

Wailuku Town Parking Study
And
Parking Management Plan Analysis
May 31, 2011



Submitted to:
The County of Maui Department of Planning
and
The Maui Redevelopment Agency

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I. BACKGROUND / INTRODUCTION

In the fall of 2010, a Wailuku Redevelopment Area Market-Based Plan was completed by Progressive Urban Management Associates (PUMA). As part of this comprehensive market analysis project, PUMA conducted focus group interviews and an extensive community survey that resulted in 1,011 completed surveys from respondents that live and/or work in the Kahului/Wailuku area. The results of the community survey revealed that downtown parking is a major issue affecting the commercial viability of Wailuku Town. Specifically, respondents indicated that difficulty finding parking and traffic congestion are among the top three reasons why they avoid Wailuku Town.

In asking survey respondents what downtown improvements would encourage them to visit Wailuku Town more often, the top response was “more convenient parking”. Of the ten major themes that emerged from the focus group interviews with downtown stakeholders, parking was at the top of the list with the following statement:

“Downtown Parking is problematic and a barrier to the economic health of downtown. Parking needs to be improved through increased supply and better management.”

Based on the results of the community survey, direct field observations and numerous interviews with downtown stakeholders, the PUMA Market-Based Plan identified the existing parking situation to be a major detriment to the economic viability of Wailuku Town as follows:

“Parking in downtown Wailuku is a barrier to its commercial viability. Consumers view the lack of convenient parking as an impediment to visitation. Business owners cite a shortage of both employee and customer parking options. County and State employees regularly compete each morning to park in the limited number of long term spaces.”

“The Market-Based Plan did not determine if the parking supply is inadequate...However, the planning process did reveal that the existing parking supply is poorly managed – there appears to be little rationality on how parking is allocated between short and long-term use.”

One of the primary near-term recommendations to come out of the Market-Based Plan was for Wailuku Town to undertake a detailed parking analysis to begin the process of developing a Downtown Parking Management Plan. Primary mid-term recommendations include the possible creation of a Parking District within the Wailuku Redevelopment Area (WRA), and a recommendation to explore various options to institute paid parking downtown. Long term recommendations include the construction of a parking structure on the existing Municipal Lot and the adoption of Transportation Demand Management strategies for State and County employees.



II. PURPOSE OF PARKING ANALYSIS / METHODOLOGY

Following the near-term recommendations contained in the Market-Based Plan, the purpose of this parking analysis is to explore the existing Wailuku Town parking situation in detail, to confirm existing conditions and to provide recommendations in the following primary areas:

- Confirm existing parking supply, demand and utilization
- Examine current parking conditions and regulations and provide recommendations for improvements
- Review current planning and zoning codes as they relate to parking and provide analysis and recommendations
- Provide planning and functional design comments and suggestions for the design of the new Municipal Parking Structure
- Provide analysis on determining what range of fees would be acceptable for paid parking and the amount of revenue such fees could produce on an annual basis
- Provide preliminary recommendations on the establishment of a Parking Management Plan and District for Wailuku Town

In conducting our parking analysis for Wailuku Town, we performed the following specific tasks:

- Reviewed previous studies, reports and plans, including the recent PUMA Market-Based Plan, the 2009 Maui County Campus Study, Wailuku Redevelopment Area Zoning and Development Code, previous parking studies and surveys, and current State and County codes
- Completed a detailed inventory of parking in Wailuku Town, to include on-street and off-street parking assets, and both public and private parking facilities to determine existing parking supply
- Performed a detailed land use analysis of the core Redevelopment Area to document existing conditions, to identify major parking demand generators and to estimate current parking demand
- Documented actual parking occupancy patterns on multiple days in the Wailuku Municipal Lot and observed other key parking areas within the WRA
- Interviewed key staff, downtown stakeholders, private developers and property owners in an effort to draw out major parking issues, perceptions and concerns of the primary users of downtown parking facilities
- Utilized the most recent parking ratios published by the Urban Land Institute (ULI) in 2010, and performed shared parking demand modeling to estimate current parking demand



III. EXECUTIVE SUMMARY

Existing Parking Supply, Demand and Utilization

Of the total inventory of parking documented within the WRA study area, 21.6% is open to the general public. On-street public parking represents 8.7% of the total parking supply. Total parking supply within the study area breaks down as follows:

On-Street Public Parking:	239 (8.7%)
Off-Street Public Parking:	354 (12.9%)
<u>Off-Street Permit/Private/Reserved:</u>	<u>2,150 (78.4%)</u>
TOTAL	2,743 (100%)

The existing 210-space Municipal Lot and the 42-space County visitor lot at High Street are the only County controlled off-street parking facilities available for general public parking. Most other off-street parking facilities are either private, permit or reserved. State metered lots are open to the public, but intended for State business only and are closely monitored by security staff. One Main Plaza offers daily and short term public parking in its attached parking structure, but the garage operator indicates there is very little transient parking activity in the garage. This is likely due to the high cost of short term parking in the One Main Plaza garage (\$2.00 per hour/\$20 daily max).

The results of our land use analysis and shared parking demand modeling of existing conditions reveals that there is a current parking shortage of approximately (-200) spaces in the Central Market sub-area and a shortage of approximately (-262) spaces in the Government Center sub-area. The West Main, East Main and South Main sub-areas all show minor parking deficits in theory, but we believe these numbers are statistically less significant at this time unless major new development occurs.

Our parking supply and demand analysis for the County of Maui and the State of Hawaii offices as stand-alone entities shows the following results:

County of Maui Campus / ULI Ratio:	Deficit of (-134) parking spaces
County of Maui Campus / Employee Parking:	Deficit range of (-105 to -141)
County of Maui Wailuku Total Employee Parking:	Deficit range of (-252 to -304)
State Office Building & Judiciary / ULI Ratio:	Deficit of (-121) parking spaces
State Office Employee Parking:	Deficit range of (-5 to -34)

Parking occupancy and utilization at the Municipal Lot, the County Visitor Lot and on Market Street consistently exceeded 90% occupancy levels on typical non-furlough weekdays. The 12 hour spaces in the Municipal Lot were consistently parked at 100% occupancy on non-furlough weekdays from 7:30am to roughly 4:00pm on a daily basis.

County and State furlough days have a significant impact on parking availability in the Municipal Lot. Combined State/County furlough days reduced parking occupancies from 100%



to an average of 75.5% in the 12 hour spaces. Average occupancy was 85% in the 12 hour spaces on the State Judiciary-only furlough day.



Existing Land Uses

Our land use analysis revealed that by far, the dominate land use within the MRA is daytime office uses - specifically governmental/banking/medical/professional offices. Daytime office uses account for 79% of the total land uses in the MRA. This very high concentration of weekday daytime uses creates a high demand for employee parking during normal weekday peak periods and reduces the benefits of shared parking demand reductions. This situation is most acute in the “Government Center” sub-area, where 97% of the land use is government office, and in the “West Main” sub-area, where 92% of the land use is professional office/medical clinic.

It is important to note that the specific types of governmental office and medical office/clinic uses so predominate in the MRA are very parking intense land uses within their respective categories. For example, doctor and medical offices tend to generate high demand for both employee and visitor/patient parking. The fact that governmental offices at both the State and County levels are “bursting at the seams” and packing more people and services in less space results in greater parking demand than typical office space. Governmental agencies providing direct services to the public and courthouse facilities also tend to generate greater parking demand than typical office uses due to the higher level of customer/visitor/juror parking demand.

The land use analysis further revealed that retail represents 18% of the land uses in the MRA study area, with restaurants at only 3% of the total land use respectively. Other than the hostel on Vineyard Street and a small bed and breakfast inn outside the MRA, there are no hotels within the Redevelopment Area.

Physical Conditions

On-street parking is the most valuable parking in any downtown urban center, but it represents only 8.7% of total parking supply in Wailuku Town. This is because streets and roads in historic Wailuku Town are very narrow by today’s standards and can only accommodate parking on one side of the street in most instances. Market Street appears to be the only street in the MRA wide enough to allow for angled parking.

Land values are very high and lot sizes tend to be very small in Wailuku Town, making it difficult and expensive for property owners and developers to assemble sufficient land to provide on-site parking required by current WRA planning and zoning codes.

The Municipal Lot is in fairly poor physical condition and is not well maintained in terms of routine maintenance and housekeeping. Asphalt paving is in a serious state of deterioration to the point of causing trip hazards for pedestrians. Overgrown weeds and untrimmed hedges dominate landscaped areas, existing signage is faded and in poor condition and trash and debris does not appear to be removed on a routine basis.



Existing Policies and Regulations

Except for the one hour parking area on North High Street between Vineyard and Main Streets, the majority of on-street parking in the WRA is free, 2 hour time limited parking. The only exception to this is Vineyard Street east of Market, which allows parking but has no posted time limit. Free two hour short term parking spaces are also provided in the Municipal Lot (70 spaces) and in the County visitor lot (42 spaces). Short term visitor parking in the State of Hawaii metered lots is limited to two hours at a rate of fifty cents (.50) per hour.

Other than the 210 parking spaces provided in dedicated County employee lots, Maui County does not provide parking for any of its remaining 400 employees in Wailuku Town. In their orientation packets, new County employees are instructed to get on a multi-year waiting list for a County reserved space, to pay for parking in the One Main Plaza garage, to park on-street in adjacent residential or two hour areas, or to park in the Municipal Lot. Employees are prohibited from parking in the 42 space County Visitor lot. Employees are warned to “take note of parking time limits - a very dedicated police officer patrols the area and does not hesitate to give parking citations” (Source: new employee orientation memo dated November, 2006).

Similar to Maui County, the State of Hawaii maintains a multi-year waiting list for the 258 designated employee parking spaces in its underground garages. Employees are charged \$30 per month for reserved parking in the garages. The State provides some additional employee parking in a surface lot north of High Street, but the balance of State employees are responsible for finding their own parking off-site. The State provides 78 metered parking spaces for customer and visitor parking. Jurors are provided with placards allowing them to park all day in 2 hour areas without penalty, but they are instructed not to park in metered spaces.

Existing WRA Zoning & Development Code

The Maui Redevelopment Agency adopted the Wailuku Redevelopment Area Zoning and Development (WRAZ&D) Code in September, 2002. The purpose of the WRAZ&D was to “reduce regulatory barriers to business creation and investment” and to encourage a greater mix of land uses - specifically restaurants, cafes, retail and entertainment uses. The WRAZ&D code reduces the amount of parking required to be created for new development, major renovations or changes in use from what is otherwise required under Maui’s general planning and zoning codes. However, the WRAZ&D still requires all new development and major redevelopment projects to create parking on-site based upon prescribed parking ratios.

In reality the existing WRAZ&D code is a barrier to development, particularly to the types of development the WRA is attempting to encourage. With its requirements for prescribed parking ratios for all land uses, the current code is encouraging inefficient suburban-style development in the heart of Wailuku Town, it is preventing restaurants, cafes, entertainment and hotel venues from building or locating in the WRA, and it is limiting the County’s tax base by not allowing for greater density of development.



Proposed WRA Parking Fee in Lieu Ordinance

A draft ordinance has been written but has not yet been adopted that will allow developers and property owners within the WRA to pay a cash fee “in lieu” of providing required parking. As currently drafted, eligible projects must be located within 650 feet of the proposed municipal parking structure and the yet-to-be-determined fee is to be based upon “59% of the construction cost of a multilevel parking facility”. The parking fee in lieu is to be paid prior to the issuance of any license, building permit or certificate of occupancy. It is our understanding that at least one developer of a recent private development project within the WRA was required to execute and record an agreement that committed the developer to pay a yet-to-be-determined cash fee per parking space once the municipal garage is completed.

Parking Fines and Enforcement

Parking enforcement is performed by a dedicated, full time County of Maui police officer whose primary focus is downtown Wailuku Town. Parking fines under County of Maui Code are \$35 for on-street overtime parking and \$60 for overtime/prohibited parking in County lots. Overtime meter violations are a \$40 fine under State code. State of Hawaii parking meters are enforced by in-house security personnel. All parking fine revenues, whether County violation or State violation, go to the State of Hawaii Judiciary, with no direct reimbursements to the County of Maui.

Our field observations indicate that parking enforcement in Wailuku Town is dedicated and consistent, and that two hour parking spaces are routinely monitored for compliance. As a result of this level of enforcement, we observed good parking turnover in 2 hour short term parking spaces, particularly along Market Street, in the Municipal Lot and in the County visitor lot.

Because all fine revenues go directly to the State and not the County, there is no incentive for the County to track parking fines, tickets and revenue activity or data. Therefore, we were unable to perform a detailed analysis of the number, types, disposition or total revenues of parking violation activity in Wailuku Town. It should be noted that tickets are still being written manually and not by a computerized hand-held ticketing system, which also makes parking violation reporting, analysis and benchmarking very difficult. *(Detailed parking enforcement & violations analysis is typically an important element of any comprehensive downtown parking study we perform).*



Downtown Stakeholders

Throughout the course of our interviews, a number of consistent and rather powerful themes emerged and were reinforced by most all interviewees:

- There is a palpable level of frustration from everyone interviewed that “nothing has been done” in over twenty years to develop the Municipal Lot, despite promises made from the County
- There was universal sentiment that the site of the Municipal Lot is significant given its history and prime location, and that any proposed development should be “more than just a parking garage”
- There is a great deal of confusion and lack of understanding on the size, design and configuration of the new parking structure (people are still latching onto the old “PC-1” design concept)
- The proposed parking fee in lieu ordinance is not supported by private property owners, but there is support for a possible parking special assessment and even greater support for TIF funding to help pay for parking capital improvements/debt service/operations
- Everyone interviewed confirmed the critical need to create more parking supply, but there was also universal concern that the proposed parking structure not be too large and out of scale compared to the surrounding architecture
- There is a general acceptance and support for the need to charge for parking, so long as the proposed rates are reasonable – and that any parking revenues must be retained to pay for ongoing operations or for future parking improvements
- There was consensus among all interviewees that the new parking structure must include sufficient short-term customer parking in the grade/lower levels and that monthly employee parkers should be required to park in the upper levels of the garage
- Despite the frustration and skepticism expressed by most interviewees, most people also felt optimistic that the actual construction of a parking structure is closer to becoming a reality now than in the past twenty years of repeated attempts



Conclusions and Recommendations

Parking Supply and Demand

There seems to be a general perception that the problem with employee parking in the Municipal Lot is more from State employees than from County of Maui employees. The actual data suggests otherwise. Based on the information provided, the State of Hawaii has more building square footage, but less employees on campus than the County (63 fewer employees) - yet it supplies more employee and visitor parking on-site than the County currently provides.

