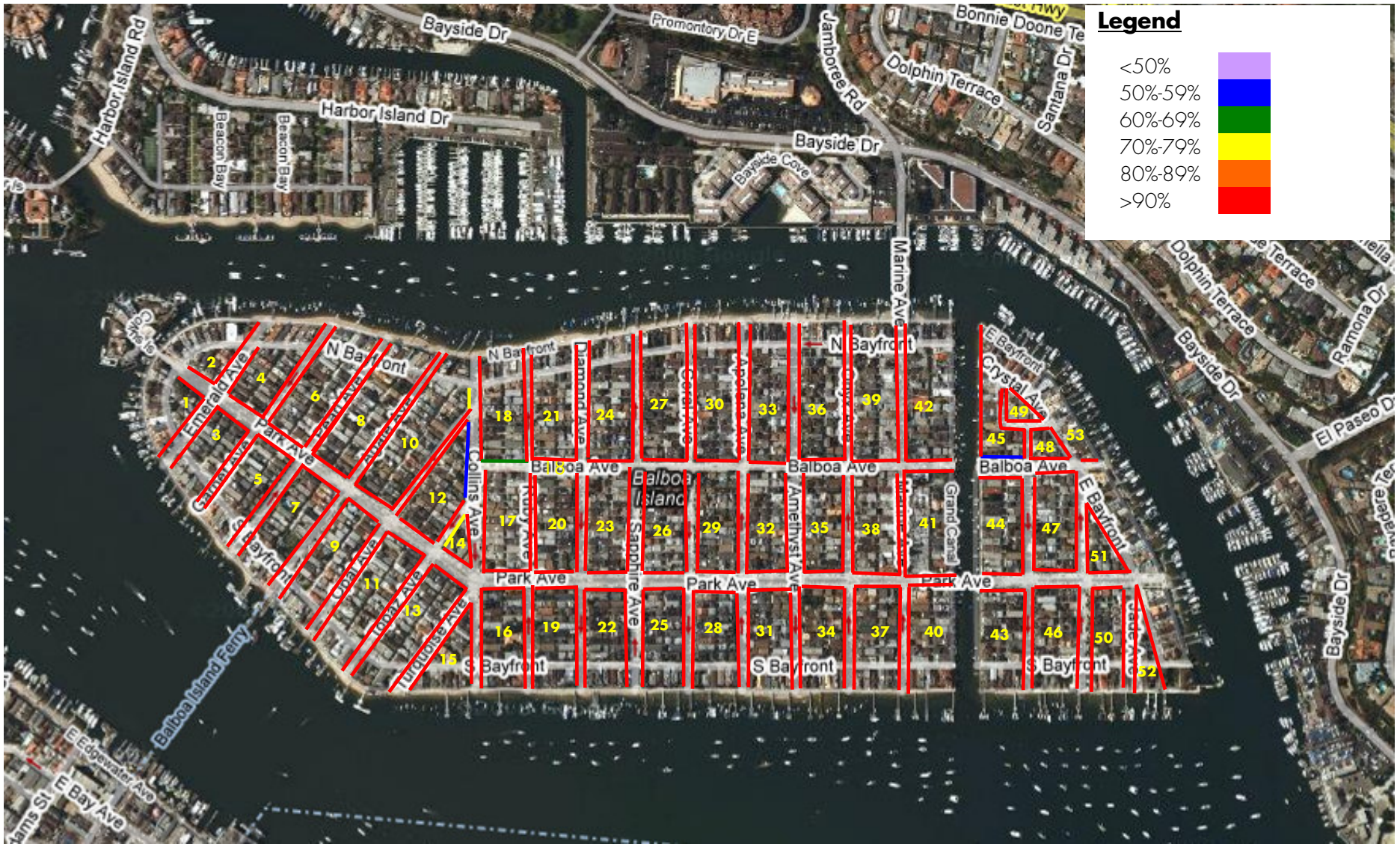
Block	Face	Standard	Yellow	White	Green	Total Inv	Notes	Parking Restrictions
	W	19				19	Sapphire Ave.	Monday
27	N	0				0	N. Bayfront	
	E	21				21	Coral Ave.	Tuesday
	S	5				5	Balboa Ave.	Monday
	W	21				21	Sapphire Ave.	Monday
28	N	6				6	Park Ave.	Tuesday
	E	15				15	Apolena Ave.	Tuesday
	S	0				0	S. Bayfront	
	W	15				15	Coral Ave.	Monday
29	N	0				0	Balboa Ave.	
	E	19				19	Apolena Ave.	Tuesday
	S	6				6	Park Ave.	Monday
	W	20				20	Coral Ave.	Monday
30	N	0				0	N. Bayfront	
	E	21				21	Apolena Ave.	Tuesday
	S	6				6	Balboa Ave.	Monday
	W	22				22	Coral Ave.	Monday
31	N	6				6	Park Ave.	Tuesday
	E	15				15	Amethyst Ave.	Tuesday
	S	0				0	S. Bayfront	
	W	15				15	Apolena Ave.	Monday
32	N	0				0	Balboa Ave.	No Parking Anytime
	E	19				19	Amethyst Ave.	Tuesday
	S	5				5	Park Ave.	Monday
	W	18				18	Apolena Ave.	Monday
33	N	0				0	N. Bayfront	
	E	25				25	Amethyst Ave.	Tuesday
	S	5				5	Balboa Ave.	Monday
	W	21				21	Apolena Ave.	Monday
34	N	4				4	Park Ave.	Tuesday
	E	17				17	Onyx Ave.	Tuesday
	S	0				0	S. Bayfront	
	W	17				17	Amethyst Ave.	Tuesday
35	N	0				0	Balboa Ave.	No Parking Anytime
	E	20				20	Onyx Ave.	Tuesday
	S	6				6	Park Ave.	Monday
	W	19				19	Amethyst Ave.	Tuesday
36	N	0				0	N. Bayfront	
	E	26				26	Onyx Ave.	Tuesday
	S	3				3	Balboa Ave.	Monday
	W	24				24	Amethyst Ave.	Monday
37	N	5				5	Park Ave.	Tuesday
	E	17				17	Marine Ave.	Monday
	S	0				0	S. Bayfront	
	W	17				17	Onyx Ave.	Monday
38	N	0				0	Balboa Ave.	No Parking Anytime
	E	12		1	2	15	Marine Ave.	
	S	3			2	5	Park Ave.	Monday
	W	18				18	Onyx Ave.	Monday

