

Ahead of the Curve
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PARKING RATE STUDY

HONOLULU URBAN CORE
PARKING MASTER PLAN
HONOLULU, HI

Prepared For:
THE CITY & COUNTY OF
HONOLULU

JUNE 19, 2015



WALKER
PARKING CONSULTANTS



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BACKGROUND – MANAGING ON-STREET PARKING SPACE AVAILABILITY, ACCESS AND TRAFFIC

A key component of the Honolulu Urban Core Parking Master Plan is a rate study along with rate recommendations. This report contains observations, quantification, analysis, findings and recommendations with regard to the rates (prices) charged for on-street parking in the Downtown (Financial District, Chinatown and Commercial Core) and Waikiki sections of the City and County of Honolulu. The goal of the rate study is to make recommendations that improve driver convenience and satisfaction, the efficiency of the transportation system, and to advance the broader planning, transportation enhancement and economic development goals of the City and County. As part of this goal, we seek to properly manage parking demand to ensure availability in all locations and better use underutilized parking resources.

Metered on-street spaces, a main focus of this analysis, are typically the most convenient locations in which to park in a busy commercial district. Based on our observations, this is especially true in Downtown Honolulu and the adjacent Chinatown, where the time spent entering, navigating, and exiting multilevel parking structures (both as a driver and then as a pedestrian) can be significant. This is also largely true in Waikiki for the same reasons, although the demand for on-street parking spaces varies to some extent based on the proximity to the busier commercial areas; parking spaces do not exist on block faces along the two major commercial arterial streets in Waikiki.

The purpose of on-street parking spaces is to make the surrounding or adjacent destination accessible to drivers. The hourly rate (price) for an on-street parking space in a busy commercial district has an enormous impact on a driver's ability to access their destination and can make the difference between whether or not a driver can locate and access an available parking space.

Over the past two decades, the collective experiences of cities and their transportation, planning and economic development departments have demonstrated the impact that hourly parking rates have on traffic congestion, pollution, and the use and viability of modes of transportation other than the single occupancy vehicle (SOV). Significant research has borne out these results. Underpriced street parking has been found to increase localized traffic congestion by 30% on average and nearly 50% in some cases¹ as drivers "cruise" in search of an inexpensive or free parking space. Properly-pricing curbside parking has been recommended as one of a very few effective approaches to mitigating regional traffic congestion.² Improvements to urban design, walkability, and greater convenience for drivers, the focus of our study, have also been documented.

The result of charging the lowest hourly rate for the most convenient spaces in the parking system is not surprising. In the occupancy surveys we conducted in 2010 and 2013, Walker surveyors found that on-street parking was the most congested category of the parking supply. On weekdays, parking spaces in the Financial District typically experience a lack of

¹ Shoup, *Cruising for Parking*. University of California Transportation Center, 2007.

² Sorensen, *Moving Los Angeles, Short Term Policy Options for Improving Transportation*. The Rand Corporation, 2008.

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available on-street parking spaces; as the most convenient spaces, the on-street parking will always fill first if not priced appropriately. It is reasonable to assume that a significant percentage of the District's traffic may consist of drivers spending several minutes trying their luck in finding on-street parking before giving up and parking off-street. Our goal is to make locating an on-street parking space a quick and predictable exercise for drivers.

While on-street parking occupancy rates in the Downtown area were observed to decline in the mid-afternoon, unacceptably high parking occupancy rates in Waikiki tend to remain steady or increase in the evenings and on weekends. This trend is almost certainly exacerbated by free on-street parking in Waikiki in the evening and on Sunday.

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METHODOLOGY EMPLOYED

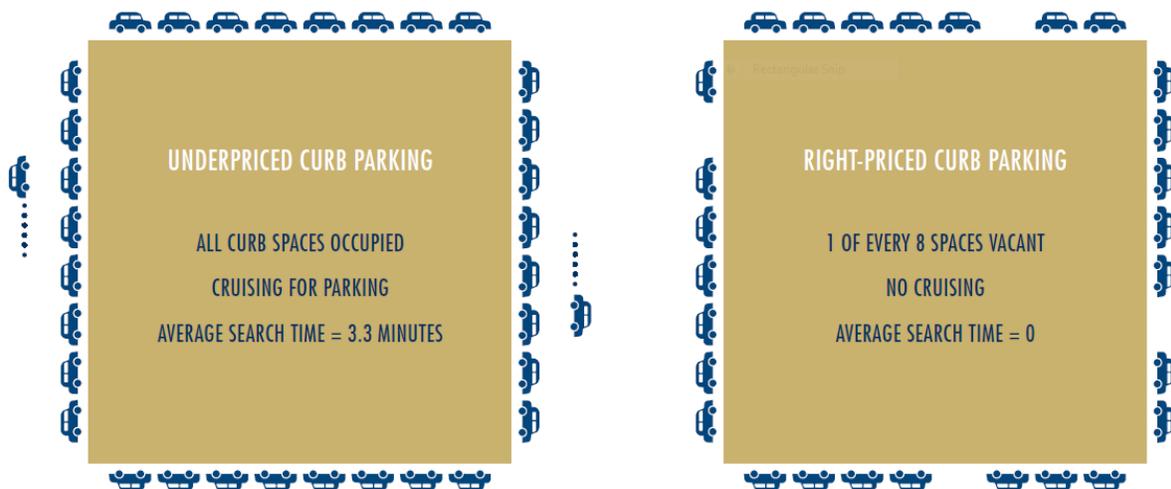
In order to determine appropriate parking prices for the areas under study, we use the following four metrics.

1. CURRENT ON-STREET PARKING OCCUPANCY RATES

The occupancy rate for on-street parking is our first metric in determining an appropriate price for on-street parking. The number of on-street parking spaces on any given block face is a finite resource, yet typically these spaces are in the highest demand of any in the parking system. In busy districts such as Downtown, Chinatown and Waikiki, without the proper price, on-street parking spaces will simply not be available to the vast majority of the driving public. For this reason we emphasize, when it comes to providing parking, parking space availability is more important than the price of parking. For the driver who truly needs a parking space, the inability to find a parking space is typically a far greater hindrance than paying for that space. An hourly rate for parking, even if expensive for parking all day, is likely to be reasonable for short-term stays.

The industry standard for an on-street parking effective supply factor is 85%, which means that if on-street parking spaces on an individual block face are more than 85% occupied, the location is considered to be effectively full. Conversely, if a parking occupancy rate is significantly less than 85%, the parking spaces represent an underutilized and wasted resource. In recent parking studies and research, this percentage has been expressed more pragmatically as a goal of having one to two parking spaces available per block face.

Figure 1: Curb parking prices and cruising³



³ As illustrated in Shoup, *Cruising for Parking*. University of California Transportation Center, 2007.

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For this reason our primary metric for setting parking rates is the actual peak occupancy rate for on-street parking observed. For those cities that have the technological capability, the parking price is set by block face, but more commonly in larger zones or neighborhoods with similar characteristics. In some cases the price of parking is set within (typically three) time “buckets” that reflect significantly different levels of parking demand during the day.⁴

The parking occupancy rate and the projected parking price needed to make one to two parking spaces available per block is therefore the first metric we consider when recommending a price for on-street parking.

2. OFF-STREET PARKING PRICES

When on-street parking spaces fill, the closest alternatives for drivers are the nearby off-street parking facilities. The price to park in these spaces provide the most accurate comparison for on-street parking spaces although, as emphasized earlier, these spaces typically are considered inferior in desirability and worth less to drivers. In a number of cases in Honolulu, we observed off-street parking rates set with the seeming objective of limiting, though not prohibiting, access by the general public. This phenomenon was considered in our consideration of the appropriate parking rate.

Occupancy rates in the municipal parking garages in Chinatown were sampled to see how utilized the garages are, as these garages are likely the next most desirable choice for drivers in Chinatown due to their relatively low parking prices compared to private garages in the area.