State Employee Parking =	258	State Visitor Parking =	78
County Employee Parking =	210	County Visitor Parking =	42

The amount of parking available to the general public in Wailuku Town is extremely limited for a downtown business district of its size (21.6% of total parking supply). The 12 hour time limit in the Municipal Lot compounds this problem by effectively taking 140 prime off-street parking spaces out of the public inventory because these spaces are completely consumed on a daily basis by County, State and business employees. In effect, the 12 hour time limit reduces the amount of parking available to the general public to only 16.5% of total parking supply. In over twenty years of parking management and consulting practice, we have never encountered a 12 hour posted time limit in any public parking facility – particularly in such a prime location as the Municipal Lot.

We recommend that the 12 hour time limit be eliminated and that paid parking for a combination of monthly permits and transient short term parking be implemented immediately. Low-tech Parking Access & Revenue Control (PARC) technology could be installed quickly and cost effectively to convert the Municipal Lot to a paid facility. The conversion to paid parking should proceed immediately, regardless of the timing of the parking structure project.

Our parking supply, demand and utilization analysis confirms there is a very real parking shortage in Wailuku Town that is preventing more robust redevelopment activity from occurring within the WRA. The combined parking deficit for the Government Center and Central Market sub-areas is (-462) parking spaces. The proposed new parking structure on the Municipal Lot is projected to net 239 total parking spaces based upon the most recent design concept. While this added parking supply in a prime location will help significantly, it is not enough to resolve the overall shortage of parking in Wailuku Town.

We recommend the County move forward as quickly as possible to fund actual construction of the new parking structure. The need for additional parking capacity has been substantiated and quantified. In addition to the new garage, surface parking sites identified to provide temporary parking during construction should be considered for more permanent or semi-permanent paid parking lots as part of the new “Parking District”. These smaller parking lots would be strategically located throughout the downtown area and could provide convenient



public parking while also generating revenue for the new parking system. However, the long term plan/goal for all such lots should be as future development sites.

Existing Land Uses / WRAZ&D Code

Our land use analysis shows a rather weak retail sector in downtown Wailuku, with retail comprising only 18% of active land uses. Restaurants represent only 3% of active land uses, and there are no taverns or hotels located within the WRA. This is surprising considering the fact that the WRA Zoning and Development Code was enacted in 2002 with the specific purpose and intent to encourage a better mix of these types of land uses.

We recommend that the WRAZ&D Code be amended to exempt desired land uses from having to conform to any required parking ratios – specifically: full service restaurants; taverns/pubs/cafes; retail; boutique hotels. As demonstrated in our shared parking modeling, these land uses peak at opposite times of the day and can often “share” the same parking facilities as daytime office uses. Non-office land uses have ample parking capacity available in the evenings based upon existing parking inventories, and have minimal impact to daytime parking demand due to the combined effects of shared parking demand, market synergies and captive market reductions. However, due to the preponderance of office uses currently existing in the WRA and the heavy daytime demand generated by office uses, we recommend against the granting of any waivers or parking exemptions for future office developments.

Physical Conditions

As mentioned above, the Municipal Lot is in rather poor physical condition for a public facility, especially compared to the other County of Maui employee and visitor lots that appear to receive greater levels of housekeeping, maintenance and routine repairs. The paving conditions in the Municipal Lot are particularly poor and degraded. The rough physical condition of the paved surfaces creates trip hazards for pedestrians and the rough surfaces tend to trap dust, trash and debris. Line striping, landscaping and signage are all in poor condition as well.

If a parking structure is not constructed on the Municipal Lot within the very near future the parking lot will need major maintenance improvements, physical upgrades and a complete repaving. Even if the parking structure project does move forward within the next 12 to 18 months, the Municipal Lot still needs to receive better ongoing maintenance and housekeeping attention than currently exists. Areas demonstrating the most severe paving deterioration should be patched immediately. Instituting paid parking in the lot in the near term would provide more than sufficient revenues to cover the costs of ongoing repairs and maintenance.

Proposed WRA Parking Fee in Lieu Ordinance

In both theory and practice, the proposed parking fee in lieu ordinance amounts to an impact fee on new development. Instead of encouraging redevelopment activity, the fee in lieu ordinance will deter development, particularly for the types of land uses most desired in the WRAZ&D code. The proposed fee is confusing, subjective and arbitrary, and it could be difficult to defend if challenged.

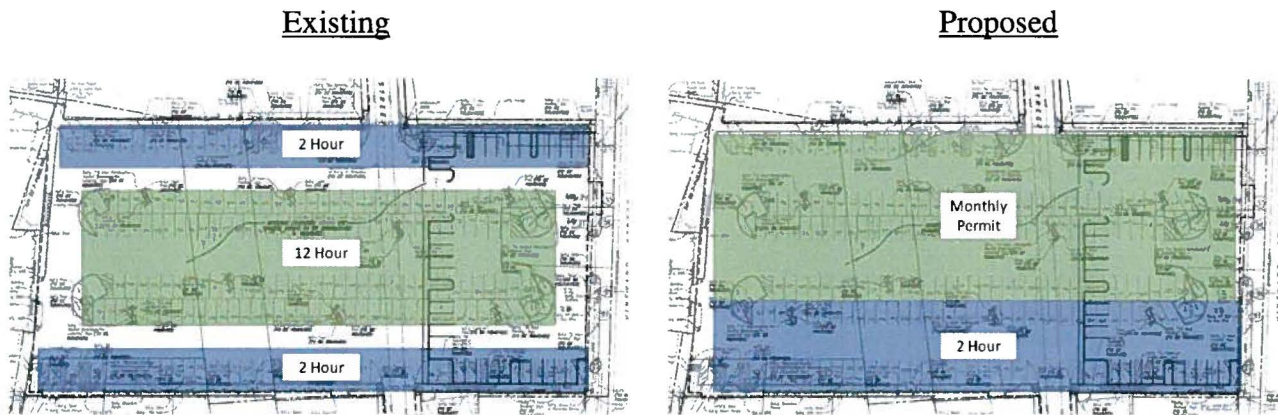


We strongly advise the County and the MRA not to enact this ordinance.

Existing Policies and Regulations – Municipal Lot

We already recommended that the 12 hour time limit in the Municipal Lot be eliminated and that paid parking be implemented as soon as possible for both monthly “permit” parking and short-term customer parking.

We further believe the lot can better serve Market Street businesses if all of the two hour parking spaces are consolidated on the east side of the lot, instead of the current configuration that has the two hour spaces divided evenly on the extreme east and west sides of the lot. This will also make parking enforcement easier. Another option would be to convert the entire lot to paid parking with an hourly short term rate and a flat rate daily maximum charge.



Existing Policies and Regulations – County of Maui Employee Parking

The existing employee parking policy for the County of Maui is to basically tell employees not lucky enough to get a parking space in a County lot to fend for themselves. The “official” policy tells employees to park on-street or in the Municipal Lot, but to obey all parking regulations. The result of this policy is hurting downtown businesses because employees are parking in prime parking spaces that should be available to private sector employees, customers and visitors. County employees are either parking all day in the 12 hour Municipal Lot, in residential streets, or are performing the “two hour shuffle” by parking in designated 2 hour spaces.

The County of Maui needs to take a much more proactive approach to employee parking by increasing parking supply and by managing employee parking better through the adoption of an Employee Parking Management Plan. One short-term recommendation would be to move all fleet vehicles and storage vehicles off site to the County Baseyard or other satellite location, which would free up 71 parking spaces for additional employee parking. Another element of an Employee Parking Management Plan is the adoption of Transportation Demand Management (TDM) programs and strategies that help to reduce the number of single



occupancy vehicles. (A more thorough description of TDM and examples of successful TDM programs and options for the County to consider are included in Appendix 'x').

Existing Parking Fines

We realize the County cannot control the fine rates established under State codes, but the current County fines are extremely punitive, especially for first time offenders. The existing \$35 fine for overtime parking on-street and in the Municipal Lot is high compared to national averages, which typically range from \$10 to \$15 for the first offense. The \$60 fine for overtime/prohibited parking in all other County lots is extremely punitive. We question why the fine rates have been established so high considering the fact that the County does not receive any of the fine revenues from the parking tickets it generates?

We recommend that the County consider revising its parking fine codes to reduce the fine amounts to more reasonable levels. We simply do not understand the rationale used for the \$60 fine rate charged for County lot violations.

Parking Enforcement

During our interview, Officer Taguma indicated that he is nearing retirement age. Most cities in the country have moved away from using sworn police officers to issue parking tickets and are employing non-sworn civilian parking enforcement personnel instead. This frees up police officers to perform more important public safety duties, and it saves considerably in personnel costs. It is our understanding that State codes do not require fully sworn police officers to perform parking enforcement duties, and that non-sworn “meter maids” are used for parking enforcement in Honolulu.

We recommend that the County begin the planning process now to replace Officer Taguma (upon retirement) with non-sworn enforcement personnel to reduce costs and to adopt a more customer friendly approach to parking enforcement. Civilian enforcement officers could be trained to double as downtown “ambassadors”, providing downtown visitors with information, directions, maps, etc. Non-sworn civilian enforcement personnel could also augment public safety by providing passive security for the downtown area during normal business hours.

The situation in Hawaii is unique to any that we have encountered on the mainland in that all parking fine revenues go to the State of Hawaii and not the local jurisdiction issuing the parking tickets. This State policy deprives cities and towns of much needed parking revenues that most municipal operations on the mainland rely on to support their overall parking operations, and to help keep parking fees and rates low. Municipal parking operations typically rely on fine and enforcement income to generate anywhere from 30% to 50% or more of their total parking revenues. This is an important issue that negatively impacts the WRA’s ability to economically sustain a parking management operation.

We do not propose to open a Pandora’s Box by attempting to change State parking enforcement codes at this time. However, we do recommend that the County of Maui solicit a legal opinion to determine if the County can create a lower tier level of parking infractions, enforce those infractions on County owned lots and streets, and keep the revenues. Instead of



generating “Traffic Infraction” tickets, enforcement personnel would issue lesser cost “Parking Overtime” notices. Under this concept, full-blown traffic infractions would only be triggered if an overtime parking notice remains unpaid over a period of time, or if a person accumulates three or more unpaid overtime notices.

Revenue Potential for Existing Parking Facilities

Paid parking already exists in downtown Wailuku Town. For example, private off-street lots and garages charge \$30 to \$80 per month, depending upon location. Meters in the State visitor lots charge fifty cents (.50) per hour and are heavily utilized on a daily basis. Based upon these existing market rates, we have developed very preliminary potential revenue scenarios for on-street meters, for the Municipal Lot and for the County visitor lot at S. High Street.

While we do recommend that the County initiate paid parking in off-street lots as soon as possible, we believe on-street paid parking should be more carefully considered at this time. Converting to paid parking in the lots is much easier to execute logistically, operationally and in terms of capital costs for the installation of the PARC equipment. Converting to paid parking on-street will require much more thought and effort in terms of logistical factors, type of technology, physical planning, installation/capital costs, public relations and enforcement.

Assumptions:

Gross Income Before Expenses

Paid Parking Enforced From 8:00am to 5:00pm Daily

Meter Rates of Fifty (.50) Cents per Hour = Meter Revenue of \$4.00 per Day/per Space

Average of Twenty (20) Days of Paid Parking per Month

Monthly Permit Rate of \$35 per Space

	<u>Monthly Income</u>	<u>Annual Income</u>
<i>County Visitor Lot “Meters” (42) =</i>	<i>\$3,360</i>	<i>\$40,320</i>
<i>Municipal Lot “Meters” (70) =</i>	<i>\$5,600</i>	<i>\$67,200</i>
<i>Municipal Lot Permits (140) =</i>	<i>\$4,900</i>	<i>\$58,800</i>
<i>Off-Street Total Revenues</i>	<i>\$13,860</i>	<i>\$166,320</i>
<i>On-Street Meters (239) =</i>	<i>\$19,120</i>	<i>\$229,440</i>
<i>Total Revenue with On-Street Meters =</i>	<i>\$32,980</i>	<i>\$395,760</i>

NOTES:

Although we use the term “Meters”, we anticipate using some form of newer multi-space PARC technology and not older technology single-headed parking meters.

The Municipal Lot would generate greater revenues if more spaces are converted to short-term parking instead of monthly permit parking.

