TASK 5 – UPDATE HONOLULU
COMPREHENSIVE PARKING STUDY, 1973

HONOLULU URBAN CORE PARKING MASTER PLAN

HONOLULU, HI

Prepared for:
THE CITY & COUNTY OF HONOLULU

SEPTEMBER 7, 2010

WALKER
PARKING CONSULTANTS

"This report was funded in part through grants from the Federal Highway Administration and Federal Transit Administration, U.S. Department of Transportation. The views and opinions of the agency expressed herein do not necessarily state or reflect those of the U. S. Department of Transportation."

WALKER PARKING CONSULTANTS

TASK 4 – PARKING MARKET & FINANCIAL ANALYSIS

HONOLULU URBAN CORE PARKING MASTER PLAN

HONOLULU, HI

Prepared for:
THE CITY & COUNTY OF HONOLULU

Walker Project No.:
37-8151.00

October 21, 2010

TABLE OF CONTENTS

LIST OF TABLES AND FIGURES

EXECUTIVE SUMMARY

BACKGROUND

The City and County of Honolulu contracted with Walker Parking Consultants to prepare an update to a comprehensive parking study performed in 1973. The study area for the 1973 study was bounded by River Street to the west, the coastline to the south, Richard Street / Alakea Street to the east, and Vineyard Street / Beretania Street to the north. The study highlighted parking shortfalls, noting that the downtown area had adequate short-term parking and inadequate long-term parking. Projected future conditions seemed to exacerbate the condition with additional office space being added to the downtown. Future transit options were also identified that would help alleviate inadequate parking conditions aside from providing additional long-term parking.

A follow-up study was also performed in 1981 to further detail some management strategies and implementation plan to address parking issues related to supply, demand, as well as policies. This study also identified a long-term parking shortfall and transit alternatives were identified and analyzed for their impact on parking adequacy.

It has been nearly 30 years since the last comprehensive parking study was performed for downtown Honolulu. Some transit options have come to fruition, with an improved bus system, but rail (or light rail) has not been constructed along the east-west corridor that would link the majority of the population centers on the southern half of the island of Oahu.

With an update of the *Oahu Regional Transportation Plan 2035* in the works, the City and County applied for a federal grant to update the 1973 study and study the "urban core". The study area has been extended to include areas of Chinatown, Downtown, Civic Center, Kaka'ako Mauka, and portions of Ala Moana and Makiki. The study area is bounded by River Street to the west, Nimitz Highway/Ala Moana Boulevard to the south, Keeaumoku Street to the east, and Beretania Street to the north. The study area is roughly six (6) times the size of the original 1973 study and encompasses a diverse mix of land uses and communities (although all urban). Walker has been tasked with providing insight into the parking supply, demand and management issues within those boundaries.

WALKER'S STUDY

Walker began by performing fieldwork in the study area, namely parking inventories, occupancies, license plate inventories ("LPIs"), and rate surveys.

Because the characteristics of the parking are so varied and detailed we have opted to provide only a summary of parking inventories and occupancies within the Executive Summary. The following table summarizes our findings of the current parking inventories and occupancies in the study area.

Table ES 1: Parking Supply and Occupancy – Study Area

Inventory		Public/Public	Public/Private	Private/Private	Meter	Time/Other	Loading	Total
Block	Description	Off-Street			On-Street			
ALL	On-Street	0	0	0	1,186	288	232	1,706
ALL	Surface Lot	1,776	1,662	6,645	77	7	0	10,167
ALL	Garage	5,039	9,959	17,396	0	0	0	32,394
ALL	Total	6,815	11,621	24,041	1,263	295	232	44,267

Occupancy		Public/Public	Public/Private	Private/Private	Meter	Time/Other	Loading	Total
Block	Description	Off-Street			On-Street			
ALL	On-Street	0	0	0	893	233	188	1,314
ALL	Surface Lot	769	1,258	4,443	69	5	0	6,544
ALL	Garage	4,091	7,223	13,066	0	0	0	24,380
ALL	Total	4,860	8,481	17,509	962	238	188	32,238

Source: Walker Parking Consultants, 2010.

The parking supply in the study area was occupied as follows during the peak weekday period:

- On-street – 77%
- Surface Lots – 64%
- Parking Structures – 75%
- OVERALL – 73%

Walker performed both on-street and off-street turnover and duration studies. Walker used license plate inventories ("LPIs") to determine turnover and duration of on-street parking. Walker followed the same

census routes used to determine turnover in the 1973 study for on-street parking. These routes are defined as follows:

1. Alakea Street and Bishop Street between Beretania and Nimitz Highway.
2. Bethel Street and Nuuanu Avenue between Beretania and Nimitz Highway.
3. Maunakea Street between Beretania and Nimitz Highway and Pauahi Street between River Street and Fort Street Mall.

Walker also evaluated how the on-street supply was utilized throughout the day. Although the mix of short-term users seems to be favorable, the length of stay should also be considered, not just volume of vehicles. Space utilization tells a significantly different story.

The duration is heavily weighted between 30 minutes and an hour although there is some overflow for up to 4-hours before dropping off significantly. Interestingly, the entire on-street parking supply covered within the three routes is limited to one-hour parking by regulation (based on signage). Some of the stays that were longer than an hour were due to construction traffic and permits to park on-street. Although duration shows that a significant number of vehicles were able to utilize these on-street spaces for short-term parking (over 90% were 2 hours or less), the space utilization also accounts for the length of time that a space is taken by a vehicle. We estimate that roughly 25% of the space-hours that we observed were utilized by vehicles staying 3.5 hours or longer. Given the limited on-street parking supply available in downtown and Chinatown, fewer construction permits should be allowed and/or more length of stay violations should be written. Alternatively, many of the loading spaces could be shifted to paid parking to both increase the available parking supply and increase revenue potential from on-street meters. These spaces may still be made available for loading in early morning hours (or any off-peak hours).

Walker requested entry and exit data to gauge turnover and duration for the City and County owned facilities. Data for three facilities were provided by the parking operators; Hale Pauahi, Kekaulike, and Marin Tower. The average length of stay for Hale Pauahi was one hour and sixteen minutes (1:16). The average length of stay for Kekaulike was fifty-three minutes (0:53). The average length of stay for Marin Tower was three hours and thirty-five minutes (3:35).

The three facilities for which we had data differ in patron type based on length of stay (duration). Hale Pauahi and Kekaulike both cater to short-term visitors while Marin Tower is available to long-term parkers

as well as short-term parkers. This disparity in transient use reinforces that further study should be undertaken regarding the remainder of the city-owned off-street facilities once data is made available.

Table ES 5: Space Utilization – Off-street Parking

Space Utilization										
Length of Stay	<0:30	<1:00	<1:30	<2:00	<2:30	<3:00	<3:30	<4:00	<4:30	<5:00
Hale Pauahi	12	45	43.5	32	15	12	3.5	4	4.5	5
Kekaulike	60	154	103.5	74	25	15	14	8	0	0
Marin Tower	18	50	54	50	40	24	10.5	20	9	5
TOTAL	90	249	201	156	80	51	28	32	13.5	10
Length of Stay	<5:30	<6:00	<6:30	<7:00	<7:30	<8:00	<8:30	<9:00	<9:30	<10:00
Hale Pauahi	0	0	0	0	0	0	0	0	9.5	0
Kekaulike	0	0	6.5	0	0	0	0	0	0	0
Marin Tower	0	18	19.5	7	22.5	24	17	63	123.5	130
TOTAL	0	18	26	7	22.5	24	17	63	133	130
Length of Stay	<10:30	<11:00	<11:30	<12:00	<12:30	<13:00	<13:30	<14:00	<14:30	<15:00
Hale Pauahi	0	0	0	0	0	0	0	14	0	0
Kekaulike	0	0	0	0	0	0	0	0	0	0
Marin Tower	105	44	92	12	12.5	0	0	0	14.5	0
TOTAL	105	44	92	12	12.5	0	0	14	14.5	0

Source: Walker Parking Consultants, 2010.

Parking rates vary widely from one end of the study area to the other. In general, Chinatown/Downtown have very high rates for publicly available but privately-owned facilities. Comparatively, the parking supplies in Ala Moana are not protected nearly as much using rates as a deterrent. The result is a mix, much like Walker is accustomed to seeing; basically tiered, with lower rates as we move away from the CBD.

Table ES 6: Average Mkt Rate – Study Area

Location	Hourly	Max	Monthly
DT	$4.49	$35.58	$176.88
KA	$2.89	$17.89	$149.00
AM	$1.75	$4.00	$120.00
MK	$2.25	$16.00	N/A

Source: Walker Parking Consultants, 2010.

RECOMMENDATIONS

Based on our quantitative and qualitative observations of parking conditions in the study area, we recommend that the City undertake a number of parking policies and parking management measures in order to reduce areas of unacceptably high parking occupancy rates and redistribute parking demand to parking facilities and areas where

spaces are underutilized. Our primary parking management tool is pricing; given the cost of real estate on Oahu parking, particularly monthly employee parking, is significantly underpriced, which we believes leads to localized shortages.

Our goal is to maximize the efficiency of existing parking spaces and, in so doing, accommodate a greater number of people and vehicles within the system using the same number of parking spaces. At the same time, we take into account other public policy goals related to the environment and traffic that have been highlighted in a number of the City's planning documents.

The goal of our recommendations is not to force people out of their cars; even if alternatives to driving to Honolulu's urban core did not exist, virtually all our recommendations would remain unchanged. Our data and observations demonstrate thousands of unutilized parking spaces within the study area while there is a strong (and in some locations justified) perception of a parking space shortage. To the extent that policies which encourage redistribution of parking demand "evens the playing field" between driving and non- driving modes of transportation, we suggest that this positively impacts the transportation system.

Based on these considerations, our key recommendations include the following:

<u>On-street Parking</u>

- Establish paid parking for all on-street spaces within our study area including loading zone spaces.
- Install and implement parking meter technology that allows for the use of credit cards in order to be able to raise on-street parking fees to market rates and better manage the parking supply.
- Periodically adjust parking fees for on-street parking with a target of 85% - 90% availability of on-street spaces on each block.
- Avoid time limits and use pricing as much as possible to encourage turnover of on-street parking spaces.
- Create a body and a process to monitor occupancy rates. This body, on a regular basis, would lower or raise on-street prices to achieve the desired on-street occupancy rates.

Off-street Parking

- Increase monthly permit fees for government employees to better reflect the cost of providing parking and the impacts of driving in the area.
- Encourage the use of parking "cash out" programs for employees in association with the increased parking rates in order to encourage their use of alternatives to driving.
- Encourage shared parking between land uses within the study area by providing shared parking incentives or mandates for new development.
- Allow or require developers to pay a fee in lieu of providing parking spaces on their development site.
- Limit the amount of reserved parking that a development site can provide onsite in order to maximize sharing and the utilization of parking spaces.
- Create public/private agreements with the owners and operators of private parking facilities in the study area to encourage their use by all members of the public.
- Share parking in peripheral facilities where the demand for parking peaks at different hours than in most of the urban core. Use shuttles and existing transit to transport employees to higher demand areas.

1 INTRODUCTION

Walker Parking Consultants ("Walker") has been engaged to prepare a Honolulu Urban Core Parking Master Plan ("Project"). The Project tasks and deliverables that Walker has agreed to perform are based roughly upon the work element of an awarded federal grant. The scope of work within the signed agreement between Walker and the City and County of Honolulu was expanded from the summary work element of the grant to a broader range of services that will aid in the following: 1) moving the City and County-owned parking system toward being a more effective and efficient contributor to the public good, 2) implementing regional transportation policy, and 3) contributing to the financial wellbeing of the City and County of Honolulu.

1.1 FEDERAL GRANT WORK ELEMENT

The genesis of the Project lies within federal grant 203.79-10. The grant was approved based on a work element which has been provided in full at the end of this document. The objectives and tasks are laid out below.

Objectives: To conduct an on-street and off-street "public parking" survey in the Honolulu urban core for the purpose of assessing parking supply and demand. The urban core is defined as River Street to Keeaumoku Street between Beretania Street and Nimitz Highway/Ala Moana Boulevard.

Impact of Work Element: This planning study will identify and assess potential locations and methods for the potential expansion and/or contraction of parking capacity including strategies for managing parking within the development of a new rapid transit system.

Tasks:

1. Review and evaluate existing parking policies, procedures, standards, and pricing (Includes specifically: rates, duration, time limits, location, new equipment/technologies, and enforcement).
2. Conduct on-street and off-street parking surveys to determine the current inventory of parking spaces available for "public parking".
3. Convene an advisory task force comprised of stakeholders and community representatives to discuss parking demand, supply, and management issues.

4. Prepare a parking master plan report that would incorporate the study objectives cited above.

The fact that majority funding for the Project is based on this work element, Walker will ensure that these specific tasks are addressed as priority items through the course of study.

1.2 CITY AND COUNTY SCOPE OF SERVICES

The scope of services defined within the contract between Walker and the City and County of Honolulu describes the following six (6) tasks:

1. Project Management,
2. Project Advisory Committee,
3. Feasibility Analysis of Monetization,
4. Parking Market and Financial Analysis,
5. Update Honolulu Comprehensive Parking Study (1973), and
6. Condition Appraisal.

The two tasks specifically called out within the federal grant work element are the Project Advisory Committee and Update Honolulu Comprehensive Parking Study (1973). The Condition Appraisal for the City and County owned parking structures feeds into both the Market and Financial Analysis and the Feasibility Analysis of Monetization. The Market and Financial Analysis and Feasibility Analysis of Monetization will aid in evaluating the existing parking policies, procedures, standards, and pricing. When combined, these tasks reflect a comprehensive parking master plan.

The scope items specific to the 1973 Downtown Honolulu Comprehensive Parking Study include the following:

1. Perform field surveys, as required, to update the Honolulu Comprehensive Parking Study, 1973.
2. Analyze short-term and long-term parking demand, compare demand with supply, and develop a conclusion regarding parking adequacy.
3. Analyze parking supply, demand, and adequacy considering land uses, employment, and transit patronage. Interview City and County representatives and obtain available information from the City and County to assist with this analysis.

4. Develop conclusions and recommendations relating to parking adequacy, the parking element of the City's comprehensive zoning code, parking rates, and a ten-year implementation program.
5. Submit a draft report in PDF format to City representatives for review.
6. Review comments presented by representatives for review.
7. Submit final report in PDF format.

1.3 STUDY AREA

These scope items will be performed within the study area bounded by River Street to Keeaumoku Street between Beretania Street and Nimitz Highway/Ala Moana Boulevard as defined within the federal grant application. Although this report is an update to the 1973 Downtown Honolulu Comprehensive Parking Study, the study area proposed for this engagement has been expanded significantly. The new study area contains within it several districts with very different character; character which also varies regarding parking. Walker has identified the following four (4) districts for detailed study: Downtown/Chinatown, Kaka'ako Mauka, Ala Moana, and Makiki. The study area is depicted on the aerial photograph in Figure 1 on the following page.

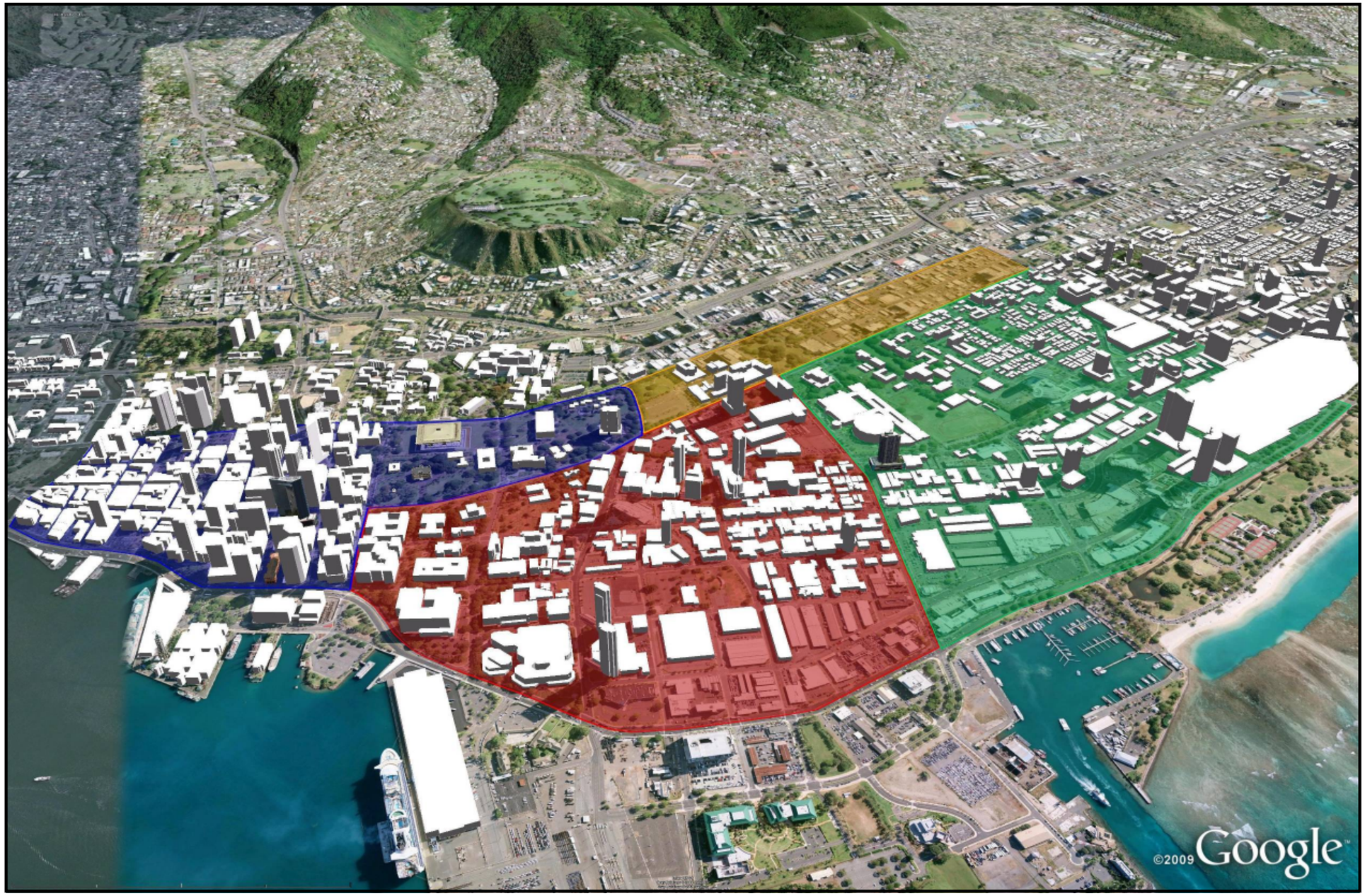


Figure 1: Study Area

LEGEND:

- Downtown/Chinatown
- Kaka'ako Mauka
- Ala Moana
- Makiki

1.4 REASONS FOR STUDY

The City and County of Honolulu has not commissioned a comprehensive parking study for downtown Honolulu in nearly 30 years. The prior studies provided important insight for urban core and transportation planning. The City and County would like to update their policies and practices to current best practice within the industry and ensure that these policies feed into the broader policies that the City and County have laid out for urban planning and transportation in the Honolulu Urban Core.

The update of the *Oahu Regional Transportation Plan 2035*, which began in 2009 was another impetus, as the update of the parking study will provide a supplement to the transportation plan.

1.5 PREVIOUS STUDIES

Walker was asked to perform this study as an update to the 1973 *Downtown Honolulu Comprehensive Parking Study*. The 1973 study focused on the existing condition and identified five projection scenarios:

- 1975 Parking Demand
- 1995 Parking Demand – With Rapid Transit
- 1980 Parking Demand – With Rapid Transit
- 1985 Parking Demand – With Rapid Transit
- 1985 Parking Demand – Without Rapid Transit

We now know that the rail system was not put in place for any of those scenarios, requiring that the study be revisited and consider more realistic future scenarios.

A second study was performed in 1981 and titled *Honolulu Parking Management Study*. The 1981 study mirrors many of the findings from the 1973 study and goes into a bit more detail regarding implementation and management plans. The projections from the 1973 study were compared with newer data points for both 1985 and 1990 projection years. The study provided "management actions" (implementation plan) for both projection periods under two scenarios:

- Parking Management Actions with Rapid Transit
- Parking Management Actions with a Bus System

1.6 REPORT ORGANIZATION AND METHODOLOGY

This report includes two main sections: Current Conditions and Parking Management Recommendations. The Current Conditions section relates our analysis of the existing parking supply and parking demand within the prescribed project area and discusses the interplay between parking demand generation, available parking supply, market parking rates, etc. The Parking Management Recommendations section presents a guide of how industry best practices should be applied to and implemented in the study area.

1.6.1 CURRENT CONDITIONS

The analysis begins by gaining an understanding of the current conditions. Walker performed fieldwork and collected data from the City and County of Honolulu as well as parking operators to gain insight into the overall parking market in the urban core of Honolulu.

1.6.2 PARKING MANAGEMENT RECOMMENDATIONS

The current conditions analysis guides our recommendations with regard to parking adequacy, the parking element of the City's comprehensive zoning code, parking rates, and a ten-year implementation program.

2 CURRENT CONDITIONS

Although this report is an update to the 1973 Downtown Honolulu Comprehensive Parking Study, the study area proposed for this engagement has been expanded significantly. The new study area contains within it several districts with very different character; character which also varies regarding parking. Walker has identified four (4) districts for detailed study: Downtown/Chinatown, Kaka'ako Mauka, Ala Moana, and Makiki. The report will present information for each of these districts first, and then provide an overall study area summary of information.