3. OFF-STREET PRICES IN REGIONAL (WEST COAST AND PACIFIC RIM) CITIES

While on-street parking rates in San Francisco, Los Angeles, or other Pacific Rim cities are obviously not alternatives to parking in Downtown Honolulu, they reflect trends in parking planning and management as well as the appropriateness and acceptability of certain parking prices to the parking public. As technology only recently has allowed cities to charge demand-based parking rates for on-street parking, a look at parking prices in these cities demonstrates not only current best practices but also what the public is willing to pay for parking.

We note that the intensity of development and demand for parking in Honolulu’s Urban Core and Waikiki are unique on Oahu and for all the Hawaiian Islands. Parking rate comparisons to other locations in Hawaii were therefore considered to be inappropriate in setting on-street parking prices.

⁴ This is the case with San Francisco’s SFPark and Los Angeles’ Express Park parking management programs.

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4. PRICE ELASTICITY OF PARKING DEMAND/PARKING PRICING MODEL

Ideally, parking prices should be regularly adjusted in order to manage the demand for parking, better use of underutilized parking spaces and keep up with the significant costs of maintaining, repairing or constructing existing or new parking assets. We recognize that for most large, city parking departments, frequent parking price adjustments can be challenging for myriad reasons. However, to keep up with the demand for parking and related costs, some adjustments to parking rates, it is crucial that some parking pricing adjustments take place.

Over the past two decades changes to parking rates in the City of Honolulu have occurred too infrequently. Department of Transportation Services staff has identified the need for a systematic, transparent and technical method by which to adjust parking rates within the City. This method is demonstrated by the metrics presented in this report. Per the scope of services for this assignment, we also demonstrate that this goal could be accomplished with the implementation of a parking pricing model as discussed later in the report.

The parking pricing model was built by collecting data on comparable parking opportunities in the study areas. Comparables are parking locations that are in close proximity to public parking structures and on-street meters that attract similar user groups. Comparables can also be thought of as competitors.

We note that, as part of this study, we attempted to calculate specific elasticities of demand for parking rate changes and their impacts on parking demand in Honolulu. However, with few if any recent price changes and data to analyze, an accurate assessment of price elasticities in Honolulu is impossible. While our observations and experience suggest that parking rates in Honolulu are currently sufficiently low as to make demand relatively inelastic, the factors used in the Model are conservative and rely in part on the iterative process of rate adjustments to gradually reach the appropriate rate. When/if the City adjusts parking rates, parking data could then be collected and analyzed to determine the elasticity of demand for parking. Studies done in San Francisco and Seattle have shown that the elasticity of demand for parking is round -0.3 (a 10% increase in price would lead to a 3% decrease in demand), however, the studies also noted that a wide variety of factors beyond price affect the demand for parking and that it varies widely on a location by location basis until the data set is sufficiently robust.

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FINDINGS

Although we expected our rate determination would, by necessity, result from a blending of our findings for each of the three parking pricing metrics used, the results for each of the metrics were relatively consistent with one another. Below we discuss these findings.

1. FINDINGS BASED ON CURRENT ON-STREET PARKING OCCUPANCY RATES

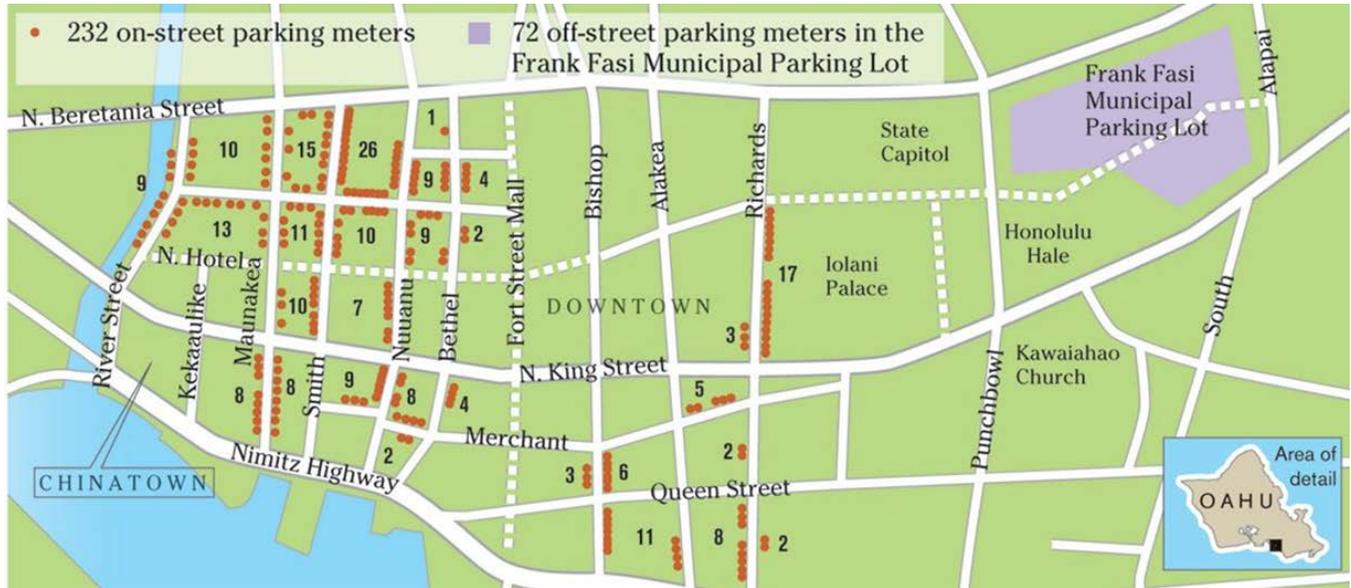
On-street parking occupancy rates within Downtown were determined using the following:

- A. Parking occupancy data for on-street spaces within Chinatown, the Financial District and the Commercial Core collected using the City's IPS parking meter and parking management system.
- B. The results of observations and parking occupancy surveys of Downtown Honolulu and Waikiki by Walker Parking Consultants staff during the week of June 17-21, 2013, which were used to verify and calibrate the data produced by the IPS parking meter system.
- C. The results of follow-up observations and parking occupancy surveys in Waikiki by Walker Parking Consultants staff in December 2013 and January and February 2014.
- D. Parking occupancy rates recorded by Walker Parking Consultants in 2010, as part of the overall Honolulu Urban Core Parking Master Plan study.

The results of our findings using all four parking occupancy measures were reasonably consistent. Our observations suggested that parking demand in 2013 was largely unchanged from 2010 in the Chinatown and Financial District areas with perhaps an increase in parking demand observed in the area around and just north of the Hawaii Theatre on Bethel Street, where there appeared to be fewer commercial vacancies than was observed during surveys three years prior.

The figure below shows the location of IPS meters in the Urban Core. The number of on-street meters is approximately 24 meters higher than that indicated in the diagram.

Figure 2: IPS Meter Locations in the Urban Core



Source: City of Honolulu Department of Transportation Services, 2012

Table 1 shows the precise parking occupancy rates recorded by the IPS meter system in the Downtown area for the hours of peak demand during the week of Walker’s parking occupancy observations. As noted, these rates were consistent with Walker’s observations. A review of meter occupancy data for September 2012 to January 2013 demonstrated slightly higher levels of on-street parking space occupancy. The data from earlier in the year also demonstrated fairly robust parking demand during the early morning and at times evening hours in the Downtown area. This demand suggests that expanding hours of meter enforcement before the current starting time of 7:00 am should be explored.

Table 1: Observed Parking Occupancy Rates 10:00 am to 2:00 pm in Downtown Honolulu 2013

Area	6/17	6/18	6/19	6/20	6/21	Max
Chinatown						
Bethel St	90%	91%	91%	90%	92%	92%
Marin St	83%	94%		94%	95%	95%
Maunakea St	90%	96%	92%	94%	92%	96%
Merchant St	89%	97%	94%	93%	82%	97%
N. Beretania St	88%	53%	66%	79%	90%	90%
N. Pauahi St	87%	91%	91%	96%	91%	96%
Nuuanu Ave	91%	90%	83%	84%	79%	91%
River St	79%	85%	82%	83%	87%	87%
S. Pauahi St	94%	79%	99%	90%	95%	99%
Smith St	74%	90%	86%	93%	87%	93%
Commercial Core						
Punchbowl St	79%	83%	74%	70%	42%	83%
S. King St	80%	87%		54%	62%	87%
Financial District						
Alakea St	89%	87%	84%	93%	80%	93%
Bishop St	90%	91%	88%	95%	92%	95%
Merchant St	20%	91%	98%	96%	92%	98%
Richards St	95%	94%	88%	95%	93%	95%

Source: IPS Group Inc., 2014

Additionally, 24 days of 2013 occupancy data was obtained from *IPS Group, Inc.* for the IPS meters installed in Chinatown, the Commercial Core and the Financial District. The data received include six days (one week) increments in February, May, August and December from Monday-Saturday. Table 2 shows the average occupancy per hour at provided by the IPS meters over the 24 days sampled.