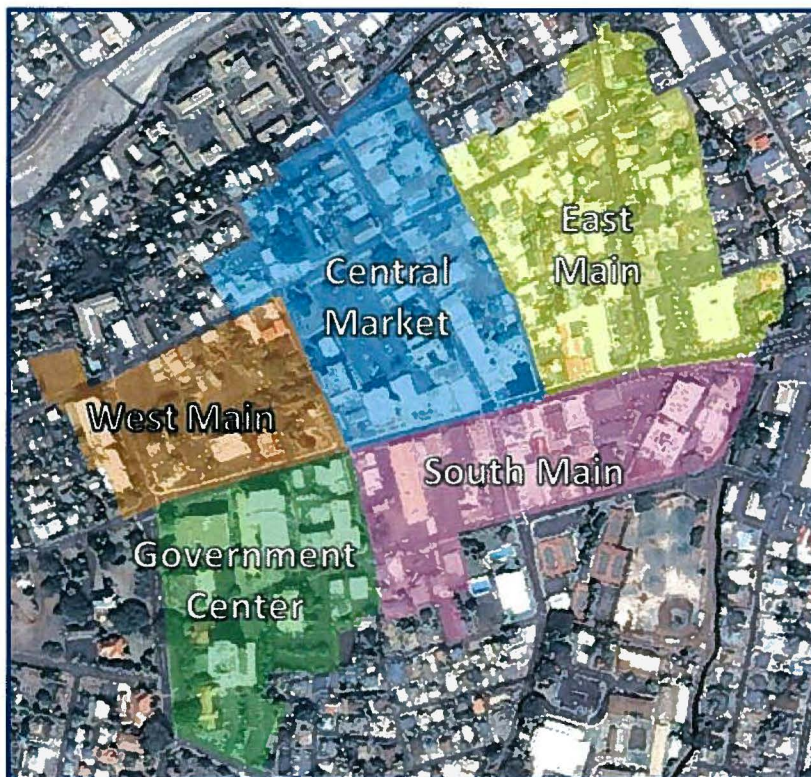


IV. PRIMARY FINDINGS

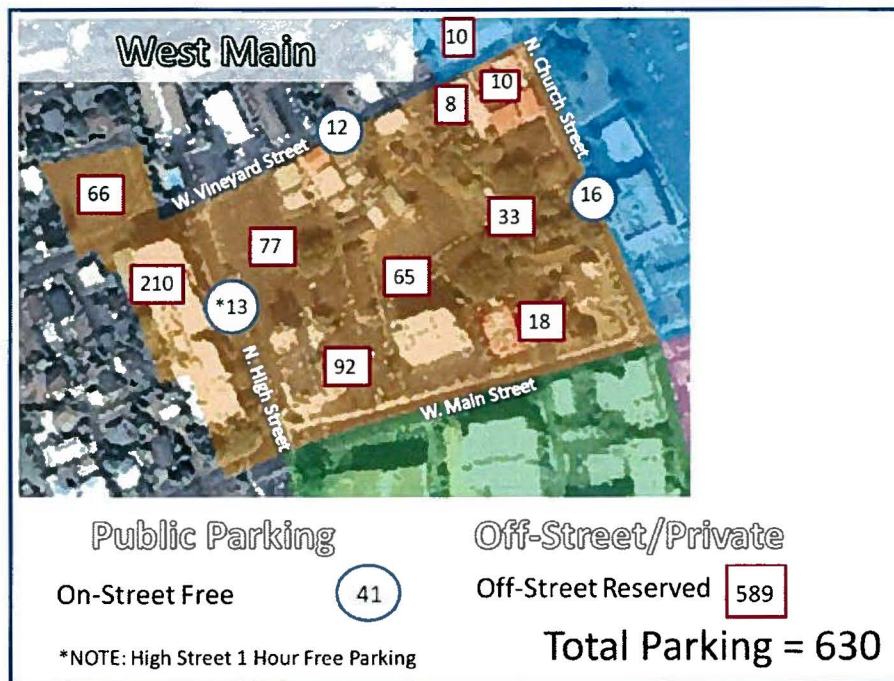
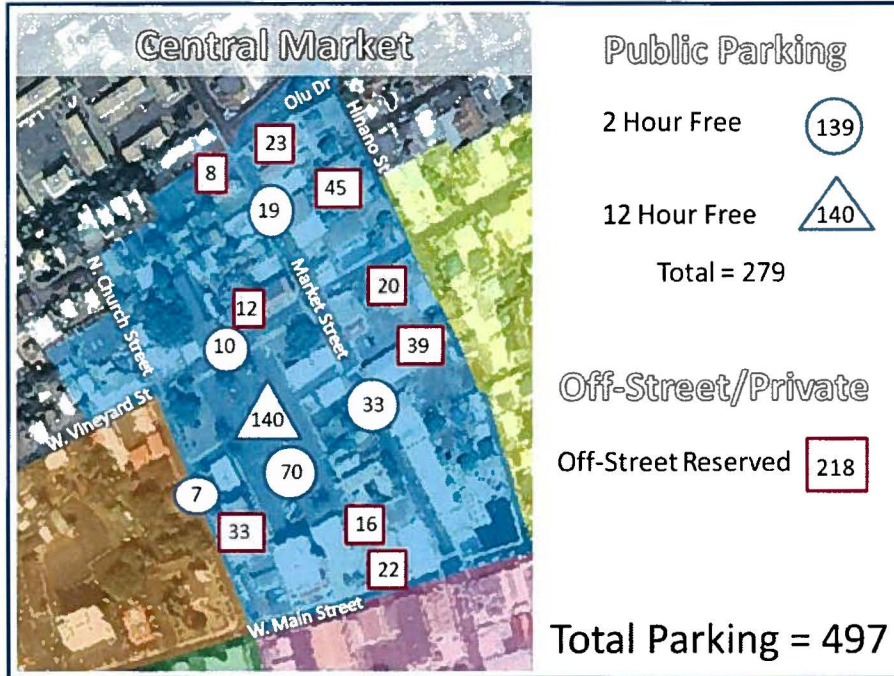
Existing Parking Supply

Our parking analysis focused on the core area of the Wailuku Redevelopment Area. We divided the study area into five (5) sub-areas based upon general geographic and land use patterns. We then inventoried all parking assets for on-street and off-street parking, and for both public and private parking facilities. Our inventory included a breakdown of parking supply by sub-area to include parking by type and current regulations. We attempted to collect data on all public and commercial parking assets located within the WRA, however our parking inventory does not necessarily include very small lots of less than 6 vehicles, strictly private parking areas, or individual residential parking areas or lots. A map of the study and the results of our analysis in tabular and graphic form are included below.

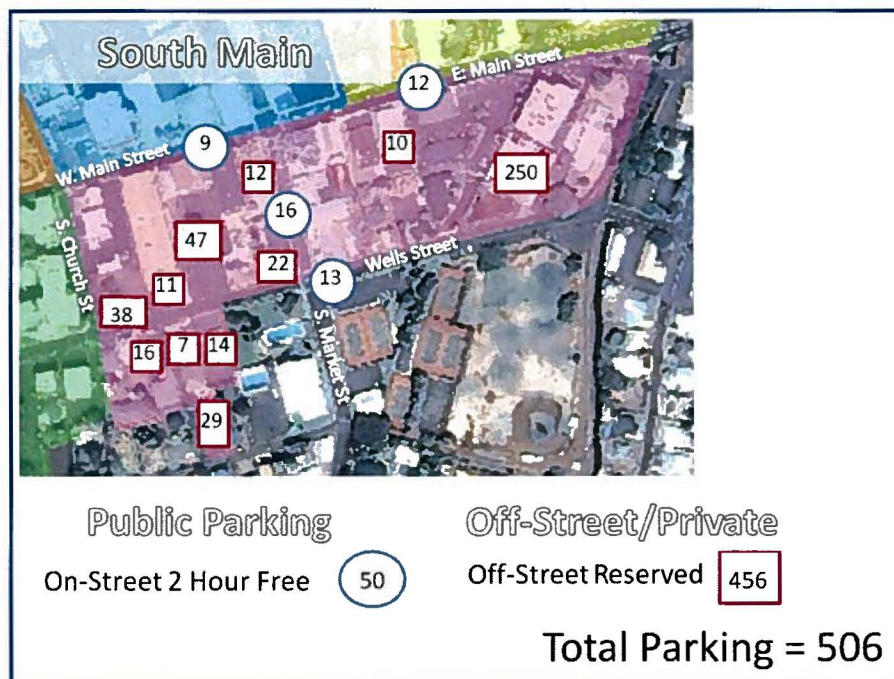
Map of Study Area Showing Sub-Areas



Existing Parking Supply By Sub-Area



Existing Parking Supply By Sub-Area



Existing Parking Supply By Sub-Area

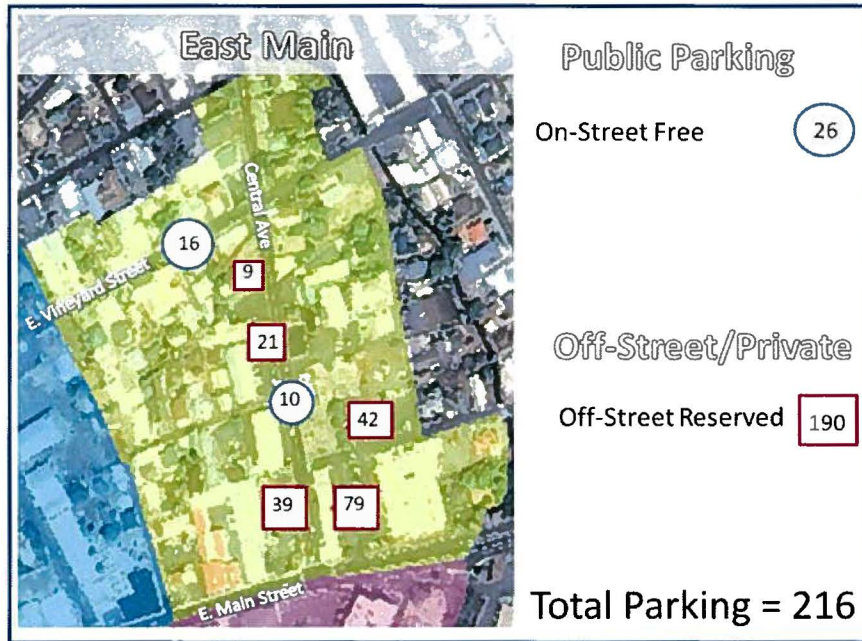


Table 1 – Total Parking Supply by Sub-Area

Sub-Area	Existing Parking Supply
Central Market	497
West Main	630
Government Center	894
South Main	506
East Main	216
Totals	2,743

Table 2 – Total Parking Supply Breakdown by Type

Parking Type	Existing Parking Supply	Percent of Total Supply
1HR Free On-Street	13	0.5%
2HR Free On-Street	226	8.2%
12HR Free Municipal Lot	140	5.1%
2HR Free Municipal Lot	70	2.5%
2HR Free County Visitor	42	1.5%
County Storage	71	2.6%
County Employee	210	7.7%
State 2HR Meters	78	2.8%
State Employee	234	8.6%



Private/Reserved	1,659	60.5%
Totals	2,743	100%

Existing Parking Utilization

We collected field data and performed detailed car counts at the Municipal Lot for a total of six (6) sample days over the course of three separate weeks. Sample data collection days included Wednesday/Friday; Tuesday/Friday; and Monday/Friday for each of the weeks sampled. We also performed periodic spot counts and visual observations of other public parking areas and facilities serving downtown Wailuku Town. Our analysis of parking utilization indicates that the 12 hour spaces in the Municipal Lot consistently operate at 100% capacity, and that the 2 hour spaces in the Municipal Lot operate at 90% or greater capacity on all non-furlough weekdays sampled. The data also shows that parking occupancy and utilization at the Municipal Lot drops considerable during governmental furlough days.

Our visual observations and spot checks at other primary parking locations in the WRA indicates that the following parking areas were consistently observed to be operating at 90% or greater capacity during peak periods of non-furlough days: County of Maui visitor and employee lots; State metered and employee facilities; Maui Medical Lots; S. Market Street; W. Vineyard Street, N. Church Street; N. High Street. All on-street parking within the study area was observed to be heavily utilized.

Parking facilities are considered to be operating at maximum efficiency at 80% to 85% of total capacity. This allows for overlap capacity for customers leaving a parking space and those trying to find a parking spot. When parking facilities consistently operate at 90% or greater capacity, they are considered to be effectively full. This is because customers get frustrated trying to circle the same facility competing for the last remaining spaces. Other conditions can compound this situation by removing parking spaces from the effective supply, such as vehicle loading/unloading, double parked vehicles, illegal parking, temporary construction, etc. Our parking utilization findings are summarized below in graphic and tabular form.

