

Economic Impact of Transient Vacation Rentals (TVRs) on Maui County, Hawaii

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Abstract

Following a national trend, home-based businesses grew in Maui County during the 1990s. Some Maui County residents engaged in the vacation rentals business in order to serve the tourism industry. They did this by renting their homes or part of their homes as transient vacation rentals (TVRs). According to a former Mayor, the Maui County Council in the early nineties focused on growing the home-based vacation rental segment of tourism. This was then seen as part of an expanding worldwide trend. The public then clearly and enthusiastically supported incorporating the industry into the community as a growth industry (Arakawa, 2007).

Index terms—

1 Introduction

Following a national trend, home-based businesses grew in Maui County during the 1990s. Some Maui County residents engaged in the vacation rentals business in order to serve the tourism industry. They did this by renting their homes or part of their homes as transient vacation rentals (TVRs). According to a former Mayor, the Maui County Council in the early nineties focused on growing the home-based vacation rental segment of tourism. This was then seen as part of an expanding worldwide trend. The public then clearly and enthusiastically supported incorporating the industry into the community as a growth industry (Arakawa, 2007).

However, all home occupations had to go through a lengthy, difficult permitting process to bring their TVR businesses in compliance with the existing law. Only a few of the TVRs operating in Maui County are registered and have had the necessary special use permits. There have been past assurances from the Maui County Government to not enforce outdated regulations pending passage of a new vacation rental ordinance.

The former Chairman of the Maui County's Land Use Committee produced a new bill proposing legitimizing TVRs in 2006. However, this bill was rejected by the County Council in February 2007. The new Maui Planning Department's draft bill for Bed & Breakfast rentals and TVRs reviewed by various planning commissions on the islands of Maui, Molokai and Lanai in 2008 were seen as being more restrictive. If passed, Essentially small businesses, it is important to recognize the potential adverse effects and unintended consequences of regulation. Determining such negative consequences of regulation was also the purport of Senate Bill 188 (Act 217) which was signed into law in 2008 by the Governor of the State of Hawaii. It may be noted that small businesses in Hawaii employ about 60 percent of the workforce (Hawaii Department of Business, Economic Development and Tourism, 2007). There has been only one previous documented study regarding the Transient Vacation Rentals on Maui done by The Kauaian Institute in 2005. The market segment assessment study provided a comparative analysis of The geographic and economic footprint of transient vacation rentals on Maui. The two significant findings from this study were a count of 1095 TVR units in Maui following an intensive search process (which shows an under count of TVRs in official figures reported by DBEDT) and an estimate of \$38 million in lodging revenues received by TVRs in 2003.

Our study updates the earlier study by using officially reported data for 2006 and uses the Hawaii Input-Output Table also used by The Kauaian Institute to measure the impact of TVR lodging revenues on output,

earnings and employment in Maui County. Developing a new separate estimate of TVR lodgings in Maui County either through an intensive or extensive search process was beyond the scope of this research endeavor. Section II provides a discussion of various externalities associated with vacation rentals in various parts of the US Mainland as well as in Maui County. In the third section the results of the present study are examined and analyzed. The last section discusses the policy implications of our research investigation.

2 II.

3 Externality Impacts of Transient

Vacation Rentals (TVRs)

According to the US Travel Association, the U.S. travel industry garnered approximately \$758.7 billion from domestic and international travelers excluding international passenger fares in 2010. The estimated impact of these travel expenditures, resulted in 7.4 million jobs with over \$188.4 billion in payroll income for Americans, as well as \$117.6 billion tax revenue for federal, state and local governments (US Travel Association, 2011).

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It is not surprising, then, that given the vast potential of the tourism industry and its growth trend, many home-based businesses have turned their attention to serving travelers. Homes are being used to operate travel agencies or to offer lodgings to visitors as either bread and breakfast establishments or transient vacation rentals. Over the past two decades, the spread of the internet, e-commerce, and web-based advertising have all contributed to increasing the travel related segment of home-based businesses. There has also been growth in the number of firms providing specialized software for home-based businesses and facilitating monetary transactions on-line. As mentioned earlier, home-based businesses afford greater sense of freedom, provide earnings for proprietors and have become a significant source of employment generation in the country.