2.1 FIELDWORK

To analyze the current conditions within the study area Walker performed several field surveys to gauge parking supply, demand, turnover, and rates. The following list of surveys details how each survey was performed within the study area.

License Plate Inventory – Walker performed License Plate Inventories ("LPIs") for a sampling of on-street meters (which follows the method utilized for the 1973 study). On-street LPIs began at 8:30AM and were performed every half hour until the last set of counts beginning at 5:00PM. Walker staff recorded the last four (4) characters on each license plate for every metered space within their route.

Inventory Counts – Walker attempted to obtain a parking inventory for every publicly available parking facility within the study area. Generally, private operators consider inventory counts to be proprietary information, which is protected to remain competitive. Any privately owned/publicly available facility may not allow access; Walker staff was discreet while performing these observations to avoid confrontation and gain as much insight into the market as possible.

Occupancy Counts – Walker attempted to perform parking occupancy counts for every publicly available parking facility within the study area. Generally, private operators consider occupancy counts to be proprietary information, which is protected to remain competitive. Any privately owned/publicly available facility may not allow access; Walker staff was discreet while performing these observations to avoid confrontation and gain as much insight into the market as possible. The 1973 study provided occupancy counts (and duration information) for each City and County owned facility and six (6) other facilities within the study area on an hourly basis. Walker obtained entry/exit data for transient and monthly transactions for each of the City and

County owned facilities. These data were utilized to determine hourly occupancy as well as duration. Duration studies for privately-owned facilities was not possible because the nature of the parking business has changed since the 1973 study; in a more competitive environment information is more closely guarded, including occupancy and duration (which can be used to determine average rate, etc.).

Rate Survey – Walker attempted to obtain parking rates for every publicly-available parking facility within the study area. Private operators often guard their parking rates although with the exception of monthly rates, these are generally posted at the facility entrance. Rate information was recorded through the use of a digital camera. A photo was taken of the posted rates at the entry of the facility. Walker also followed up with phone calls to inquire about monthly parking rates.

2.1.1 DATES OF FIELDWORK

Fieldwork for this analysis consisted of site visits to become acquainted with the parking market in Honolulu, as well as parking inventory and occupancy counts, parking rate surveys and license plate inventories ("LPIs"). Field work was performed on the week of April 19, 2010 through April 23, 2010.

2.2 DOWNTOWN/CHINATOWN DETAIL

The bounds of the Downtown/Chinatown ("DT") District are River Street to the east, Beretania Street to the north, Alapai Street and Richard Street to the east, and King Street and Nimitz Highway to the south. This district includes historic Chinatown, Hawaiian University of the Pacific, the Central Business District, as well as several blocks occupied by municipal and cultural land uses. The character of this district is very diverse and changes rapidly from one land use/user group to the next including low-rise retail, high-rise residential and office, and institutional facilities. Very few parcels of land are undeveloped (or underdeveloped) within this district, which means that real estate prices are high and very few surface parking lots can be found. Therefore, the price of parking within this district is necessarily high (accounting for high cost of land and for the construction of structured parking).

Chinatown maintains a large number of on-street parking spaces, but many of the on-street spaces that were once in the CBD have been removed to allow for increased traffic flow. Some on-street spaces

also exist in the east along King Street, but must be vacated during the evening peak commute hours to accommodate the increased traffic load.

There are several bus routes running to and through this district linking the population of Honolulu to the jobs and government services located in downtown. Both local and express bus lines service this district, making transit a reasonable option for employees, visitors, and residents. The nearby high-rise housing options within Chinatown (including areas north of Beretania Street) also make biking and walking to the district convenient for a number of employees and residents.

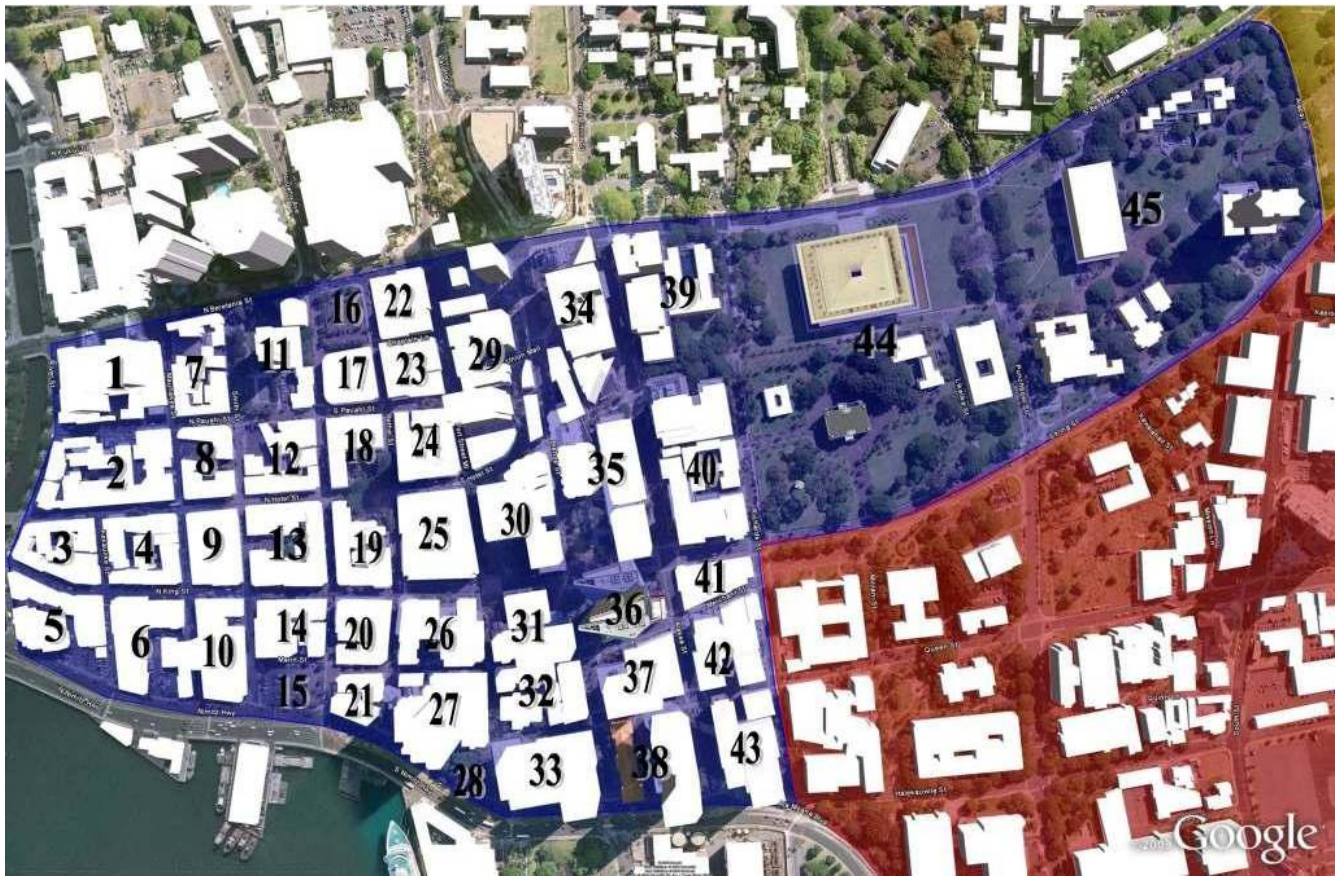
2.2.1 INVENTORY

Parking supply exists within this district to serve residents, employees, and visitors. The City and County owns several parking garages linked to residential and retail buildings above, but also has been purposely overbuilt to provide public parking. A few small surface parking lots also exist throughout Chinatown, some linked to a specific use, but many are publicly available for a fee. The CBD has several large parking structures linked to specific office buildings. These facilities are publicly available, but in general the fee is set high to discourage use by those not visiting that building (where rates are then validated or subsidized for building visitors). Nonetheless, many of these facilities are signed as public parking and do provide needed supply within the district for both visitors and employees from other buildings.

On-street parking is also available throughout Chinatown, but to a lesser degree in the CBD and then during off-peak commute periods near the institutional areas (city and county, and state buildings).

Walker performed a detailed inventory of the parking supply of the DT District which can be found in the appendices; the following table provides a summary of the inventory broken down by type.

Figure 2: Downtown–Parking Inventory



Block	Off-Street	On-Street	Block	Off-Street	On-Street	Block	Off-Street	On-Street
1	593	10	16	88	1	31	72	0
2	0	16	17	308	10	32	0	8
3	0	9	18	0	14	33	96	0
4	130	9	19	271	0	34	36	0
5	119	10	20	65	12	35	907	0
6	64	18	21	0	2	36	672	0
7	29	21	22	0	0	37	83	4
8	28	17	23	0	9	38	564	11
9	0	15	24	0	7	39	0	0
10	396	10	25	345	0	40	248	3
11	114	28	26	365	9	41	0	8
12	39	17	27	1,025	0	42	341	3
13	24	20	28	0	0	43	725	10
14	98	9	29	1,037	0	44	100	43
15	105	0	30	840	0	45	980	18

Block	Off-Street	On-Street
TOTAL	10,907	381

Source: Walker Parking Consultants, 2010.

Table 1: Parking Supply – DT District

		Off-Street			On-Street			
Block	Description	Public/Public	Public/Private	Private/Private	Meter	Time/Other	Loading	Total
ALL	On-Street	0	0	0	263	0	118	381
ALL	Surface Lot	0	540	19	0	0	0	559
ALL	Garage	2,460	6,919	969	0	0	0	10,348
ALL	Total	2,460	7,459	988	263	0	118	11,288

Source: Walker Parking Consultants, 2010.

On-street parking represents only 3% of the total parking supply. Surface Lots represent 5% of the total supply. Parking structures, both below and above grade, account for 92% of the parking supply in the DT District. This breakdown is expected due to the high land values of the CBD and the corresponding vertical expansion of development.

2.2.2 OCCUPANCY

Walker also performed a parking occupancy count during peak weekday conditions. The detailed information collected for that effort may be found within the appendices; a summary of the parking occupancy is provided in the following table.

Table 2: Parking Occupancy – DT District

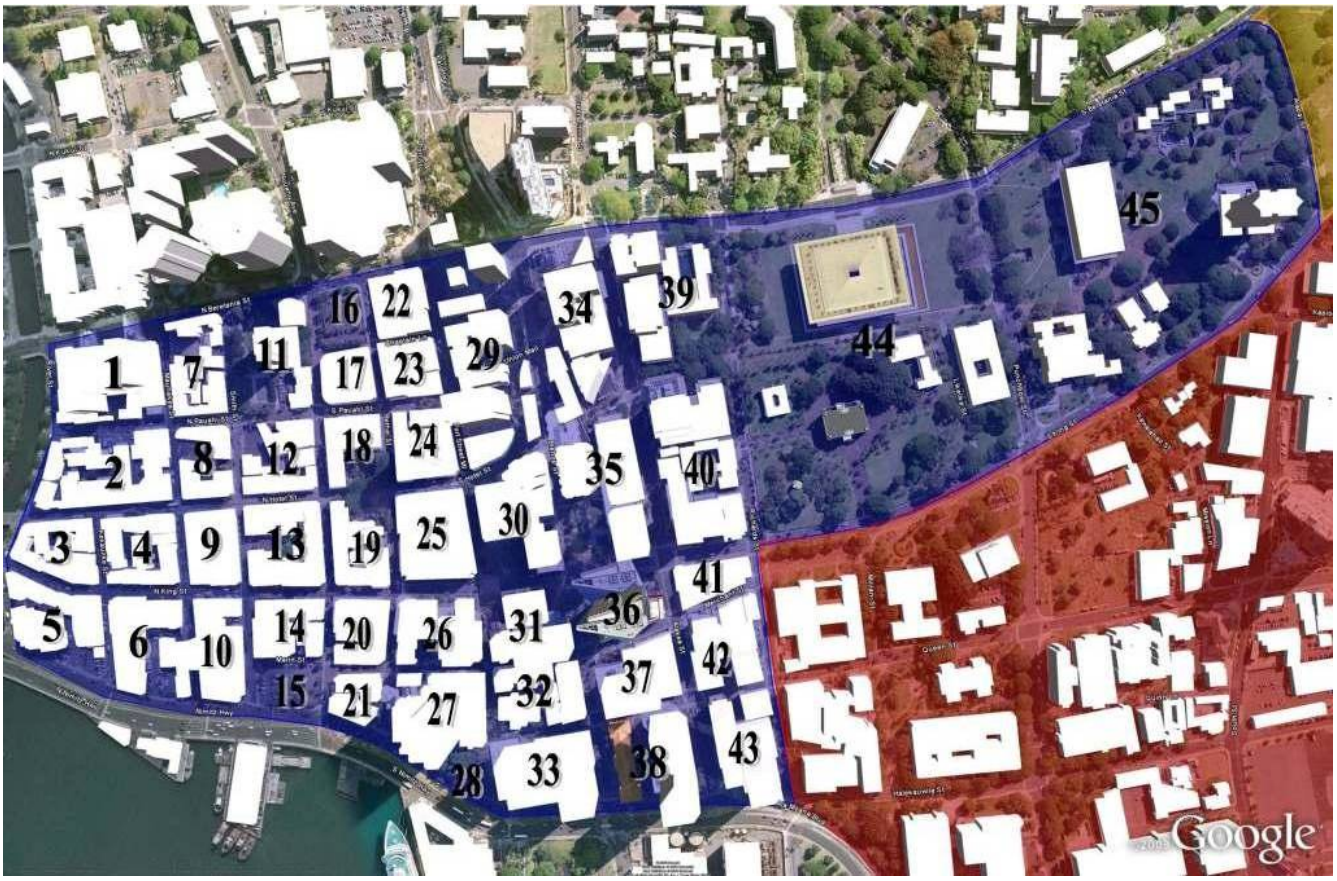
		Off-Street			On-Street			
Block	Description	Public/Public	Public/Private	Private/Private	Meter	Time/Other	Loading	Total
ALL	On-Street	0	0	0	234	0	89	323
ALL	Surface Lot	0	388	19	0	0	0	407
ALL	Garage	2,032	4,943	854	0	0	0	7,829
ALL	Total	2,032	5,331	873	234	0	89	8,559

Source: Walker Parking Consultants, 2010.

The parking supply in the DT District was occupied as follows during the peak weekday period:

- On-street – 85%
- Surface Lots – 73%
- Parking Structures – 76%
- OVERALL – 76%

Figure 3: Downtown Parking Occupancy



Block	Off-Street	On-Street
1	100%	100%
2	N/A	100%
3	N/A	89%
4	66%	89%
5	46%	80%
6	39%	94%
7	41%	81%
8	46%	82%
9	N/A	93%
10	88%	100%
11	48%	79%
12	79%	65%
13	63%	60%
14	69%	89%
15	89%	N/A

Block	Off-Street	On-Street
16	100%	100%
17	70%	70%
18	N/A	71%
19	80%	N/A
20	62%	92%
21	N/A	100%
22	N/A	N/A
23	N/A	100%
24	N/A	71%
25	76%	N/A
26	69%	89%
27	80%	N/A
28	N/A	N/A
29	70%	N/A
30	55%	N/A

Block	Off-Street	On-Street
AVERAGE	76%	85%

Block	Off-Street	On-Street
31	69%	N/A
32	N/A	88%
33	85%	N/A
34	75%	N/A
35	90%	N/A
36	60%	N/A
37	55%	100%
38	80%	91%
39	N/A	N/A
40	73%	100%
41	N/A	100%
42	82%	100%
43	65%	90%
44	72%	84%
45	90%	83%

Source: Walker Parking Consultants, 2010.

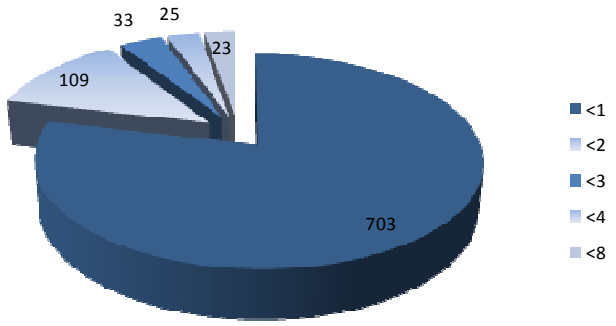
These findings suggest that spaces are available within the parking supply in the DT District, which may be a function of rate structures and validations for privately-owned but publicly-available parking supplies.

2.2.3 TURNOVER AND DURATION

In line with the 1973 study, Walker performed license plate inventories each half hour for a sample of on-street spaces within the DT District. Walker utilized the same routes (combining some) to be as consistent as possible. Some of the on-street meters have been removed in the CBD to allow for greater roadway capacity. The following table summarizes our findings:

Table 3: On-street Duration – DT District

Duration									
Length of Stay (Hrs)	0.5	1	1.5	2	2.5	3	3.5	4	4.5
Route 1	62	23	9	6	4	1	5	3	0
Route 2	184	102	35	13	6	9	5	2	2
Route 3	241	91	34	12	10	3	5	5	1
TOTAL	487	216	78	31	20	13	15	10	3
% of Total	55%	24%	9%	3%	2%	1%	2%	1%	0%
Length of Stay (Hrs)	5	5.5	6	6.5	7	7.5	8	8.5	9
Route 1	0	0	0	0	0	3	0	0	0
Route 2	0	2	0	0	0	0	1	0	0
Route 3	1	1	2	3	2	4	1	0	0
TOTAL	1	3	2	3	2	7	2	0	0
% of Total	0%	0%	0%	0%	0%	1%	0%	0%	0%



Source: Walker Parking Consultants, 2010.

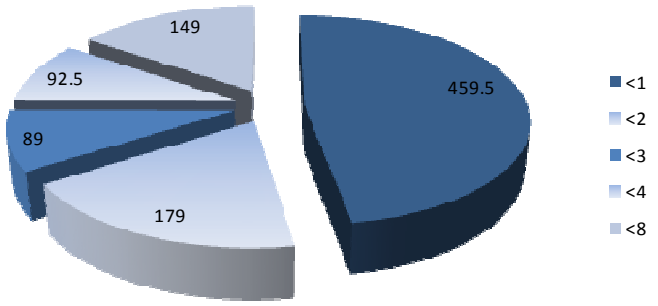
As evident from the summary data in Table 3, the majority of vehicles parked at on-street meters were there for an hour or less.

Another way to look at that same information is to assess the usage of the meters (as opposed to how vehicles used the spaces); space-hours is the term assigned to evaluate this analysis. The table above tells us

about the volume of vehicles, and not the volume of time that each space was used versus the total amount of time the space could be used. For instance, 78 vehicles were observed to be parked at a meter for 1.5 hours, but that also means that each of those vehicles were there for three consecutive periods; therefore the space was not available to other users (possibly shorter term users) during that period.

Table 4: On-street Space Utilization – DT District

Space Utilization									
Length of Stay	0.5	1	1.5	2	2.5	3	3.5	4	4.5
Space-Hours Utilized	244	216	117	62	50	39	52.5	40	13.5
% of Total	25%	22%	12%	6%	5%	4%	5%	4%	1%
Length of Stay	5	5.5	6	6.5	7	7.5	8	8.5	9
Space-Hours Utilized	5	17	12	19.5	14	52.5	16	0	0
% of Total	1%	2%	1%	2%	1%	5%	2%	0%	0%



Source: Walker Parking Consultants, 2010.

Using this type of evaluation we see how the spaces were used, and some identifiable trends become more apparent. We see a gradual decline until 3.5 to 4 hours, at which point there is an increase. This falls in line with the possibility that vehicles were moved during a lunch break creating two periods of 3.5 to 4 hours. There is another spike at 7.5 to 8 hours, which is consistent with an employee 8-hour workday. This data may suggest that employees are utilizing on-street metered spaces in the DT District.

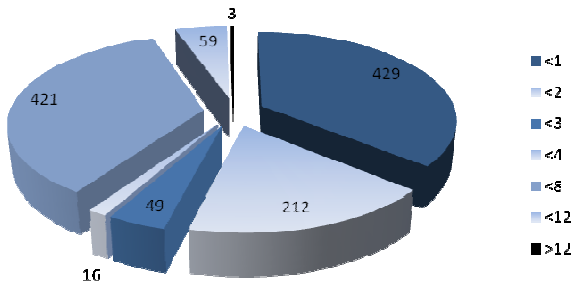
Interestingly, the entire on-street parking supply covered within the three routes is limited to one-hour parking. Some of the stays that were longer than an hour were due to construction traffic and permits to park on-street. Although duration shows that a significant number of vehicles were able to utilize these on-street spaces for short-term parking, the space turnover also accounts for the length of time that a space is taken by a vehicle. We estimate that roughly 25% of the space-hours

that we observed were utilized by vehicles staying 3.5 hours or longer. Given the limited on-street parking supply available in downtown and Chinatown, fewer construction permits should be allowed and/or more length of stay violations should be written.

Walker requested entry and exit data to gauge turnover and duration for the City and County owned facilities. Data for three facilities were provided by the parking operators; Hale Pauahi, Kekaulike, and Marin Tower. The average length of stay for Hale Pauahi was one hour and sixteen minutes (1:16). The average length of stay for Kekaulike was fifty-three minutes (0:53). The average length of stay for Marin Tower was three hours and thirty-five minutes (3:35).