Municipal Lot 12 Hour Spaces

- Peak Parking Period for 12 Hour Spaces is 7:30am – 2:30pm
- During Typical Non-Furlough Weekdays, 12 Hour Spaces Were 100% Occupied From 7:30am to 3:30pm
- Average 12 Hour Peak Parking Occupancy During Combined State/County Furlough Days Was 75.5%
- Average 12 Hour Peak Parking Occupancy During State Judiciary Only Furlough Day Was 85%

Municipal Lot 2 Hour Spaces

- Data Indicates That Employee Parking Impacts 2 Hour Parking More On West Side (Mauka) of Lot Than East Side (Makai)
- Occupancy Patterns “Shift” During Regular vs. Furlough Days
 - West Side Busier During Regular Days
 - East Side Busier During Furlough Days
- Average Peak Occupancies Regular Weekdays:



- 2HR Mauka = 89%
- 2 HR Makai = 80%

Municipal Lot Occupancy Counts

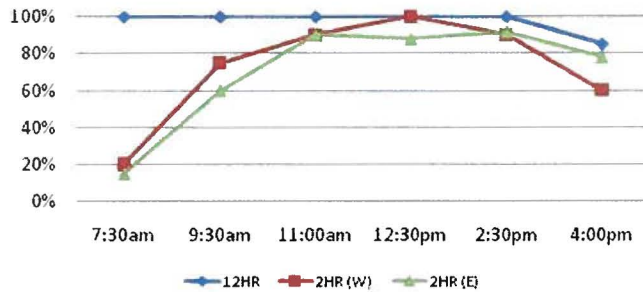
Municipal Lot Observed Occupancies Week #1

<u>Municipal Lot - Wed 2/2/11</u>	<u>7:30am</u>	<u>9:30am</u>	<u>11:00am</u>	<u>12:30pm</u>	<u>2:30pm</u>	<u>4:00pm</u>	<u>AVG.</u>
12HR	100%	100%	100%	100%	100%	85%	100%
2HR (W)	20%	75%	90%	100%	90%	60%	89%
2HR (E)	15%	60%	90%	88%	92%	78%	83%

<u>*Municipal Lot - Fri 2/4/11</u>	<u>7:30am</u>	<u>9:30am</u>	<u>11:00am</u>	<u>12:30pm</u>	<u>2:30pm</u>	<u>4:00pm</u>	<u>AVG.</u>
12HR	68%	72%	85%	85%	63%	35%	75%
2HR (W)	10%	25%	45%	45%	34%	15%	37%
2HR (E)	10%	30%	60%	70%	55%	28%	54%

** Combined State/County Furlough Day;*

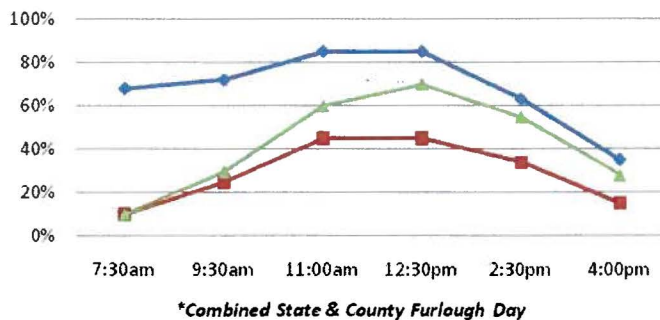
Municipal Lot - Wed 2/2/11



Average Peak Period Occupancies:

- 12HR = 100%
- 2HR (W) = 89%
- 2HR (E) = 83%

Municipal Lot - Fri 2/4/11



Average Peak Period Occupancies:

- 12HR = 75%
- 2HR (W) = 37%
- 2HR (E) = 54%

**Combined State & County Furlough Day*



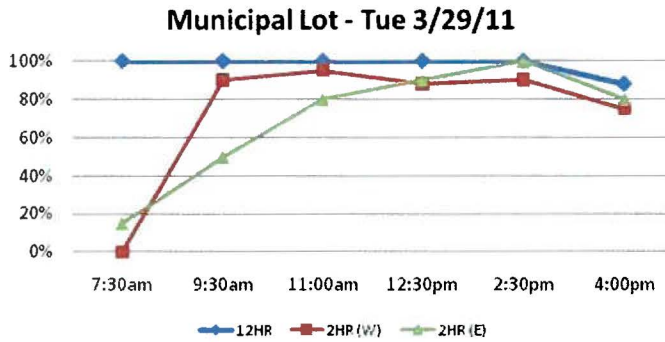
Municipal Lot Occupancy Counts

Municipal Lot Observed Occupancies Week #2

Municipal Lot - Tue 3/29/11	7:30am	9:30am	11:00am	12:30pm	2:30pm	4:00pm	AVG.
12HR	100%	100%	100%	100%	100%	88%	100%
2HR(W)	0%	90%	95%	88%	90%	75%	91%
2HR(E)	15%	50%	80%	90%	100%	80%	80%

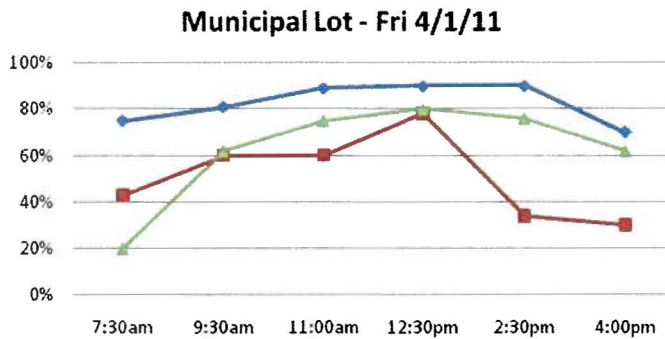
**Municipal Lot - Fri 4/1/11	7:30am	9:30am	11:00am	12:30pm	2:30pm	4:00pm	AVG.
12HR	75%	81%	89%	90%	90%	70%	85%
2HR(W)	43%	60%	60%	78%	34%	30%	58%
2HR(E)	20%	62%	75%	80%	76%	62%	73%

***State Judiciary Only Furlough Day*



Average Peak Period Occupancies:

12HR = 100%
2HR (W) = 91%
2HR (E) = 80%



Average Peak Period Occupancies:

12HR = 85%
2HR (W) = 58%
2HR (E) = 73%

**State Judiciary Only Furlough Day*



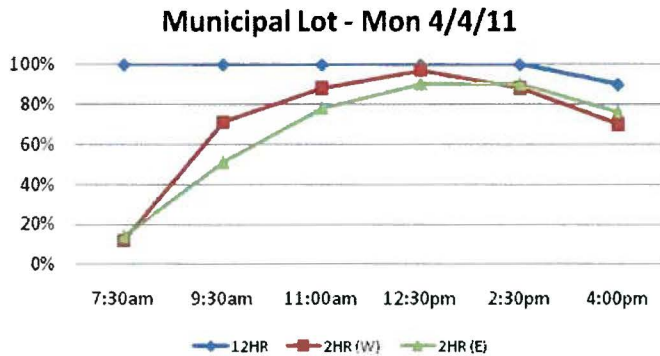
Municipal Lot Occupancy Counts

Municipal Lot Observed Occupancies Week #3

<u>Municipal Lot - Mon 4/4/11</u>	<u>7:30am</u>	<u>9:30am</u>	<u>11:00am</u>	<u>12:30pm</u>	<u>2:30pm</u>	<u>4:00pm</u>	<u>AVG.</u>
12HR	100%	100%	100%	100%	100%	90%	100%
2HR (W)	12%	71%	88%	97%	88%	70%	86%
2HR (E)	14%	51%	78%	90%	90%	76%	77%

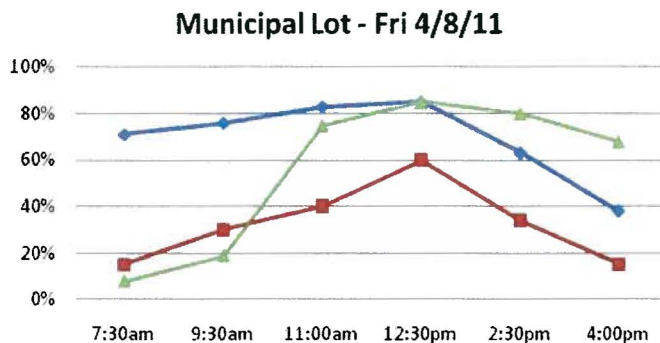
<u>*Municipal Lot - Fri 4/8/11</u>	<u>7:30am</u>	<u>9:30am</u>	<u>11:00am</u>	<u>12:30pm</u>	<u>2:30pm</u>	<u>4:00pm</u>	<u>AVG.</u>
12HR	71%	76%	83%	85%	63%	38%	76%
2HR (W)	15%	30%	40%	60%	34%	15%	41%
2HR (E)	8%	19%	75%	85%	80%	68%	65%

** Combined State/County Furlough Day;*



Average Peak Period Occupancies:

12HR = 100%
2HR (W) = 86%
2HR (E) = 77%



Average Peak Period Occupancies:

12HR = 76%
2HR (W) = 41%
2HR (E) = 65%

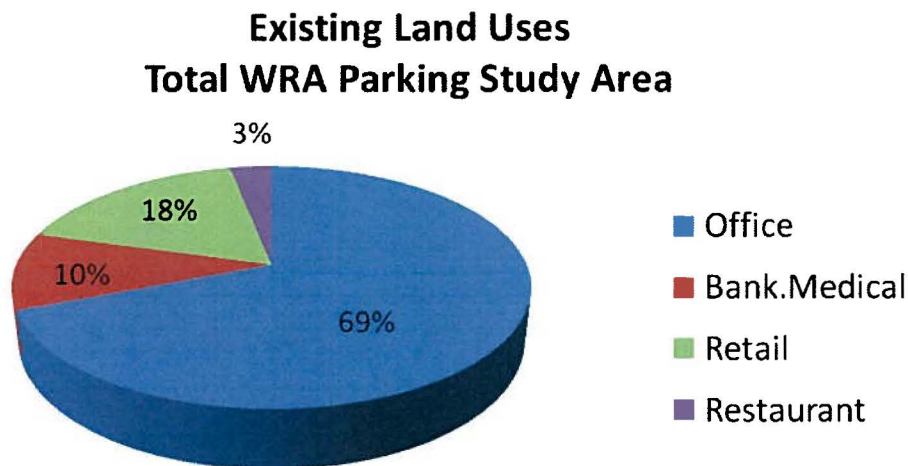
**Combined State & County Furlough Day*



Existing Land Use Analysis

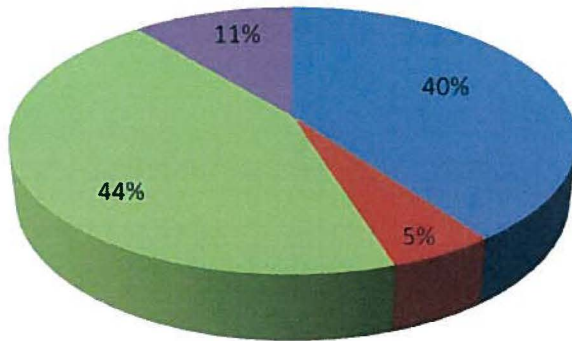
Our parking demand estimates are based on a detailed land use analysis that was conducted using current information from the County of Maui Assessors website. Land use information was assembled on a parcel-by-parcel basis to include information on land use classification, lot size, building square footage and assessed values. This information was then compiled by sub-area and by entire study area for analysis and comparison purposes. A summary of key findings of our land use analysis and supporting charts and graphs are included below.

- Government / Banking / Medical Offices Predominate Land Uses in WRA:
 - West Main = 92%
 - Government Center = 97%
 - South Main = 71%
 - Total Study Area = 79%
- Central Market & East Main Sub-Areas Demonstrate Greatest Mix of Land Uses:
 - Central Market = 40% Office / 44% Retail
 - East Main = 44% Office / 38% Retail
- Lack of Restaurants:
 - Only 3% of Land Use
- Relatively Weak Retail:
 - Only 18% of Land Use
- Benefits of Shared Parking Demand Minimal Due to Predominance of Daytime Office Uses and Lack of Evening/Weekend Activity Generators

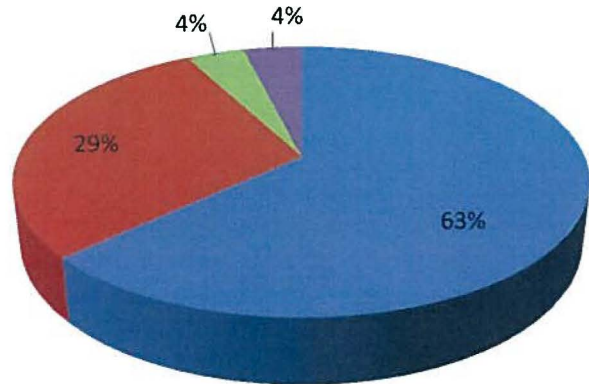


Existing Land Uses by Sub-Area

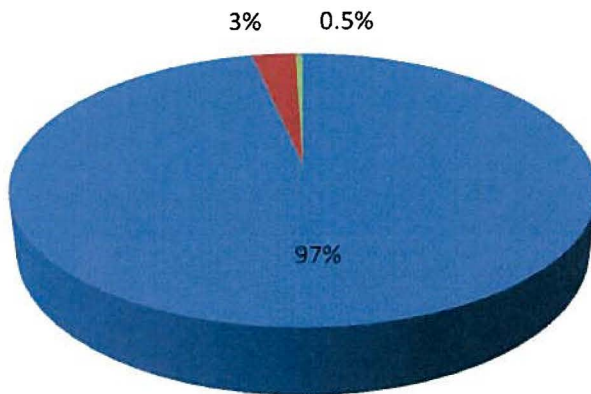
Central Market Sub-Area



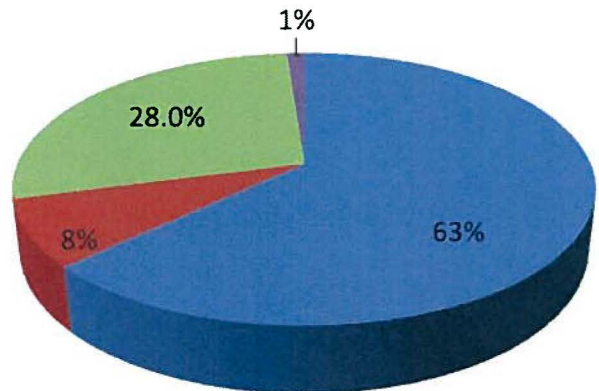
West Main Sub-Area



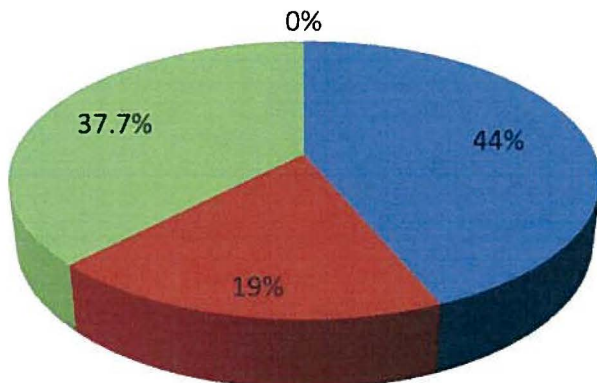
Government Center Sub-Area



South Main Sub-Area



East Main Sub-Area



- Office
- Bank/Medical
- Retail
- Restaurant

Parking Demand Estimates by Land Use and Sub-Areas

Our parking demand estimates are based upon the parking ratios published by the Urban Land Institute (ULI), recently updated in 2010. Land use and employment information for the County of Maui and State of Hawaii was provided directly from each governmental source. Land use information for the balance of the study area was obtained from the County of Maui Assessor’s Office website. Our parking demand estimates assume full occupancy of all land uses.