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Table 2: Sensor Occupancy Data at IPS Meters in the Urban Core for Sample Weeks

Location	6-7:00 AM	7-8:00 AM	8-9:00 AM	9-10:00 AM	10-11:00 AM	11AM-12:00 PM	12-1:00 PM	1-2:00 PM	2-3:00 PM	3-:400 PM	4-5:00 PM	5-6:00 PM	6-7:00 PM	7-8:00 PM	8-9:00 PM	9-10:00 PM	10-11:00 PM
Chinatown	47%	49%	66%	85%	90%	92%	92%	88%	83%	79%	77%	83%	90%	88%	84%	76%	67%
Financial District	66%	63%	77%	88%	91%	91%	89%	88%	85%	79%	74%	77%	85%	80%	70%	57%	46%
Commercial Core	4%	7%	20%	57%	70%	67%	59%	61%	59%	48%	37%	33%	38%	39%	29%	23%	13%
Total	47%	49%	64%	83%	88%	89%	88%	86%	82%	76%	73%	78%	84%	82%	76%	67%	58%

Source: IPS Group, Inc., 2014

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Parking in Waikiki was not included in the 2010 parking study conducted by Walker, nor are on-street parking occupancy rates monitored by IPS meters. IPS meters and their monitoring capabilities have yet to be implemented in Waikiki. The following data was collected by Walker staff during field work the week of June 17, 2013.

We note that, in contrast to most of the Urban Core, parking demand in Waikiki increases in the evenings. A full day of hourly occupancy counts were conducted on Saturday February 1, 2014 and Thursday February 6, 2014 in Waikiki, with the highest overall occupancy rates being recorded in the late afternoon and evening. The count area covered 179 of the 256 on-street parking meters in the Waikiki area that are under consideration for a rate change, as well 367 unmetered parking spaces in areas immediately adjacent to the metered area. Counts that occurred around lunchtime recorded the lowest occupancy rates. However these “low” occupancy counts were still over 80%. It appears that early evening and evening represent the peak period of on-street parking demand in Waikiki, with demand being somewhat lesser in the morning and early afternoon. However, observed parking demand in Waikiki is generally high throughout the day.

Figure 1 shows the locations of the planned IPS meters in Waikiki. The following tables show the occupancy rates observed at sample meter locations.

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Figure 3: Current Meter Locations Proposed for IPS Meters



Source: City of Honolulu Department of Transportation Services, 2013

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Table 3: Weekend Parking Occupancy Rates in Waikiki, Surveyed, February 1, 2014

Ala Wai Blvd to Kuhio Ave.		# Spaces /Type	Occupancy (%)											
Street Name	Metered		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	8:00 PM
Keoniana St.	No	22 Stalls	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Kuamoo St.	No	18 Stalls	100%	100%	100%	89%	100%	94%	100%	100%	100%	100%	100%	100%
Namahana St.	No	6 Stalls	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Olohana St.	Yes	19 Meters	53%	68%	79%	68%	89%	84%	100%	95%	100%	100%	100%	95%
Kalaimoku St.	Yes	21 Meters	62%	57%	43%	71%	57%	71%	86%	100%	100%	100%	100%	90%
Lewers St.	Yes	8 Meters	86%	100%	57%	114%	86%	114%	114%	114%	114%	114%	114%	114%
Royal Hawaiian Ave.	Yes	7 Meters	100%	100%	67%	67%	83%	117%	117%	117%	117%	117%	117%	117%
Seaside Ave.	Yes	14 Meters	64%	71%	86%	100%	93%	100%	100%	100%	100%	100%	100%	100%
Nohonani St.	Yes	13 Meters	100%	100%	69%	92%	92%	92%	100%	100%	100%	100%	100%	100%
Nahua St.	Yes	21 Meters	100%	85%	75%	65%	90%	100%	105%	105%	100%	105%	105%	105%
Walina St.	Yes	16 Meters	56%	38%	19%	44%	56%	100%	100%	100%	100%	100%	100%	94%
Kanekapolei St.	Yes	13 Meters	85%	85%	38%	77%	85%	100%	100%	100%	100%	100%	100%	100%
Liliuokalani St.	No	17 Stalls	100%	100%	100%	88%	100%	100%	100%	100%	100%	100%	100%	100%
Ohua Ave.	No	30 Stalls	100%	100%	100%	100%	97%	100%	100%	100%	100%	100%	100%	100%
Paoakalani Ave.	No	39 Open	100%	100%	100%	100%	90%	100%	100%	100%	97%	100%	100%	100%
Wai Nani Way	No	25 Open	100%	100%	100%	100%	100%	96%	96%	100%	100%	100%	96%	100%
Kuhio Ave Blvd to Kalakaua Ave		# Spaces /Type	Occupancy (%)											
Street Name	Metered		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	8:00 PM
Uluniu St.	Yes	4 Meters	133%	133%	133%	133%	133%	133%	100%	133%	133%	133%	133%	133%
Ohua Ave.	Yes	25 Meters	88%	92%	60%	52%	96%	96%	100%	100%	100%	100%	100%	100%
Paoakalani Ave.	Yes	18 Meters	61%	61%	61%	89%	89%	94%	100%	100%	100%	100%	100%	100%
Kapahulu Ave. to McCully St.		# Spaces /Type	Occupancy (%)											
Street Name	Metered		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	8:00 PM
Ala Wai Blvd.	No	210 Open	97%	97%	94%	98%	96%	98%	98%	100%	100%	98%	99%	98%
Total Meters		179	75%	74%	59%	72%	82%	93%	98%	99%	99%	100%	100%	98%
Total Unmetered		367	98%	98%	96%	98%	96%	98%	98%	100%	99%	99%	99%	99%
Total Spaces		546	91%	90%	84%	89%	92%	97%	98%	100%	99%	99%	99%	99%

Source: Walker Parking Consultants, 2014

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As shown in Table 3, on-street parking occupancy peaked on the weekend at 4:00 PM at 100% (545 of 546 spaces occupied). From 3:00 PM through 8:00 PM when the last count was conducted, parking demand was 98% or higher, and it was observed that a person could drive around Waikiki for 30-45 minutes without seeing an available on-street parking space, be it paid or unpaid.