Table 5: Duration – Off-Street Parking

Duration										
Length of Stay	<0:30	<1:00	<1:30	<2:00	<2:30	<3:00	<3:30	<4:00	<4:30	<5:00
Hale Pauahi	24	45	29	16	6	4	1	1	1	1
Kekaulike	120	154	69	37	10	5	4	2	0	0
Marin Tower	36	50	36	25	16	8	3	5	2	1
TOTAL	180	249	134	78	32	17	8	8	3	2
Length of Stay	<5:30	<6:00	<6:30	<7:00	<7:30	<8:00	<8:30	<9:00	<9:30	<10:00
Hale Pauahi	0	0	0	0	0	0	0	0	1	0
Kekaulike	0	0	1	0	0	0	0	0	0	0
Marin Tower	0	3	3	1	3	3	2	7	13	13
TOTAL	0	3	4	1	3	3	2	7	14	13
Length of Stay	<10:30	<11:00	<11:30	<12:00	<12:30	<13:00	<13:30	<14:00	<14:30	<15:00
Hale Pauahi	0	0	0	0	0	0	0	1	0	0
Kekaulike	0	0	0	0	0	0	0	0	0	0
Marin Tower	10	4	8	1	1	0	0	0	1	0
TOTAL	10	4	8	1	1	0	0	1	1	0

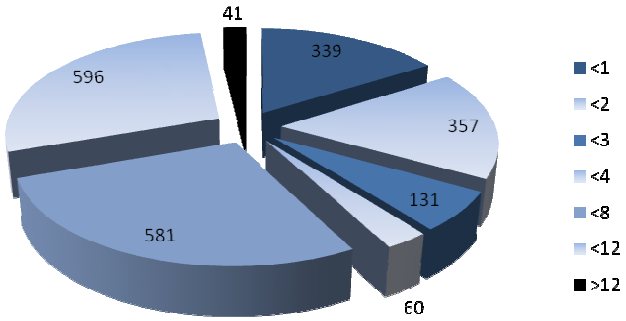


Source: Walker Parking Consultants, 2010.

The three facilities that we had data for differ in patron type based on length of stay (duration). Hale Pauahi and Kekaulike both cater to short-term visitors while Marin Tower is available to long-term parkers as well as short-term parkers. This disparity in transient use reinforces that further study should be undertaken regarding the remainder of the city-owned off-street facilities once data is made available.

Table 6: Space Utilization – Off-Street Parking

Space Utilization										
Length of Stay	<0:30	<1:00	<1:30	<2:00	<2:30	<3:00	<3:30	<4:00	<4:30	<5:00
Hale Pauahi	12	45	43.5	32	15	12	3.5	4	4.5	5
Kekaulike	60	154	103.5	74	25	15	14	8	0	0
Marin Tower	18	50	54	50	40	24	10.5	20	9	5
TOTAL	90	249	201	156	80	51	28	32	13.5	10
Length of Stay	<5:30	<6:00	<6:30	<7:00	<7:30	<8:00	<8:30	<9:00	<9:30	<10:00
Hale Pauahi	0	0	0	0	0	0	0	0	9.5	0
Kekaulike	0	0	6.5	0	0	0	0	0	0	0
Marin Tower	0	18	19.5	7	22.5	24	17	63	123.5	130
TOTAL	0	18	26	7	22.5	24	17	63	133	130
Length of Stay	<10:30	<11:00	<11:30	<12:00	<12:30	<13:00	<13:30	<14:00	<14:30	<15:00
Hale Pauahi	0	0	0	0	0	0	0	14	0	0
Kekaulike	0	0	0	0	0	0	0	0	0	0
Marin Tower	105	44	92	12	12.5	0	0	0	14.5	0
TOTAL	105	44	92	12	12.5	0	0	14	14.5	0



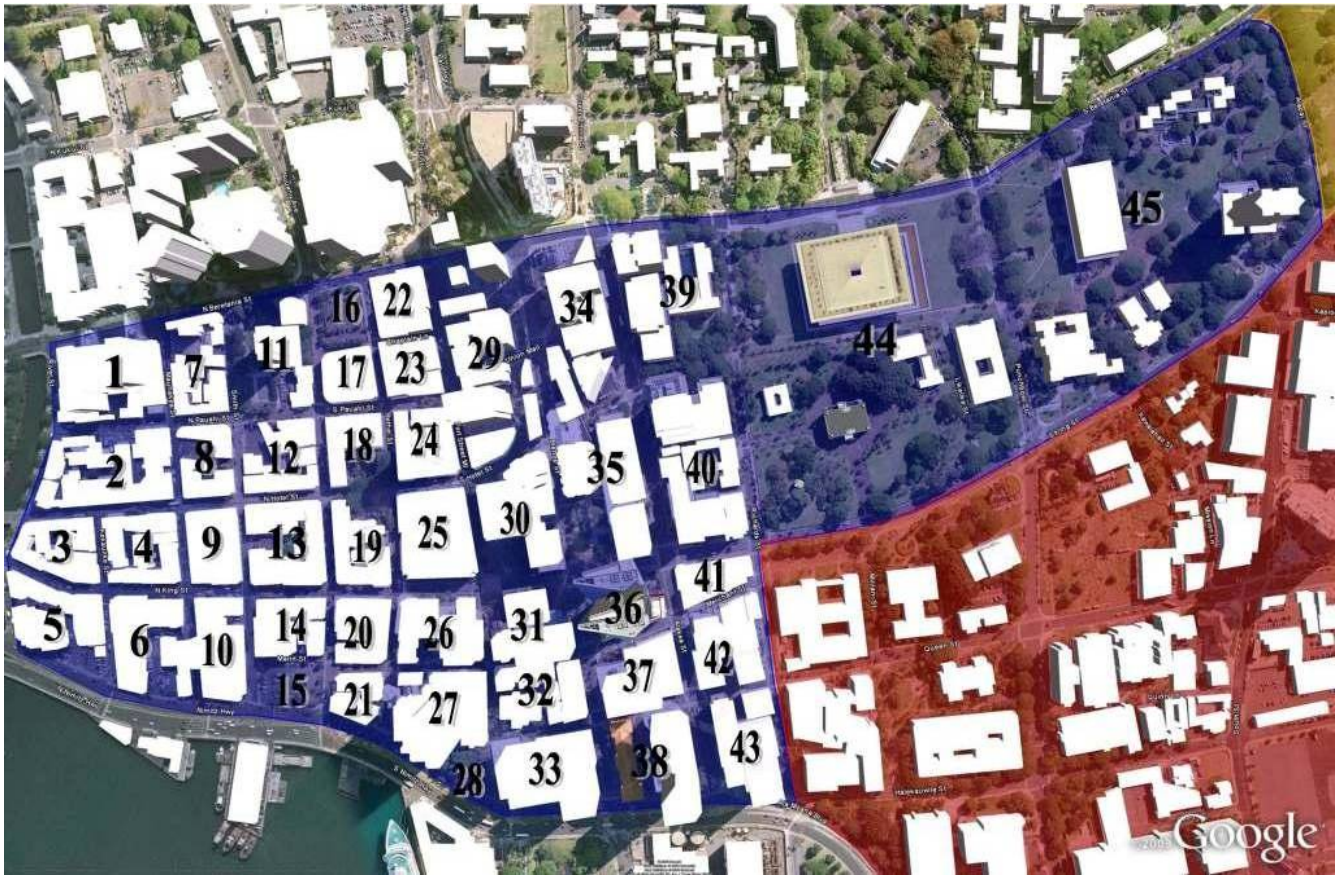
Source: Walker Parking Consultants, 2010.

2.2.4 PARKING RATES

Parking rates in Downtown and Chinatown reflect the density and type of land uses that the parking supply serves. With increased density with highrise towers, rates are necessarily high for both transient and monthly parkers. Rates in Chinatown related most closely to transient parking requirements, but are also heavily impacted by the low rates provided in city-owned parking facilities and on-street meters.

The following figure provides block-by-block average rates.

Figure 4: Downtown–Parking Rates



Block	Hourly	Max	Monthly	Block	Hourly	Max	Monthly	Block	Hourly	Max	Monthly
1	$1.50	$21.00	$90.00	16	$6.00	$50.00	N/A	31	N/A	N/A	N/A
2	N/A	N/A	N/A	17	$6.00	$50.00	$150.00	32	N/A	N/A	N/A
3	N/A	N/A	N/A	18	N/A	N/A	N/A	33	$6.50	$45.00	$230.00
4	$1.50	$21.00	$125.00	19	$1.50	$21.00	$150.00	34	$3.00	$30.00	N/A
5	$1.75	N/A	N/A	20	N/A	N/A	N/A	35	$8.00	$64.00	N/A
6	$2.00	N/A	N/A	21	N/A	N/A	N/A	36	$6.50	$32.50	$300.00
7	$2.00	N/A	N/A	22	N/A	N/A	N/A	37	$9.00	$48.00	N/A
8	$3.00	N/A	N/A	23	N/A	N/A	N/A	38	$8.00	$64.00	N/A
9	N/A	N/A	N/A	24	N/A	N/A	N/A	39	N/A	N/A	N/A
10	$1.50	$21.00	$125.00	25	$6.00	$60.00	N/A	40	$6.50	$42.00	N/A
11	$1.50	$21.00	N/A	26	$7.00	$35.00	N/A	41	N/A	N/A	N/A
12	$5.00	$12.00	N/A	27	$1.50	$21.00	N/A	42	$7.00	$42.00	N/A
13	$5.00	$5.00	N/A	28	N/A	N/A	N/A	43	$8.00	$75.00	N/A
14	$3.00	$24.00	N/A	29	$6.50	$35.00	N/A	44	$1.00	N/A	N/A
15	$6.00	$20.00	N/A	30	$6.00	$30.00	$245.00	45	$1.50	N/A	N/A

Block	Hourly	Max	Monthly
TOTAL	$4.49	$35.58	$176.88

Source: Walker Parking Consultants, 2010.

2.3 KAKA'AKO MAUKA DETAIL

The bounds of the Kaka'ako Mauka ("KA") District are Richards Street to the west, King Street to the north, Ward Avenue to the east, and Nimitz Highway/Ala Moana Boulevard to the south. This district includes several local, state and federal buildings, cultural sites, numerous automobile dealerships, auto repair shops (and other light industrial), and Hawaiian Electric Company. The character of this district moves from governmental and cultural land uses to light industrial from west to east. Another fairly large land use is a public utility. This district has been identified by the Hawaii Community Development Authority as a redevelopment area. Therefore the plan is to replace many low-rise buildings and light industrial facilities with new and likely more dense land uses. The price of parking toward downtown is significantly higher than that near Ala Moana where many lots are open (without access control) and on-street spaces are not metered.

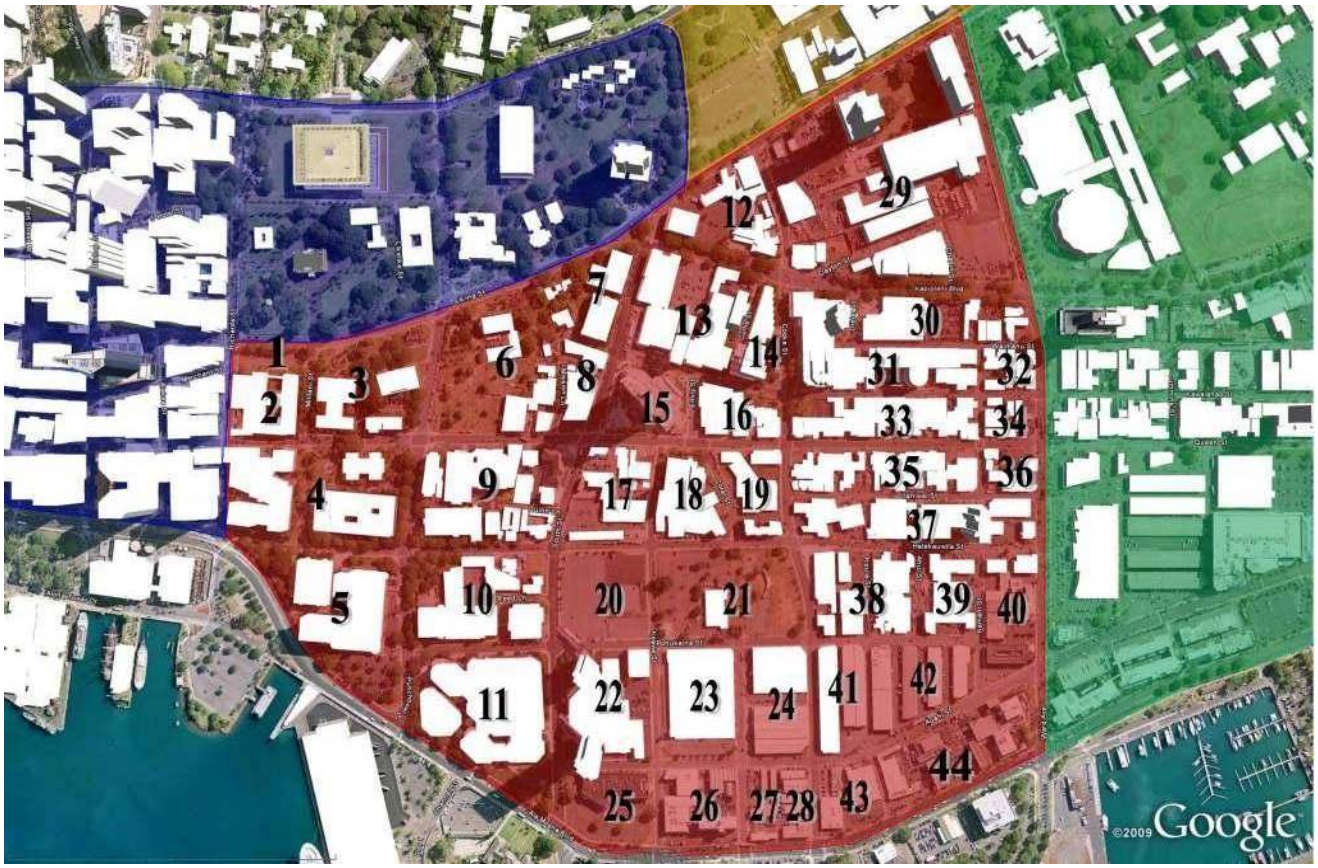
The existence of light industrial land uses in this district has seemingly made many road improvements that are common throughout the rest of the study area a non-issue for Kaka'ako Mauka. This being the case there are few curbs within the local street grid, and therefore many unofficial on-street spaces are utilized by the auto repair shops. Aside from these unmarked on-street spaces, many marked spaces and metered spaces also can be found within the KA District.

Bus routes run along the borders of this district and through many of the major streets within it. There is a void of bus routes in the southeastern quadrant where many of the auto repair and light industrial uses are found. The mix of land uses within this area does not support pedestrian linkage well. There is also little biking linkage, but the Oahu Bike Plan shows several future linkage opportunities.

2.3.1 INVENTORY

The parking supply within this District is diverse. Many of the parking spaces within the southeastern quadrant of the district serve as vehicle storage for the automobile dealerships and repair shops. Large parking structures can be found in the western parts of the district near downtown and along the northern edge. Kaka'ako Mauka contains a large number of on-street parking spaces. Many of the on-street spaces are not metered or lined. Metered on-street parking spaces are found in the western and northern portions of this district.

Figure 5: Kaka'Ako Parking Inventory



Block	Off-Street	On-Street
1	0	40
2	15	7
3	81	55
4	922	14
5	182	0
6	28	38
7	317	30
8	53	9
9	979	27
10	637	44
11	1,245	5
12	188	8
13	894	25
14	0	4
15	31	15

Block	Off-Street	On-Street
16	0	8
17	160	16
18	223	10
19	67	7
20	785	14
21	328	65
22	93	8
23	184	21
24	0	33
25	195	14
26	237	23
27	13	6
28	19	0
29	496	36
30	60	0

Block	Off-Street	On-Street
31	304	42
32	0	0
33	15	3
34	11	0
35	38	28
36	62	3
37	829	3
38	78	20
39	97	24
40	174	12
41	120	11
42	264	0
43	82	11
44	181	0

Block	Off-Street	On-Street
TOTAL	10,687	739

Source: Walker Parking Consultants, 2010.

Table 7: Parking Supply – KA District

Block	Description	Off-Street			On-Street			Total
		Public/Public	Public/Private	Private/Private	Meter	Time/Other	Loading	
ALL	On-Street	0	0	0	526	73	54	653
ALL	Surface Lot	1,754	278	2,361	79	7	0	4,479
ALL	Garage	1,383	1,318	3,593	0	0	0	6,294
ALL	TOTAL	3,137	1,596	5,954	605	80	54	11,426

Source: Walker Parking Consultants, 2010.

On-street parking represents only 6% of the total parking supply. Surface Lots represent 39% of the total supply. Parking structures, both below and above grade, account for 55% of the parking supply in the KA District.

2.3.2 OCCUPANCY

Walker also performed a parking occupancy count during peak weekday conditions. The detailed information collected for that effort may be found within the appendices; a summary of the parking occupancy is provided in the following table.

Table 8: Parking Occupancy – KA District

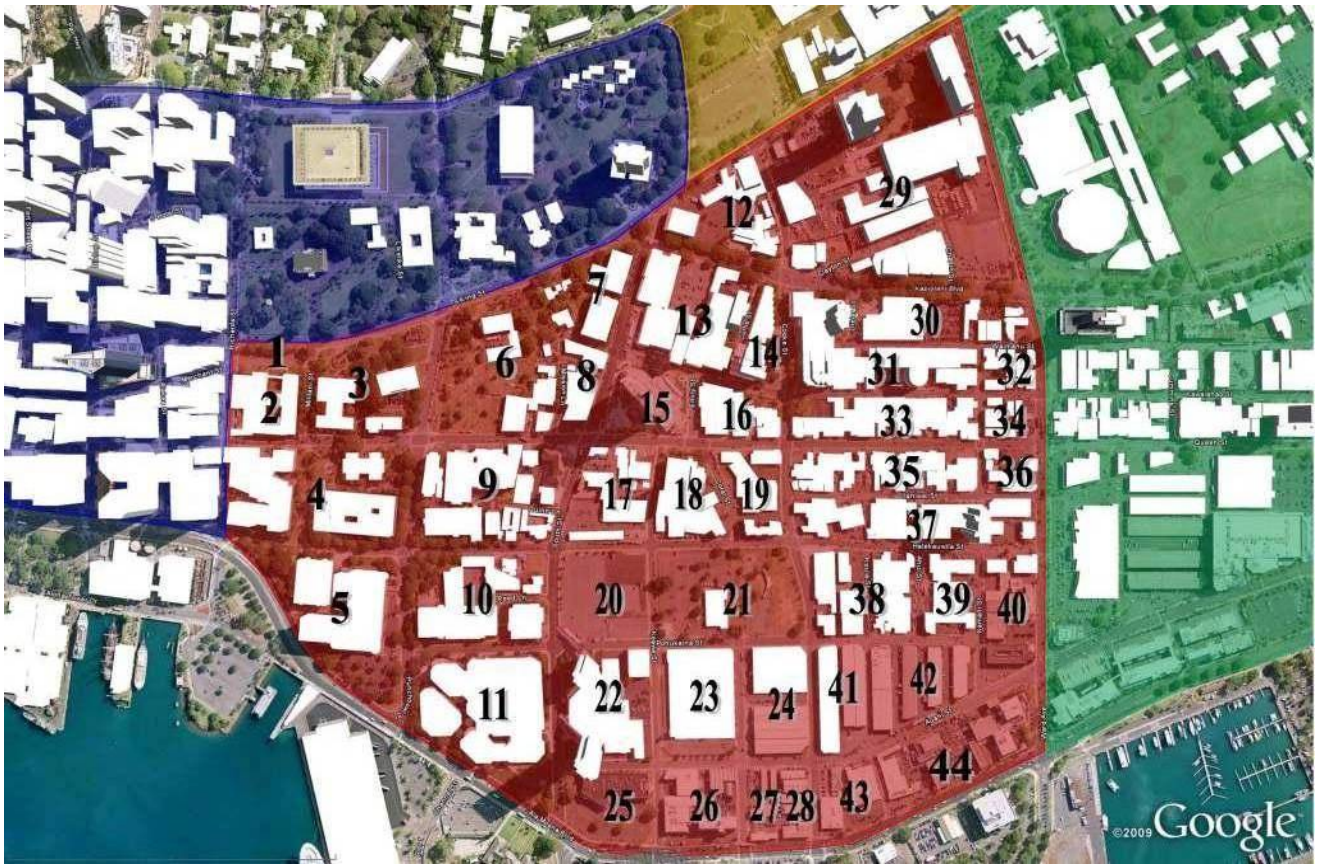
Block	Description	Off-Street			On-Street			Total
		Public/Public	Public/Private	Private/Private	Meter	Time/Other	Loading	
ALL	On-Street	0	0	0	385	70	53	508
ALL	Surface Lot	962	198	1,286	69	5	0	2,520
ALL	Garage	951	967	2,486	0	0	0	4,404
ALL	TOTAL	1,648	1,165	3,772	432	59	53	7,432

Source: Walker Parking Consultants, 2010.