To more accurately estimate parking demand for mixed-use urban centers, we utilize shared parking demand modeling based upon the ULI models for peak parking demand by time of day for each land use category. Shared demand models account for the fact that parking demand for different land uses peak at different times of the day, thereby allowing some land uses to “share” the same parking facilities. The effects of shared parking demand, captive market reductions and other market “synergies” help to reduce parking demand in higher density, mixed-use urban areas. These market reduction factors are explained further in **Appendix ‘A’**.

As **Tables 3 and 4** demonstrate below, the application of shared demand modeling for existing land uses in the WRA results in a reduction of 4.5%, or 157 parking spaces compared to aggregate parking demand. Note that these reduction factors are for shared parking demand only and do not account for other market reduction factors. It is also important to note that the benefits of shared parking demand are very low in Wailuku Town because of the proportion of office space compared to other land uses. The ULI shared demand modeling results and graphs for each sub-area are included in **Appendix ‘A’**.

Table 3: Aggregate Parking Demand Based on ULI Parking Ratios

Land Use Grand Totals	Total Area	% Land Use	ULI Parking Ratio Per 1,000sf	Parking Required
Office	642,816	69%	3.4	2,185
Bank/Medical	95,473	10%	4.5	429
Retail	163,540	18%	3.6	588
Restaurant	28,700	3%	10	289
Totals	930,529	100%		3,491

Table 4: Shared Parking Demand Reduction Factors

Sub-Area	Aggregate Parking Demand	Shared Parking Demand	Shared Demand Reduction	% Reduction
Central Market	787	697	(90)	11.4%
West Main	677	633	(44)	6.5%
Government Center	1,156	1,156	-	0%
South Main	595	580	(15)	2.5%



East Main	276	268	(8)	2.9%
Totals	3,491	3,334	(157)	4.5%

Aggregate Parking Demand by Sub-Area

<u>Central Area</u>	<u>Total sq/ft</u>	<u>ULI Ratio</u>	<u>Parking</u>	<u>% Land Use</u>
Office	73,870	3.4	251	40%
Bank/Medical	9,400	4.5	42	5%
Retail	81,065	3.6	292	44%
Restaurant	20,200	10	202	11%
Total Parking Demand	184,535		787	

<u>West Main Area</u>	<u>Total sq/ft</u>	<u>ULI Ratio</u>	<u>Parking</u>	<u>% Land Use</u>
Office	107,467	3.4	365	63%
Bank/Medical	49,573	4.5	223	29%
Retail	6,575	3.6	23	4%
Restaurant	6,600	10	66	4%
Total Parking Demand	170,215		677	

<u>Government Center</u>	<u>Total sq/ft</u>	<u>ULI Ratio</u>	<u>Parking</u>	<u>% Land Use</u>
Office	325,074	3.4	1106	97%
Bank/Medical	9,500	4.5	43	3%
Retail	1,600	3.6	6	0.5%
Restaurant		10	0	0%
Total Parking Demand	336,174		1,155	



<u>South Main Area</u>	<u>Total sq/ft</u>	<u>ULI Ratio</u>	<u>Parking</u>	<u>% Land Use</u>
Office	103,610	3.4	352	63%
Bank/Medical	13,000	4.5	59	8%
Retail	46,000	3.6	165	28.0%
Restaurant	1,900	10	19	1%
Total Parking Demand	164,510		595	

<u>East Main Area</u>	<u>Total sq/ft</u>	<u>ULI Ratio</u>	<u>Parking</u>	<u>% Land Use</u>
Office	32,795	3.4	111	44%
Bank/Medical	14,000	4.5	63	19%
Retail	28,300	3.6	102	37.7%
Restaurant	-	10	0	0%
Total Parking Demand	75,095		276	

****END OF SECTION****



Existing Parking Adequacy by Sub Area

We calculated parking demand based upon shared demand modeling and compared the demand estimates to existing parking supply by sub-area. The results are shown in **Table 5** below. Although the chart below indicates parking deficits for South Main and East Main sub-areas, we believe these deficits may be slightly over-stated because they do not account for other market reduction factors.

Table 5: Existing Parking Adequacy by Sub-Area

Sub-Area	Shared Parking Demand	*Existing Parking Supply	Parking Surplus (Deficit)
Central Market	697	497	(200)
West Main	633	630	(3)
Government Center	1,156	894	(262)
South Main	580	506	(74)
East Main	268	216	(52)
Totals	3,334	2,743	(591)

Existing Parking Adequacy by Major Land Uses – ULI Ratios

We performed stand-alone parking supply & demand estimates for each of the land uses shown in **Table 6** based upon ULI parking ratios. We believe these parking estimates based upon ULI ratios to be accurate in reflecting current conditions based upon our field observations.

Table 6: Existing Parking Adequacy by Major Land Uses

Individual Campus	ULI Parking Demand	On-Site Parking Supply	Parking Surplus (Deficit)
Maui County Campus	376	*242	(134)
State Buildings + Judiciary	457	336	(121)
One Main Plaza	299	210	(89)
Maui Medical	223	235	+12
Wells Professional Center	112	133	+21
Net Surplus / (Deficit)			(311)

**Does not include 71 spaces of storage parking for fleet vehicles*



Existing Parking Adequacy for County of Maui and State Offices by Employment

We also performed parking demand estimates for the County of Maui and State of Hawaii offices based upon employment information factored against single vehicle drive ratios from both the 2000 US Census (75.7%) and from the PUMA community survey of 2010 (84.3%).

We believe the results of the employee-based parking demand estimates are reliable in estimating parking demand for the County of Maui employees who are off-campus in leased space. However, we believe the State of Hawaii employee-based estimates may be low due to the nature of courthouse activity that tends to generate greater parking demand than typical office space with jurors, attorneys, visitors, reporters, etc.

Table 6: Employee Parking Estimates – County of Maui

Campus Only Employees: 416	Demand	Supply	(Deficit)
Drive Ratio PUMA Survey @ 84.3%	351	210	(141)
Drive Ratio 2000 US Census @ 75.7%	315	210	(105)
Total Wailuku Employees: 610	Demand	Supply	(Deficit)
Drive Ratio PUMA Survey @ 84.3%	514	210	(304)
Drive Ratio 2000 US Census @ 75.7%	462	210	(252)

Table 7: Employee Parking Estimates – State of Hawaii

State Campus Employees: 347	Demand	Supply	(Deficit)
Drive Ratio PUMA Survey @ 84.3%	292	258	(34)
Drive Ratio 2000 US Census @ 75.7%	263	258	(5)



Existing WRAZ&D Code

The Maui Redevelopment Agency adopted the Wailuku Redevelopment Area Zoning and Development (WRAZ&D) Code in September, 2002. The purpose of the WRAZ&D was to “reduce regulatory barriers to business creation and investment” and to encourage a greater mix of land uses - specifically restaurants, cafes, retail and entertainment uses. The WRAZ&D code reduces the amount of parking required to be created for new development, major renovations or changes in use from what is otherwise required under Maui’s general planning and zoning codes. However, the WRAZ&D still requires all new development and major redevelopment projects to create parking on-site based upon prescribed parking ratios.

The following language is taken directly from the WRAZ&D Code:

The Plan Identified Existing Weakness Preventing Redevelopment as: “...the scarcity of parking, the high cost associated with complying with on-site parking requirements and a dearth of activity generating land uses”.

“The purpose of the business district is to create a mixed-use commercial area to strengthen and enliven the core of Wailuku and its environs.”

“The district allows for a full range of retail, service and business uses within a local or regional market area, intermixed with arts, entertainment, multi-family and single family residential uses to create a lively and aesthetically pleasing environment where people can live, work dine, and receive services, and be entertained within a compact area”.

Purpose and Intent (30.01.020)

- A. Provide for a ***flexible*** and ***creative*** approach to development...
- B. Provide for and encourage a ***mix of compatible land uses*** that create opportunities to live, work and shop within a ***compact redevelopment area...***
- C. Facilitate the ***efficient use of land...***
- D. Encourage a ***mixture*** of retail shops, restaurants, offices, personal and professional services, boutique hotel, multi-family, residential and public-use opportunities within the WRAZ&D District.

Despite its stated purpose, we believe the WRAZ&D Code has discouraged the type of development and redevelopment it was intended to support for the following reasons:

- Serves as a financial barrier to new development / redevelopment
- The code overstates required parking for the most desired land uses: (Restaurant/Hotel/Retail/Entertainment)
- Required parking ratios based on suburban stand-alone uses and subjective
- Promotes inefficient use of valuable urban land
- Does not recognize concept of shared parking/captive market reductions/modal reductions/market synergies
- Proposed parking fee in lieu ordinance inequitable/subjective/penalizes new development



Existing WRAZ&D Code (Cont.)

The following photos show examples of the type of development that is resulting from the application of the WRAZ&D Code. Note the difference in taxable value between the two property examples on the following page.

Suburban Style Development - “Motes of Parking” Surrounding Each Building



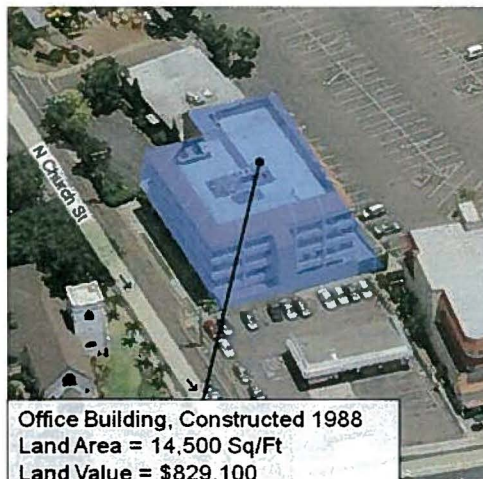
More Desired Urban Density



Land Use Comparison



Bank Building, Constructed 2004
 Land Area = 21,310 Sq/Ft
 Land Value = \$1,531,100
 Building Value = \$595,900
 Taxable Value = \$2,127,000
Total Value = \$106.20 Sq/Ft



Office Building, Constructed 1988
 Land Area = 14,500 Sq/Ft
 Land Value = \$829,100
 Building Value = \$4,465,300
 Taxable Value = \$5,294,400
Total Value = \$365.13 Sq/Ft



Parking Management Plan

Two of the most fundamental elements of any successful downtown parking management plan are professional staffing/leadership, and strong stakeholder/board/committee policy making, governance and oversight. These elements are historically lacking in Wailuku Town and they are probably the greatest challenge to overcome in attempting to develop any kind of parking management program. If a Community Development Corporation (CDC) is created as recommended in the Wailuku Market Based Plan, then we believe the CDC would be the best entity to be tasked with downtown parking management. If a CDC is not created, we still believe that some sort of private sector partnership, committee or organization assume primary parking management responsibility in Downtown Wailuku.

The benefits of public/private “Downtown-managed” parking systems include:

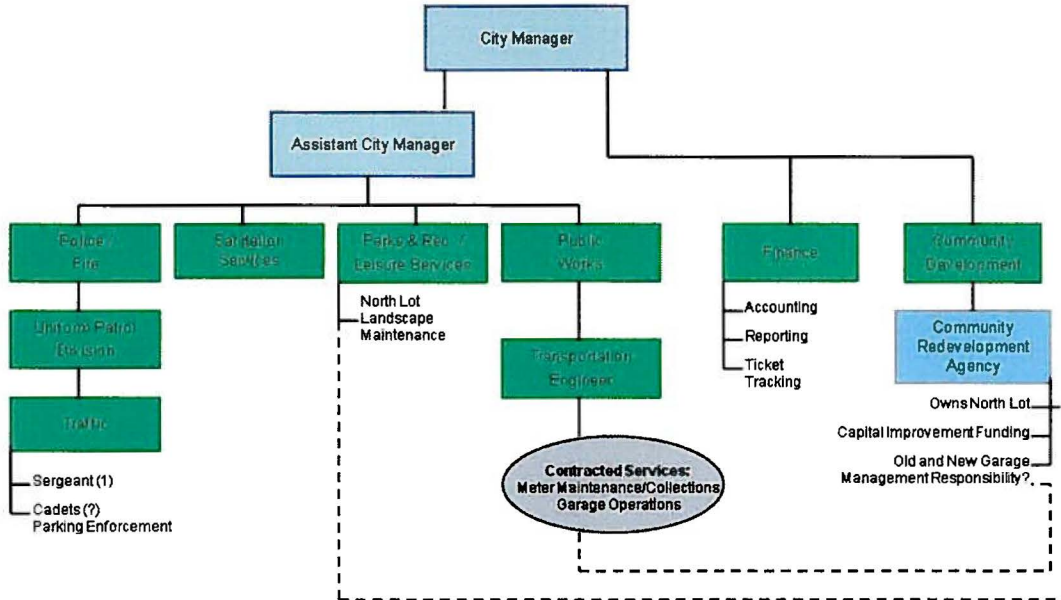
- They tend to be more efficient, entrepreneurial and customer focused
- Have greater ability to pull in privately owned facilities under unified management
- Have a vested interest in downtown and a greater stake in positive outcomes
- They represent current “crest-of-the-wave” best practices for downtowns throughout US
- Tend to be more successful in branding, marketing, and public relations/communications
- Result in greater buy-in and ownership by downtown stakeholders who are directly affected by public parking facilities, policies and management practices

Assuming that paid parking will be implemented at least for the Municipal Lot and County Visitor Lot in the near term, and a parking structure in the long term, we believe a parking management model could be developed that is very similar to the model we successfully implemented in Pensacola, FL. In the case of Pensacola, a Downtown Parking Management District (DPMD) was created and managed by the Pensacola Downtown Improvement Board. The DPMD assumed full management responsibility for all municipal owned parking assets, and it retains all parking fees and enforcement revenues in a parking enterprise fund. Before and after organizational models of the Downtown Pensacola parking management plan are included below. Note that all operational aspects of the Pensacola parking system are contracted to private vendors, with active staff oversight of all contracted services.