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Table 4: Weekday Parking Occupancy Rates in Waikiki Surveyed February 6, 2014

Ala Wai Blvd to Kuhio Ave.		# Spaces /Type	Occupancy (%)											
Street Name	Metered		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	8:00 PM
Keoniana St.	No	22 Stalls	100%	100%	100%	100%	100%	100%	100%	100%	100%	95%	100%	100%
Kuamoo St.	No	18 Stalls	100%	100%	100%	89%	100%	94%	100%	100%	100%	100%	100%	100%
Namahana St.	No	6 Stalls	100%	100%	100%	100%	100%	100%	67%	100%	100%	100%	100%	100%
Olohana St.	Yes	19 Meters	68%	74%	68%	79%	58%	47%	47%	89%	84%	100%	100%	95%
Kalaimoku St.	Yes	21 Meters	43%	52%	48%	67%	57%	43%	52%	62%	100%	100%	95%	95%
Lewers St.	Yes	8 Meters	100%	71%	100%	114%	114%	86%	100%	100%	114%	100%	114%	114%
Royal Hawaiian Ave.	Yes	7 Meters	83%	100%	117%	100%	117%	67%	100%	117%	117%	117%	117%	117%
Seaside Ave.	Yes	14 Meters	79%	93%	100%	86%	93%	71%	100%	100%	100%	100%	100%	100%
Nohonani St.	Yes	13 Meters	69%	77%	92%	100%	85%	77%	69%	92%	92%	92%	100%	100%
Nahua St.	Yes	21 Meters	105%	90%	100%	105%	100%	105%	105%	105%	105%	105%	105%	105%
Walina St.	Yes	16 Meters	75%	88%	81%	69%	75%	56%	81%	88%	100%	100%	100%	94%
Kanekapolei St.	Yes	13 Meters	92%	100%	100%	100%	69%	77%	92%	85%	92%	92%	100%	100%
Kaiulani St.	No	No Parking	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Liliuokalani St.	No	17 Stalls	100%	100%	100%	100%	100%	94%	100%	100%	100%	100%	100%	100%
Ohua Ave.	No	30 Stalls	100%	97%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Paoakalani Ave.	No	39 Open	100%	97%	92%	90%	97%	100%	100%	95%	97%	100%	100%	100%
Wai Nani Way	No	25 Open	100%	96%	96%	84%	100%	100%	100%	100%	100%	100%	96%	96%
Kuhio Ave Blvd to Kalakaua Ave		# Spaces /Type	Occupancy (%)											
Street Name	Metered		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	8:00 PM
Kanekapolei/Kaiulani	No	No Parking	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uluniu St.	Yes	4 Meters	133%	133%	133%	133%	133%	100%	133%	100%	133%	133%	100%	133%
Kealohilani St.	No	No Parking	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ohua Ave.	Yes	25 Meters	88%	84%	100%	92%	84%	92%	100%	100%	100%	100%	100%	100%
Paoakalani Ave.	Yes	18 Meters	94%	94%	83%	94%	89%	83%	100%	94%	100%	100%	100%	100%
Kapahulu Ave. to McCully St.		# Spaces /Type	Occupancy (%)											
Street Name	Metered		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	8:00 PM
Ala Wai Blvd.	No	210 Open	98%	96%	96%	97%	97%	96%	96%	96%	98%	99%	97%	98%
Total Meters		179	79%	82%	85%	88%	80%	72%	83%	90%	97%	98%	99%	98%
Total Unmetered		367	99%	97%	96%	95%	98%	97%	97%	97%	98%	99%	98%	98%
Total Spaces		546	92%	92%	93%	93%	92%	89%	92%	95%	98%	99%	98%	98%

Source: Walker Parking Consultants, 2014

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As shown in Table 4, on-street parking occupancy peaked on the weekday at 6:00 PM at 99% (540 of 546 spaces occupied). Parking occupancy ranged from 89-93% from 9:00 AM through 3:00 PM, and from 95-99% from 4:00 PM until the last count from 8:00-9:00 PM.

With exceptions observed on just a few blocks, on-street parking occupancy rates in Downtown and Waikiki demonstrate the need for parking prices to increase from the current \$1.50 per hour, implemented in 2004, in order to improve the availability of parking spaces for drivers. Where parking occupancy rates were observed to be low, lower parking prices could be considered. However, at this juncture, the current parking prices should likely be maintained in these low occupancy areas so as to absorb some parking demand from other locations in the event of parking rate increases; our goal is not to price people out of driving but rather to shift demand from high- to lower-demand parking locations and modes.

2. FINDINGS BASED ON OFF-STREET PARKING PRICES

As part of the 2010 Parking Study, Walker staff surveyed off-street parking prices in Honolulu's Urban Core including Downtown. Waikiki was not included in the 2010 study. In June 2013, Walker staff re-surveyed parking prices at most of the Downtown properties and in January 2015 re-surveyed parking prices in Waikiki, where the majority of off-street parking spaces exist to serve hotel guests and visitors. DTS provided additional 2015 rate survey data. Tables 5 and 6 on the following pages demonstrate our findings. We note that off-street parking prices in Downtown were observed to be largely unchanged from 2010.

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Table 5: Downtown Parking Prices – Off Street

Address	Name	Rates											Early Bird	Evening
		0-30 mins	30-60 mins	1.0-1.5 hrs	1.5-2.0 hrs	2.0-2.5 hrs	2.5-3.0 hrs	3.0-3.5 hrs	3.5-4.0 hrs	4.0-4.5 hrs	4.5-5.0 hrs	Daily Max		
1192 Alakea Street		\$18.00	\$18.00	\$18.00	\$18.00	\$22.00	\$22.00	\$28.00	\$28.00	\$35.00	\$35.00	\$35.00		\$2.00 weekday/\$5.00 weekend
Maunakea and Beretania	Hale Pauahi (Public Garage)	\$0.75	\$1.50	\$2.25	\$3.00	\$4.50	\$6.00	\$7.50	\$9.00	\$10.50	\$12.00	\$21.00		\$0.50 per 30 minutes; \$3.00 max
Beretania and Nuuanu 1171 Nuuanu	Smith Beretania Garage	\$4.00	\$4.00	\$8.00	\$8.00	\$12.00	\$12.00	\$12.00	\$12.00	\$12.00	\$12.00	\$12.00		\$8.00
1031 Nuuanu Avenue	Chinatown Gateway (Public Garage)	\$0.75	\$1.50	\$2.25	\$3.00	\$4.50	\$6.00	\$7.50	\$9.00	\$10.50	\$12.00	\$21.00		\$0.50 per 30 minutes; \$3.00 max
1099 Alakea Avenue	Alii Place (Public Garage)	\$0.75	\$1.50	\$2.25	\$3.00	\$4.50	\$6.00	\$7.50	\$9.00	\$10.50	\$12.00	\$21.00		\$0.50 per 30 minutes; \$3.00 max
1016 Maunakea Street	Kekaulike Courtyard (Public Garage)	\$0.75	\$1.50	\$2.25	\$3.00	\$4.50	\$6.00	\$7.50	\$9.00	\$10.50	\$12.00	\$21.00		\$0.50 per 30 minutes; \$3.00 max
1001 Bishop Street	Bishop Square	\$4.50	\$4.50	\$9.00	\$9.00	\$13.50	\$13.50	\$18.00	\$18.00	\$22.50	\$22.50	\$72.00	\$15.00	\$5.00
841 Bishop Street	Davies Pacific Center	\$4.00	\$8.00	\$12.00	\$16.00	\$20.00	\$24.00	\$28.00	\$32.00	\$36.00	\$40.00	\$48.00		\$8.00
1088 Bishop Street	Aston at the Executive Centre	\$3.00	\$6.00	\$9.00	\$12.00	\$15.00	\$18.00	\$21.00	\$24.00	\$27.00	\$30.00	\$45.00		\$4.00
1032 Fort Street	Walmart Garage	\$3.00	\$6.00	\$9.00	\$12.00	\$15.00	\$18.00	\$21.00	\$24.00	\$27.00	\$30.00	\$60.00	\$10.00	\$3.00
700 Richards Street	Harbor Square	\$4.00	\$8.00	\$12.00	\$16.00	\$20.00	\$24.00	\$28.00	\$32.00	\$36.00	\$40.00	\$75.00	\$13.00	\$5.00
220 S King Street	Central Pacific Plaza	\$3.50	\$7.00	\$10.50	\$14.00	\$17.50	\$21.00	\$24.50	\$28.00	\$31.50	\$35.00	\$42.00		
900 Fort Street Mall	Pioneer Plaza	\$3.50	\$7.00	\$10.50	\$14.00	\$17.50	\$21.00	\$24.50	\$28.00	\$31.50	\$35.00	\$35.00	\$10.00	\$3.50
Smith and Pauahi		\$5.00	\$5.00	\$8.00	\$8.00	\$12.00	\$12.00	\$12.00	\$12.00	\$15.00	\$15.00	\$15.00		\$3.00 weekday/\$10.00 weekend
Smith and Beretania	Smith and Beretania (Public Garage)	\$0.75	\$1.50	\$2.25	\$3.00	\$4.50	\$6.00	\$7.50	\$9.00	\$10.50	\$12.00	\$21.00		\$0.50 per 30 minutes; \$3.00 max
201 Merchant Street	City Financial Tower	\$3.50	\$7.00	\$10.50	\$14.00	\$17.50	\$21.00	\$24.50	\$28.00	\$31.50	\$35.00	\$56.00	\$11.00	
345 Queen Street	Queen Street Building	\$2.75	\$5.50	\$8.25	\$11.00	\$13.75	\$16.50	\$19.25	\$22.00	\$24.75	\$27.50	\$35.00	\$10.00	
820 Mililani Street	Haseko Center	\$3.00	\$6.00	\$9.00	\$12.00	\$15.00	\$18.00	\$21.00	\$24.00	\$27.00	\$30.00	\$30.00	\$10.00	
1159 Nuuanu Avenue	Arts at Marks Garage	\$3.00	\$6.00	\$9.00	\$12.00	\$15.00	\$18.00	\$21.00	\$24.00	\$27.00	\$30.00	\$50.00	\$12.00	\$8.00
Average		\$3.61	\$5.55	\$8.11	\$10.05	\$13.07	\$15.21	\$17.91	\$20.05	\$22.96	\$25.11	\$37.63		
Median		\$3.00	\$6.00	\$9.00	\$12.00	\$15.00	\$18.00	\$21.00	\$24.00	\$27.00	\$30.00	\$35.00		