The parking supply in the KA District was occupied as follows during the peak weekday period:

- On-street – 78%
- Surface Lots – 56%
- Parking Structures – 70%
- OVERALL – 65%

Figure 6: Kaka'Ako Parking Occupancy



Block	Off-Street	On-Street
1	N/A	83%
2	67%	86%
3	75%	91%
4	61%	100%
5	70%	N/A
6	75%	66%
7	76%	83%
8	32%	111%
9	78%	100%
10	52%	100%
11	85%	80%
12	51%	88%
13	82%	100%
14	N/A	100%
15	30%	73%

Block	Off-Street	On-Street
16	N/A	88%
17	71%	63%
18	61%	80%
19	60%	71%
20	42%	57%
21	81%	58%
22	65%	100%
23	45%	33%
24	N/A	42%
25	2%	86%
26	65%	91%
27	38%	67%
28	50%	N/A
29	67%	78%
30	88%	N/A

Block	Off-Street	On-Street
AVERAGE	62%	74%

Block	Off-Street	On-Street
31	50%	100%
32	N/A	N/A
33	75%	67%
34	55%	N/A
35	60%	100%
36	72%	33%
37	53%	100%
38	57%	45%
39	66%	100%
40	52%	42%
41	57%	20%
42	55%	N/A
43	51%	100%
44	53%	N/A

Source: Walker Parking Consultants, 2010.

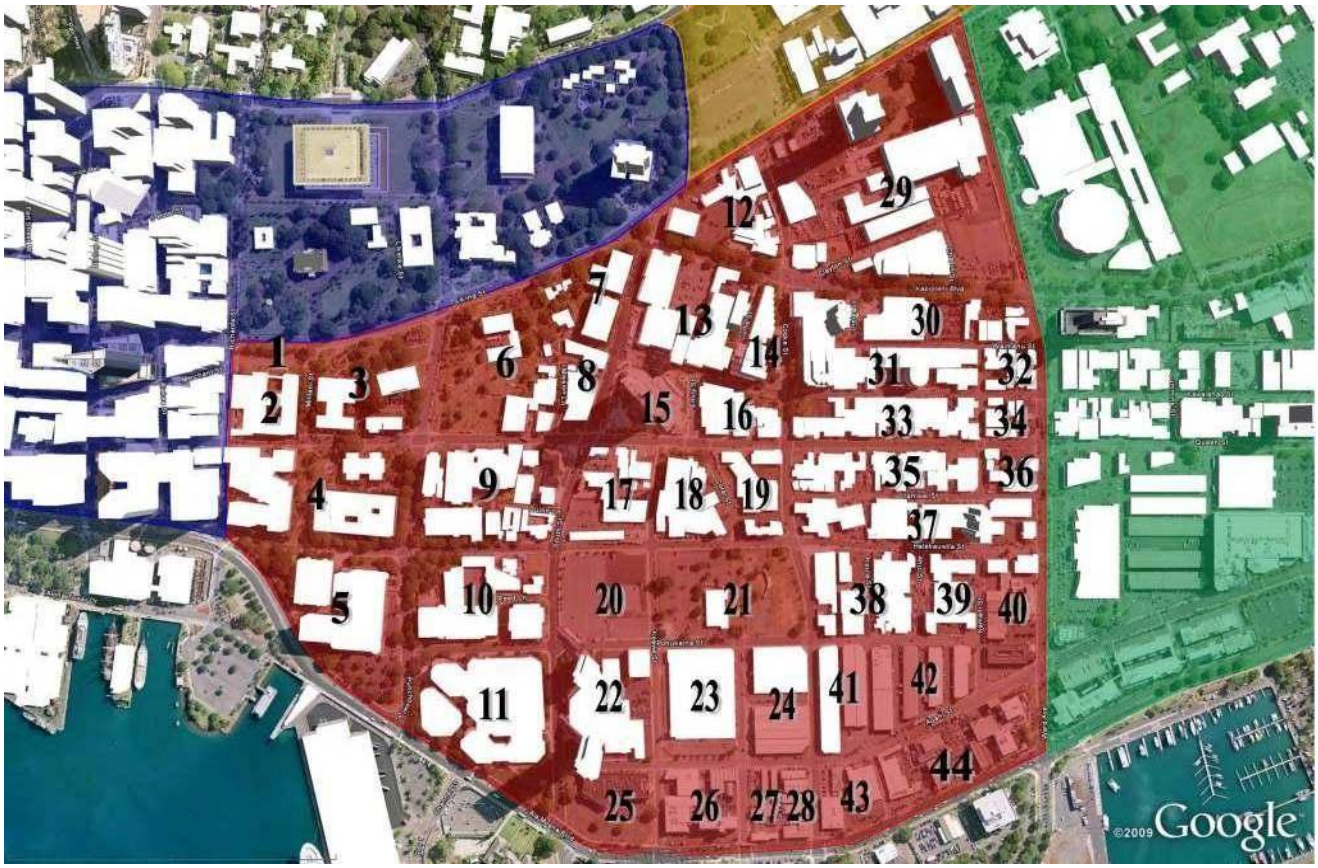
These findings suggest that spaces are available within the parking supply in the KA District. The majority of this district has been identified for redevelopment, which suggests low density and perhaps lower building occupancy. Of the nearly 4,000 vacant peak-hour parking spaces, roughly half are found within surface parking lots. These spaces may serve as surplus parking for the DT District if needed in the near-term. Land owners here may profit from the use of these surface spaces with little or no additional investment.

2.3.3 PARKING RATES

Because of the quick transition from the density of Downtown to the large scale retail in Ala Moana, parking rates in Kaka'Ako are high ewa and lower as one moves diamondhead toward Ala Moana Shopping Center.

The following table and figure provide insight into the various parking rates charged in Kaka'Ako.

Figure 7: Kaka'Ako Parking Rates



Block	Hourly	Daily Max	Monthly
1	$1.50	N/A	N/A
2	N/A	N/A	N/A
3	$1.50	N/A	N/A
4	$3.25	$30.00	N/A
5	N/A	N/A	N/A
6	N/A	N/A	N/A
7	$3.00	$20.00	N/A
8	N/A	N/A	N/A
9	N/A	N/A	N/A
10	$5.00	$10.00	N/A
11	$6.00	$33.00	$178.00
12	N/A	N/A	N/A
13	$6.00	$39.00	N/A
14	N/A	N/A	N/A
15	N/A	N/A	N/A

Block	Hourly	Daily Max	Monthly
16	N/A	N/A	N/A
17	N/A	N/A	N/A
18	$2.50	$10.00	
19	N/A	N/A	N/A
20	N/A	N/A	N/A
21	N/A	$6.00	$120.00
22	N/A	N/A	N/A
23	N/A	N/A	N/A
24	N/A	N/A	N/A
25	N/A	N/A	N/A
26	N/A	N/A	N/A
27	N/A	N/A	N/A
28	N/A	N/A	N/A
29	$1.50	$8.00	N/A
30	N/A	N/A	N/A

Block	Hourly	Daily Max	Monthly
AVERAGE	$2.89	$17.89	$149.00

Block	Hourly	Daily Max	Monthly
31	N/A	N/A	N/A
32	N/A	N/A	N/A
33	N/A	N/A	N/A
34	N/A	N/A	N/A
35	N/A	N/A	N/A
36	N/A	N/A	N/A
37	$0.75	N/A	N/A
38	N/A	N/A	N/A
39	N/A	N/A	N/A
40	$0.75	$5.00	N/A
41	N/A	N/A	N/A
42	N/A	N/A	N/A
43	N/A	N/A	N/A
44	N/A	N/A	N/A

Source: Walker Parking Consultants, 2010.

2.4 ALA MOANA DETAIL

The bounds of the Ala Moana ("AM") District are Ward Avenue to the west, King Street to the north, Keeaumoku Street to the east, and Nimitz Highway/Ala Moana Boulevard to the south. This district includes the Neil Blaisdell Center (and parking facility), The McKinley High School campus, single-family and multi-family residential, the Ala Moana Shopping Center, Ward Center and Ward Gateway Center as well as some light industrial space. Although pockets of residential, the Blaisdell Center, and McKinley High School, exist, it is largely the retail centers between Ala Moana Boulevard and Kapiolani Boulveard that distinguish this district from the others. Although real estate prices are high in this area as well, parking fees are either subsidized or free as a way to entice retail shoppers to the area. The cost of providing parking is likely buried within tenant lease agreement and cannot be separated from the value of the retail square footage.

Ala Moana maintains a fairly large number of on-street parking spaces, but could provide more by evaluating the need for wide streets. Some on-street spaces also exist along Kapiolani Boulevard, but are only available for use between 6:30PM and 6:00AM Monday through Saturday (available all day Sunday) to accommodate the increased east-west traffic load.

There are several bus routes running to and through this district, linking the population of Honolulu to the retail/service employment and shopping located in Ala Moana. Both local and express bus lines service this district, making transit a reasonable option for employees, visitors, and residents. The scale of development and lack of clear pathways may discourage walking and biking to the district for employees and visitors. Those living within Ala Moana may choose to walk for dining trips, small shopping outings, or employment, but would otherwise likely utilize an automobile due to the free and available parking.

2.4.1 INVENTORY

Parking supply exists within this district to serve visitors, residents, employee, and event-goers. While the majority of parking is related to the daytime retail land uses, there are a few high-rise residential towers that also provide structured parking for their tenants. The city and county owns the parking lot and garage associated with the Neil Blaisdell Center. This facility offers over 1,500 total spaces and is generally utilized for events at the center. Aside from event parking,

the facility also offers monthly parking for downtown employees at a reduced rate.

On-street parking is also available throughout Ala Moana. It is not a prevalent form of parking in the district though, as most blocks were developed on an automobile scale and therefore are somewhat self-contained. Nonetheless, small pockets of on-street parking do exist throughout the district.

Walker performed a detailed inventory of the parking supply of the AM District which can be found in the appendices; the following table provides a summary of the inventory broken down by type.

Table 9: Parking Supply – AM District

		Off-Street			On-Street			
Block	Description	Public/Public	Public/Private	Private/Private	Meter	Time/Other	Loading	Total
ALL	On-Street	0	0	0	220	172	35	427
ALL	Surface Lot	85	0	3,558	0	0	0	3,643
ALL	Garage	1,460	0	13,276	0	0	0	14,736
ALL	Total	1,545	0	16,834	220	172	35	18,806

Source: Walker Parking Consultants, 2010.

On-street parking represents only 2% of the total parking supply. Surface Lots represent 19% of the total supply. And parking structures account for the balance, or 78%, of the parking supply.

At 42% (7,890 spaces) of the overall parking supply within the AM District, the Ala Moana Shopping Center parking facility dominates the market.

Figure 8: Ala Moana Parking Inventory

Block	Off-Street	On-Street	Block	Off-Street	On-Street	Block	Off-Street	On-Street
1	1,545	51	16	44	0	31	5	12
2	629	0	17	980	0	32	22	0
3	145	0	18	15	5	33	54	0
4	108	0	19	0	30	34	58	0
5	182	0	20	0	25	35	27	0
6	50	10	21	76	0	36	0	0
7	1,139	19	22	0	22	37	28	0
8	904	18	23	35	21	38	1,250	29
9	655	3	24	0	0	39	13	0
10	115	45	25	47	2	40	358	12
11	105	18	26	37	5	41	403	0
12	76	18	27	62	1	42	535	0
13	109	8	28	35	5	43	122	0
14	92	0	29	0	5	44	7,890	15
15	64	48	30	365	0			

Block	Off-Street	On-Street
TOTAL	18,379	427

Source: Walker Parking Consultants, 2010.

2.4.2 OCCUPANCY

Walker also performed a parking occupancy count during peak weekday conditions. The detailed information collected for that effort may be found within the appendices; a summary of the parking occupancy is provided in the following table.

Table 10: Parking Occupancy – AM District

		Off-Street			On-Street			
Block	Description	Public/Public	Public/Private	Private/Private	Meter	Time/Other	Loading	Total
ALL	On-Street	0	0	0	145	136	34	315
ALL	Surface Lot	72	0	2,717	0	0	0	2,789
ALL	Garage	1,098	0	9,358	0	0	0	10,456
ALL	Total	1,170	0	12,075	145	136	34	13,560

Source: Walker Parking Consultants, 2010.

The parking supply in the AM District was occupied as follows during the peak weekday period:

- On-street 74%
- Surface Lots 77%
- Parking Structures 71%
- OVERALL 72%

These findings suggest that spaces are available within the parking supply in the AM District. Because parking is free in this area we believe that the parking supply within this district is adequate and could provide a parking surplus for use as overflow satellite parking for the DT District if necessary. Over 5,200 spaces were available at the peak weekday hour in Ala Moana (nearly 1,800 of the surplus come from the Ala Moana Shopping Center parking facility).

If we remove the Ala Moana Shopping Center parking facility (7,890 spaces) from the analysis, the occupancy percentage for structured parking would increase to 78% from 71%, and the overall market parking supply would increase to 77% from 72%.

2.4.3 PARKING RATES

Parking rates in Ala Moana are very low, which is in large part due to the large retail land use therein. The following table and figure highlight those blocks that have paid parking, and the rates charged.

Figure 9: Ala Moana Parking Occupancy

Block	Hourly	Max	Monthly	Block	Hourly	Max	Monthly	Block	Hourly	Max	Monthly
1	N/A	$6.00	$120.00	16	N/A	N/A	N/A	31	N/A	N/A	N/A
2	N/A	N/A	N/A	17	N/A	N/A	N/A	32	N/A	N/A	N/A
3	N/A	N/A	N/A	18	N/A	N/A	N/A	33	N/A	N/A	N/A
4	N/A	N/A	N/A	19	N/A	N/A	N/A	34	N/A	N/A	N/A
5	N/A	N/A	N/A	20	N/A	N/A	N/A	35	N/A	N/A	N/A
6	N/A	N/A	N/A	21	N/A	N/A	N/A	36	N/A	N/A	N/A
7	N/A	N/A	N/A	22	N/A	N/A	N/A	37	N/A	N/A	N/A
8	N/A	N/A	N/A	23	N/A	N/A	N/A	38	N/A	N/A	N/A
9	N/A	N/A	N/A	24	N/A	N/A	N/A	39	N/A	N/A	N/A
10	N/A	N/A	N/A	25	N/A	N/A	N/A	40	$2.00	N/A	N/A
11	$1.50	$2.00	N/A	26	N/A	N/A	N/A	41	N/A	N/A	N/A
12	N/A	N/A	N/A	27	N/A	N/A	N/A	42	N/A	N/A	N/A
13	N/A	N/A	N/A	28	N/A	N/A	N/A	43	N/A	N/A	N/A
14	N/A	N/A	N/A	29	N/A	N/A	N/A	44	N/A	N/A	N/A
15	N/A	N/A	N/A	30	N/A	N/A	N/A				

Block	Hourly	Max	Monthly
TOTAL	$1.75	$4.00	$120.00

Source: Walker Parking Consultants, 2010.

Figure 10: Ala Moana Parking Rates

Block	Hourly	Daily Max	Monthly
1	$1.50	N/A	N/A
2	N/A	N/A	N/A
3	$1.50	N/A	N/A
4	$3.25	$30.00	N/A
5	N/A	N/A	N/A
6	N/A	N/A	N/A
7	$3.00	$20.00	N/A
8	N/A	N/A	N/A
9	N/A	N/A	N/A
10	$5.00	$10.00	N/A
11	$6.00	$33.00	$178.00
12	N/A	N/A	N/A
13	$6.00	$39.00	N/A
14	N/A	N/A	N/A
15	N/A	N/A	N/A

Block	Hourly	Daily Max	Monthly
16	N/A	N/A	N/A
17	N/A	N/A	N/A
18	$2.50	$10.00	
19	N/A	N/A	N/A
20	N/A	N/A	N/A
21	N/A	$6.00	$120.00
22	N/A	N/A	N/A
23	N/A	N/A	N/A
24	N/A	N/A	N/A
25	N/A	N/A	N/A
26	N/A	N/A	N/A
27	N/A	N/A	N/A
28	N/A	N/A	N/A
29	$1.50	$8.00	N/A
30	N/A	N/A	N/A

Block	Hourly	Daily Max	Monthly
AVERAGE	$2.89	$17.89	$149.00

Block	Hourly	Daily Max	Monthly
31	N/A	N/A	N/A
32	N/A	N/A	N/A
33	N/A	N/A	N/A
34	N/A	N/A	N/A
35	N/A	N/A	N/A
36	N/A	N/A	N/A
37	$0.75	N/A	N/A
38	N/A	N/A	N/A
39	N/A	N/A	N/A
40	$0.75	$5.00	N/A
41	N/A	N/A	N/A
42	N/A	N/A	N/A
43	N/A	N/A	N/A
44	N/A	N/A	N/A

Source: Walker Parking Consultants, 2010.

2.5 MAKIKI DETAIL

The bounds of the Makiki ("MK") District are Alapai Street to the west, Beretania Street to the north, Keeaumoku Street to the east, and King Street to the south. This district includes the Honolulu Police Department, Thomas Square Park, both Straub and Kaiser Permanente Medical Centers, Academy of the Arts, as well as single-story retail along King and Beretania, and multi-family residential fronting on Young Street. Although this is the smallest district within the study area, it too is diverse in land use and user group. Many of the buildings in this district are somewhat dated but reflect a gradual shift from the high-rises and grand scale of the CBD and municipal core toward residential land uses found mauka of H-1 and toward Kapiolani and Kaimuki. There is also a significant medical services component in this sliver of the study area.

Real estate values are slightly lower than Ala Moana and Downtown, but based on the age of many buildings, property values have likely appreciated significantly since the improvements were added to the land. A downside of this small-parcel development is the prevalence of small private lots that serve only the adjacent land use, and only during the hours of operation for that land use. Any redevelopment in this area should be accompanied by shared parking, and current land owners should be encouraged to participate if their property has a parking surplus or significant off-peak hours. There is paid parking within this district as well; some monthly and some transient (daily/hourly). Relative to the other districts, Makiki maintains a fairly large number of on-street parking spaces.

There are several bus routes running through this district linking the population of Honolulu to the retail/service employment, medical services and residential housing located in Makiki. Both local and express bus lines service this district, making transit a reasonable option for employees, visitors, and residents. The lack of clear pedestrian pathways may discourage walking to the district for employees and visitors, but the *Oahu Regional Bike Plan* identifies Young Street as a "bike path". Some of the retail and services offered within Makiki may also benefit from the residential component as some residents may choose to walk for dining trips, small shopping outings, and trips to the park.

Figure 11: Makiki Parking Inventory

Block	Off-Street	On-Street
1	236	21
2	619	14
3	594	9
4	0	30
5	206	60
6	715	30
7	219	33
8	233	21
9	246	43
10	995	40
Block	Off-Street	On-Street
TOTAL	4,063	301

Source: Walker Parking Consultants, 2010.

2.5.1 INVENTORY

Parking supply has been developed within this district somewhat piecemeal. Each individual parcel, regardless of size provides on-site parking supply. The parking supply serves residents, employees, visitors, and event-goers. There is currently a surplus of parking in the district due at least partly to vacancies in some of the buildings. The surplus serves long-term parkers who may work in the district, but may also work in the DT District where parking is expensive. The city and county owns a large surface lot located at the southwest edge of the district. This site is currently slated for redevelopment. Structured parking is provided at both medical centers in the district and for some mid-rise residential. The majority of retail space is served by surface parking lots adjacent to the building.

On-street parking is prevalent throughout Makiki. On-street spaces exist along nearly every block within the district. The spaces along Beretania Street are available at all times other than the morning commute, and those along King Street are available at all times other than the evening commute.

Walker performed a detailed inventory of the parking supply of the MK District which can be found in the appendices; the following table provides a summary of the inventory broken down by type.

Table11: Parking Supply – MK District

		Public/Public	Public/Private	Private/Private	Meter	Time/Other	Loading	Total
Block	Description	Off-Street			On-Street			
ALL	On-Street	0	0	0	233	43	25	301
ALL	Surface Lot	0	844	736	0	0	0	1,580
ALL	Garage	10	2,014	459	0	0	0	2,483
ALL	Total	10	2,858	1,195	233	43	25	4,364

Source: Walker Parking Consultants, 2010.

On-street parking represents only 7% of the total parking supply. Surface lots represent 36% of the total supply. And parking structures account for the balance, or 57%, of the parking supply.

2.5.2 OCCUPANCY

Walker also performed a parking occupancy count during peak weekday conditions. The detailed information collected for that effort may be found within the appendices; a summary of the parking occupancy is provided in the following table.

Table 12: Parking Occupancy – MK District

		Off-Street			On-Street			
Block	Description	Public/Public	Public/Private	Private/Private	Meter	Time/Other	Loading	Total
ALL	On-Street	0	0	0	151	43	12	206
ALL	Surface Lot	0	672	421	0	0	0	1,093
ALL	Garage	10	1,313	368	0	0	0	1,691
ALL	Total	10	1,985	789	151	43	12	2,990

Source: Walker Parking Consultants, 2010.

The parking supply in the MK District was occupied as follows during the peak weekday period:

- On-street 68%
- Surface Lots 69%
- Parking Structures 68%
- OVERALL 69%

These findings suggest that spaces are available within the parking supply in the MK District. Because parking is free in this area, we believe that the parking supply within this district is adequate and could provide a parking surplus for use as overflow satellite parking for the DT District if necessary. Walker's observations suggest over 1,300 spaces are available during the peak weekday hour in MK.