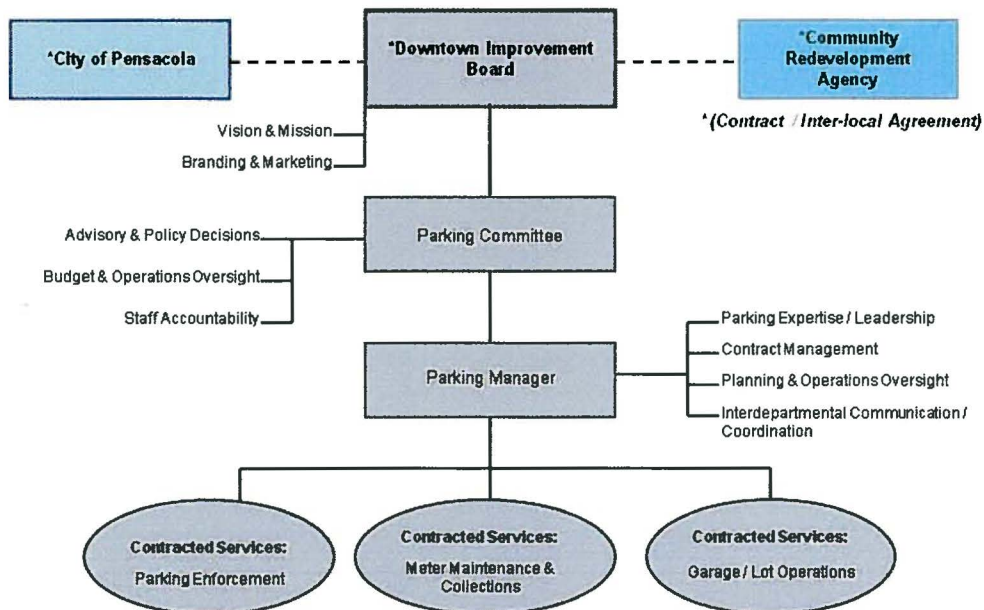


Pensacola Parking Management Organizational Charts

Before: Horizontal Management Model / Convolved Leadership



After: Vertical Management Model / Clear Leadership



APPENDIX ‘A’

Explanation of Shared Demand and Captive Market Reductions Shared Demand Modeling by Sub-Area

The Concept of Shared Parking Demand and The Effect of Captive Market Reductions

Parking demand is defined as the peak accumulation of parked vehicles generated by each building or land use within the area being studied. Historical experience with peak parking accumulations for land uses has been utilized to develop indicators for calculating parking demand. For most land uses, the size of the building (total floor area) is used to compute the peak parking accumulation. Parking ratios, determined by dividing the peak parking accumulation by the floor area, have been assembled and reported by the Urban Land Institute, Institute for Transportation Engineers and the National Parking Institute. These sources are often used by local zoning and planning officials to establish parking ratios for various land uses in local ordinances. When separate parking ratios are combined into an aggregate number for a mixed-use development, the resulting number is referred to in the parking industry as **Aggregate Demand**. Many factors influence the demand for parking at a particular location, including type and intensity of land uses, availability of space for parking, parking fees, availability and convenience of alternate modes of transportation, and income levels of population.

Shared Parking Demand / Captive Market Reductions

Parking demand in Central Business Districts and urban mixed use developments can be significantly overstated if each land use must provide parking in accordance with local ordinances or industry standards. This occurs for three primary reasons:

- Different activity patterns of adjacent or nearby land uses result in variations of peak accumulation by time of day, day of week, or season of year. This concept is known in the parking industry as **Shared Parking Demand**.
- People often patronize two or more land uses in close proximity to each other in a single trip. This concept refers to office workers who shop or dine within the development area, hotel guests, or retail patrons who support restaurant entertainment venues while remaining parked at their original locations. These activities help to reduce total parking demand in mixed use developments and are referred to in the parking industry as **Captive Market Reductions**.
- The density of development and the availability of mass transit and alternate modes of transportation such as carpooling, biking and walking reduces the reliance on the automobile. These activity patterns also help to reduce total parking demand based upon **Modal Splits / Modal Reductions**.



Estimating Parking Demand

To accurately define parking requirements in a mixed-use development, the parking demand ratios for a component land use should be factored downward in proportion to the amount of market support received from adjacent land uses. Although the effects of the captive market at a particular development depend upon local factors and specific market conditions, the Urban Land Institute has determined that up to 60% reductions in parking demand can occur at CBD locations and urban mixed-use developments due to the effects of ***Captive Market Reductions***. According to the Urban Land Institute, the average reduction for mixed-use projects in Central Business Districts is 20%. For mixed use developments that include hotel uses, the potential for market synergy is significant. Hotel guests demonstrate a greater propensity for being captive patrons of a mixed-use development than do employees, who are more likely to be captive patrons to the entire downtown area. ***Net Parking Demand*** refers to the adjusted parking demand for a mixed use development based upon ***Shared Parking Demand*** and ***Captive Market Reductions***.

In estimating parking demand for the Wailuku Town WRA, we performed shared demand modeling for each sub-area based on the ULI model for peak parking demand by time of day for all land uses. It should be noted that our parking demand estimates only account for shared parking demand reductions. Our demand estimates do not factor or account for any other market reductions, market synergies or modal splits.



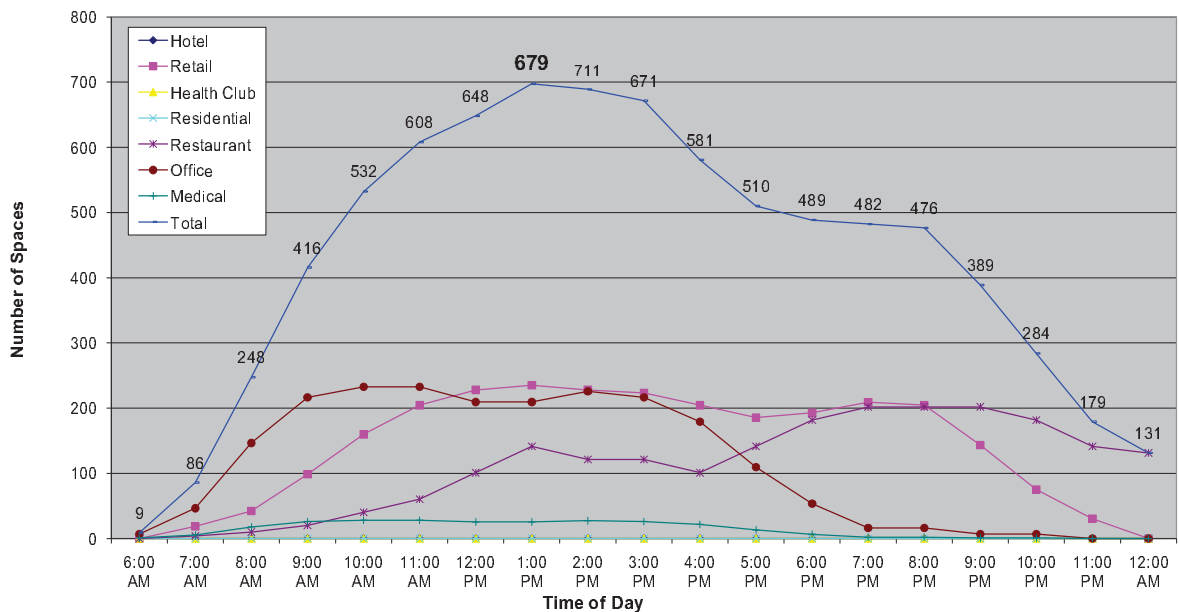
Wailuku Town Shared Demand Model "Central Market Area"
PROJECTED PARKING DEMAND BY HOUR
 (BASED ON URBAN LAND INSTITUTE SHARED PARKING MODEL)

Hourly Accumulation of Parked Vehicles by Land Use as a Percentage of Peak Hour Demand										
Hour of Day	Hotel	Retail	Health Club	Residential	Restaurant	Office	Medical			
6:00 AM	100%	0%	70%	100%	0%	3%	3%			
7:00 AM	85%	8%	40%	87%	2%	20%	20%			
8:00 AM	65%	18%	40%	79%	5%	63%	63%			
9:00 AM	55%	42%	70%	73%	10%	93%	93%			
10:00 AM	45%	68%	68%	68%	20%	100%	100%			
11:00 AM	35%	87%	80%	59%	30%	100%	100%			
12:00 PM	30%	97%	60%	60%	50%	90%	90%			
1:00 PM	30%	100%	70%	59%	70%	90%	90%			
2:00 PM	35%	97%	70%	60%	60%	97%	97%			
3:00 PM	35%	95%	70%	61%	60%	93%	93%			
4:00 PM	45%	87%	80%	66%	50%	77%	77%			
5:00 PM	60%	79%	90%	77%	70%	47%	47%			
6:00 PM	70%	82%	100%	85%	90%	23%	23%			
7:00 PM	75%	89%	90%	94%	100%	7%	7%			
8:00 PM	90%	87%	80%	96%	100%	7%	7%			
9:00 PM	95%	61%	70%	98%	100%	3%	3%			
10:00 PM	100%	32%	40%	99%	90%	3%	3%			
11:00 PM	100%	13%	10%	100%	70%	0%	0%			
12:00 AM	100%	0%	0%	100%	50%	0%	0%			

Parking Demand Ratios
 88/Room Emp .25/Room 2.9/1,000 SF Emp .7/1,000 5.5/1,000 SF Emp .4/Space 1.5/Unit 10/1,000 SF Maui Code 3.15/1000 SF Visitor .25/1,000 SF 3.0/1,000 SF Visitor 1.5/1,000

Hour of Day	Hotel	Retail	Health Club	Residential	Restaurant	Office	Medical	Total					
	Emp	81,065	Emp	0	Emp	0	20,200	Emp	73,870	Vis	9,400	Vis	Total
6:00 AM	0	0	0	0	0	0	0	0	7	1	1	0	9
7:00 AM	0	0	19	5	0	0	4	47	4	6	3	0	86
8:00 AM	0	0	42	10	0	0	10	147	12	18	9	0	248
9:00 AM	0	0	99	24	0	0	20	216	17	26	13	0	416
10:00 AM	0	0	160	39	0	0	40	233	18	28	14	0	532
11:00 AM	0	0	205	49	0	0	61	233	18	28	14	0	608
12:00 PM	0	0	228	55	0	0	101	209	17	25	13	0	648
1:00 PM	0	0	235	57	0	0	141	209	17	25	13	0	697
2:00 PM	0	0	228	55	0	0	121	226	18	27	14	0	689
3:00 PM	0	0	223	54	0	0	121	216	17	26	13	0	671
4:00 PM	0	0	205	49	0	0	101	179	14	22	11	0	581
5:00 PM	0	0	186	45	0	0	141	109	9	13	7	0	510
6:00 PM	0	0	193	47	0	0	182	54	4	6	3	0	489
7:00 PM	0	0	209	51	0	0	202	16	1	2	1	0	482
8:00 PM	0	0	205	49	0	0	202	16	1	2	1	0	476
9:00 PM	0	0	143	35	0	0	202	7	1	1	0	0	389
10:00 PM	0	0	75	18	0	0	182	7	1	1	0	0	284
11:00 PM	0	0	31	7	0	0	141	0	0	0	0	0	179
12:00 AM	0	0	0	0	0	0	131	0	0	0	0	0	131

Shared Parking Analysis
Wailuku Town Central Market Area



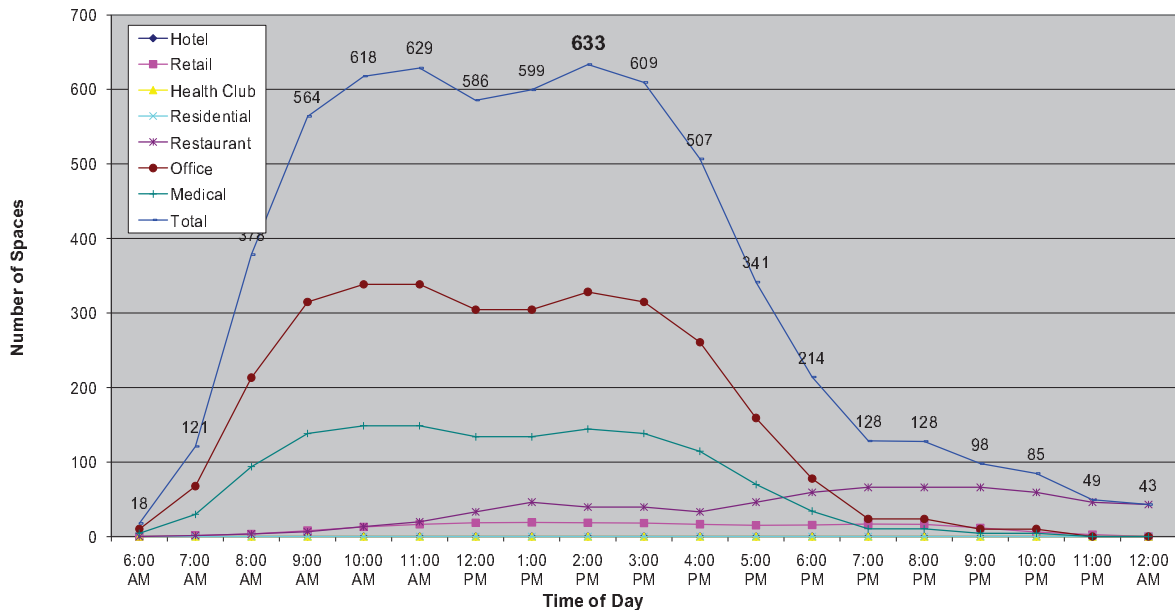
Wailuku Town Shared Demand Model "West Main Area"
PROJECTED PARKING DEMAND BY HOUR
 (BASED ON URBAN LAND INSTITUTE SHARED PARKING MODEL)