Source: Walker Parking Consultants, 2015

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Table 6: Waikiki Parking Prices – Off Street

Address	Name	Rates											Early Bird	Evening
		0-30 mins	30-60 mins	1.0-1.5 hrs	1.5-2.0 hrs	2.0-2.5 hrs	2.5-3.0 hrs	3.0-3.5 hrs	3.5-4.0 hrs	4.0-4.5 hrs	4.5-5.0 hrs	Daily Max		
1778 Ala Moana Boulevard	Discovery Bay	\$2.00	\$4.00	\$6.00	\$8.00	\$10.00	\$12.00	\$14.00	\$16.00	\$18.00	\$20.00	\$35.00		
2080 Kalakaua Avenue	King Kalakaua Plaza	\$3.00	\$3.00	\$3.00	\$3.00	\$5.00	\$5.00	\$5.00	\$5.00	\$15.00	\$15.00	\$20.00		weekend
2155 Kalakaua Avenue	Bank of Hawaii Waikiki Center	\$3.00	\$6.00	\$9.00	\$12.00	\$15.00	\$18.00	\$21.00	\$24.00	\$27.00	\$30.00	\$40.00		
2222 Kalakaua Avenue	Waikiki Galleria Tower	\$2.00	\$4.00	\$6.00	\$8.00	\$10.00	\$12.00	\$14.00	\$16.00	\$18.00	\$20.00	\$30.00		\$10.00
2552 Kalakaua Avenue	Waikiki Beach Marriot	\$4.00	\$8.00	\$12.00	\$16.00	\$20.00	\$24.00	\$28.00	\$32.00	\$32.00	\$32.00	\$32.00		Hotel Guest Rate \$32
445 Seaside Avenue	Skyline Island Colony Hotel	\$3.00	\$6.00	\$9.00	\$12.00	\$15.00	\$18.00	\$21.00	\$24.00	\$27.00	\$30.00	\$35.00		Hotel Guest Rate \$25
2250 Kalakaua Avenue	Waikiki Shopping Plaza	\$2.50	\$5.00	\$7.50	\$10.00	\$12.50	\$15.00	\$17.50	\$20.00	\$22.50	\$25.00	\$40.00		\$5.00
2270 Kalakaua Avenue	Waikiki Business Plaza	\$2.50	\$5.00	\$7.50	\$10.00	\$12.50	\$15.00	\$17.50	\$20.00	\$22.50	\$25.00	\$60.00		\$5.00
2005 Kalia Road	Hilton Hawaiian Village	\$4.00	\$8.00	\$12.00	\$16.00	\$20.00	\$24.00	\$28.00	\$30.00	\$30.00	\$30.00	\$30.00		Hotel Guest Rate \$27
2058 Kuhio Avenue	Maile Sky Court	\$3.00	\$6.00	\$9.00	\$12.00	\$15.00	\$18.00	\$21.00	\$24.00	\$27.00	\$30.00	\$30.00		Hotel Guest Rate \$18
1833 Kalakaua Avenue	Pacific Business News Building	\$0.00	\$2.50	\$5.00	\$7.50	\$10.00	\$12.50	\$15.00	\$17.50	\$20.00	\$22.50	\$32.00		weekend
2255 Kuhio Avenue	Waikiki Trade Center	\$4.00	\$8.00	\$12.00	\$16.00	\$20.00	\$24.00	\$28.00	\$32.00	\$36.00	\$40.00	\$45.00	\$7.00	\$11.00 Sun-Weds/\$15.00 Thurs-Sat
1765 Ala Moana Boulevard	Marina Parking Garage	\$4.00	\$8.00	\$12.00	\$16.00	\$20.00	\$24.00	\$28.00	\$32.00	\$35.00	\$35.00	\$35.00		Hotel Guest Rate \$20
2055 Kalia Road	Hale Koa Hotel	\$4.00	\$4.00	\$5.50	\$7.00	\$8.50	\$10.00	\$11.50	\$13.00	\$14.50	\$16.00	\$36.00		
2255 Kalakaua Avenue	Sheraton Waikiki Hotel	\$6.50	\$6.50	\$11.00	\$11.00	\$15.50	\$15.50	\$20.00	\$20.00	\$24.50	\$24.50	\$40.00		Hotel Guest Rate \$25
2259 Kalakaua Avenue	Royal Hawaiian Shopping Center	\$4.00	\$6.00	\$10.00	\$12.00	\$16.00	\$18.00	\$22.00	\$24.00	\$28.00	\$30.00	\$50.00		
Kuhio Ave	Behind Joy Hotel	\$12.00	\$12.00	\$12.00	\$12.00	\$16.00	\$16.00	\$16.00	\$16.00	\$20.00	\$20.00	\$25.00	\$10.00	\$15.00
Kuhio-Kaiolu Municipal Parking Lot ¹	Kuhio Avenue & Kaiolu Street (Public Lot)	\$0.75	\$1.50	\$2.25	\$3.00	\$3.75	\$4.50	\$5.25	\$6.00	\$6.75	\$7.50			
120 Kaiulani Avenue	Princess Kaiulani Moana Surfider	\$5.00	\$5.00	\$10.00	\$10.00	\$15.00	\$15.00	\$20.00	\$20.00	\$25.00	\$25.00	\$40.00		Hotel Guest Rate \$18-25
400 Hobron Lane	Eaton Square	\$2.50	\$5.00	\$7.50	\$10.00	\$12.50	\$15.00	\$17.50	\$20.00	\$22.50	\$25.00	\$30.00		
2463 Kuhio Avenue	Kuhio Village	\$2.00	\$4.00	\$6.00	\$8.00	\$10.00	\$12.00	\$14.00	\$16.00	\$18.00	\$20.00	\$20.00		
333 Seaside Avenue	Waikiki Parking Garage	\$2.00	\$4.00	\$6.00	\$8.00	\$10.00	\$12.00	\$14.00	\$16.00	\$18.00	\$20.00	\$35.00	\$6.00	
Average		\$3.51	\$5.60	\$8.30	\$10.45	\$13.44	\$15.60	\$18.30	\$20.36	\$24.94	\$26.56	\$35.25		
Median		\$3.00	\$5.00	\$9.00	\$10.00	\$15.00	\$15.00	\$17.50	\$20.00	\$22.50	\$25.00	\$35.00		

¹ = Lot closed to public as of April 6, 2015; developer of the Ritz Carlton Hotel Development is renting the spaces for construction uses for two years, with an option to extend to four years.

Source: Walker Parking Consultants, 2015

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Based on our review of parking prices throughout Downtown, we calculated a median parking price of roughly \$6.00 per hour. Prices vary throughout Downtown with the highest rates observed in the Financial District. The price of off-street pricing tended to be highest in parking structures serving buildings along Bishop Street. We note that the price of parking in public parking structures in Chinatown was significantly below the private market in the general area but, based on our observations, these less expensive structures tended to fill; parking was inexpensive but availability was at times quite limited.