2.5.3 PARKING RATES

Parking rates in the small strip of Makiki are slightly lower than those in Kaka'Ako, but much higher than Ala Moana. The King Street and Beretania Street corridors likely are one influence. The existence of structured parking to serve the medical office buildings is another factor as the large parking facilities would likely otherwise become free peripheral parking for downtown employees.

Figure 12: Makiki Parking Occupancy

Block	Off-Street	On-Street
1	99%	81%
2	80%	93%
3	63%	100%
4	N/A	67%
5	81%	67%
6	74%	53%
7	73%	61%
8	70%	67%
9	47%	47%
10	55%	93%
Block	Off-Street	On-Street
TOTAL	69%	68%

Source: Walker Parking Consultants, 2010.

Figure 13: Makiki Parking Rates

Block	Hourly	Daily Max	Monthly
1	$1.50	$3.00	N/A
2	$5.00	$32.00	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A
5	$0.75	$10.00	N/A
6	$2.00	$10.00	N/A
7	N/A	N/A	N/A
8	N/A	N/A	N/A
9	N/A	N/A	N/A
10	$2.00	$25.00	N/A
Block	Hourly	Daily Max	Monthly
AVERAGE	$2.25	$16.00	N/A

Source: Walker Parking Consultants, 2010.

2.6 OVERALL STUDY AREA

The study area includes a very diverse set of land uses, but all urban. The city of Honolulu literally grew up and expanded from the initial core with historic churches and the Iolani Palace, Chinatown, and later added city and county and also state and federal buildings. Light industrial land uses developed to support the growing city near the port, and residential neighborhoods stretched from downtown toward Diamondhead. With the advent of the automobile, the urban landscape was altered and development began to scale accordingly. New development and redevelopment were built to include minimum parking requirements for automobiles as their use became a prevalent part of society.

The parking studies performed in 1973 and 1981 captured some of the issues related to automobile transportation, especially the single-occupant vehicle. Both studies highlighted the fact that additional parking spaces would be needed to serve a growing work population in the urban core, but also encouraged the birth and growth of a transit program to mitigate the impacts (congestion, air quality, infrastructure costs) associated with increased employment in downtown.

The character of Honolulu varies from one district to the next and within each district. Much of the study area reflects parking provided on a parcel-by-parcel basis, which has inherent inefficiencies. Many nearby land uses could share parking based on differing hours of activity or operation.

On-street parking has been provided throughout the urban core. Many of the spaces are impacted by time restrictions related to peak commute times and must be vacated to allow for increased traffic volumes. Other on-street spaces serve almost as vehicle storage as the study area moves away from the CBD.

There are several bus routes running to and through the study area linking the population of Honolulu to the jobs, government services, medical care, recreational opportunities, entertainment and shopping venues located in the urban core. Both local and express bus lines service the urban core, making transit a reasonable option for employees, visitors, and residents.

The study area as a whole is fairly pedestrian friendly. The scale of some blocks may be a barrier for visitors, but based on commute statistics, workers in Honolulu are not daunted by the scale. Biking is a

largely unrealized form of transportation in Honolulu. The moderate temperatures, relatively low rainfall and flat topography of the coastal plain make biking a great option for commuters and visitors alike. Currently, the network of bicycle route, lanes and paths is somewhat lacking, but have been identified for improvement in the *Oahu Bike Plan*.

2.6.1 INVENTORY

There are various types of parking supply found within the study area ranging from small unmarked spaces along an uncurbed street to behemoth parking structures. The majority of parking spaces in the study area are set aside for the use of employees, visitors, or residents of an associated land use. The city and county provide public off-street parking in the CBD and Chinatown, and on-street parking for remainder of areas. The city and county also provides public parking at the Blaisdell Center, which is used by nearby employees and employees of businesses (and government) located in downtown who utilize The Bus to shuttle from the center.

Walker compiled the detailed inventory of the parking supply from each of the four districts; the following table provides a summary of the inventory broken down by type.

Table 13: Parking Supply – Study Area

Inventory		Public/Public	Public/Private	Private/Private	Meter	Time/Other	Loading	Total
Block	Description	Off-Street			On-Street			
ALL	On-Street	0	0	0	1,242	288	232	1,762
ALL	Surface Lot	1,839	1,662	6,674	79	7	0	10,261
ALL	Garage	5,313	10,251	18,297	0	0	0	33,861
ALL	Total	7,152	11,913	24,971	1,321	295	232	45,884

Source: Walker Parking Consultants, 2010.

On-street parking represents only 4% of the total parking supply. Surface lots represent 22% of the total supply. Parking structures, both below and above grade, account for 74% of the parking supply in the study area.

2.6.2 OCCUPANCY

Walker also compiled the parking occupancy counts from the four districts, which has been summarized in the following table.

Table 14: Parking Occupancy – Study Area

Occupancy		Off-Street			On-Street			
		Public/Public	Public/Private	Private/Private	Meter	Time/Other	Loading	Total
Block	Description							
ALL	On-Street	0	0	0	915	249	188	1,352
ALL	Surface Lot	1,034	1,258	4,443	69	5	0	6,809
ALL	Garage	4,091	7,223	13,066	0	0	0	24,380
ALL	Total	5,125	8,481	17,509	984	254	188	32,541

Source: Walker Parking Consultants, 2010.

The parking supply in the study area was occupied as follows during the peak weekday period:

- On-street 77%
- Surface Lots 66%
- Parking Structures 72%
- OVERALL 71%

The observed parking occupancy illustrates that there were over 13,000 vacant spaces during the peak weekday period.

2.6.3 PARKING RATES

We compiled the average rates within each of the sub-areas within the study area in Table.

Table 15: Parking Rates – Study Area

Location	Hourly	Max	Monthly
DT	$4.49	$35.58	$176.88
KA	$2.89	$17.89	$149.00
AM	$1.75	$4.00	$120.00
MK	$2.25	$16.00	N/A

Source: Walker Parking Consultants, 2010.

As expected the parking rates are highest in the Downtown core and dissolve moving from ewa to diamondhead and away from major corridors. The individual maps under each sub-area illustrate how rate drops from one end of a sub-area to the next while Table provides a comparison from one sub-area t o another.

3 PARKING MANAGEMENT RECOMMENDATIONS

3.1 MAXIMIZING THE EFFICIENCY OF THE PARKING SYSTEM

The goal of the recommendations contained in this section is to maximize the efficiency of the parking system. An efficient parking space maximizes the number of people that it serves and is in constant use. We seek to maximize the efficiency of the parking system for several reasons including the following:

3.1.1 COSTS

While driving alone and parking adjacent to one's destination is the most convenient and therefore popular form of transportation, it is nearly always the most expensive to provide. Based on Walker's observations and experience, construction costs for a typical, stand alone, above-ground parking structure typically range from $20,000 to $25,000 per space on Oahu while structures built as "podiums" for high-rise buildings or below grade will cost significantly more to construct. These figures do not include the high cost of land in our study area. Because a driver's parking is subsidized (by the public or private sector depending on the destination), the most convenient form of transportation often becomes the cheapest to the driver as well.

3.1.2 USE OF LAND

Providing parking also requires a significant amount of physical space. Once the area necessary for ingress, egress and drive aisles is factored in, one parking space in a parking facility generally requires 325± square feet. As a result the amount of parking required for a given use is often equal to or exceeds the amount of space devoted to that use itself. We note that public transit, bicycling and obviously walking requires far less space to move an equal number of people than does an automobile, particularly when individuals drive alone.

3.1.3 REVENUE GENERATION

"What gets measured gets managed" is a rule to follow in maximizing efficiency. Parking revenue is an excellent tool for measuring the performance of a parking system. As a result, maximizing revenue tends to increase the efficiency of a parking facility or system. Conversely, parking spaces which by definition serve fewer people, fewer land uses and sit unoccupied longer than is desirable generate far less revenue than a space that is managed efficiently. In addition to the management benefits, maximizing revenue obviously results in increased funds for the City.

3.1.4 FLEXIBILITY IN ACCOMODATING PARKING DEMAND

Flexibility is an important component in planning parking and access to the area we studied for several reasons:

- Accommodating different user groups: A key finding of the 1973 Downtown Honolulu Comprehensive Parking Study was that the Downtown study area suffered from an imbalance of too few parking spaces for long-term parkers and too many parking spaces for short-term parkers. As we discuss later in this section, we believe that the issue today is not the number of short- or long-term spaces in the area but rather providing flexibility to the different users of the parking system. Building flexibility into the parking system will ameliorate or prevent the occurrence of such imbalances by allowing, as well as possible, for a parking space to serve different user groups.

- Adjusting for different development scenarios: It cannot be determined with certainty which development scenarios will come to fruition within our area of study. We therefore focus more heavily on the policies that will best accommodate parking demand regardless of the actual number of spaces that will be necessary rather than on providing a specific projected number of spaces.

- External effects on parking demand: The economy, future spikes in gasoline prices and other external factors could impact the demand for parking, necessitating a need for flexibility in how the demand for parking is met. Another externality influencing demand for parking, as noted in the recently released Environmental Impact Statement for the island's proposed light rail system, is a steadily aging population for which public transportation rather than driving alone, may become more popular.

- Systemic fluctuations in demand: Demand is likely to fluctuate based on time of day, week or year. The system will be more efficient and likely generate more revenue if we accommodate demand for different peaks through parking management strategies rather than designing a one-size-fits-all parking facility or system.

3.1.5 ADDITIONAL PLANNING ISSUES

Parking policy has enormous impacts on the physical and economic landscape of a city and therefore cannot be developed in a vacuum.

How and how much parking is allocated to different users of parking impacts land uses and the physical make up of a city, traffic, the environment and the allocation of funds used to construct and operate parking facilities by either government, the private sector or more infrequently the driver.

In recent years, a number of planning documents have been published which set out goals and plans in which we have determined parking policy plays an important role. These include but are not limited to the following:

- Honolulu High-Capacity Transit Corridor Project Environmental Impact Statement
- Oahu Regional Transportation Plan 2030
- Oahu Regional Transportation Plan 2035 Goals and Objectives
- Primary Urban Center Development Plan
- Mauka Area Plan for the Community Development District
- Supplemental Environmental Impact Statement Preparation Notice – Revisions to the Kakaako Community Development District Mauka Area Plan and Rules, December 2007

In our review of these documents we have noted increasing attention paid to the effects of parking on planning issues within the policy documents. As we make our recommendations, we take the following issues into consideration.

Transit Ridership and Parking

Both the 1973 Downtown Honolulu Comprehensive Parking Study and the subsequent 1981 Honolulu Parking Management Study suggest that improved transit options within the areas under study would reduce parking demand. The transit improvements considered in these reports have not yet materialized, but within the next decade the likelihood of the introduction of significant additional transit service within the area we have studied is great.

Existing transit service, though heavily utilized, already provides an alternative to driving alone and parking for many commuters to the study area. The City's TheBus transit system had more than 70 million riders and 107 routes in 2008.[1] The Oahu Regional Transportation Plan of 2030 highlights several planned transit improvements including the Fixed Guideway system that calls for up to three stations within the

[1] http://en.wikipedia.org/wiki/TheBus_(Honolulu)

study area and the expansion of TheBus service in Central Oahu. In a presentation at the University of Hawai'i, Manoa, visiting Urban Planning professor Dr. Brian Taylor of the University of California's Institute of Transportation Studies suggested that "the physical boundaries and high densities make Honolulu a transit friendly city," but cautioned that ". . . complementary policies to limit auto access and market price parking would be required" to encourage the use of rail service in Honolulu."[2] The EIS for the planned light rail system, released in June 2010, projects daily ridership of 116,000 passengers.

We therefore note that commuters will have an increasing number of cost effective alternatives to driving and parking to access the study area and are even more likely to do so if parking pricing is used to manage the demand for parking in the area.

Impacted traffic conditions are often cited in Honolulu planning documents, discussions and the local media as a major concern, a threat to the island's quality of life, the growth of its economy and the major impetus for the implementation of the planned Honolulu Rail Transit Project, which will serve the Primary Urban Center.

Research regarding traffic has demonstrated a strong link between underpriced parking and impacted traffic conditions. We note that a transportation system generally consists of three components: the vehicles, the right of way and the terminal capacity. In the case of an automobile-based transportation system, these components are the car, the road network and the parking facilities, which represents the terminal capacity for the road network.

By constructing additional parking, the terminal capacity of the system is increased while leaving the capacity of the road network unchanged; the latter becomes increasingly overburdened. In the case of Honolulu in general and our study area in particular, by all accounts, the roadway capacity is often heavily impacted.

A number of studies, including a 2008 study conducted by the policy think tank Rand Corporation, found properly pricing "under priced curb parking" to be one of the most immediate and effective measures that local governments can take to reduce traffic.[3] We therefore consider the impact of parking policy with regard to traffic.

---

[2] http://www.hhua.org/BrianTaylor4-06.pdf

[3] *Moving Los Angeles: Short-Term Policy Options for Improving Transportation. Sorensen, Rand Corporation, 2008.*

The flip side of increased traffic congestion, or rather one of the causes, is a less than desired use of the public transportation system. The recently released Honolulu High-Capacity Transit Corridor Project Environmental Impact Statement notes that "current transit service in the corridor is heavily used resulting in bus service productivity that is among the highest in the US."[4] Conversely, the Mauka Area Plan for the Kaka'ako Community Development District produced in 2005 notes that the level of transit ridership in Kaka'ako specifically is "inadequate to encourage non-automobile travel and to serve future transportation needs."[5] The introduction of the planned rail service should offer commuters increased transit capacity incentives to take public transportation – and therefore a reasonable alternative to driving to the primary urban center.

In short, underpriced and oversupplied parking is a significant subsidy offered to those who choose to drive and arguably a perk which those who do not or cannot drive are able to enjoy. The result is significant cost to the parking provider, whether it is the City or a private developer.

Parking Policy and The Land Use Ordinance

While an increased supply of parking results in more convenient access to a destination by automobile, it may reduce the concentration of destinations or housing in a given area by displacing usable square footage with parking. While this is certainly the case when parking is provided in surface lots, it can even be the case when parking is structured in building podiums as well. Podium parking tends to reduce an area's pedestrian friendliness (including those pedestrians using public transportation) as well. We analyze this issue further in our discussion of shared parking.

Again, however, we have noted a trend in the City's policies related to the Land Use Ordinance to move specifically toward parking policies that encourage more pedestrian friendly environments. The document *Supplemental Environmental Impact Statement Preparation Notice – Revisions to the Kakaako Community Development District Mauka Area Plan and Rules, December 2007* calls for shared parking structures within Kakaako to minimize the amount of land devoted to parking and create a more walkable district. In the same vein, on-

[4] *Honolulu High-Capacity Transit Corridor Project Environmental Impact Statement.* June 2010.
[5] *Mauka Area Plan, Kaka'ako Community Development District. Unofficial Compilation*. Hawai'I Community Development Authority, 2005.

street parking spaces are encouraged as a buffer between pedestrians and traffic to encourage walking. Additional policies within the document will also have a positive benefit in this regard. We believe that such measures ultimately improve the efficiency of the entire transportation as they encourage alternatives to driving and parking.

3.2 LONG TERM PARKING ADEQUACY

The 1973 Downtown Honolulu Comprehensive Parking Study concluded that there was a significant shortage of long-term parking and an abundance of short-term parking in the downtown area that was studied. The deficit in long term parking was projected to grow from roughly 4,800 spaces in 1972 to nearly 6,000 spaces in 1985.

Long-term parking demand in a commercial district is typically generated by employees. There are some exceptions within our study area, including hotel parking and some parking for residents in older residential districts where residences' do not have exclusive on-site parking, but in most cases long-term parking represents parking for employees.

The area studied as part of this update is primarily an employment center. The types of employers vary considerably between government, large businesses and small businesses. Few parts of our study area attract a significant number of visitors relative to the large numbers of employees. Notable exceptions include shoppers and diners who come to Chinatown and the retail sections of Ala Moana included in the study area. Event attendees at the Blaisdell Center and outpatients who visit some of the area hospitals also represent short-term parkers in the area.

Walker does not believe that there is currently a deficit of long-term parking spaces. While we do not believe that the creation of additional long-term parking spaces in the area is a productive policy goal, as noted earlier we do recommend policies that should allow spaces to be used in a more flexible manner by both short- and long-term parkers. However, we suggest that based on current conditions a quantification of the "demand" for long-term parking spaces within the study area results in inventory and occupancy statistics is unhelpful and distracting in addressing the parking challenges that exist within the study area. We base this finding on the following:

- The demand for long-term parking spaces in the study area is based on a variable, the price of parking. The current

demand for long-term parking within the study area is artificially inflated by monthly parking rates for public employees in the area that are significantly below market rates.[6] While monthly fees for public parking in many American downtowns are below market rates and/or even the cost to provide spaces, we believe that the low fees for long-term parking in the area we studied are not only unsustainable from a financial perspective, they are in direct contrast to most of the transportation and environmental goals we have seen set forth in local policy documents. There is significant likelihood that current pricing strategies will increasingly strain the finite roadway capacity that serves the study area and exacerbate traffic congestion. Planning the parking supply to meet demand based on these conditions is unrealistic and not recommended.

- The study area experienced an overall peak occupancy of 73% with thousands of parking spaces sitting unoccupied during a typical weekday peak. We calculate that at least half of these spaces can be classified as long-term parking spaces and are not subject to time restrictions. While in some parking facilities or sub areas, short-term parking restrictions may present long-term parkers with challenges in finding inexpensive (though generally still available) parking spaces, we have found that there are enough spaces in each sub area as well as the entire study area as a whole. In addition, we note that, compared to time when the 1973 study was performed, a significant number of parking spaces (many of which are now privately owned) currently do not display posted time limits. Further, the recommendations we provide within this report address the perceived lack of long-term spaces by creating flexible policies that allow spaces to be used for long- or short-term parking, particularly in the case of on-street parking spaces.
- The vast majority of long-term parkers in our study area are employees, virtually all of whom we suggest are currently able to locate the parking resources – or alternatives to driving – that they need in order to travel to their place of employment. While many of these commuters may desire more convenient parking, the current system is providing sufficient access to our

[6] We make this assessment largely based on the cost of land and construction in the area as well as data included in the following: http://archives.starbulletin.com/2007/07/26/editorial/editorial01.html
.

study area. Our experience in planning parking in the center of any large, dense city is that neither the physical space nor the financial resources exist to provide all commuters with the most convenient (and inexpensive) parking that they desire, but drivers are finding a way to access the area already.

Since the 1973 study, significant new development has occurred throughout the study area. Much of this development can be characterized as either1) high- and low-rise office buildings served by large podium or underground garage parking or 2) low-rise "strip-mall" retail development served by surface parking lots. What both land uses and development patterns typically have in common is parking that is reserved exclusively for the visitors and employees of the land use for which it was built. We note that through parking management, even signage policies, this can be changed.

Elsewhere in the report we discuss the issues and inefficiencies that reserved, private parking create. However, this kind of parking also makes the classification of long-term and short-term parking not only unclear but fluid. The area would be best served by a reduction in the restrictions on parking spaces the hinder the sharing of parking and the efficiency of the system and allow the large surplus of spaces to serve both long- and short-term parkers. At the same time, we question whether promoting the availability of long-term parking is consistent with other large policy goals set forth by the City and County of Honolulu.

3.3 PARKING DEMAND MANAGEMENT

Our analysis and observations of the field data suggests that parking policies and management solutions are the key components in addressing the parking issues within the area covered within this study. We note that whether or not new parking supply is necessary to construct now or in the future, parking management measures will be necessary to ensure that the new and existing supplies work efficiently.

There are transportation alternatives for accessing Honolulu's Primary Urban Center other than driving alone. These alternatives will increase with the introduction of the region's planned light rail line. We recognize that alternatives to driving alone and parking may not be realistic for all commuters or visitors to the Center. However, given the expense of providing parking and the negative traffic and environmental impacts that results from large supplies of underpriced parking, encouraging those who have transportation alternatives to use them maximizes the efficiency of the entire system.

Parking demand management maximizes the efficiency of the parking system by maximizing the usage and revenue generated by each space while not building costly spaces that will be underutilized. Parking demand management is not about forcing people out of their cars. It is about utilizing the entire supply of parking efficiently and meeting the demand for access to an area using other modes of transportation when it is efficient to do so.

Our recommendations are not particularly aggressive in addressing parking demand management. However, policies that address the conditions that we observed in the field and the traffic, environmental and land use issues in the aforementioned planning documents can and should be addressed as part of the recommendations to make the system as a whole more efficient.

3.4 ON-STREET PARKING

On-street parking within the study area consists of metered spaces, unmetered public spaces, and a significant number of loading zone spaces. While our field surveys demonstrated a peak on-street occupancy rate of just 57%, in much of the study area, particularly in the Downtown and Chinatown areas, occupancy is at nearly 100%. The recommended industry standard for on-street parking occupancy is 85%, in order to always have some parking spaces available for those who are looking for parking. This reduces the traffic generated by drivers "cruising" in search of a parking space, which studies have shown represents a significant percentage of the traffic in many commercial districts.

On-street parking spaces are the preferred spaces in which to park in most commercial areas. Our area of study is no exception although it is fairly unique when compared with most commercial areas due to the large number of long-term parkers relative to the number of visitors.

On-street spaces provide quicker parking without the expense of time and the inconvenience of driving into a garage to search for a space. They generally provide a heightened sense of visibility and therefore security. Most importantly, they tend to offer easier access to a destination, as they usually result in a shorter walking distance and are often immediately in front of a driver's destination. There is also a comfort in knowing that one has only to walk outside to their car and not have to remember whether the garage was to the right or to the left or on which floor one parked.