Hourly Accumulation of Parked Vehicles by Land Use as a Percentage of Peak Hour Demand										
Hour of Day	Hotel	Retail	Health Club	Residential	Restaurant	Office	Medical			
6:00 AM	100%	0%	70%	100%	0%	3%	3%			
7:00 AM	85%	8%	40%	87%	2%	20%	20%			
8:00 AM	65%	18%	40%	79%	5%	63%	63%			
9:00 AM	55%	42%	70%	73%	10%	93%	93%			
10:00 AM	45%	68%	68%	68%	20%	100%	100%			
11:00 AM	35%	87%	80%	59%	30%	100%	100%			
12:00 PM	30%	97%	60%	60%	50%	90%	90%			
1:00 PM	30%	100%	70%	59%	70%	90%	90%			
2:00 PM	35%	97%	70%	60%	60%	97%	97%			
3:00 PM	35%	95%	70%	61%	60%	93%	93%			
4:00 PM	45%	87%	80%	66%	50%	77%	77%			
5:00 PM	60%	79%	90%	77%	70%	47%	47%			
6:00 PM	70%	82%	100%	85%	90%	23%	23%			
7:00 PM	75%	89%	90%	94%	100%	7%	7%			
8:00 PM	90%	87%	80%	96%	100%	7%	7%			
9:00 PM	95%	61%	70%	98%	100%	3%	3%			
10:00 PM	100%	32%	40%	99%	90%	3%	3%			
11:00 PM	100%	13%	10%	100%	70%	0%	0%			
12:00 AM	100%	0%	0%	100%	50%	0%	0%			

Parking Demand Ratios
 88/Room Emp .25/Room 2.9/1,000 SF Emp .7/1,000 5.5/1,000 SF Emp .4/Space 1.5/Unit 10/1,000 SF Maui Code 3.15/1000 SF Visitor .25/1,000 SF 3.0/1,000 SF Visitor 1.5/1,000

Hour of Day	Hotel	Retail	Health Club	Residential	Restaurant	Office	Medical	Total				
	Emp	6,575	Emp	0	Emp	6,600	Emp	107,467	Vis	49,573	Vis	Total
6:00 AM	0	0	0	0	0	0	10	1	4	2	18	
7:00 AM	0	2	0	0	0	1	68	5	30	15	121	
8:00 AM	0	3	1	0	0	3	213	17	94	47	378	
9:00 AM	0	8	2	0	0	7	315	25	138	69	564	
10:00 AM	0	13	3	0	0	13	339	27	149	74	618	
11:00 AM	0	17	4	0	0	20	339	27	149	74	629	
12:00 PM	0	18	4	0	0	33	305	24	134	67	586	
1:00 PM	0	19	5	0	0	46	305	24	134	67	599	
2:00 PM	0	18	4	0	0	40	328	26	144	72	633	
3:00 PM	0	18	4	0	0	40	315	25	138	69	609	
4:00 PM	0	17	4	0	0	33	261	21	115	57	507	
5:00 PM	0	15	4	0	0	46	159	13	70	35	341	
6:00 PM	0	16	4	0	0	59	78	6	34	17	214	
7:00 PM	0	17	4	0	0	66	24	2	10	5	128	
8:00 PM	0	17	4	0	0	66	24	2	10	5	128	
9:00 PM	0	12	3	0	0	66	10	1	4	2	98	
10:00 PM	0	6	1	0	0	59	10	1	4	2	85	
11:00 PM	0	2	1	0	0	46	0	0	0	0	49	
12:00 AM	0	0	0	0	0	43	0	0	0	0	43	

Shared Parking Analysis
Wailuku Town West Main Area



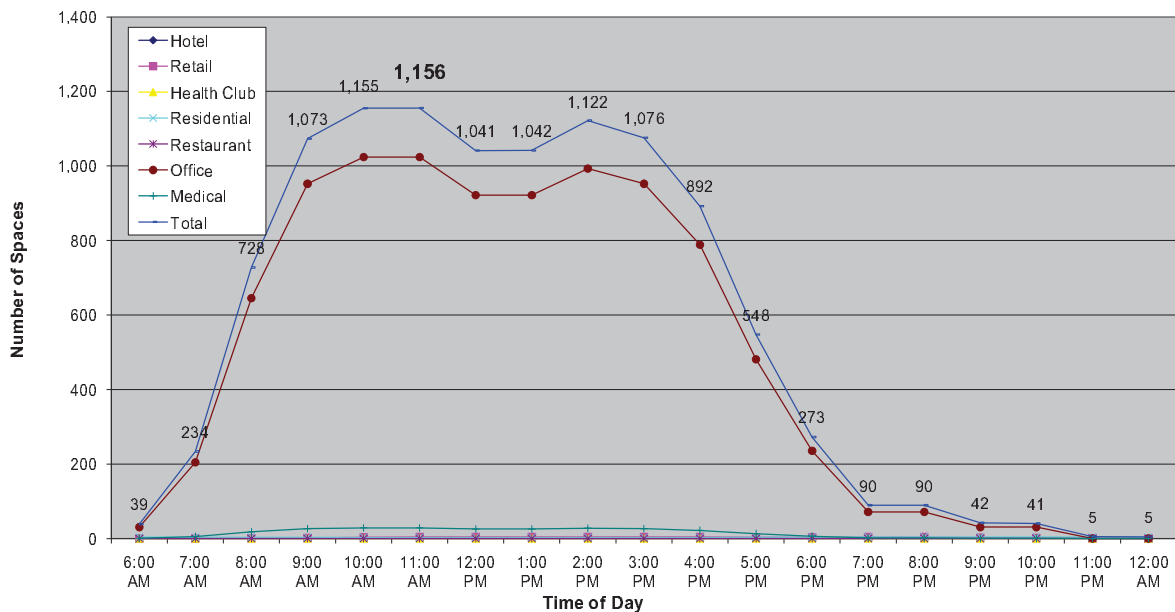
Wailuku Town Shared Demand Model "Government Center Area"
PROJECTED PARKING DEMAND BY HOUR
 (BASED ON URBAN LAND INSTITUTE SHARED PARKING MODEL)

Hourly Accumulation of Parked Vehicles by Land Use as a Percentage of Peak Hour Demand										
Hour of Day	Hotel	Retail	Health Club	Residential	Restaurant	Office	Medical			
6:00 AM	100%	0%	70%	100%	0%	3%	3%			
7:00 AM	85%	8%	40%	87%	2%	20%	20%			
8:00 AM	65%	18%	40%	79%	5%	63%	63%			
9:00 AM	55%	42%	70%	73%	10%	93%	93%			
10:00 AM	45%	68%	68%	68%	20%	100%	100%			
11:00 AM	35%	87%	80%	59%	30%	100%	100%			
12:00 PM	30%	97%	60%	60%	50%	90%	90%			
1:00 PM	30%	100%	70%	59%	70%	90%	90%			
2:00 PM	35%	97%	70%	60%	60%	97%	97%			
3:00 PM	35%	95%	70%	61%	60%	93%	93%			
4:00 PM	45%	87%	80%	66%	50%	77%	77%			
5:00 PM	60%	79%	90%	77%	70%	47%	47%			
6:00 PM	70%	82%	100%	85%	90%	23%	23%			
7:00 PM	75%	89%	90%	94%	100%	7%	7%			
8:00 PM	90%	87%	80%	96%	100%	7%	7%			
9:00 PM	95%	61%	70%	98%	100%	3%	3%			
10:00 PM	100%	32%	40%	99%	90%	3%	3%			
11:00 PM	100%	13%	10%	100%	70%	0%	0%			
12:00 AM	100%	0%	0%	100%	50%	0%	0%			

Parking Demand Ratios
 88/Room Emp .25/Room 2.9/1,000 SF Emp .7/1,000 5.5/1,000 SF Emp .4/Space 1.5/Unit 10/1,000 SF Maui Code 3.15/1000 SF Visitor .25/1,000 SF 3.0/1,000 SF Visitor 1.5/1,000

Hour of Day	Hotel	Retail	Health Club	Residential	Restaurant	Office	Medical	Total					
	Emp	1,600	Emp	0	Emp	3	0	Emp	325,074	Vis	9,500	Vis	Total
6:00 AM	0	0	0	0	0	5	0	31	2	1	0	39	
7:00 AM	0	0	0	0	0	4	0	205	16	6	3	234	
8:00 AM	0	0	1	0	0	4	0	645	51	18	9	728	
9:00 AM	0	0	2	0	0	3	0	952	76	27	13	1,073	
10:00 AM	0	0	3	1	0	3	0	1,024	81	29	14	1,155	
11:00 AM	0	0	4	1	0	3	0	1,024	81	29	14	1,156	
12:00 PM	0	0	5	1	0	3	0	922	73	26	13	1,041	
1:00 PM	0	0	5	1	0	3	0	922	73	26	13	1,042	
2:00 PM	0	0	5	1	0	3	0	993	79	28	14	1,122	
3:00 PM	0	0	4	1	0	3	0	952	76	27	13	1,076	
4:00 PM	0	0	4	1	0	3	0	788	63	22	11	892	
5:00 PM	0	0	4	1	0	3	0	481	38	13	7	548	
6:00 PM	0	0	4	1	0	4	0	236	19	7	3	273	
7:00 PM	0	0	4	1	0	4	0	72	6	2	1	90	
8:00 PM	0	0	4	1	0	4	0	72	6	2	1	90	
9:00 PM	0	0	3	1	0	4	0	31	2	1	0	42	
10:00 PM	0	0	1	0	0	4	0	31	2	1	0	41	
11:00 PM	0	0	1	0	0	5	0	0	0	0	0	5	
12:00 AM	0	0	0	0	0	5	0	0	0	0	0	5	

Shared Parking Analysis
Wailuku Town Government Center



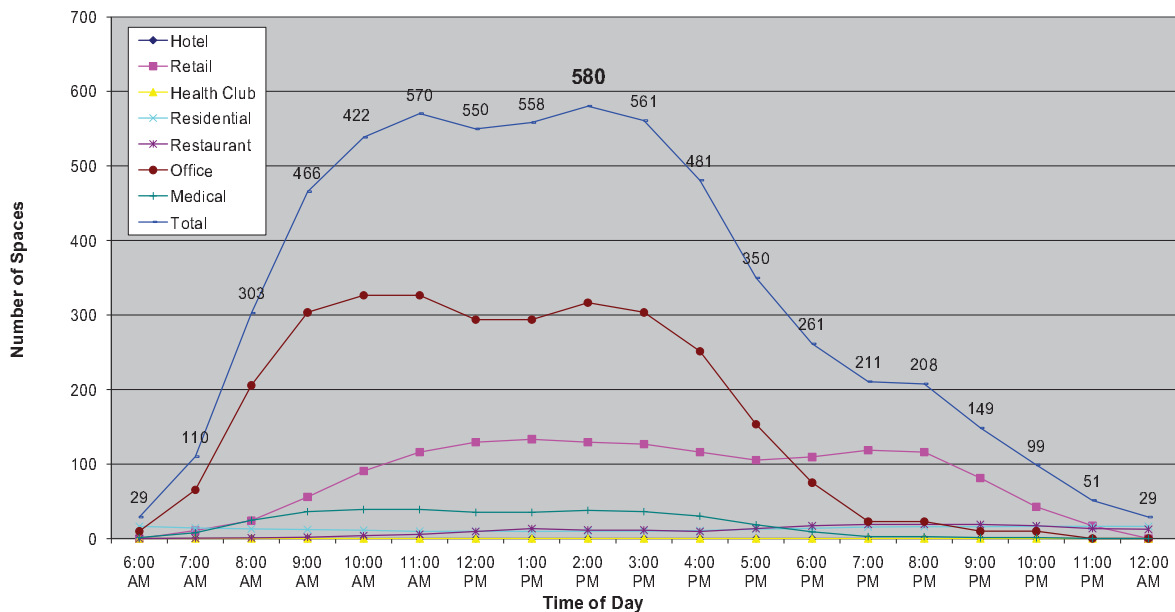
Wailuku Town Shared Demand Model "South Main Area"
PROJECTED PARKING DEMAND BY HOUR
 (BASED ON URBAN LAND INSTITUTE SHARED PARKING MODEL)