Block	Face	Standard	Yellow	White	Green	Total Inv	Notes	Parking Restrictions
39	N	0				0	N. Bayfront	No Parking Anytime
	E	13		1	2	16	Marine Ave.	
	S	6				6	Balboa Ave.	Monday
	W	23				23	Onyx Ave.	Monday
40	N	3				3	Park Ave.	Monday (1) blue
	E	0				0	Grand Ave.	No Parking Anytime
	S	0				0	S. Bayfront	No Parking Anytime
	W	14				14	Marine Ave.	Monday
41	N	2			2	4	Balboa Ave.	(2) 30 minute 7am - 6pm
	E	0				0	Grand Ave.	No Parking Anytime
	S	1		2	1	4	Park Ave.	6pm
	W	11			3	14	Marine Ave.	(3) 30 minute 7am - 6pm
42	N	0				0	N. Bayfront	No Parking Anytime
	E	0				0	Grand Canel Ave.	No Parking Anytime
	S	2			3	5	Balboa Ave.	(3) 30 minute 7am - 6pm
	W	15		1	1	17	Marine Ave.	(1) loading 7am - 6pm. (1) 30 minute 7am - 6pm
43	N	2				2	Park Ave.	Tuesday
	E	17				17	Abalone Ave.	Tuesday
	S	0				0	S. Bayfront	No Parking Anytime
	W	0				0	Grand Canel Ave.	No Parking Anytime
44	N	6				6	Balboa Ave.	Tuesday
	E	20				20	Abalone Ave.	Tuesday
	S	3				3	Park Ave.	Monday
	W	0				0	Grand Canel Ave.	No Parking Anytime
45	N	0				0	Crystal Ave.	Private
	E	5				5	Grand Canel Ave.	Tuesday
	S	10				10	Balboa Ave.	Monday
	W	0				0	Grand Canel Ave.	No Parking Anytime
46	N	5				5	Park Ave.	Tuesday
	E	16				16	Crystal Ave.	Tuesday
	S	0				0	S. Bayfront	No Parking Anytime
	W	18				18	Abalone Ave.	Monday
47	N	4				4	Balboa Ave.	Tuesday
	E	19				19	Crystal Ave.	Tuesday
	S	6				6	Park Ave.	Monday
	W	20				20	Abalone Ave.	Monday
48	N	1				1	Abalone Place.	Tuesday
	E	4				4	Crystal Ave.	Tuesday
	S	6				6	Balboa Ave.	Monday
	W	4				4	Abalone Ave.	Monday
49	N	8				8	Crystal Ave.	Tuesday
	E	0				0		
	S	3				3	Abalone Place.	Monday
	W	5				5	Grand Canel Ave.	Monday
50	N	4				4	Park Ave.	Tuesday
	E	16				16	Jade Ave.	Tuesday
	S	0				0	S. Bayfront	No Parking Anytime
	W	18				18	Crystal Ave.	Monday