While they are usually the most desirable and convenient spaces in which to park the higher demand for the spaces and additional convenience is usually not reflected in the price. Meter rates in the downtown area are $1.50 per hour while off-street parking rates are typically $3.00 to $8.00 per hour in these areas. Despite having the highest on-street parking fees of all spaces in the study area, these spaces also experienced occupancy rates typically around 100%. Moving outward from the Downtown, on-street rates drop to $0.75/hour, which was till significantly lower than the hourly rates in many nearby parking structures although in these areas free, though reserved, surface parking lots become more prevalent. While time restrictions provide a disincentive to parking in these spaces for long periods of time, the incentive to park in them remains clear.

The result of charging the lowest hourly rate for the most desirable spaces is not surprising. As discussed earlier, Walker's surveyors found that on-street parking was the most impacted category (i.e. had the highest occupancies) within the parking supply. It is reasonable to assume that a significant percentage of the area's traffic may consist of drivers spending several minutes trying their luck in finding on-street parking before giving up and parking off-street.

3.4.1 UNMETERED PARKING SPACES

Whether general unmetered spaces or those used specifically for loading, with few exceptions these spaces tended to experience unacceptably high occupancy rates as well. In areas, with both metered and unmetered on-street spaces we observed that the free spaces experienced even higher occupancy rates. This was especially true for the significant number of loading spaces as they often provided free on-street parking in a sea of metered spaces.

3.4.2 PARKING MANAGEMENT GOALS FOR ON-STREET SPACES

Under current conditions, on-street parking is effectively unavailable to most drivers who seek it. Finding an available on-street space within much of our study area requires extended searching, waiting and luck. The goal of our recommendations is to increase the availability of on-street parking spaces and serve more cars (and people) with the same number of spaces. It is also to provide more flexibility as to whether a space serves long-term or short-term parkers given the higher demand for long-term parkers in the area. More specifically the goal of our recommendations is to:

- Increase the availability of on-street parking spaces for those who need them by making roughly one to two parking spaces available per block during busy periods;
- Improve the flexibility of parkers' length of stay while penalizing those who stay for long periods of times, and also minimizing the resources and cost spent on enforcement;
- Maximize the turnover of on-street spaces, including during the evening hours while the demand for on-street parking spaces remains high;
- Reduce the number of drivers cruising or waiting for vehicles to vacate on-street spaces;
- Make paying for on-street parking convenient for drivers;
- Make charging increased (market) rates for on-street parking possible;
- Eventually regulate parking duration using price rather than time limits, which are expensive, difficult to enforce, arbitrary and inflexible. We recognize that reaching this point may take time;
- Generate additional revenue; and to;
- Use revenue from the increase in meter fees to improved accessibility to the area including:
    - Improvements to the parking system;
    - The pedestrian friendliness of the area;
    - Improved transit and bicycle access to the area; and
    - Signage and parking guidance systems.

3.4.3 RECOMMENDATIONS – ON-STREET SPACES

In much of our study area the demand for on-street spaces outstrips supply. Unlike off-street parking, the supply of on-street spaces is finite. For this reason we recommend raising the fees to park in on-street spaces within the study area. Specifically we make the following recommendations:

1. Establish paid parking for all on-street spaces within our study area including loading zone spaces.[7] While some unmetered

[7] We suggest that if a member of the general public can pay to park, it is reasonable to charge someone engaged in commerce for parking. Arguably the parking rates for loading zone spaces should be higher than

blocks clearly demonstrate a demand for on-street parking which warrants paid parking as a management measure, we recommend that even where unmetered spaces are underutilized that payment in some form be required in order to prevent spillover of parking demand into currently unmetered areas.

2. Install and implement parking meter technology that allows for the acceptance of credit cards in order to be able to raise on-street parking fees to market rate levels and better manage the parking supply.

3. Periodically adjust parking fees for on-street parking with a target of 85% - 90% availability of on-street spaces on each block. Using the latest parking meter and occupancy sensor technology, the Cities of San Francisco and Los Angeles as well as Washington, DC have established such policies that set downtown parking rates to make parking available and reduce traffic congestion.[8] The City of San Diego is considering such a program.

4. Establish a parking permit system in areas where automobile-related businesses are concentrated and which currently result in vehicle or parts inventories spilling into on-street parking spaces. The purpose of this recommendation is primarily to manage the high demand for on-street parking spaces in light industrial areas of Kaka'ako and Ala Moana. We propose a quarterly or annual fee that ultimately should be dictated by the demand for on-street parking in the area.

5. Establish a parking permit system for residential blocks/areas, particularly in older residential portions of Ala Moana and Makiki, where residents currently rely on on-street parking for their parking supply. Such permits would allow residents to park at metered spaces near their residents without having to pay for parking.

6. Eliminate the state statute requiring free parking for drivers with disabled placards. The statute was initially established for the benefit of those disabled individuals unable to reach parking meters to pay but was allowed for all disabled individuals. Our observations in cities throughout the country indicate that

for regular spaces due to the need for greater turnover, the larger area that they occupy and in many areas the higher demand which these spaces experience.

[8] The programs are Sfpark in San Francisco, and ExpressPark in Los Angeles.

wherever the policy is in effect the privilege is often abused, in many cases reducing the availability of parking spaces to both the disabled and the general public.[9]

7. Where on-street spaces are already metered increase fees for the purpose of achieving a roughly 85% occupancy rate for on-street spaces on each block. From an operational perspective, raising rates to this level may be unrealistic in the short term until parking meter equipment that accepts credit cards are in place.
8. Vary meter fees as necessary in order to regulate demand according to location, time of day and, when necessary, seasonality.
9. Avoid time limits and use pricing as much as possible to encourage turnover of on-street parking spaces.
10. Create a progressive pricing structure that discourages long-term, on-street parking where desirable. Once equipment and a system that accepts credit cards is in place, we recommend a tiered rate in which each additional hour is charged at a higher fee.
11. Monitor and adjust rates on a frequent basis as is done in the SFPark program.[10] New parking meter technology has streamlined this process considerably.
12. Create a body and a specific process to monitor and adjust occupancy rates on a regular basis. This body, when necessary, would adjust on-street prices higher or lower to achieve the desired on-street occupancy rates.

3.5 OFF-STREET SPACES

The off-street parking supply within our study area consists of a mix of privately- and publicly-owned surface lots and garages. In a few cases the privately-owned facilities have been made explicitly available to the public for a fee. However, many private spaces are

[9] Section 291-55 of the Hawaii Revised Statutes, dealing with "Metered Parking Privileges," states that "Any vehicle displaying special license plates, a removable windshield placard, or a temporary removable windshield placard ... 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." This statute and its effects will need to be considered when implementing this policy.

currently reserved for specific tenants of the building they serve. The lack of shared parking among both private and public user groups as well as between private user groups occupying the same building has created an inefficient condition where private parking facilities, even in locations where parking is most in demand, are underutilized.

Based on planning documents reviewed by Walker, large scale "super block" development is envisioned for areas subject to large scale redevelopment. We emphasize that if the parking planning is not done carefully for these areas, such development will subsidize driving alone, significantly increase costs to developers, and further strain the capacity of the road network.

The goals of our recommendations for off-street facilities are the following:

- Create flexibility to allow for parking availability for all user groups using pricing strategies as opposed to arbitrary time limits;
- Utilize parking spaces in locations where they are currently underutilized;
- Increase revenue for the creation of additional parking resources and related transportation and planning improvements;
- Encourage cost effective and sustainable alternatives to building new parking facilities.

Our recommendations are the following:

1. Increase monthly permit fees for government employees to better reflect the cost of providing parking and the impacts of driving in the area.
2. Encourage the use of parking "cash out" programs for employees in association with the increased parking rates in order to provide a carrot as well as a pricing stick to encourage the use of non-driving modes of commuting. The program could be funded or enhanced using the higher monthly parking permit fees recommended above.
3. Encourage shared parking within the study area by providing incentives or mandates for new development to share parking.
4. Allow or require developers to pay a fee in lieu of providing parking spaces on their development site. The "in lieu fee" would be set at a rate significantly lower than developers' cost to build parking on the site and would be used to build public

parking structures that would be shared by different land uses in the area. The City would have a revenue advantage in providing these spaces given that A) they would be shared by a variety of paying uses and B) new public facilities could be subsidized by revenue generated in part by higher on-street fees.

5. Limit the amount of reserved parking that a development site can provide onsite in order to maximize sharing and therefore the utilization of parking facilities.
6. Introduce parking "maximum" requirements into the Land Use Ordinance in order to discourage a cycle of developers' building additional parking spaces purely as a competitive advantage.
7. Create agreements with the owners and operators of private parking facilities in the area to encourage their use as public parking, thereby making more parking available to all drivers and reducing the need to build additional parking in a cost effective manner. Such policies could include the City paying owner/operator expenses or subsidies to lower rates for the public when desirable.
8. Use a portion of the revenue from t increased parking rates to actively fund non-single occupancy vehicle modes of transportation by employees of businesses in the area. Incentives would include subsidized passes for transit service, bicycle parking and carpooling;
9. Share parking in peripheral facilities where the demand for parking peaks at different hours than in most of the downtown area (as is the case in the Ala Moana Center). Provide low cost peripheral parking options away from the denser sections of the study area. Use shuttles or existing public transportation to take employees to Downtown and other areas of high parking occupancy.
10. Where they exist, eliminate initial free periods in public structures in order to A) free up spaces for visitors and customers closest to destinations B) reduce the number of employees who drive in and out of the structures in order to receive free parking and C) reduce the revenue loss that results from this practice.

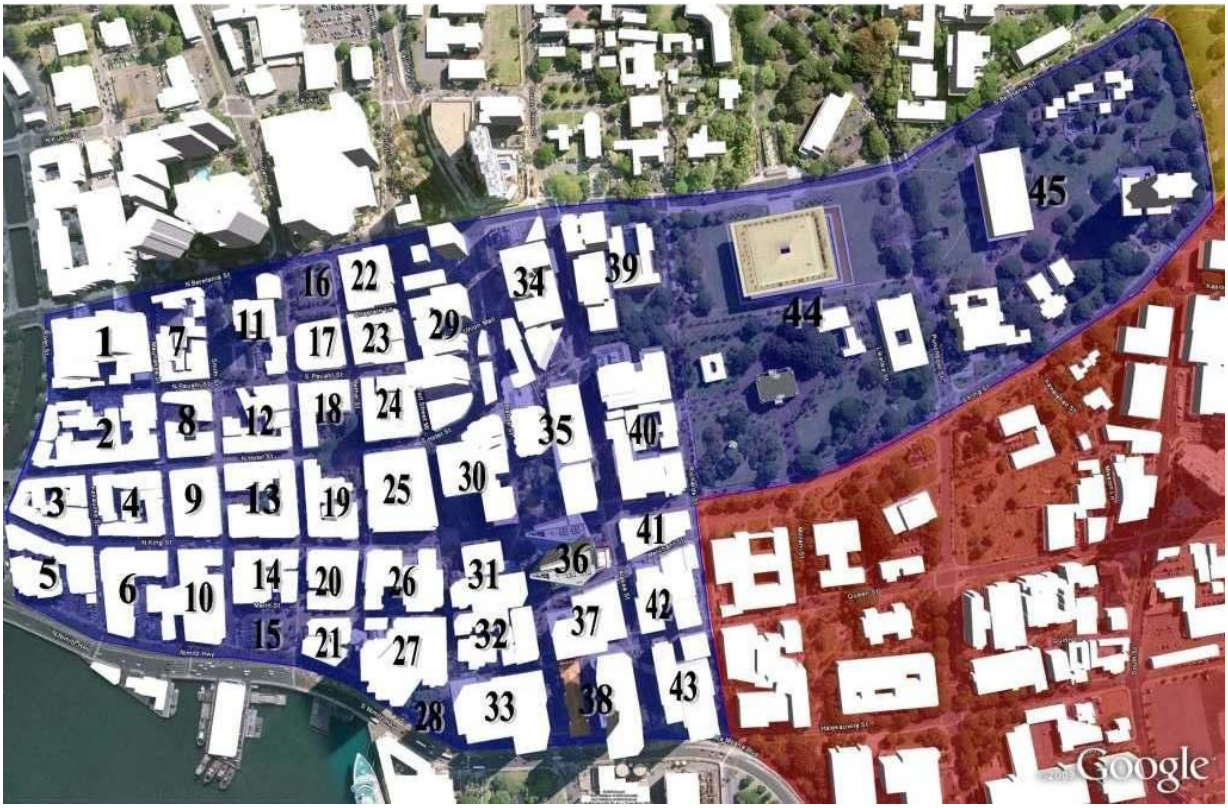
We note that the goal of our recommendations is not to force people out of their cars. Even if alternatives to driving to central Honolulu did not exist, virtually all of these recommendations would remain

unchanged. Our data and observations show thousands of unutilized parking spaces within the study area during the peak weekday period while there is a strong (and in some locations justified) perception of a parking space shortage. Our goal is to distribute more evenly the demand for parking in the area so that drivers have choices and a few spaces are available in all locations. To the extent that policies encouraging this redistribution of parking demand "evens the playing field" with regard to the use of non-solo driving modes of transportation, we believe that this beneficial for the transportation system as a whole.

APPENDIX A — DOWNTOWN (DT) INVENTORY AND OCCUPANCY

WALKER
PARKING CONSULTANTS

Figure A- 1: Downtown Section of Study Area



Source: *Google Earth Professional, 2009; Walker Parking Consultants, 2010.*

Figure A- 2: Definitions of Terms

The following terms are used in the tables in this Appendix.

Public/Public → Ownership is Public, User group is Public
Public/Private → Ownership is Public, User group is Private
Private/Private → Ownership is Private, User group is Private
On-Street Meter → Spaces regulated by meter
On-Street Loading → Designated short-term area regulated by sign
On-Street no-meter → On-street space w/ specified time limits and/or user group

Source: *Walker Parking Consultants, 2010.*

Table A- 1: Downtown (DT) Inventory and Occupancy, Blocks 1-8

Inventory

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
1	On-Street	0	0	0	10	0	0	10
	Surface Lot	0	0	0	0	0	0	0
	Garage	593	0	0	0	0	0	593
	Total	593	0	0	10	0	0	603
2	On-Street	0	0	0	13	0	3	16
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	13	0	3	16
3	On-Street	0	0	0	0	0	9	9
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	0	0	9	9
4	On-Street	0	0	0	0	0	9	9
	Surface Lot	0	0	0	0	0	0	0
	Garage	130	0	0	0	0	0	130
	Total	130	0	0	0	0	9	139
5	On-Street	0	0	0	0	0	10	10
	Surface Lot	0	46	0	0	0	0	46
	Garage	73	0	0	0	0	0	73
	Total	73	46	0	0	0	10	129
6	On-Street	0	0	0	6	0	12	18
	Surface Lot	0	64	0	0	0	0	64
	Garage	0	0	0	0	0	0	0
	Total	0	64	0	6	0	12	82
7	On-Street	0	0	0	15	0	6	21
	Surface Lot	0	29	0	0	0	0	29
	Garage	0	0	0	0	0	0	0
	Total	0	29	0	15	0	6	50
8	On-Street	0	0	0	12	0	5	17
	Surface Lot	0	28	0	0	0	0	28
	Garage	0	0	0	0	0	0	0
	Total	0	28	0	12	0	5	45

Occupancy

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
1	On-Street	0	0	0	10	0	0	10
	Surface Lot	0	0	0	0	0	0	0
	Garage	593	0	0	0	0	0	593
	Total	593	0	0	10	0	0	603
2	On-Street	0	0	0	13	0	3	16
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	13	0	3	16
3	On-Street	0	0	0	0	0	8	8
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	0	0	8	8
4	On-Street	0	0	0	0	0	8	8
	Surface Lot	0	0	0	0	0	0	0
	Garage	86	0	0	0	0	0	86
	Total	86	0	0	0	0	8	94
5	On-Street	0	0	0	0	0	8	8
	Surface Lot	0	31	0	0	0	0	31
	Garage	24	0	0	0	0	0	24
	Total	24	31	0	0	0	8	63
6	On-Street	0	0	0	5	0	12	17
	Surface Lot	0	25	0	0	0	0	25
	Garage	0	0	0	0	0	0	0
	Total	0	25	0	5	0	12	42
7	On-Street	0	0	0	14	0	3	17
	Surface Lot	0	12	0	0	0	0	12
	Garage	0	0	0	0	0	0	0
	Total	0	12	0	14	0	3	29
8	On-Street	0	0	0	11	0	3	14
	Surface Lot	0	13	0	0	0	0	13
	Garage	0	0	0	0	0	0	0
	Total	0	13	0	11	0	3	27

Source: *Walker Parking Consultants, 2010.*

Table A- 2: Downtown (DT) Inventory and Occupancy, Blocks 9-16

Inventory

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
9	On-Street	0	0	0	10	0	5	15
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	10	0	5	15
10	On-Street	0	0	0	7	0	3	10
	Surface Lot	0	0	0	0	0	0	0
	Garage	396	0	0	0	0	0	396
	Total	396	0	0	7	0	3	406
11	On-Street	0	0	0	26	0	2	28
	Surface Lot	0	0	0	0	0	0	0
	Garage	114	0	0	0	0	0	114
	Total	114	0	0	26	0	2	142
12	On-Street	0	0	0	10	0	7	17
	Surface Lot	0	20	19	0	0	0	39
	Garage	0	0	0	0	0	0	0
	Total	0	20	19	10	0	7	56
13	On-Street	0	0	0	7	0	13	20
	Surface Lot	0	24	0	0	0	0	24
	Garage	0	0	0	0	0	0	0
	Total	0	24	0	7	0	13	44
14	On-Street	0	0	0	9	0	0	9
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	98	0	0	0	0	98
	Total	0	98	0	9	0	0	107
15	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	105	0	0	0	0	105
	Garage	0	0	0	0	0	0	0
	Total	0	105	0	0	0	0	105
16	On-Street	0	0	0	1	0	0	1
	Surface Lot	0	88	0	0	0	0	88
	Garage	0	0	0	0	0	0	0
	Total	0	88	0	1	0	0	89

Occupancy

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
9	On-Street	0	0	0	10	0	4	14
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	10	0	4	14
10	On-Street	0	0	0	7	0	3	10
	Surface Lot	0	0	0	0	0	0	0
	Garage	349	0	0	0	0	0	349
	Total	349	0	0	7	0	3	359
11	On-Street	0	0	0	21	0	1	22
	Surface Lot	0	0	0	0	0	0	0
	Garage	55	0	0	0	0	0	55
	Total	55	0	0	21	0	1	77
12	On-Street	0	0	0	8	0	3	11
	Surface Lot	0	12	19	0	0	0	31
	Garage	0	0	0	0	0	0	0
	Total	0	12	19	8	0	3	42
13	On-Street	0	0	0	5	0	7	12
	Surface Lot	0	15	0	0	0	0	15
	Garage	0	0	0	0	0	0	0
	Total	0	15	0	5	0	7	27
14	On-Street	0	0	0	8	0	0	8
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	68	0	0	0	0	68
	Total	0	68	0	8	0	0	76
15	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	93	0	0	0	0	93
	Garage	0	0	0	0	0	0	0
	Total	0	93	0	0	0	0	93
16	On-Street	0	0	0	1	0	0	1
	Surface Lot	0	88	0	0	0	0	88
	Garage	0	0	0	0	0	0	0
	Total	0	88	0	1	0	0	89

Source: *Walker Parking Consultants*, 2010.

Table A- 3: Downtown (DT) Inventory and Occupancy, Blocks 17-24

Inventory

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
17	On-Street	0	0	0	9	0	1	10
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	308	0	0	0	0	308
	Total	0	308	0	9	0	1	318
18	On-Street	0	0	0	9	0	5	14
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	9	0	5	14
19	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	271	0	0	0	0	0	271
	Total	271	0	0	0	0	0	271
20	On-Street	0	0	0	8	0	4	12
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	65	0	0	0	65
	Total	0	0	65	8	0	4	77
21	On-Street	0	0	0	2	0	0	2
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	2	0	0	2
22	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0
23	On-Street	0	0	0	4	0	5	9
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	4	0	5	9
24	On-Street	0	0	0	2	0	5	7
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	2	0	5	7

Occupancy

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
17	On-Street	0	0	0	7	0	0	7
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	216	0	0	0	0	216
	Total	0	216	0	7	0	0	223
18	On-Street	0	0	0	7	0	3	10
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	7	0	3	10
19	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	216	0	0	0	0	0	216
	Total	216	0	0	0	0	0	216
20	On-Street	0	0	0	8	0	3	11
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	40	0	0	0	40
	Total	0	0	40	8	0	3	51
21	On-Street	0	0	0	2	0	0	2
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	2	0	0	2
22	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0
23	On-Street	0	0	0	4	0	5	9
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	4	0	5	9
24	On-Street	0	0	0	2	0	3	5
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	2	0	3	5

Source: *Walker Parking Consultants*, 2010.