However, in many resort areas of the country, short-term vacation rentals are also having externality impacts on the local community. In economic theory, an externality occurs if the benefits or costs of a good are passed on to or 'spill over' to someone other than the buyer or seller of the good. The presence of externalities signifies market failure. This means that either the market produces "wrong" amounts of the goods or services in question or fails to allocate any resources to producing such goods or services even when fully justified economically through a consideration of benefits and costs. If costs of the good or service are inflicted on a third party without compensation it is referred to as a negative externality. Relative to market allocation of resources which is 'efficient' (in the absence of externalities), there is over allocation of resources to the production of the good or service in the presence of a negative externality.

Likewise, sometimes externalities associated with some goods or services are beneficial to other producers and consumers. These uncompensated spillovers accruing to third parties or the community at large are called positive externalities. Typically, the presence of beneficial externalities indicates under allocation of resources for goods and services that generate them.

One of the earliest studies on the issue of vacation home development was regarding rural Vermont (Fritz, 1982). In Vermont, rural areas with natural amenities have had a history of using the tourist industry as a means of importing economic development. Since the 1950s urbanites from southern New England and New York have sought recreational facilities in Vermont. The tourist industry promoters focused on the beneficial impacts such as improvements in the quality of life, additional employment, tax revenues, income and induced investments in a state that had traditionally high levels of poverty. Furthermore, it was felt that the impact on the tax base would be positive so local land owners would face lower property taxes. The argument was also advanced that the physical quality of life would improve due to an increase in local public goods and services demanded by vacationers without an increase in the property tax paid by landowners. The study by Fritz (1982) investigated the residential tax burden in about 240 Vermont towns. This study showed that problems may exist when attempting to rely on vacation home development as a method for inducing regional development. Under certain circumstances, increase in town land allocated for vacation homes was significantly associated with increasing tax burden on residential property. The incidence of occurrence was most apparent for smaller towns (less than 1000 population) although this result was significant for all 240 towns tested. It was suggested by the author that positive effects such as increased property values may offset the disadvantage of increased tax burden.

In the City of Encinitas, California a proposed Major Amendment No. 2-05 (Short Term Vacation Rentals) to the City's Local Coastal Program would have served to prohibit short-term vacation rentals in all residential zones throughout the city (California Coastal Commission, 2006). The amendment cited conflicts between residents and visitors involving late night disturbances, excessive noise, parking problems and trash especially in areas near the shoreline. In this case, the staff recommended to the commissioners that the California Coastal Commission (dated January 25, 2006) reject the amendment as this would eliminate a significant source of overnight visitor-serving accommodations and therefore was inconsistent with the Coastal Act. The Coastal Act promotes and preserves a full range of public access opportunities along the coast, including provision of accessible and affordable visitor-serving commercial facilities which serves and support coastal visitors. The City had performed an internet search for vacation rentals and found at least 112 residences or condominiums that were advertised for short-term rentals. The majority of the identified residential units were located on the bluffs overlooking the ocean in the

northern section of Encinitas in the community called Leucadia. The rental rates varied from \$750-\$3,750 per week in the low season (average \$1564) to \$850-\$6000 per week in the high season (average\$2414). Despite the fact that the upper limits of these ranges could not be classified as low cost lodgings, short term rentals still offered a more affordable and desirable accommodation for many parties, especially families.

Another major reason to reject the Amendment was its inconsistency with the California Environmental Quality Act (CEQA) as the amendment would have an adverse impact on visitor serving accommodations and low-cost recreational facilities. Provisions of CEQA also state that amendments will not be approved or adopted as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant impact the activity may have on the environment.

The Staff recommendations also pointed out that the Commission had approved a Local Coastal Program (LCP) amendment to allow short-term rentals in residential and mixed residential zones within the Shelter Cove community in Humboldt County affecting approximately 2,300 lots. The Humboldt County LCP Amendment request was approved after modifications that required specific regulations for vacation rentals in terms of managing the number of occupants, parking and other related impacts, so as to not unduly impact local residents. The Commission previously had rejected an LCP amendment to ban vacation rentals in all residential zones in the City of Imperial Beach in 2002 noting that the proposal was excessively restrictive discouraging tourist related uses and visitor accommodations.