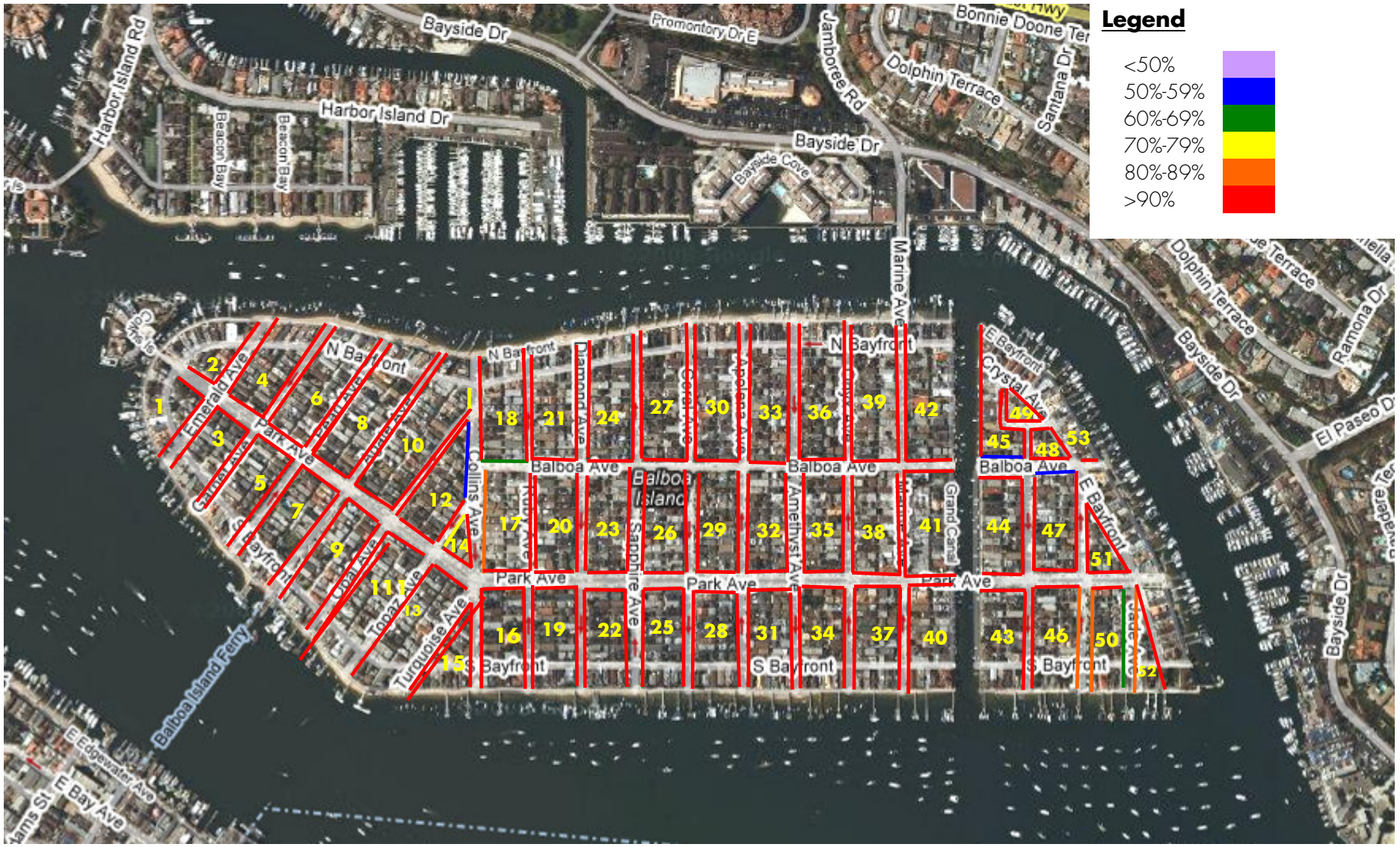
Block	Face	Standard	Yellow	White	Green	Total Inv	Notes	Parking Restrictions
51	N	2				2	Balboa Ave.	Tuesday
	E	0				0	E. Bayfront	No Parking Anytime
	S	11				11	Park Ave.	Monday
	W	17				17	Crystal Ave.	Monday
52	N	4				4	Park Ave.	Tuesday
	E	0				0	E. Bayfront	No Parking Anytime
	S	0				0	S. Bayfront	No Parking Anytime
	W	15				15	Jade Ave.	Monday
53	N					0		
	E	0				0	E. Bayfront	No Parking Anytime
	S	3				3	Balboa Ave.	Monday
	W	0				0	Crystal Ave.	No Parking Anytime
Totals:						1,943		