Although parking demand patterns in Waikiki differ from Downtown, with peaks rather than valleys occurring at night and on weekends, rates were similar, with median parking prices at roughly \$5.00 for the first hour and \$5.00 per hour thereafter.

3. FINDINGS BASED ON OFF-STREET PARKING PRICES IN REGIONAL (WEST COAST AND PACIFIC RIM) CITIES

Within the past decade, two trends have led to the implementation of demand-based parking rates. First, studies have demonstrated the benefits of pricing on-street parking to address demand and better manage parking spaces. Second, parking meter technology that allows for credit card payment and provides payment and occupancy data has become commonplace in many cities. West Coast cities, most notably Los Angeles and San Francisco, but also smaller cities such as Redwood City, CA, have led the way with demand-based parking pricing policies.

Table 7 below shows on-street parking rates in North American West Coast cities. Out of the six West Coast cities surveyed, only one, San Diego, has a maximum hourly rate lower than the maximum \$1.50 per hour charged in Downtown Honolulu and Waikiki. It is also noteworthy that in Los Angeles and San Francisco, where the maximum on-street hourly price is four times that of Honolulu's, the lowest prices charged elsewhere in their commercial districts are a fraction of Honolulu's lowest parking price.

Table 7: On-Street Parking Prices – North American West Coast Cities

City	Low	High	Note	General Hours of Operation
Vancouver	\$1.00	\$6.00		Daily 9am-10pm
Seattle	\$1.00	\$4.00		Mon-Sat 8am-6pm
Portland	\$1.00	\$1.60	\$3.50 per hour beginning 90 minutes before games at Jeld-Wen Field	Mon-Fri 8am-6pm; Downtown: Mon-Sat 8am-7pm; Sun 1pm-7pm
San Francisco	\$0.25	\$6.00	\$7.00 per hour near AT&T Park during events	Mon-Sat 9am-6pm; Sun 12pm-6pm
Los Angeles	\$0.50	\$6.00		Mon-Sat 8am-8pm; Sun 11am-8pm
San Diego	\$0.25	\$1.25		Mon-Sat 8am-6pm
Average	\$0.67	\$4.14		
Honolulu (current)	\$0.75	\$1.50		Mon-Sat 7am-6pm

Source: Walker Parking Consultants, 2014

Table 8 shows off-street parking rates in Pacific Rim cities in Asia and Australia, which are then converted into average and median hourly parking rates of US\$3.06 and US\$2.24 respectively. Hourly rates (calculated based on daily rates and an eight-hour day) vary widely across Asian and Australian cities, ranging from less than \$1.00 to more than \$8.00 per hour.

Table 8: Off-street Parking Rates - Asian and Australian Pacific Rim Cities

City	Daily Rate	Monthly Unreserved Rate
Jakarta	\$0.92	\$27.56
Manila	\$2.31	\$56.83
Beijing	\$7.05	\$154.70
Guangzhou	\$11.14	\$247.52
Shanghai	\$12.38	\$293.93
Taipei	\$13.92	\$313.20
Auckland	\$17.89	\$268.39
Singapore	\$24.59	\$225.04
Hong Kong	\$28.25	\$744.72
Seoul	\$29.51	\$187.34
Brisbane	\$41.09	\$568.89
Tokyo	\$62.00	\$744.00
Sydney	\$67.42	\$695.31
Average	\$24.50	\$348.26
Median	\$17.89	\$268.39
Honolulu	\$38.00	\$217.28
Assuming 8 hour length of stay		
Average	\$3.06	
Median	\$2.24	

Source: 2011 Colliers Global Parking Survey (rates in US Dollars)

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4. FINDINGS BASED ON PARKING PRICING MODEL

DETERMINATION OF PARKING RATE OUTPUT

For each parking product in Honolulu, the parking rate put forth by the model was determined using one of two methods:

- A set of weights is applied to the most relevant comparables for that product and a daily maximum is calculated based on the weighted average rate of comparables after a specified number of hours (ex. Public Chinatown Structures).
- A parking rate is derived based on a premium or discount to another product's parking rate (ex. On-Street Meters).

The model determined was constructed to analyze theoretical parking rates for the following five parking 'products' in Honolulu:

1. Public Parking Structures in Chinatown (including Alii Place)
2. On-Street Parking Meters in Chinatown
3. On-Street Parking Meters in Waikiki (and meters in the Kuhio-Kaiolu Lot)
4. On-Street Parking Meters in the Civic Center area
5. On-Street Parking Meters in the Financial District

Table 9 summarizes the initial results of the parking rate model.

Table 9: Honolulu Parking Pricing Model – Summary Output

Chinatown - Meters

Hourly Rate per Model

Chinatown - Structures

	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
Hour	Equal Rate	Option 2	Option 3	Reduced Rate	Option 5	Option 6
1	\$4.51	\$4.51	\$4.51	\$2.25	\$4.51	\$4.51
2	\$4.51	\$0.00	\$0.00	\$2.25	\$0.00	\$0.00
3	\$4.51	\$0.00	\$0.00	\$4.51	\$5.63	\$0.00
4	\$4.51	\$4.51	\$4.51	\$4.51	\$7.04	\$5.63
5	\$4.51	\$4.51	\$4.51	\$4.51	\$8.80	\$7.04
6	\$4.51	\$4.51	\$4.51	\$4.51	\$7.82	\$8.80
7	\$4.51	\$4.51	\$4.51	\$4.51	\$0.00	\$7.82
8	\$2.25	\$4.51	\$4.51	\$4.51	\$0.00	\$0.00
9	\$0.00	\$4.51	\$4.51	\$2.25	\$0.00	\$0.00
10	\$0.00	\$2.25	\$2.25	\$0.00	\$0.00	\$0.00
Max.	\$33.80	\$33.80	\$33.80	\$33.80	\$33.80	\$33.80

Option 1 - No free period

Option 2 - Flat rate for first two hours

Option 3 - Flat rate for first three hours

Option 4 - Reduced rate each hour for first three hours

Option 5 - Flat rate for first two hours; graduated thereafter

Option 6 - Flat rate for first three hours; graduated thereafter

Monthly All-Access Rate per Model

Waikiki - Meters

Hourly Rate per Model

Civic Center - Meters

Hourly Rate per Model

Financial - Meters

Hourly Rate per Model

Source: Walker Parking Consultants, 2014

The appendix to this report describes the model in more detail.

OTHER CONSIDERATIONS

Per the scope of services for this assignment, several aspects of paid parking were evaluated including

- the possibility of discounting parking based on certain payment methods;
- policies regarding parking permits;
- event parking; and
- parking for people with disabilities.

These are discussed below.

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DISCOUNTS TO PARKING RATE STRUCTURE FOR PAYMENT METHODS INCLUDING CREDIT CARDS

Per the scope of services, Walker performed a preliminary evaluation of discounts for parkers who pay parking fees using cell phone and credit card technology. We note that the City benefits when parking patrons pay by credit card in that the City need not manage the operational and accounting issues that may be associated with handling cash. However, these newer payment methods also represent a convenience to parking patrons, for which patrons in some instances may be willing to pay a premium, not require a discount. In most cases newer payment methods also require that the City pay an additional fee per transaction; many businesses pass these costs along to cover the premium service. Adding a discount per transaction would represent an additional cost to the City for the patron's use of these technologies when the added convenience is typically sufficient to encourage their use.

POLICY REGARDING PARKING PERMITS

To the extent that permit parking is allowed in impacted (crowded) facilities, such as those in Chinatown, we recommend that their use be discouraged through higher parking rates (thereby discouraging, though not prohibiting their use) and/or a cap on the number of permits issued. Where parking spaces are underutilized we do not recommend capping the number of permits issued or charging a high price.