Renting out a home as a vacation rental is not considered a commercial use in San Juan County in Washington and is allowed in residential areas. However, homeowners must obtain a conditional use permit (Kivista, 2004). A concern over accessory dwelling units (ADUs) that may be attached or detached was noted. Detached ADUs were more likely to be used for vacation rentals and provide housing for caregivers. Attached ADUs were more likely to be used for family and other personal guests. On the positive side, transient rentals earned income for the owners such that changing the rules could cause "economic harm." Conversely, on the negative side, transient rentals limited housing to residents, devalued surrounding properties and impacted water systems due to increased density. There was general consensus that ADUs historically had provided affordable housing (San Juan County Growth Management, 2004). In order to mitigate the TVR problem, property owners with transient rental permits were assessed taxes 15 percent higher than similar buildings without a permit in 2005. In addition, all of the personal property in the transient rental properties became subject to personal property tax. The transient rentals are also subject to sales and hotel/motel taxes (San Juan Islander, 2005). Property owners of transient vacation rentals had to also provide a contact number that is available 24 hours a day although the number did not have to be local (San Juan Islander, 2002).

Big Bear nestled in the San Bernardino Mountains in California had a 2008 Ballot Measure initiative which sought to improve the quality of transient rentals by improving the safety and security of guests, provide remedies for unruly and unlawful overnight uses and encourage currently unregistered rentals to become licensed and provide residents with notice of each proposed commercial use of a residence in their neighborhoods (Big Bear Initiative, 2008). This was later removed from the November ballot as a judge ruled that signatures collected for the initiative failed to comply with the state elections code.

The discussions over Transient Vacation Rentals in Hawaii to some degree have mirrored the various concerns expressed by various communities and towns on the US mainland.

On Oahu, a significant concern over Transient Vacation Rentals is that it destroys the residential character of neighborhoods and turns them eventually into resort areas (Au, 2007). Other concerns include the fact that TVRs introduce a constant flow of strangers into the neighborhood and impact rental housing availability, rent prices, property taxes and the property rights of neighbors (Bartley, 2005).

In Maui, there has been concern over the long run stock of housing for residents due to transient vacation rentals, Ohana units being converted to TVRs and their impact on local lifestyles (Eagar 2007). There is also fear that TVRs would urbanize agricultural and rural areas (Watanabe, 2007).

A record of Maui county zoning complaints from January 1999 through August 2005 shows that noise, late parties, traffic congestion, illegal structures or illegal modeling, disturbances and parking on street are some of the negative externalities associated with TVRs on Maui (Maui Vacation Rental Association, 2006). The most frequent complaint (10) was regarding disturbances from TVRs. However, according to testimony provided before the County's planning Committee on February 13, 2007, Planning Director Jeff Hunt stated on the record that the complaints against TVRs to his department were quite low. It amounted to 3 percent of all complaints on zoning matters.

In sum, the literature review of the problem in different locations clearly indicates the existence of a number of externality related issues with respect to transient vacation rentals. Whereas the impacts on output, employment, earnings and tax revenues are generally positive, there are other costs associated with the operations of TVRs related to disturbances, parking, water and sewer services, pressures on the long run stock of housing, on the character of residential neighborhoods, and the urbanization of agricultural and rural lands. There is also concern over the safety and security of the guests as well as the residents.

An extended cost-benefit analysis, which incorporates valuation of both positive and negative externalities often used for social decision making, is again beyond the scope of this report. However, it may be noted that there are a number of management tools in economic theory to manage externalities and make the social and economic outcome more efficient. As referenced above, these involve tools such as legislations, fines and specific

taxes to deal with negative externalities and subsidies for consumers and Producers and provision of public goods and services in the case of positive externalities.

5 III.

6 Economic Impacts of Transient Vacation Rentals (TVRs) on Maui County

The only other documented research regarding the impact of TVRs on Maui was done by The Kauaian Institute in August 2005. Although some definitional and legal differences exist between Bed & Breakfast Rentals and other private homes available for short-term rentals, in this study, all such rentals are considered to be Transient Vacation Rentals (TVRs).

7 a) Data Sources

The American Community Survey, for Maui County Hawaii done by the US Census Bureau for 2006 is used for this study. This provides a Population and Housing Narrative Profile and is an up-date over the US Census Bureau figures for 2000.

Information regarding total number of visitors, average length of stay, demand for lodging types, total visitor expenditures, visitor plant inventory by islands was all found through perusing DBEDTs Annual Visitor Research Reports from 2000-2007. We also used the input-output tables to make impact estimates using 2006 data consistent with The Kauaian Institute estimates that used data for 2003. This study, in essence, up-dates the impacts from the previous study for a year for which complete data exists.

Information on TVR visitor expenditures was derived by means of private communication with DBEDT officials.