APPENDIX B:

Weekday Peak Occupancy – 7:00PM



Weekend Peak Occupancy – 1:00PM



APPENDIX C:

Instructions:
1. Record the last 3 Digits of the License Plate Number Name of Location: Marine/Bayfront to Park

Date 9 - 10 - 08

	Time Circuit Begins										
Space Description	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00
2Hr parking	379	134	199		RON			72			532
8 a.m. to 10 p.m.	18	566	526				659	620	UDK	36	866
	849	747	566	441	884	884	591	386	577	742	281
5 Min parking	284	362	957		927	937	296		826	297	
7 a.m. to 6 p.m.	44	POT	362	927		LIZ	LIZ	820	820	194	TIZ
	336	No Plate		526	876	923	937	LIZ	LIZ	304	No Plate
	TTM	189	No Plate	586			911	456	304		446
		672	No Plate	693	693	ATH			425		428
	59	958	142		766	438	438	438	438		871
	243	999	514			966	475	399	475	612	833
	286	539	579			3EL	960			475	247
	83	358	182	BUG	427	812		604		904	904
	11D	16	EAA	EAA	EAA	9	929		143	225	
	109	804	PGC	285	285		9	9		144	4YE
	957	7J7		XYH	XYH	XYH	31	31		862	314
	884	998	825		287	287	287	287	249		No Plate
	859	387		801	801	587	951		287		
	89	58		958					554	526	461
	354	PRO		444	444					986	
	898	100	18	357		128		DNC		336	479
	478	854	999	798	751	444	EYS	OTI			B12
	630	53	357	821	821	TCB	DNC	215	594	313	313
	495	799	798	804	459	751		205	904		137
	546	No Plate	821	104	104	UIN	538	285	313	5LB	204
	998	PGC	804	62	62	95	95	123	215	942	8AJ
	393		777	162	996	104	104	454	281	No Plate	No Plate
	518	42	133	653		556	429	482	785	597	794
	NOW	909	876	317	317	798	456	VFS	M80	OTC	OTC
	699	531	658	113	961	72	482	832	382	853	238
	216	0F5	113	TOX		243	318	HPC	OIS	571	369
	638		142	245	911	PCM	PCM	54	430	107	107
	673	732	685	54	54	54	54	67	94	216	738
	521	576	54	678	359	991	991		SHA	34	No Plate
	725	841	799		806	529	54	54	54	933	291
	467	673	No Plate				62	421	173	685	
	42	697	359	986	790		450	616		976	899
	909	360	986	637	190	789	789	305		263	181
	57	2H	523	523		190		993	No Plate	734	2T
	42	760	42	42	42	405	305	775	796	323	ADC
	115	No Plate	687	687		58	335	891	588	URC	URC
	736	265	177	177	789	789	789	789	339	452	UC1
	733	R8R	OF5	143	143	891	891	N56	210	789	O7X
	841	765	711	711	230	33		391	691	687	794
	511	478	239	239	644	245	672	343	489	267	416
	319	360	288	942	700	33	33	952	789		176
	394	No Plate	343	343	343	343	343				481