EVENT PARKING

Walker reviewed the parking rate structures at several of the event centers in Honolulu. Parking in the 2,000-space Blaisdell Center facility is \$6.00 before 5 PM and \$7.00 after 5 PM. Parking at the Waikiki Shell is free all-day. Parking at the 690-space Hawaii Convention Center garage is \$5.00 per day. The Hawaii Theatre does not have its own parking and relies on public and private parking in the area; the various private garages in the area set their own special event prices, which are not published. Walker researched published rates at convention centers and event venues in Southern California, and found that event parking rates range from \$0.00 to \$20.00, with the highest event parking rates seen in Downtown Los Angeles, and lower rates at venues further inland.

Table 10 summarizes parking rates at event venues in the Honolulu area and in Southern California.

Table 10: Event Parking Rates – Southern California & Honolulu

Venue	Published Parking Rate
Los Angeles Convention Center	\$15.00
Anaheim Convention Center	\$12.00
Anaheim Grove	\$10.00
Honda Center	\$15.00-\$20.00
Music Center	\$9.00
Hollywood Bowl	\$18.00
Long Beach Convention Center Arena and Terrace Theater	\$10.00
Thousand Oaks Performing Arts Center	\$8.00
UCLA Royce Hall	\$12.00
Cerritos Performing Arts Center	\$0.00
Carson Center	\$0.00
Valley Performing Arts Center (Northridge, CA)	\$6.00
Blaisdell Center	\$6.00-\$7.00
Waikiki Shell	\$0.00
Hawaii Convention Center	\$5.00
Maui Arts & Cultural Center	varies

Source: Walker Parking Consultants, 2014

DISABLED PLACARD PARKING POLICY

Section 291-55 of the Hawaii revised statutes states the following:

§291-55 Metered parking privileges. Any vehicle displaying special license plates, a removable windshield placard, or a temporary removable windshield placard issued under this part shall be permitted to park, without payment of metered parking fees, in any metered parking space for a maximum of two-and-a-half hours or the maximum amount of time the meter allows, whichever is longer. All parking fees not specifically exempted under this part shall remain in effect.

There is a growing volume of data demonstrating that free parking at meters for vehicles displaying special license plates or a handicap placard leads to greater abuse of the disabled parking privilege and actually *reduces* the accessibility of on-street parking spaces for both people with and without disabilities. Additionally, studies in many cities have shown that as parking meter rates rise, the percentage of spaces occupied by vehicles with handicap placards increases. Several states have either enacted (Michigan, Illinois) or are considering (Washington, Oregon) a two-tiered system that takes into account different levels of disability. In the two-tiered system, driver’s with severe disabilities receive special placards that allow

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them to park for free at meters, while driver's with less severe disabilities receive ordinary placard and must pay at meters. This two-tiered strategy is the only strategy so far that appears to cut down on placard abuse without a large enforcement component. For example, in Michigan, only about 2% of handicap placard holders applied for and received the special 'sever disability' sticker once the program went into effect.

The usage of handicap placards at parking meters should be monitored to see if handicap abuse is occurring or increasing. If so, the City and State should consider implementing a change in policy similar to the two-tiered approach being explored by other states today.

PROGRESSIVE PRICING VERSUS DEMAND BASED PRICING

Progressive pricing and demand based pricing are two approaches to setting parking rates that often go hand in hand. The concept of demand based pricing, at the most basic level is to adjust parking prices up and down based on the actual demand observed at a specific location or in an area in order to achieve larger goals, such as 85% occupancy in a given location. Examples of demand based parking pricing programs are SFPark in San Francisco and Express Park in Los Angeles.

Progressive pricing is the concept of charging a premium for additional hours, which can be used in combination with the elimination or extension of time limits. Progressive parking seeks to generate turnover not through time limits, but through pricing structures that take into account how long a vehicle is parked. If someone is willing to pay more to park longer they should be allowed that option. The public parking structures in Chinatown currently employ a measure of progressive pricing, with the cost of parking being \$0.75 per half hour for the first two hours, and \$1.50 per half hour thereafter.

While progressive pricing is one way to promote increased turnover aside from demand based pricing, it does have potential drawbacks as well. After the lower price time period is over, people may merely hop to another parking space in order to receive the lower hourly rate once again. This type of activity could defeat the goal of increased turnover while also resulting in increased traffic due to people re-parking their vehicles. This type of re-parking activity also occurs in locations with time-based parking restrictions. License plate recognition (LPR) systems of parking enforcement that record license plates and monitor the length of time in which cars are parked in a given space, or even a given area (if the car is reparked) can help enforce progressive parking or time limit policies. We note, however, that some of these systems can be costly or complex to implement.

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CONCLUSIONS AND RECOMMENDATIONS

Based on our methodology for setting on-street parking prices in the Downtown and Waikiki sections of Honolulu, the current hourly parking price of \$1.50 in most places is low to the point of being detrimental to parking availability and the public's ability to access the area during the busiest hours. During the busiest periods in the Urban Core and Waikiki, on-street parking spaces are effectively not available to most of the driving public.

Although not quantified specifically for this report, based on our experience and studies we have reviewed of parking and traffic in commercial districts in the United States and around the world, significant traffic congestion and the associated emissions are a byproduct of the current policy of below-market parking prices. Where on-street parking spaces are effectively full, drivers will "cruise" the district in search of available, inexpensive parking spaces, often for significant amounts of time. Based on our experience, we suspect that additional traffic congestion is resulting from employees and others in the area taking advantage of the low-priced on-street parking, but moving their cars frequently as a result of the time-limited nature of many of these spaces.

The hourly price for off-street parking in both Downtown and Waikiki also suggests that the price of on-street parking is too low to be effective in managing parking in both districts. The price of parking being charged in the commercial districts in other major West Coast cities demonstrates that the implementation of demand-based pricing for on-street parking that approaches or exceeds the prices for off-street parking has precedent, is increasingly common and is overall effective in providing parking space availability to the public and managing parking demand. We suggest that such a policy is desirable to A) ensure that convenient on-street parking spaces are available and B) to maximize the efficiency of the roadway and transportation systems.

GENERAL POLICY RECOMMENDATIONS

Based on our findings, we make the following general recommendations with regard to parking policy over the short to medium term:

- Increase on-street meter rates for the purpose of achieving a roughly 85% occupancy rate (1 to 2 spaces available) for on-street spaces per block during peak hours. While we recommend raising rates gradually rather than all at once, we project that meter rates may eventually need to be restructured between \$3.00 - \$6.00 per hour, depending on their location, during periods of peak demand for those parking meters that have the capability of accepting credit cards to handle such transactions. The price for parking at meters that only accept coins should remain at \$1.50 until credit card acceptance capabilities have been implemented.
- To the extent that such a policy is realistic from an operational perspective, vary meter rates as necessary in order to regulate demand according to the following:
 - higher and lower demand locations; and

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- higher and lower demand periods (i.e. daytimes and evenings, weekdays and weekends), which are different in the Financial District, Chinatown, and Waikiki.
- Eliminate the arbitrariness of time limits and use hourly pricing as much as possible to encourage turnover of on-street parking spaces while providing for the possible of longer stays. Hourly parking rates can and likely should be increased when time limits are relaxed or eliminated.
 - When and where the demand for on-street parking spaces outstrips supply, extend the hours of operation for parking meters later or earlier, seven days per week, to conclude at 10:00 pm⁵ or later. This policy is focused on Waikiki. However, based on Walker's reading of IPS data that demonstrates a high demand for on-street parking at 5:00 am in the Financial District, the enforcement of meter rates in this location should be considered earlier, beginning at 5:00 am on weekdays. Because a block-by-block implementation of this policy may not be realistic at this time, this extension of the hours of parking enforcement should be considered district-wide in the Urban Core and Waikiki.
 - Given the level of parking demand observed, install parking meters on Ala Wai Boulevard in Waikiki along the canal from Kapahulu Avenue to McCully Street for the purpose of better managing the congested parking spaces and promoting parking space availability. Initial pricing at this location should be set below that of on-street prices in commercial districts given the location. We propose an initial price at this location of \$1.50 per hour.
 - Given the level of parking demand observed, install parking meters on Kalakaua Avenue on the Makai side of Kapiolani Park in order to improve access to the beach. We recommend hourly parking rates at this location of \$2.00 per hour.
 - Explore the creation of parking benefit districts in Chinatown and Waikiki. Given the interests of small businesses and residents, create entities and processes to monitor with some regularity occupancy rates in Chinatown and Waikiki. These entities, on a scheduled basis, if necessary, would be responsible for making recommendations to adjust on-street prices to achieve the desired on-street occupancy rates. The creation of such entities gives stakeholders a voice in local parking policy to ensure that on-street parking is managed properly.
 - Use an increment of additional revenue generated as a result of rate reductions to provide economical parking in peripheral areas and encourage the use of non-SOV modes of transportation including the use of transit (shorter headways), bicycles (increasing the number of bike lockers and lanes) and walking (sidewalk enhancements such as widening, repairs, shade trees, and aesthetic improvements).