The Kauaian Institute conducted searches over the internet and in the print media to provide the best available estimate of TVRs in Maui County. We have reported the total counts of B & Bs and other TVRs from both sources, namely, DBEDT and The Kauaian Institute as we did not investigate the numbers ourselves. There is no district-wise information regarding TVRs in Maui County in our report due to time constraints. It is beyond the scope of this analysis to reconcile the difference between the DBEDT and Kauaian Institute estimates via primary research. It seems likely that the DBEDT numbers are from the optional survey on the back side of the Agricultural Declaration Form all inbound travelers fill out. Since the survey is optional, any TVR estimate based on this data could only accurately estimate the TVR number if there was 100% compliance. This is highly unlikely. Thus, the DBEDT TVR number is conservative, in all likelihood excessively so. In contrast, the Kauaian Institute Study's inventory lists were reviewed area by area by a small group of reliable, professional TVR booking agents specializing in those areas. The review eliminated duplicates (same property, different website, possibly different property name, etc.), confirmed the number of rental units on the property, confirmed if it was B&B or TVR, and provided additional (below the radar) units that were not initially found.

In our opinion, the comprehensive nature of this primary data collection process performed by the Kauaian Institute would result in a more accurate count of the (2003) TVR number than the (optionally reported) DBEDT data. Thus, the Kauaian Institute's estimated Maui County TVR number is used for our analysis purposes.

In estimating the market share for visitor lodgings by accommodation types in Maui County we had to drop the data for 2000 and 2001 as information on TVRs are not strictly comparable with information given for most recent years.

8 c) Maui County Housing Characteristics

The American Community Survey of Maui County done by the US Census Bureau in 2006 reported 64,000 housing units in the county. Of these, 48,000 were occupied dwellings. i The number of owneroccupied dwellings was 28,000 and the number of renter-occupied dwellings was 19,000. ii

9 d) Number of Maui Visitors

The Maui County Census survey data suggests that 25 percent (16,000) of the 64,000 housing units are unoccupied dwellings. It is not clear how many of those unoccupied homes are "seasonal" homes. Approximately, 64 percent of the housing units are single-unit structures and the other 36 percent multi-unit structures. This implies that in percentage terms, TVR units accounted for 1.71 percent of all housing units available in Maui County or 2.28 percent of all occupied Housing Units. 1 & 2). This 2000 to 2006 increase in the percentage of total Maui visitors staying in TVRs equals 53.5 percent. The size of the absolute increase in Maui visitors staying in TVRs and the increase in the visitor percentage of total Maui visitors staying in TVRs suggests an increasing visitor preference of TVR accommodations on Maui with time when viewed in the context of a much smaller (10.3 percent) increase in total Maui visitors over this same time period. 3 combines Tables 1 and 2 data to more clearly reflect the TVR demand segment of the lodging market. Table 3 also eliminates the "Friends and Family" category as this category of visitor does not constitute demand for market lodgings. We characterise the lodging market serviced by hotels, condos and timeshare as the "intuitional" market as these lodging providers are generally managed

by third party institutions, not the lodging owner as is the case for a TVR. Table 3 clearly shows that these institutional lodging providers service the largest absolute number of visitors on Maui. However, Table 3 also shows that the market share of visitors they accommodate declined from 86.6 percent in 2000 to 75.5 percent in 2006. Figure 1 shows that of these 3 institutional accommodation types, only timeshare registered any market share gain from 2000 to 2006 (37.6 percent). Mixed accommodations also registered a market gain over this period (55.1 percent) but both gains are significantly less than the market share gain of TVRs, which showed a 91.6 percent market share increase from 2000 to 2006. This market share gain reinforces the observation just noted. That is, there appears to be an increasing visitor preference for TVR-type accommodation services with time. Table 4 also shows that TVRs accounted for 3.4 percent of all lodging types in Maui, 7.1 percent on Molokai and 1.1 percent on Lanai. In total for Maui County, TVRs accounted for 3.4 percent of total visitor lodgings which is slightly less than the statewide percentage of 3.6%. Hotel lodgings were less on Maui (42 percent) than statewide (60 percent) but taken with the (institutionalized lodging) categories of condominium hotels and timeshares the percentages are the same (94 percent). These 3 categories would seem to interchange given the condominium and time share conversion of hotel lodging units, the category of which declined accordingly from 2005 to 2006. It is informative to note that TVRs are the largest noninstitutionalized providers of lodging units in Maui County as well as statewide. If efforts to regulate the TVR industry are too restrictive the supply of Maui (noninstitutionalized) accommodations may be insufficient to service the increasing demand for this accommodation type with potential negative economic impacts.