	Time Circuit Begins										
Space Description	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00
2Hr parking	379	134	199		RON			72			532
	825	81	856	952	952	952	952	231	687	744	673
	760	807	439	817	324	120	724	252	243	865	865
	205	205	366	539	830	830	830		841	463	317
	647	647	114				742	381	728		
	265	382	8MA	122	122	902	26	26	26		216
		132	678	861	376	97	97	943	698	698	698
	755	588	358	552		580	UNN	UNN		745	192
	ATH	ATH	7		570	51	708	708	708		IAE
	310	189	327	590	819			No Plate		67	110
	BRT	431	167	SON		CDM	198				B10
	526	526	100	167	167	NGI	338		231	586	586
	81	384	551		640	640	640	No Plate		106	106
	6C	268	281		680	680	580	259	259	800	738
	888	888	97	ARE	T12	351	877	210			239
	1	199		387	387	LZK	925	926	925	359	241
	AZ	AZ	707		875	GNS	GNS	366		986	653
			805	JDE	885	273		698	RPC	48	48
				689	182	418	795	358	450	450	450

Instructions:

1. Record the last 3 Digits of the License Plate Number Name of Location: Agate/Park to S. Bayfront

Date 9 - 10 - 08

	Time Circuit Begins										
Space Description	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00
3Hr parking	201	201	201	201	201	201	201	201	201	201	201
8 a.m. to 6 p.m.	568	568	148	148	740	740				343	475
	623	623	568	568	568	568	568	568	568	568	568
	46	46	623	623	623	623	63				
	391	NC								46	46
	314		46	46	46	46	46	46	46	551	TON
	825	76	ANC	ANC	ANC	ANC	ANC	ANC	ANC		283
	723	723	399		270			17	17	KPE	655
	962	962	314	314	314	314	NSA	NSA		56F	No Plate
	474	474	931	794	794	794	794		172	172	172
	353	353		270	270	270	848	848	848	848	848
	RAD	RAD	723	723	723	723	723	723	723	723	723
	636	636								485	718
	659	659	962	962	962	962	962	962		336	491
		26	474	474	474	474	474		820	547	658
			583	583	583	583	583	583	583	583	471
		715	RAD	RAD	RAD	RAD	433	474			
		459	68			396	396	396	396		
			964	964	964	964	964	964	964		DJR
			84		316	802	131	W40	223	MXV	42A
			199	199	84		855	223	511	804	615
			3		FEX	353	353	353		363	471
			636	636	636	636	636	636			
			219	219	219	219	254	254	254	254	254
30 min Parking			552	552	552	552	219	219	219	219	219
7am to 6pm				951	811	811	552	552			216
				No Plate	841					611	611
			No Plate	NCE			63	63	63	63	63
			765			266	266	105	105		727
			459	459	750	750	750	750	750	750	
			110			PFR					533
			689			257	858				
			759				111				
				281				732		SMA	No Plate

APPENDIX D:

CITY OF NEWPORT BEACH/Balboa Island: On-Street Occupancy Counts

Block	Face	Inv.	Weekday Occupancies 10 am	Weekday Occupancies 1 pm	Weekday Occupancies 7 pm	Weekend Occupancies 10 am	Weekend Occupancies 1 pm	Weekend Occupancies 7 pm
1	N	8	4	5	7	8	8	8
	E	11	4	6	10	11	11	11
	S	0						
	W	0						
2	N	0						
	E	12	4	6	10	12	12	12
	S	9	6	6	7	9	9	9
	W	0						
3	N	6	6	5	6	6	6	6
	E	16	6	6	16	16	16	16
	S	0						
	W	11	11	8	10	11	11	11
4	N	0						
	E	19	5	8	16	19	19	18
	S	6	6	5	5	6	6	6
	W	13	11	8	13	13	13	13
5	N	6	4	7	5	6	6	6
	E	19	5	14	19	19	19	19
	S	0						
	W	15	12	11	15	15	15	15
6	N	0						
	E	24	3	9	24	12	24	22
	S	6	4	6	6	6	6	6
	W	21	15	13	21	21	21	21
7	N	6	6	6	6	6	6	6
	E	17	13	9	13	16	17	16
	S	0						
	W	18	16	17	18	16	18	17
8	N	0						
	E	27	7	7	27	25	27	27
	S	6	6	7	7	6	6	6
	W	21	20	17	21	11	21	20
9	N	6	4	4	5	6	6	6
	E	21	9	17	21	21	21	21
	S	0						
	W	20	10	14	20	20	20	20
10	N	4	4	4	4	4	3	2
	E	20	9	9	22	20	20	20
	S	0	0					
	W	25	22	15	25	25	25	24
11	N	6	5	5	6	6	6	6
	E	24	13	16	24	24	24	24
	S	0						
	W	18	18	16	18	18	18	18
12	N	9	1	5	6	9	5	9
	E	11	0	2	9	11	11	11
	S	7	6	3	6	7	7	7
	W	24	17	14	19	24	24	24
13	N	5	2	4	5	5	5	5
	E	19	2	6	16	19	19	19
	S	0						
	W	24	20	18	24	24	24	24
14	N	0	0					
	E	6	3	4	5	6	6	6
	S	4	2	2	5	4	4	4
	W	7	6	6	6	7	5	7
15	N	0						
	E	11	6	8	12	11	11	11
	S	0						
	W	17	17	8	16	17	17	17
16	N	5	4	3	5	5	5	5
	E	16	7	15	16	12	16	16
	S	0						
	W	15	10	11	15	15	15	15
17	N	0						

Block	Face	Inv.	Weekday Occupancies 10 am	1 pm	7 pm	Weekend Occupancies 10 am	1 pm	7 pm
	E	18	1	4	10	14	16	16
	S	5	4	2	3	5	5	4
	W	18	16	12	15	17	18	18
18	N	0						
	E	19	3	14	15	17	19	19
	S	3	1	1	2	3	3	3
	W	14	14	10	14	14	14	14
19	N	6	5	3	4	6	6	6
	E	16	7	10	16	12	16	15
	S	0	0					
	W	16	13	12	16	14	16	15
20	N	0		0				
	E	19	7	14	14	19	19	17
	S	6	5	2	4	6	6	6
	W	18	17	12	15	17	18	17
21	N	0	0					
	E	21	16	15	15	21	21	21
	S	6	3	4	5	6	6	5
	W	21	11	12	15	20	21	21
22	N	6	1	2	4	6	6	6
	E	17	12	10	17	15	17	16
	S	0						
	W	22	9	9	22	11	22	22
23	N	0						
	E	18	9	11	11	16	18	16
	S	6	4	4	6	4	6	6
	W	19	12	12	15	9	19	19
24	N	0						
	E	22	10	15	18	21	22	22
	S	6	2	0	6	4	6	5
	W	20	19	12	17	20	20	20
25	N	4	2	1	1	4	4	4
	E	17	12	10	14	17	17	17
	S	0						
	W	17	13	12	18	17	16	17
26	N	0						
	E	20	11	14	13	20	20	18
	S	6	4	5	6	6	6	6
	W	19	7	6	14	19	19	19
27	N	0						
	E	21	12	14	15	21	21	21
	S	5	3	3	2	5	5	4
	W	21	19	17	19	20	21	21
28	N	6	4	3	6	6	6	6
	E	15	14	12	9	15	15	14
	S	0						
	W	15	12	11	11	15	15	15
29	N	0						
	E	19	10	10	17	19	19	17
	S	6	4	4	5	6	6	6
	W	20	12	10	13	20	20	20
30	N	0						
	E	21	15	24	18	21	21	21
	S	6	3	4	4	6	6	6
	W	22	9	14	11	22	22	21
31	N	6	4	5	3	6	6	6
	E	15	13	12	15	15	15	13
	S	0		0				
	W	15	15	14	13	14	15	14
32	N	0						
	E	19	15	19	19	19	19	17
	S	5	4	4	5	5	5	5
	W	18	9	13	16	18	18	16
33	N	0						
	E	25	19	23	25	25	25	23
	S	5	4	5	5	5	5	5