Hourly Accumulation of Parked Vehicles by Land Use as a Percentage of Peak Hour Demand										
Hour of Day	Hotel	Retail	Health Club	Residential	Restaurant	Office	Medical			
6:00 AM	100%	0%	70%	100%	0%	3%	3%			
7:00 AM	85%	8%	40%	87%	2%	20%	20%			
8:00 AM	65%	18%	40%	79%	5%	63%	63%			
9:00 AM	55%	42%	70%	73%	10%	93%	93%			
10:00 AM	45%	68%	68%	68%	20%	100%	100%			
11:00 AM	35%	87%	80%	59%	30%	100%	100%			
12:00 PM	30%	97%	60%	60%	50%	90%	90%			
1:00 PM	30%	100%	70%	59%	70%	90%	90%			
2:00 PM	35%		70%	60%	60%	97%	97%			
3:00 PM	35%	95%	70%	61%	60%	93%	93%			
4:00 PM	45%	87%	80%	66%	50%	77%	77%			
5:00 PM	60%	79%	90%	77%	70%	47%	47%			
6:00 PM	70%	82%	100%	85%	90%	23%	23%			
7:00 PM	75%	89%	90%	94%	100%	7%	7%			
8:00 PM	90%	87%	80%	96%	100%	7%	7%			
9:00 PM	95%	61%	70%	98%	100%	3%	3%			
10:00 PM	100%	32%	40%	99%	90%	3%	3%			
11:00 PM	100%	13%	10%	100%	70%	0%	0%			
12:00 AM	100%	0%	0%	100%	50%	0%	0%			

Parking Demand Ratios
 88/Room Emp .25/Room 2.9/1,000 SF Emp .7/1,000 5.5/1,000 SF Emp .4/Space 1.5/Unit 10/1,000 SF Maui Code 3.15/1000 SF Visitor .25/1,000 SF 3.0/1,000 SF Visitor 1.5/1,000

Hour of Day	Hotel	Retail	Health Club	Residential	Restaurant	Office	Medical	Total
	Emp	46,000	Emp 0	Emp 11	Emp 1,900	Emp 103,610	Vis 13,000	Vis Total
6:00 AM	0	0	0	0	0	10	1	29
7:00 AM	0	11	3	0	0	65	5	110
8:00 AM	0	24	6	0	1	206	16	303
9:00 AM	0	56	14	0	2	304	24	466
10:00 AM	0	91	22	0	4	326	26	538
11:00 AM	0	116	28	0	6	326	26	570
12:00 PM	0	129	31	0	10	294	23	550
1:00 PM	0	133	32	0	10	294	23	558
2:00 PM	0	129	31	0	10	317	25	580
3:00 PM	0	127	31	0	10	304	24	561
4:00 PM	0	116	28	0	10	251	20	481
5:00 PM	0	105	25	0	13	153	12	350
6:00 PM	0	109	26	0	14	75	6	261
7:00 PM	0	119	29	0	16	23	2	211
8:00 PM	0	116	28	0	16	23	2	208
9:00 PM	0	81	20	0	16	10	1	149
10:00 PM	0	43	10	0	16	10	1	99
11:00 PM	0	17	4	0	17	0	0	51
12:00 AM	0	0	0	0	17	0	0	29

Shared Parking Analysis
Wailuku Town South Main Area



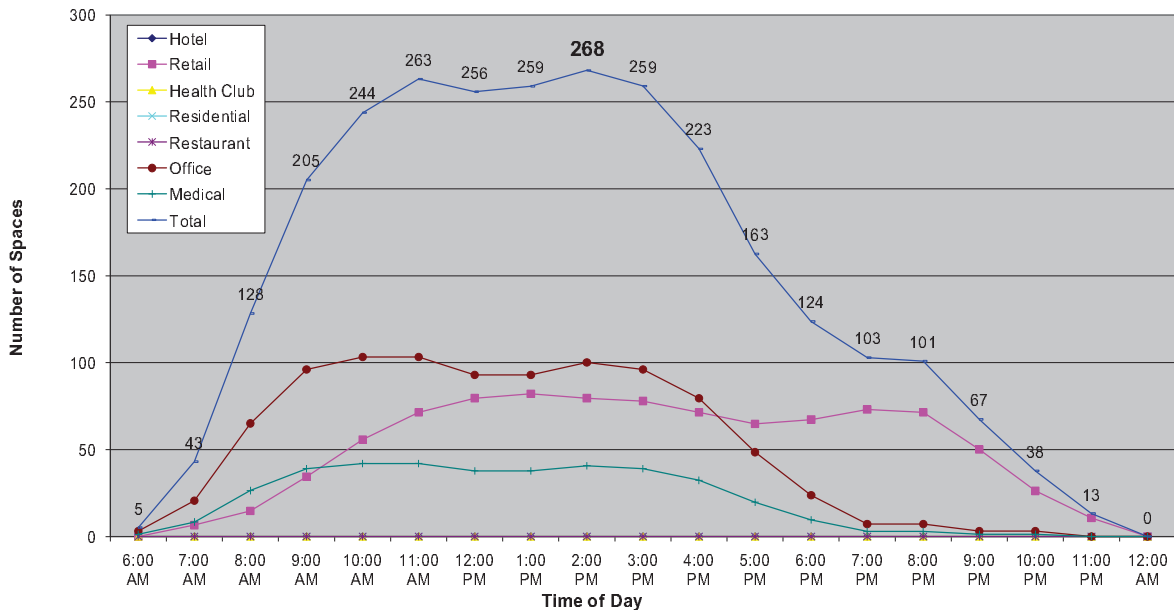
Wailuku Town Shared Demand Model "East Main Area"
PROJECTED PARKING DEMAND BY HOUR
 (BASED ON URBAN LAND INSTITUTE SHARED PARKING MODEL)

Hourly Accumulation of Parked Vehicles by Land Use as a Percentage of Peak Hour Demand										
Hour of Day	Hotel	Retail	Health Club	Residential	Restaurant	Office	Medical			
6:00 AM	100%	0%	70%	100%	0%	3%	3%			
7:00 AM	85%	8%	40%	87%	2%	20%	20%			
8:00 AM	65%	18%	40%	79%	5%	63%	63%			
9:00 AM	55%	42%	70%	73%	10%	93%	93%			
10:00 AM	45%	68%	68%	68%	20%	100%	100%			
11:00 AM	35%	87%	80%	59%	30%	100%	100%			
12:00 PM	30%	97%	60%	60%	50%	90%	90%			
1:00 PM	30%	100%	70%	59%	70%	90%	90%			
2:00 PM	35%	97%	70%	60%	60%	97%	97%			
3:00 PM	35%	95%	70%	61%	60%	93%	93%			
4:00 PM	45%	87%	80%	66%	50%	77%	77%			
5:00 PM	60%	79%	90%	77%	70%	47%	47%			
6:00 PM	70%	82%	100%	85%	90%	23%	23%			
7:00 PM	75%	89%	90%	94%	100%	7%	7%			
8:00 PM	90%	87%	80%	96%	100%	7%	7%			
9:00 PM	95%	61%	70%	98%	100%	3%	3%			
10:00 PM	100%	32%	40%	99%	90%	3%	3%			
11:00 PM	100%	13%	10%	100%	70%	0%	0%			
12:00 AM	100%	0%	0%	100%	50%	0%	0%			

Parking Demand Ratios
 88/Room Emp .25/Room 2.9/1,000 SF Emp .7/1,000 5.5/1,000 SF Emp .4/Space 1.5/Unit 10/1,000 SF Maui Code 3.15/1000 SF Visitor .25/1,000 SF 3.0/1,000 SF Visitor 1.5/1,000

Hour of Day	Hotel	Emp	Retail	Emp	Health Club	Emp	Residential	Emp	Restaurant	Emp	Office	Vis	Medical	Vis	Total
6:00 AM	0	0	0	0	0	0	0	0	0	0	3	0	1	1	5
7:00 AM	0	0	7	2	0	0	0	0	0	0	21	2	8	4	43
8:00 AM	0	0	15	4	0	0	0	0	0	0	65	5	26	13	128
9:00 AM	0	0	34	8	0	0	0	0	0	0	96	8	39	20	205
10:00 AM	0	0	56	13	0	0	0	0	0	0	103	8	42	21	244
11:00 AM	0	0	71	17	0	0	0	0	0	0	103	8	42	21	263
12:00 PM	0	0	80	19	0	0	0	0	0	0	93	7	38	19	256
1:00 PM	0	0	82	20	0	0	0	0	0	0	93	7	38	19	259
2:00 PM	0	0	80	19	0	0	0	0	0	0	100	8	41	20	268
3:00 PM	0	0	78	19	0	0	0	0	0	0	96	8	39	20	259
4:00 PM	0	0	71	17	0	0	0	0	0	0	80	6	32	16	223
5:00 PM	0	0	65	16	0	0	0	0	0	0	49	4	20	10	163
6:00 PM	0	0	67	16	0	0	0	0	0	0	24	2	10	5	124
7:00 PM	0	0	73	18	0	0	0	0	0	0	7	1	3	1	103
8:00 PM	0	0	71	17	0	0	0	0	0	0	7	1	3	1	101
9:00 PM	0	0	50	12	0	0	0	0	0	0	3	0	1	1	67
10:00 PM	0	0	26	6	0	0	0	0	0	0	3	0	1	1	38
11:00 PM	0	0	11	3	0	0	0	0	0	0	0	0	0	0	13
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Shared Parking Analysis
Wailuku Town East Main Area



APPENDIX ‘B’

Transportation Demand Management Programs and Strategies

Transportation Demand Management (TDM) strategies seek to increase higher occupancy travel, especially during weekday peak congestion periods. The goal of TDM strategies is to shift travel to higher occupancy (transit/carpool/vanpool) or non-motorized (bicycle, walking) transportation modes, to shift travel to less congested times of the day, and/or to reduce or eliminate the need to travel (telecommuting/live-work lifestyle centers). TDM strategies include incentives and disincentives, service improvements, information dissemination and marketing activities, alternative work schedules and sites, and parking management plans.

TDM effectiveness depends upon a variety of factors that extend beyond the actual strategies implemented. For example, promoting transit works well in areas that are well served by a public transit system but not as well in suburban areas that lack public transit facilities and/or where frequencies are light. Each TDM strategy has its own inherent opportunities and limitations. In general, TDM strategies complement each other and multiple strategies tend to result in economies of scale in TDM reductions. Parking management helps to encourage all core TDM options (biking/transit/carpooling/telecommuting). However, in most situations, support strategies such as incentives and subsidies will only aid a few core TDM strategies.

Employer-based TDM programs are generally the most effective in reducing single occupancy vehicle trips, and work trips are the easiest to shift to alternative modes of transportation. TDM strategies can be chosen to meet the specific needs of the employees based upon worksite characteristics and the employees’ demographic and travel characteristics. In addition, a “corporate culture” can be created that reinforces the TDM message.

The table below demonstrates the effectiveness of various TDM strategies. These are national effectiveness averages as estimated by a reduction in single-occupant vehicle use per worksite in favor of the preferred modes of transportation.

TDM Effectiveness in Reductions of Single-Occupant Vehicles

Mode	Basic	Enhanced	Aggressive
Carpooling / Vanpooling	1 – 5%	3 – 10%	15% +
Transit Subsidies	1 – 4%	4 – 6%	7 – 15%
Bike / Walk	1 – 2%	2 – 6%	4 – 9%
Telecommuting	5 – 10%	7 – 20%	15%+



Summary of Possible TDM Programs and Strategies

Parking Management Strategies

Parking Charges: Charging employees to park can be very effective in reducing parking demand and encouraging carpooling and other TDM strategies.

Parking Cash Out: Provides employees with a choice – receive a parking space or receive the cash equivalent of the space.

Preferential Parking: Provides convenient parking in designated areas near front entrances for carpoolers and higher occupancy vehicles.

Incentives

Employee Transportation Option Program: These programs involve employers purchasing or heavily subsidizing the cost of monthly bus/transit passes. Employers can choose a range or level of subsidy from totally free to the employee, partially subsidized, or paid by the employee but through pre-tax payroll deduction. Employers benefit through reduced payroll taxes and can deduct the cost of providing the transit benefit as a business expense. The financial aspects of an employer paid program are demonstrated in the table below. In many cases, larger employers can negotiate lower monthly transit rates with local transit agencies based on volume discounts.

Without Program	With Program
Give Employee \$780 Raise	Give Employee \$780 in Transit Options
Cost to Business: \$840 (Salary + FICA)	Cost to Business: \$470 (Salary – Corporate Tax Deductions)
Salary Increase for Employee: \$455 (Salary – Taxes)	Salary Increase for Employee: \$780 (Tax Free Benefit)

Guaranteed Ride Home: Provides a free taxi or fleet vehicle ride home to those employees who fall ill, have an emergency or who are left stranded at work. An employer based guaranteed ride home program could be developed that provides a ride home option for employees who carpool to work.



Efficiency Programs

These programs help to reduce parking demand by providing employees flexibility in work schedules and commuting patterns and include:

Compressed Work Week: Allows employees to receive a day off each week in exchange for working longer hours on other days of the week.

Flexible Work Hours: Allows employees to alter their arrival and departure times to accommodate commuting schedules.

Staggered Work Hours: Allows employees to regularly arrive and leave at times which can vary from as little as 15 minutes to as much as 2 hours.

Telecommuting: Develops specific personnel policies that permit and encourage the use of teleworking at least twice per month.

Physical / Facility Planning & Design

Pedestrian and Bicycle Enhancements: Physical design that creates well lit and safe walking and biking paths, the provision of bike racks and protective lockers, etc.

Enhanced Transit Facilities: Provides for clean, convenient, safe and weather protected transit stations and bus shelters.

Marketing Strategies

Marketing strategies that promote public transit in general and/or employer provided TDM programs. This could include internal brochures, newsletters, webinars, employee orientations, special events and promotions, etc.



APPENDIX 'C'

Photos of Existing Municipal Lot Conditions