⁹ Shoup, *The High Cost of Free Parking*. Chicago, Illinois: American Planning Association. 2005. p. 347 - 375

⁵ Along some blocks meters are in effect for a significantly longer duration, until 2:00 AM. We do *not* recommend changing these hours.

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- Using the IPS reporting system, monitor on-street parking occupancies on at least a quarterly basis and adjust parking prices in order to establish occupancy rates at approximately the target 85% occupancy rate. We recommend rate adjustments in no more than \$0.50 per hour increments in order to precisely determine the price elasticity of demand in different parking locations.

SPECIFIC POLICY RECOMMENDATIONS FOR THE CURRENT TIME

As noted earlier, the current rate for metered, on-street parking in Downtown Honolulu, including the Financial District, the Commercial Core, and Chinatown, as well as in Waikiki, is \$1.50 per hour. Time restrictions for these spaces vary by location, the majority of spaces being 1-hour spaces with 2-hour spaces existing in some locations.

Demand-based parking pricing of on-street parking spaces would maximize the efficiency of the parking system in Honolulu's Urban Core while minimizing negative externalities such as drivers' inability to find an available parking space, traffic congestion, and impacts on air quality. This policy is best achieved by implementing demand-based pricing on a block-by-block basis, as is done in San Francisco with that city's SFPark parking pricing program.

Based on our observations of the current parking policies and practices in place – and to which the driving public is currently accustomed - we suggest that a “by-block,” demand-based pricing program is not practical at the current time. Nonetheless, overall, we observe that virtually all parking spaces in the Urban Core and Waikiki are priced below what parking demand warrants. For this reason at the current time we now make the following specific recommendations:

- In the Urban Core, increase meter prices from \$1.50 to \$3.00 per hour before 3:00 pm in the Urban Core;
- Prices in the Commercial Core (King and Punchbowl) can be set at a lower \$2.00 per hour due to lower observed demand, depending on time restrictions;
- In Waikiki, increase meter prices from \$1.50 to \$3.00 before 3:00 pm in Waikiki and \$4.00 per hour after 3:00 pm in Waikiki;
- Extend hours of meter enforcement for on-street meters until at least 9:00 pm in Waikiki;
- Monitor on-street parking occupancy rates at least quarterly and consider increasing parking prices to \$4.00 per hour if occupancy rates do not fall below 85% to 90%; Lower rates if occupancy rates fall below 80%.
- On-street parking prices should generally exceed off-street parking prices for the parking system to operate effectively;
- Install smart meters throughout the City, prioritizing high-demand Waikiki, to increase parking availability, payment options, user convenience, and better manage the parking supply.
- To allow for flexibility and reduce “ticket anxiety” extend or eliminate time limits while increasing the hourly cost of parking; let the rates, not time restrictions and citations, enforce turnover when possible.

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- Block-by-block, demand-based pricing is productive. However, it is labor and/or technology-intensive to administer. We therefore do not recommend this micro-level pricing at this time.

We emphasize that these recommendations are for the current time. Once the new parking prices are implemented we recommend that the City reexamine any change in on-street parking occupancy rates and consider higher parking prices for those block faces where occupancy rates remain persistently high. We also recommend, in the long term, that the City focus on hourly parking prices and not time limits for the purpose of encouraging turnover in parking spaces.

PRELIMINARY REVENUE PROJECTIONS

Walker has prepared preliminary revenue projections for IPS meters in the downtown area, and the eventual installation of IPS meters in Waikiki. The revenue baseline for the IPS meters are 2013 revenue data available from the IPS system or revenue, while the revenue baseline for the Waikiki meters is historical City of Honolulu parking meter revenue data, obtained by Walker. Using this data, preliminary revenue projections based on basic meter rate change assumptions have been generated. As they are preliminary in nature, these projections are for planning purposes only and should not be used in financing documents.

Table 12 converts available revenue data into average revenue per meter based on the number of meters, and total revenue hours (based on a meter rate of \$1.50/hour). The table shows our base assumptions.

Table 11: Current Parking Meter Revenue at Downtown IPS Meters & Waikiki Meters

Fiscal Year	Downtown IPS Meters	Waikiki	CC Structure IPS Meters	Total
January 1 - December 31, 2013	\$577,512	\$514,000	\$137,260	
09-10*		\$547,450		
08-09		\$552,566		
07-08		\$575,344		
06-07		\$574,409		
05-06		\$534,302		
04-05		\$503,134		
Used in Calculations	\$577,512	\$550,000	\$137,260	\$1,264,772
Total meters	259	256	72	587
Average \$ per meter	\$2,230	\$2,148	\$1,906	\$2,155
Total hours (\$1.50/hr)	385,008	366,667	91,507	843,181

Note: * = 09-10 data based on first 6 months of the fiscal year, annualized

Source: City of Honolulu and Walker Parking Consultants, 2014

While the City reports that there are 77 IPS meters in the Civic Center Structure, only 72 are reporting revenue in the IPS database. Revenue projections for the Civic Center structure IPS meters are based on, and for, the 72 meters that are reporting revenue.

Combining this data with the recommendations and assumptions made for this report, in Table 12 we suggest preliminary revenue projections and impacts of our recommendations. We note and emphasize, however, that the purpose of our recommendations is the improvement of the functioning of the parking and transportation systems and customer service for drivers in

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the Urban Core and Waikiki. However additional revenue is a side benefit; using such revenue for further parking and transportation benefits is desirable.

Table 12: Preliminary Revenue Projection Based on Recommendation and Assumptions

Meter Locations	Current Baseline Annual Revenue	Based on # of Meters	Recommended Hourly Meter Rate	Number of Meters to Implement Higher Rate	Projected Additional Annual Revenue from Increased Meter Rates ^B	Projected Additional Annual Revenue from Extended Hours of Enforcement ^C	Projected Total Additional Revenue ^D
Urban Core	\$ 578,000	259	\$ 3.00	259	\$ 435,000	\$ 98,000	\$ 533,000
Frank Fasi	\$ 138,000	72	\$ 3.00	72	\$ 124,000	\$ -	\$ 124,000
Waikiki ^A	\$ 560,000	256	\$ 3.00	256	\$ 538,000	\$ 445,000	\$ 538,000
	\$ 1,276,000				\$ 1,097,000	\$ 543,000	\$ 1,195,000

^A Waikiki baseline revenue is calculated by averaging annual meter revenue data from 2006-2010 and 2013

^B Based on assumptions outlined in the report. Includes an estimated 15% assumed increase in revenue from the implementation of meters with credit card acceptance capabilities in Waikiki, and slightly decreased occupancies ranging from 5% at Frank Fasi to 10% in Waikiki and the Urban Core. We strongly recommend that any meter charging more than \$1.50 per hour be equipped to accept credit cards for payment. Projections do not include revenue from the Kuhio Kaiolu Lot.

^C Based on assumptions outlined in the report including hourly meter rates of \$3.00 or \$1.50 in the Urban Core varying by time of day, two additional hours of enforcement in the Urban Core, three additional hours of enforcement in Waikiki at \$4.00 hourly rates after 3:00 pm in Waikiki. Meters are assumed to be enforced on Sundays. Due to low after-hours and Sunday demand, meter enforcement in the Frank Fasi garage is assumed not to be extended

^D All financial projections are preliminary in nature and not to be used in financing documents

Source: Walker Parking Consultants, 2014