Table A- 4: Downtown (DT) Inventory and Occupancy, Blocks 25-32

Inventory

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
25	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	345	0	0	0	0	345
	Total	0	345	0	0	0	0	345
26	On-Street	0	0	0	4	0	5	9
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	365	0	0	0	0	365
	Total	0	365	0	4	0	5	374
27	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	807	218	0	0	0	0	1,025
	Total	807	218	0	0	0	0	1,025
28	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0
29	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	1,037	0	0	0	0	1,037
	Total	0	1,037	0	0	0	0	1,037
30	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	840	0	0	0	0	840
	Total	0	840	0	0	0	0	840
31	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	72	0	0	0	0	72
	Total	0	72	0	0	0	0	72
32	On-Street	0	0	0	3	0	5	8
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	3	0	5	8

Occupancy

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
25	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	261	0	0	0	0	261
	Total	0	261	0	0	0	0	261
26	On-Street	0	0	0	4	0	4	8
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	253	0	0	0	0	253
	Total	0	253	0	4	0	4	261
27	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	638	178	0	0	0	0	816
	Total	638	178	0	0	0	0	816
28	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0
29	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	723	0	0	0	0	723
	Total	0	723	0	0	0	0	723
30	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	459	0	0	0	0	459
	Total	0	459	0	0	0	0	459
31	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	50	0	0	0	0	50
	Total	0	50	0	0	0	0	50
32	On-Street	0	0	0	3	0	4	7
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	3	0	4	7

Source: *Walker Parking Consultants*, 2010.

Table A- 5: Downtown (DT) Inventory and Occupancy, Blocks 33- 40

Inventory

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
33	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	96	0	0	0	0	96
	Total	0	96	0	0	0	0	96
34	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	36	0	0	0	0	36
	Garage	0	0	0	0	0	0	0
	Total	0	36	0	0	0	0	36
35	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	907	0	0	0	0	907
	Total	0	907	0	0	0	0	907
36	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	672	0	0	0	0	672
	Total	0	672	0	0	0	0	672
37	On-Street	0	0	0	4	0	0	4
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	83	0	0	0	0	83
	Total	0	83	0	4	0	0	87
38	On-Street	0	0	0	11	0	0	11
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	564	0	0	0	0	564
	Total	0	564	0	11	0	0	575
39	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0
40	On-Street	0	0	0	3	0	0	3
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	248	0	0	0	0	248
	Total	0	248	0	3	0	0	251

Occupancy

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
33	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	82	0	0	0	0	82
	Total	0	82	0	0	0	0	82
34	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	27	0	0	0	0	27
	Garage	0	0	0	0	0	0	0
	Total	0	27	0	0	0	0	27
35	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	820	0	0	0	0	820
	Total	0	820	0	0	0	0	820
36	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	401	0	0	0	0	401
	Total	0	401	0	0	0	0	401
37	On-Street	0	0	0	4	0	0	4
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	46	0	0	0	0	46
	Total	0	46	0	4	0	0	50
38	On-Street	0	0	0	10	0	0	10
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	451	0	0	0	0	451
	Total	0	451	0	10	0	0	461
39	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0
40	On-Street	0	0	0	3	0	0	3
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	180	0	0	0	0	180
	Total	0	180	0	3	0	0	183

Source: *Walker Parking Consultants, 2010.*

Table A- 6: Downtown (DT) Inventory and Occupancy, Blocks 41-45 and Area Summary

Inventory

Block	Description	Public/Public	Public/Private	Private/Private	Meter	Time/Other	Loading	Total
		Off-Street			On-Street			
41	On-Street	0	0	0	5	0	3	8
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	5	0	3	8
42	On-Street	0	0	0	2	0	1	3
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	341	0	0	0	0	341
	Total	0	341	0	2	0	1	344
43	On-Street	0	0	0	10	0	0	10
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	725	0	0	0	0	725
	Total	0	725	0	10	0	0	735
44	On-Street	0	0	0	43	0	0	43
	Surface Lot	0	100	0	0	0	0	100
	Garage	0	0	0	0	0	0	0
	Total	0	100	0	43	0	0	143
45	On-Street	0	0	0	18	0	0	18
	Surface Lot	0	0	0	0	0	0	0
	Garage	76	0	904	0	0	0	980
	Total	76	0	904	18	0	0	998
ALL	On-Street	0	0	0	263	0	118	381
	Surface Lot	0	540	19	0	0	0	559
	Garage	2,460	6,919	969	0	0	0	10,348
	Total	2,460	7,459	988	263	0	118	11,288

Occupancy

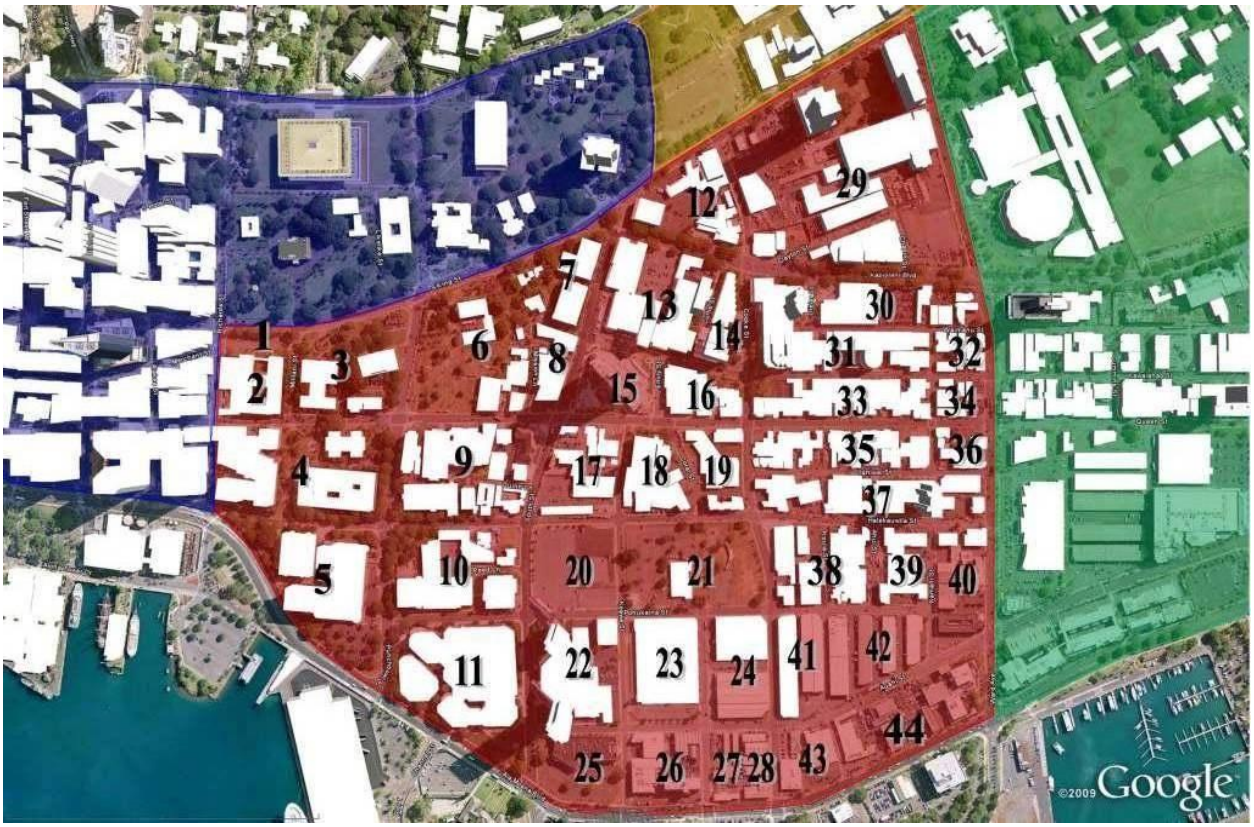
Block	Description	Public/Public	Public/Private	Private/Private	Meter	Time/Other	Loading	Total
		Off-Street			On-Street			
41	On-Street	0	0	0	5	0	3	8
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	5	0	3	8
42	On-Street	0	0	0	2	0	1	3
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	281	0	0	0	0	281
	Total	0	281	0	2	0	1	284
43	On-Street	0	0	0	9	0	0	9
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	474	0	0	0	0	474
	Total	0	474	0	9	0	0	483
44	On-Street	0	0	0	36	0	0	36
	Surface Lot	0	72	0	0	0	0	72
	Garage	0	0	0	0	0	0	0
	Total	0	72	0	36	0	0	108
45	On-Street	0	0	0	15	0	0	15
	Surface Lot	0	0	0	0	0	0	0
	Garage	71	0	814	0	0	0	885
	Total	71	0	814	15	0	0	900
ALL	On-Street	0	0	0	234	0	89	323
	Surface Lot	0	388	19	0	0	0	407
	Garage	2,032	4,943	854	0	0	0	7,829
	Total	2,032	5,331	873	234	0	89	8,559

Source: *Walker Parking Consultants*, 2010.

APPENDIX B — KAKA' AKO (KA) INVENTORY AND OCCUPANCY

WALKER
PARKING CONSULTANTS

Figure B- 1: Kaka'Ako (KA) Section of Study Area



Source: *Google Earth Professional, 2009; Walker Parking Consultants, 2010.*

Figure B- 2: Definitions of Terms

The following terms are used in the tables in this Appendix.

Public/Public → Ownership is Public, User group is Public
Public/Private → Ownership is Public, User group is Private
Private/Private → Ownership is Private, User group is Private
On-Street Meter → Spaces regulated by meter
On-Street Loading → Designated short-term area regulated by sign
On-Street no-meter → On-street space w/ specified time limits and/or user group

Source: *Walker Parking Consultants, 2010.*

Table B- 1: Kaka'Ako (KA) Inventory and Occupancy, Blocks 1-8

Inventory

Block	Description	Public/Public	Public/Private	Private/Private	Meter	Time/Other	Loading	Total
		Off-Street			On-Street			
1	On-Street							0
	Surface Lot				38	2		40
	Garage							0
	Total	0	0	0	38	2	0	40
2	On-Street				7			7
	Surface Lot		15					15
	Garage							0
	Total	0	15	0	7	0	0	22
3	On-Street				16			16
	Surface Lot		81		39			120
	Garage							0
	Total	0	81	0	55	0	0	136
4	On-Street				12			12
	Surface Lot			21	2			23
	Garage			901				901
	Total	0	0	922	14	0	0	936
5	On-Street							0
	Surface Lot		182					182
	Garage							0
	Total	0	182	0	0	0	0	182
6	On-Street				38			38
	Surface Lot			28				28
	Garage							0
	Total	0	0	28	38	0	0	66
7	On-Street				25			25
	Surface Lot					5		5
	Garage			317				317
	Total	0	0	317	25	5	0	347
8	On-Street				7	2		9
	Surface Lot			53				53
	Garage							0
	Total	0	0	53	7	2	0	62

Occupancy

Block	Description	Public/Public	Public/Private	Private/Private	Meter	Time/Other	Loading	Total
		Off-Street			On-Street			
1	On-Street							0
	Surface Lot				33	0		33
	Garage							0
	Total	0	0	0	33	0	0	33
2	On-Street				6			6
	Surface Lot		10					10
	Garage							0
	Total	0	10	0	6	0	0	16
3	On-Street				16			16
	Surface Lot		61		34			95
	Garage							0
	Total	0	61	0	50	0	0	111
4	On-Street				12			12
	Surface Lot			19	2			21
	Garage			543				543
	Total	0	0	562	14	0	0	576
5	On-Street							0
	Surface Lot		127					127
	Garage							0
	Total	0	127	0	0	0	0	127
6	On-Street				25			25
	Surface Lot			21				21
	Garage							0
	Total	0	0	21	25	0	0	46
7	On-Street				20			20
	Surface Lot					5		5
	Garage			241				241
	Total	0	0	241	20	5	0	266
8	On-Street				8	2		10
	Surface Lot			17				17
	Garage							0
	Total	0	0	17	8	2	0	27

Source: *Walker Parking Consultants, 2010.*

Table B- 2: Kaka'Ako (KA) Inventory and Occupancy, Blocks 9-16

Inventory

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
9	On-Street				27			27
	Surface Lot	33						33
	Garage	478	291	177				946
	Total	511	291	177	27	0	0	1,006
10	On-Street				44			44
	Surface Lot	63		8				71
	Garage	274	292					566
	Total	337	292	8	44	0	0	681
11	On-Street				0		5	5
	Surface Lot							0
	Garage			1,245				1,245
	Total	0	0	1,245	0	0	5	1,250
12	On-Street				8			8
	Surface Lot			188				188
	Garage							0
	Total	0	0	188	8	0	0	196
13	On-Street				25			25
	Surface Lot			159				159
	Garage	0	735					735
	Total	0	735	159	25	0	0	919
14	On-Street				4			4
	Surface Lot							0
	Garage							0
	Total	0	0	0	4	0	0	4
15	On-Street				15			15
	Surface Lot							0
	Garage			31				31
	Total	0	0	31	15	0	0	46
16	On-Street				8			8
	Surface Lot							0
	Garage							0
	Total	0	0	0	8	0	0	8

Occupancy

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
9	On-Street				27			27
	Surface Lot	24						24
	Garage	407	232	103				742
	Total	431	232	103	27	0	0	793
10	On-Street				44			44
	Surface Lot	30		2				32
	Garage	175	127					302
	Total	205	127	2	44	0	0	378
11	On-Street				0		4	4
	Surface Lot							0
	Garage			1,062				1,062
	Total	0	0	1,062	0	0	4	1,066
12	On-Street				7			7
	Surface Lot			96				96
	Garage							0
	Total	0	0	96	7	0	0	103
13	On-Street				25			25
	Surface Lot			127				127
	Garage		608					608
	Total	0	608	127	25	0	0	760
14	On-Street				4			4
	Surface Lot							0
	Garage							0
	Total	0	0	0	4	0	0	4
15	On-Street				11			11
	Surface Lot							0
	Garage			9				9
	Total	0	0	9	11	0	0	20
16	On-Street				7			7
	Surface Lot							0
	Garage							0
	Total	0	0	0	7	0	0	7

Source: *Walker Parking Consultants, 2010.*

Table B- 3: Kaka'Ako (KA) Inventory and Occupancy, Blocks 17-24

Inventory

Block	Description	Public/Public	Public/Private	Private/Private	Meter	Time/Other	Loading	Total
		Off-Street			On-Street			
17	On-Street				16			16
	Surface Lot	100		60				160
	Garage							0
	Total	100	0	60	16	0	0	176
18	On-Street				2	8		10
	Surface Lot			36				36
	Garage			187				187
	Total	0	0	223	2	8	0	233
19	On-Street				7			7
	Surface Lot			67				67
	Garage							0
	Total	0	0	67	7	0	0	74
20	On-Street				14	0		14
	Surface Lot	785						785
	Garage							0
	Total	785	0	0	14	0	0	799
21	On-Street				47	18		65
	Surface Lot	328						328
	Garage							0
	Total	328	0	0	47	18	0	393
22	On-Street				8			8
	Surface Lot			93				93
	Garage							0
	Total	0	0	93	8	0	0	101
23	On-Street			0	21			21
	Surface Lot			184				184
	Garage							0
	Total	0	0	184	21	0	0	205
24	On-Street				33			33
	Surface Lot							0
	Garage							0
	Total	0	0	0	33	0	0	33

Occupancy

Block	Description	Public/Public	Public/Private	Private/Private	Meter	Time/Other	Loading	Total
		Off-Street			On-Street			
17	On-Street				10			10
	Surface Lot	65		48				113
	Garage							0
	Total	65	0	48	10	0	0	123
18	On-Street				1	7		8
	Surface Lot			14				14
	Garage			122				122
	Total	0	0	136	1	7	0	144
19	On-Street				5			5
	Surface Lot			40				40
	Garage							0
	Total	0	0	40	5	0	0	45
20	On-Street				8	0		8
	Surface Lot	330						330
	Garage							0
	Total	330	0	0	8	0	0	338
21	On-Street				22	16		38
	Surface Lot	265						265
	Garage							0
	Total	265	0	0	22	16	0	303
22	On-Street				8			8
	Surface Lot			60				60
	Garage							0
	Total	0	0	60	8	0	0	68
23	On-Street			0	7			7
	Surface Lot			83				83
	Garage							0
	Total	0	0	83	7	0	0	90
24	On-Street				14			14
	Surface Lot							0
	Garage							0
	Total	0	0	0	14	0	0	14

Source: *Walker Parking Consultants, 2010.*

Table B- 4: Kaka'Ako (KA) Inventory and Occupancy, Blocks 25-32

Inventory

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
25	On-Street				14			14
	Surface Lot			195				195
	Garage							0
	Total	0	0	195	14	0	0	209
26	On-Street				23			23
	Surface Lot	237						237
	Garage							0
	Total	237	0	0	23	0	0	260
27	On-Street				6			6
	Surface Lot			13				13
	Garage							0
	Total	0	0	13	6	0	0	19
28	On-Street							0
	Surface Lot			19				19
	Garage							0
	Total	0	0	19	0	0	0	19
29	On-Street				36			36
	Surface Lot	96		93				189
	Garage			307				307
	Total	96	0	400	36	0	0	532
30	On-Street				0			0
	Surface Lot			60				60
	Garage							0
	Total	0	0	60	0	0	0	60
31	On-Street				17	25		42
	Surface Lot							0
	Garage	206		98				304
	Total	206	0	98	17	25	0	346
32	On-Street				0			0
	Surface Lot							0
	Garage							0
	Total	0	0	0	0	0	0	0

Occupancy

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
25	On-Street				12			12
	Surface Lot			4				4
	Garage							0
	Total	0	0	4	12	0	0	16
26	On-Street				21			21
	Surface Lot	154						154
	Garage							0
	Total	154	0	0	21	0	0	175
27	On-Street				4			4
	Surface Lot			5				5
	Garage							0
	Total	0	0	5	4	0	0	9
28	On-Street							0
	Surface Lot			10				10
	Garage							0
	Total	0	0	10	0	0	0	10
29	On-Street				28			28
	Surface Lot	24		77				101
	Garage			232				232
	Total	24	0	309	28	0	0	361
30	On-Street				0			0
	Surface Lot			53				53
	Garage							0
	Total	0	0	53	0	0	0	53
31	On-Street				17	25		42
	Surface Lot							0
	Garage	93		59				152
	Total	93	0	59	17	25	0	194
32	On-Street				0			0
	Surface Lot							0
	Garage							0
	Total	0	0	0	0	0	0	0

Source: *Walker Parking Consultants, 2010.*

Table B- 5: Kaka'Ako (KA) Inventory and Occupancy, Blocks 32-40

Inventory

Block	Description	Public/Public (Off-Street)	Public/Private (Off-Street)	Private/Private (Off-Street)	Meter (On-Street)	Time/Other (On-Street)	Loading (On-Street)	Total
33	On-Street				3			3
	Surface Lot			15				15
	Garage							0
	Total	0	0	15	3	0	0	18
34	On-Street				0			0
	Surface Lot			11				11
	Garage							0
	Total	0	0	11	0	0	0	11
35	On-Street				3		25	28
	Surface Lot			38				38
	Garage							0
	Total	0	0	38	3	0	25	66
36	On-Street				3			3
	Surface Lot	34		28				62
	Garage							0
	Total	34	0	28	3	0	0	65
37	On-Street				3			3
	Surface Lot			74				74
	Garage	425		330				755
	Total	425	0	404	3	0	0	832
38	On-Street				11	9		20
	Surface Lot			78				78
	Garage							0
	Total	0	0	78	11	9	0	98
39	On-Street						24	24
	Surface Lot			97				97
	Garage							0
	Total	0	0	97	0	0	24	121
40	On-Street				12			12
	Surface Lot	78		96				174
	Garage							0
	Total	78	0	96	12	0	0	186

Occupancy

Block	Description	Public/Public (Off-Street)	Public/Private (Off-Street)	Private/Private (Off-Street)	Meter (On-Street)	Time/Other (On-Street)	Loading (On-Street)	Total
33	On-Street				2			2
	Surface Lot			11				11
	Garage							0
	Total	0	0	11	2	0	0	13
34	On-Street				0			0
	Surface Lot			6				6
	Garage							0
	Total	0	0	6	0	0	0	6
35	On-Street				3		25	28
	Surface Lot			23				23
	Garage							0
	Total	0	0	23	3	0	25	51
36	On-Street				1			1
	Surface Lot	31		14				45
	Garage							0
	Total	31	0	14	1	0	0	46
37	On-Street				3			3
	Surface Lot			44				44
	Garage	276		116				392
	Total	276	0	160	3	0	0	439
38	On-Street				0	9		9
	Surface Lot			45				45
	Garage							0
	Total	0	0	45	0	9	0	54
39	On-Street						24	24
	Surface Lot			64				64
	Garage							0
	Total	0	0	64	0	0	24	88
40	On-Street				5			5
	Surface Lot	39		51				90
	Garage							0
	Total	39	0	51	5	0	0	95

Source: *Walker Parking Consultants, 2010.*

Table B- 6: Kaka'Ako (KA) Inventory and Occupancy, Blocks 41-44 and Area Summary

Inventory

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
41	On-Street				11			11
	Surface Lot			120				120
	Garage							0
	Total	0	0	120	11	0	0	131
42	On-Street			0	0			0
	Surface Lot			264				264
	Garage							0
	Total	0	0	264	0	0	0	264
43	On-Street			0		11		11
	Surface Lot			82				82
	Garage							0
	Total	0	0	82	0	11	0	93
44	On-Street				0			0
	Surface Lot			181				181
	Garage							0
	Total	0	0	181	0	0	0	181
ALL	On-Street	0	0	0	526	73	54	653
	Surface Lot	1,754	278	2,361	79	7	0	4,479
	Garage	1,383	1,318	3,593	0	0	0	6,294
	TOTAL	3,137	1,596	5,954	605	80	54	11,426

Occupancy

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
41	On-Street				2			2
	Surface Lot			68				68
	Garage							0
	Total	0	0	68	2	0	0	71
42	On-Street				0			0
	Surface Lot			145				145
	Garage							0
	Total	0	0	145	0	0	0	145
43	On-Street					11		11
	Surface Lot			42				42
	Garage							0
	Total	0	0	42	0	11	0	53
44	On-Street				0			0
	Surface Lot			96				96
	Garage							0
	Total	0	0	96	0	0	0	96
ALL	On-Street	0	0	0	385	70	53	508
	Surface Lot	962	198	1,286	69	5	0	2,520
	Garage	951	967	2,486	0	0	0	4,404
	TOTAL	1,648	1,165	3,772	432	59	53	7,432

Source: *Walker Parking Consultants, 2010.*

APPENDIX C — ALA MOANA (AM) INVENTORY AND OCCUPANCY

WALKER
PARKING CONSULTANTS

Figure C- 1: Ala Moana (AM) Section of Study Area

Source: *Google Earth Professional, 2009; Walker Parking Consultants, 2010.*

Figure C- 2:Definitions of Terms

The following terms are used in the tables in this Appendix.