Block	Face	Inv.	Weekday Occupancies 10 am	1 pm	7 pm	Weekend Occupancies 10 am	1 pm	7 pm
	W	21	17	21	17	21	21	21
34	N	4	4	3	4	4	4	4
	E	17	13	8	12	17	17	16
	S	0						
	W	17	13	8	17	17	17	17
35	N	0		0				
	E	20	16	15	20	20	20	18
	S	6	6	5	6	6	6	6
	W	19	18	18	19	19	19	18
36	N	0						
	E	26	20	21	26	26	26	26
	S	3	3	3	3	3	3	3
	W	24	20	24	24	24	24	24
37	N	5	5	6	5	5	5	5
	E	17	14	17	14	17	17	17
	S	0						
	W	17	9	13	14	17	17	17
38	N	0						
	E	15	15	15	15	15	15	15
	S	5	6	3	6	5	5	5
	W	18	16	20	18	18	18	18
39	N	0						
	E	16	13	16	16	16	16	16
	S	6	7	6	7	5	6	6
	W	23	22	23	23	23	23	22
40	N	3	2	3	2	3	3	3
	E	0						
	S	0						
	W	14	10	14	13	14	14	14
41	N	4	2	2	4	4	4	4
	E	0						
	S	4	2	2	4	4	4	4
	W	14	14	14	14	14	14	14
42	N	0						
	E	0						
	S	5	2	5	5	3	5	5
	W	17	20	20	17	17	17	17
43	N	2	3	3	1	2	2	2
	E	17	11	14	15	17	17	17
	S	0						
	W	0						
44	N	6	4	4	5	6	6	6
	E	20	12	15	16	20	19	20
	S	3	4	3	3	3	3	3
	W	0						
45	N	0						
	E	5	3	2	3	4	5	5
	S	10	4	4	4	10	10	10
	W	0						
46	N	5	4	4	3	5	5	5
	E	16	10	9	10	15	14	15
	S	0						
	W	18	11	16	17	18	18	18
47	N	4	1	2	4	4	2	4
	E	19	11	12	12	18	19	19
	S	6	5	4	3	6	6	6
	W	20	14	11	14	20	20	20
48	N	1	1	1		1	1	1
	E	4	4	4	4	4	4	4
	S	6	2	0	2	6	6	6
	W	4	1	1	4	4	4	4
49	N	8	5	7	8	8	8	8
	E	0	0					
	S	3	2	1	2	3	3	3
	W	5	4	5	4	5	5	5
50	N	4	4	3	5	4	4	3

Block	Face	Inv.	Weekday Occupancies 10 am	1 pm	7 pm	Weekend Occupancies 10 am	1 pm	7 pm
	E	16	10	11	11	16	10	16
	S	0						
	W	18	7	9	12	11	16	18
51	N	2	1	1	2	2	2	2
	E	0						
	S	11	2	5	9	11	11	11
	W	17	7	4	10	17	17	17
52	N	4	3	3	3	4	4	4
	E	0						
	S	0						
	W	15	12	8	9	15	12	15
53	N	0						
	E	0						
	S	3	3	3	3	3	3	3
	W	0						
Total		1,943	1,275	1,340	1,691	1,852	1,917	1,898