Public/Public → Ownership is Public, User group is Public
Public/Private → Ownership is Public, User group is Private
Private/Private → Ownership is Private, User group is Private
On-Street Meter → Spaces regulated by meter
On-Street Loading → Designated short-term area regulated by sign
On-Street no-meter → On-street space w/ specified time limits and/or user group

Source: *Walker Parking Consultants, 2010.*

Table C- 1: Ala Moana (AM) Inventory and Occupancy, Blocks 1-8

Inventory

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
1	On-Street	0	0	0	26	25	0	51
	Surface Lot	85	0	0	0	0	0	85
	Garage	1,460	0	0	0	0	0	1,460
	Total	1,545	0	0	26	25	0	1,596
2	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	114	0	0	0	114
	Garage	0	0	515	0	0	0	515
	Total	0	0	629	0	0	0	629
3	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	145	0	0	0	145
	Garage	0	0	0	0	0	0	0
	Total	0	0	145	0	0	0	145
4	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	108	0	0	0	108
	Garage	0	0	0	0	0	0	0
	Total	0	0	108	0	0	0	108
5	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	142	0	0	0	142
	Garage	0	0	40	0	0	0	40
	Total	0	0	182	0	0	0	182
6	On-Street	0	0	0	10	0	0	10
	Surface Lot	0	0	50	0	0	0	50
	Garage	0	0	0	0	0	0	0
	Total	0	0	50	10	0	0	60
7	On-Street	0	0	0	0	19	0	19
	Surface Lot	0	0	886	0	0	0	886
	Garage	0	0	253	0	0	0	253
	Total	0	0	1,139	0	19	0	1,158
8	On-Street	0	0	0	0	18	0	18
	Surface Lot	0	0	454	0	0	0	454
	Garage	0	0	450	0	0	0	450
	Total	0	0	904	0	18	0	922

Occupancy

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
1	On-Street	0	0	0	12	25	0	37
	Surface Lot	72	0	0	0	0	0	72
	Garage	1,098	0	0	0	0	0	1,098
	Total	1,170	0	0	12	25	0	1,207
2	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	59	0	0	0	59
	Garage	0	0	378	0	0	0	378
	Total	0	0	437	0	0	0	437
3	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	115	0	0	0	115
	Garage	0	0	0	0	0	0	0
	Total	0	0	115	0	0	0	115
4	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	102	0	0	0	102
	Garage	0	0	0	0	0	0	0
	Total	0	0	102	0	0	0	102
5	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	145	0	0	0	145
	Garage	0	0	35	0	0	0	35
	Total	0	0	180	0	0	0	180
6	On-Street	0	0	0	8	0	0	8
	Surface Lot	0	0	48	0	0	0	48
	Garage	0	0	0	0	0	0	0
	Total	0	0	48	8	0	0	56
7	On-Street	0	0	0	0	15	0	15
	Surface Lot	0	0	612	0	0	0	612
	Garage	0	0	209	0	0	0	209
	Total	0	0	821	0	15	0	836
8	On-Street	0	0	0	0	16	0	16
	Surface Lot	0	0	347	0	0	0	347
	Garage	0	0	291	0	0	0	291
	Total	0	0	638	0	16	0	654

Source: *Walker Parking Consultants, 2010.*

Table C- 2: Ala Moana (AM) Inventory and Occupancy, Blocks 9-16

Inventory

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
9	On-Street	0	0	0	3	0	0	3
	Surface Lot	0	0	155	0	0	0	155
	Garage	0	0	500	0	0	0	500
	Total	0	0	655	3	0	0	658
10	On-Street	0	0	0	45	0	0	45
	Surface Lot	0	0	115	0	0	0	115
	Garage	0	0	0	0	0	0	0
	Total	0	0	115	45	0	0	160
11	On-Street	0	0	0	18	0	0	18
	Surface Lot	0	0	105	0	0	0	105
	Garage	0	0	0	0	0	0	0
	Total	0	0	105	18	0	0	123
12	On-Street	0	0	0	18	0	0	18
	Surface Lot	0	0	76	0	0	0	76
	Garage	0	0	0	0	0	0	0
	Total	0	0	76	18	0	0	94
13	On-Street	0	0	0	8	0	0	8
	Surface Lot	0	0	109	0	0	0	109
	Garage	0	0	0	0	0	0	0
	Total	0	0	109	8	0	0	117
14	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	92	0	0	0	92
	Garage	0	0	0	0	0	0	0
	Total	0	0	92	0	0	0	92
15	On-Street	0	0	0	18	0	30	48
	Surface Lot	0	0	64	0	0	0	64
	Garage	0	0	0	0	0	0	0
	Total	0	0	64	18	0	30	112
16	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	44	0	0	0	44
	Garage	0	0	0	0	0	0	0
	Total	0	0	44	0	0	0	44

Occupancy

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
9	On-Street	0	0	0	3	0	0	3
	Surface Lot	0	0	54	0	0	0	54
	Garage	0	0	500	0	0	0	500
	Total	0	0	554	3	0	0	557
10	On-Street	0	0	0	18	0	0	18
	Surface Lot	0	0	74	0	0	0	74
	Garage	0	0	0	0	0	0	0
	Total	0	0	74	18	0	0	92
11	On-Street	0	0	0	12	0	0	12
	Surface Lot	0	0	88	0	0	0	88
	Garage	0	0	0	0	0	0	0
	Total	0	0	88	12	0	0	100
12	On-Street	0	0	0	18	0	0	18
	Surface Lot	0	0	76	0	0	0	76
	Garage	0	0	0	0	0	0	0
	Total	0	0	76	18	0	0	94
13	On-Street	0	0	0	8	0	0	8
	Surface Lot	0	0	109	0	0	0	109
	Garage	0	0	0	0	0	0	0
	Total	0	0	109	8	0	0	117
14	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	92	0	0	0	92
	Garage	0	0	0	0	0	0	0
	Total	0	0	92	0	0	0	92
15	On-Street	0	0	0	18	0	30	48
	Surface Lot	0	0	64	0	0	0	64
	Garage	0	0	0	0	0	0	0
	Total	0	0	64	18	0	30	112
16	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	44	0	0	0	44
	Garage	0	0	0	0	0	0	0
	Total	0	0	44	0	0	0	44

Source: *Walker Parking Consultants, 2010.*

Table C- 3: Ala Moana (AM) Inventory and Occupancy, Blocks 17-24

Inventory

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
17	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	980	0	0	0	980
	Total	0	0	980	0	0	0	980
18	On-Street	0	0	0	5	0	0	5
	Surface Lot	0	0	15	0	0	0	15
	Garage	0	0	0	0	0	0	0
	Total	0	0	15	5	0	0	20
19	On-Street	0	0	0	0	30	0	30
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	0	30	0	30
20	On-Street	0	0	0	0	25	0	25
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	0	25	0	25
21	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	76	0	0	0	76
	Garage	0	0	0	0	0	0	0
	Total	0	0	76	0	0	0	76
22	On-Street	0	0	0	0	22	0	22
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	0	22	0	22
23	On-Street	0	0	0	0	21	0	21
	Surface Lot	0	0	35	0	0	0	35
	Garage	0	0	0	0	0	0	0
	Total	0	0	35	0	21	0	56
24	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0

Occupancy

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
17	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	642	0	0	0	642
	Total	0	0	642	0	0	0	642
18	On-Street	0	0	0	4	0	0	4
	Surface Lot	0	0	15	0	0	0	15
	Garage	0	0	0	0	0	0	0
	Total	0	0	15	4	0	0	19
19	On-Street	0	0	0	0	24	0	24
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	0	24	0	24
20	On-Street	0	0	0	0	18	0	18
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	0	18	0	18
21	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	65	0	0	0	65
	Garage	0	0	0	0	0	0	0
	Total	0	0	65	0	0	0	65
22	On-Street	0	0	0	0	14	0	14
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	0	14	0	14
23	On-Street	0	0	0	0	16	0	16
	Surface Lot	0	0	31	0	0	0	31
	Garage	0	0	0	0	0	0	0
	Total	0	0	31	0	16	0	47
24	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0

Source: *Walker Parking Consultants, 2010.*

Table C- 4: Ala Moana (AM) Inventory and Occupancy, Blocks 25-32

Inventory

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
25	On-Street	0	0	0	2	0	0	2
	Surface Lot	0	0	47	0	0	0	47
	Garage	0	0	0	0	0	0	0
	Total	0	0	47	2	0	0	49
26	On-Street	0	0	0	5	0	0	5
	Surface Lot	0	0	37	0	0	0	37
	Garage	0	0	0	0	0	0	0
	Total	0	0	37	5	0	0	42
27	On-Street	0	0	0	1	0	0	1
	Surface Lot	0	0	62	0	0	0	62
	Garage	0	0	0	0	0	0	0
	Total	0	0	62	1	0	0	63
28	On-Street	0	0	0	5	0	0	5
	Surface Lot	0	0	35	0	0	0	35
	Garage	0	0	0	0	0	0	0
	Total	0	0	35	5	0	0	40
29	On-Street	0	0	0	0	0	5	5
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	0	0	5	5
30	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	115	0	0	0	115
	Garage	0	0	250	0	0	0	250
	Total	0	0	365	0	0	0	365
31	On-Street	0	0	0	0	12	0	12
	Surface Lot	0	0	5	0	0	0	5
	Garage	0	0	0	0	0	0	0
	Total	0	0	5	0	12	0	17
32	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	22	0	0	0	22
	Garage	0	0	0	0	0	0	0
	Total	0	0	22	0	0	0	22

Occupancy

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
25	On-Street	0	0	0	2	0	0	2
	Surface Lot	0	0	38	0	0	0	38
	Garage	0	0	0	0	0	0	0
	Total	0	0	38	2	0	0	40
26	On-Street	0	0	0	4	0	0	4
	Surface Lot	0	0	31	0	0	0	31
	Garage	0	0	0	0	0	0	0
	Total	0	0	31	4	0	0	35
27	On-Street	0	0	0	1	0	0	1
	Surface Lot	0	0	43	0	0	0	43
	Garage	0	0	0	0	0	0	0
	Total	0	0	43	1	0	0	44
28	On-Street	0	0	0	5	0	0	5
	Surface Lot	0	0	27	0	0	0	27
	Garage	0	0	0	0	0	0	0
	Total	0	0	27	5	0	0	32
29	On-Street	0	0	0	0	0	4	4
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	0	0	4	4
30	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	79	0	0	0	79
	Garage	0	0	198	0	0	0	198
	Total	0	0	277	0	0	0	277
31	On-Street	0	0	0	0	8	0	8
	Surface Lot	0	0	3	0	0	0	3
	Garage	0	0	0	0	0	0	0
	Total	0	0	3	0	8	0	11
32	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	15	0	0	0	15
	Garage	0	0	0	0	0	0	0
	Total	0	0	15	0	0	0	15

Source: *Walker Parking Consultants, 2010.*

Table C- 5: Ala Moana (AM) Inventory and Occupancy, Blocks 33-40

Inventory

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
33	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	54	0	0	0	54
	Garage	0	0	0	0	0	0	0
	Total	0	0	54	0	0	0	54
34	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	58	0	0	0	58
	Garage	0	0	0	0	0	0	0
	Total	0	0	58	0	0	0	58
35	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	27	0	0	0	27
	Garage	0	0	0	0	0	0	0
	Total	0	0	27	0	0	0	27
36	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0
37	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	28	0	0	0	28
	Garage	0	0	0	0	0	0	0
	Total	0	0	28	0	0	0	28
38	On-Street	0	0	0	29	0	0	29
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	1,250	0	0	0	1,250
	Total	0	0	1,250	29	0	0	1,279
39	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	13	0	0	0	13
	Garage	0	0	0	0	0	0	0
	Total	0	0	13	0	0	0	13
40	On-Street	0	0	0	12	0	0	12
	Surface Lot	0	0	10	0	0	0	10
	Garage	0	0	348	0	0	0	348
	Total	0	0	358	12	0	0	370

Occupancy

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
33	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	43	0	0	0	43
	Garage	0	0	0	0	0	0	0
	Total	0	0	43	0	0	0	43
34	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	58	0	0	0	58
	Garage	0	0	0	0	0	0	0
	Total	0	0	58	0	0	0	58
35	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	27	0	0	0	27
	Garage	0	0	0	0	0	0	0
	Total	0	0	27	0	0	0	27
36	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0
37	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	28	0	0	0	28
	Garage	0	0	0	0	0	0	0
	Total	0	0	28	0	0	0	28
38	On-Street	0	0	0	14	0	0	14
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	846	0	0	0	846
	Total	0	0	846	14	0	0	860
39	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	12	0	0	0	12
	Garage	0	0	0	0	0	0	0
	Total	0	0	12	0	0	0	12
40	On-Street	0	0	0	5	0	0	5
	Surface Lot	0	0	8	0	0	0	8
	Garage	0	0	321	0	0	0	321
	Total	0	0	329	5	0	0	334

Source: *Walker Parking Consultants, 2010.*

Table C- 6: Ala Moana (AM) Inventory and Occupancy, Blocks 41-44 and Area Summary

Inventory

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
41	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	103	0	0	0	103
	Garage	0	0	300	0	0	0	300
	Total	0	0	403	0	0	0	403
42	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	35	0	0	0	35
	Garage	0	0	500	0	0	0	500
	Total	0	0	535	0	0	0	535
43	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	122	0	0	0	122
	Garage	0	0	0	0	0	0	0
	Total	0	0	122	0	0	0	122
44	On-Street	0	0	0	15	0	0	15
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	7,890	0	0	0	7,890
	Total	0	0	7,890	15	0	0	7,905
ALL	On-Street	0	0	0	220	172	35	427
	Surface Lot	85	0	3,558	0	0	0	3,643
	Garage	1,460	0	13,276	0	0	0	14,736
	Total	1,545	0	16,834	220	172	35	18,806

Occupancy

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
41	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	68	0	0	0	68
	Garage	0	0	300	0	0	0	300
	Total	0	0	368	0	0	0	368
42	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	30	0	0	0	30
	Garage	0	0	500	0	0	0	500
	Total	0	0	530	0	0	0	530
43	On-Street	0	0	0	0	0	0	0
	Surface Lot	0	0	67	0	0	0	67
	Garage	0	0	0	0	0	0	0
	Total	0	0	67	0	0	0	67
44	On-Street	0	0	0	13	0	0	13
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	5,138	0	0	0	5,138
	Total	0	0	5,138	13	0	0	5,151
ALL	On-Street	0	0	0	145	136	34	315
	Surface Lot	72	0	2,717	0	0	0	2,789
	Garage	1,098	0	9,358	0	0	0	10,456
	Total	1,170	0	12,075	145	136	34	13,560

Source: *Walker Parking Consultants, 2010.*

APPENDIX D — MAKIKI (MA) INVENTORY AND OCCUPANCY

WALKER
PARKING CONSULTANTS

Figure D- 1: Makiki (MA) Section of Study Area

Source: *Google Earth Professional, 2009; Walker Parking Consultants, 2010.*

Figure D- 2: Definitions of Terms

The following terms are used in the tables in this Appendix.

Public/Public → Ownership is Public, User group is Public
Public/Private → Ownership is Public, User group is Private
Private/Private → Ownership is Private, User group is Private
On-Street Meter → Spaces regulated by meter
On-Street Loading → Designated short-term area regulated by sign
On-Street no-meter → On-street space w/ specified time limits and/or user group

Source:*Walker Parking Consultants, 2010.*

Table D- 1: Makiki (MA) Inventory and Occupancy, Blocks 1-5

Inventory

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
1	On-Street	0	0	0	21	0	0	21
	Surface Lot	0	0	0	0	0	0	0
	Garage	10	0	226	0	0	0	236
	Total	10	0	226	21	0	0	257
2	On-Street	0	0	0	14	0	0	14
	Surface Lot	0	0	51	0	0	0	51
	Garage	0	509	59	0	0	0	568
	Total	0	509	110	14	0	0	633
3	On-Street	0	0	0	9	0	0	9
	Surface Lot	0	251	0	0	0	0	251
	Garage	0	343	0	0	0	0	343
	Total	0	594	0	9	0	0	603
4	On-Street	0	0	0	30	0	0	30
	Surface Lot	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	30	0	0	30
5	On-Street	0	0	0	57	0	3	60
	Surface Lot	0	98	108	0	0	0	206
	Garage	0	0	0	0	0	0	0
	Total	0	98	108	57	0	3	266

Occupancy

Block	Descriptio	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
1	On-Street	0	0	0	17	0	0	17
	Surface Lo	0	0	0	0	0	0	0
	Garage	10	0	224	0	0	0	234
	Total	10	0	224	17	0	0	251
2	On-Street	0	0	0	13	0	0	13
	Surface Lo	0	0	25	0	0	0	25
	Garage	0	458	13	0	0	0	471
	Total	0	458	38	13	0	0	509
3	On-Street	0	0	0	9	0	0	9
	Surface Lo	0	251	0	0	0	0	251
	Garage	0	123	0	0	0	0	123
	Total	0	374	0	9	0	0	383
4	On-Street	0	0	0	20	0	0	20
	Surface Lo	0	0	0	0	0	0	0
	Garage	0	0	0	0	0	0	0
	Total	0	0	0	20	0	0	20
5	On-Street	0	0	0	37	0	3	40
	Surface Lo	0	92	75	0	0	0	167
	Garage	0	0	0	0	0	0	0
	Total	0	92	75	37	0	3	207

Source: *Walker Parking Consultants, 2010.*

Table D- 2: : Makiki (MA) Inventory and Occupancy, Blocks 6-10 and Area Summary

Inventory

Block	Description	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
6	On-Street	0	0	0	30	0	0	30
	Surface Lot	0	255	60	0	0	0	315
	Garage	0	400	0	0	0	0	400
	Total	0	655	60	30	0	0	745
7	On-Street	0	0	0	29	0	4	33
	Surface Lot	0	144	75	0	0	0	219
	Garage	0	0	0	0	0	0	0
	Total	0	144	75	29	0	4	252
8	On-Street	0	0	0	10	9	2	21
	Surface Lot	0	0	59	0	0	0	59
	Garage	0	0	174	0	0	0	174
	Total	0	0	233	10	9	2	254
9	On-Street	0	0	0	17	16	10	43
	Surface Lot	0	0	246	0	0	0	246
	Garage	0	0	0	0	0	0	0
	Total	0	0	246	17	16	10	289
10	On-Street	0	0	0	16	18	6	40
	Surface Lot	0	96	137	0	0	0	233
	Garage	0	762	0	0	0	0	762
	Total	0	858	137	16	18	6	1,035
ALL	On-Street	0	0	0	233	43	25	301
	Surface Lot	0	844	736	0	0	0	1,580
	Garage	10	2,014	459	0	0	0	2,483
	Total	10	2,858	1,195	233	43	25	4,364

Occupancy

Block	Descriptio	Off-Street: Public/Public	Off-Street: Public/Private	Off-Street: Private/Private	On-Street: Meter	On-Street: Time/Other	On-Street: Loading	Total
6	On-Street	0	0	0	16	0	0	16
	Surface Lo	0	131	59	0	0	0	190
	Garage	0	340	0	0	0	0	340
	Total	0	471	59	16	0	0	546
7	On-Street	0	0	0	17	0	3	20
	Surface Lo	0	114	45	0	0	0	159
	Garage	0	0	0	0	0	0	0
	Total	0	114	45	17	0	3	179
8	On-Street	0	0	0	5	9	0	14
	Surface Lo	0	0	31	0	0	0	31
	Garage	0	0	131	0	0	0	131
	Total	0	0	162	5	9	0	176
9	On-Street	0	0	0	4	16	0	20
	Surface Lo	0	0	115	0	0	0	115
	Garage	0	0	0	0	0	0	0
	Total	0	0	115	4	16	0	135
10	On-Street	0	0	0	13	18	6	37
	Surface Lo	0	84	71	0	0	0	155
	Garage	0	392	0	0	0	0	392
	Total	0	476	71	13	18	6	584
ALL	On-Street	0	0	0	151	43	12	206
	Surface Lo	0	672	421	0	0	0	1,093
	Garage	10	1,313	368	0	0	0	1,691
	Total	10	1,985	789	151	43	12	2,990

Source: *Walker Parking Consultants, 2010.*