10 h) Daily Spending of TVR Visitor

On average, a TVR visitor spent \$159.16 per day in Maui County. Approximately, 47 percent of the amount expended was on lodgings which amounted to \$74.70. iii We perform the estimation of the economic impacts on TVR lodging expenditures as well as total TVR visitor expenditures to highlight the fact that the full economic impact of the TVR industry exceeds the TVR visitor expenditure solely on lodging. Expenditures on lodgings were followed by expenditures on food and beverage (\$30.72), transportation (\$16.79), shopping (\$15.38), entertainment (\$15.28) and all other (\$6.29) in order of importance. Thus the average TVR visitor spent \$84.46 daily on other items besides lodging while visiting Maui County. We calculate that total annual lodging and total expenditures of Maui visitors staying in TVRs. The lodging expenditure indicates spending directly related to Maui property owners willingness to supply TVR services to accommodate this visitor market segment. Total expenditures more broadly measure the overall direct economic impact of serving the TVR market segment by TVR property owners. As such, total expenditures more accurately measure the overall economic impact of the TVR industry in Maui County. The economic impact of any reduction of TVR visitors to Maui due to any policy or regulation reducing the number of TVRs on Maui should use these impact estimates.

11 ?

12 day length of stay

There may be other Maui County-level tax consequences due to the current operation of TVRs. Based on the review of other studies presented above it A possible revenue opportunity for Maui County would be to increase property tax collections due to increased assessments of TVR building structures, improvements and associated land value in case TVRs are allowed to operate legitimately. It may be noted that Maui county government has already moved in this direction by imposing on the timeshare industry a much higher real property tax rate by creating a new tax category called timeshares in 2004 (Kalapa, 2005).

The justification for a new property tax category is that the Transient Accommodations Tax, or TAT is determined on the basis of the "fair market value." In the case of time share units it has been defined as "an amount equal to one-half the gross daily maintenance fees that are paid by the owner." An equivalent type of category could be created for TVRs.

13 1) Visitor Reductions and Substitutions Due to TVR

Regulation A reduction in TVRs could reduce the Maui visitor number if TVR visitors cannot or choose not to use an alternative lodging type if TVR lodgings are unavailable due to regulatory impacts. It is beyond the scope of this research report to address the issue of any TVR reduction on the Maui visitor number. However, one can reasonably surmise that in a competitive global market place with the capacity to provide a potpourri of lodging types, informed budget-conscious visitors would find alternative destinations to Maui if Maui lodging choices do not meet their specific lodging tastes and preferences, most specifically a TVR experience. It is safe to assume that this source of exogenous (out-of-state) expenditures would cease if TVR visitors make the choice to go to an alternate resort destination outside of the State of Hawaii.

If some of the TVR visitors do retain Maui as their resort destination and use alternate forms of lodgings such as hotels, condos or timeshares because TVRs are forced to cease Maui operations, then the economic impact in Maui County from this segment of visitors will likely be reduced due to the netting out effect. However, there would yet be a redistribution of income from TVR owners to non-TVRR accommodation owners and a loss of utility (satisfaction) to TVR visitors who must use a "second best" accommodation type during their stay in

Maui County. It is again beyond the scope of this analysis to determine the extent of the substitution and income redistribution impacts of any policy eliminating or reducing TVRs.

It is informative to note that it appears that the simple threat of TVR regulation has reduced their number from 2005 to 2006 as discussed above in Maui County by 11.0 percent. If this reduction resulted in a proportionate reduction in visitors to Maui and their total expenditures, the economic impact would be a reduction ranging from:

? \$25. Again as noted, it is beyond the scope of this research effort to determine whether visitors whose first preference is a TVR lodging experience substitute another Maui lodging type due to their unavailability, or choose an alternative resort destination. The extent to which the TVR visitor lacking his/her first lodging preference substitutes an alternative lodging type on Maui, the economic impact of a reduction in TVR numbers will be less than the numbers just reported. Similarly, if TVRs are eliminated altogether in Maui County and there is no substitution by the TVR visitor of an alternative lodging type, the economic impacts will be the full economic impact amount of the TVR industry estimated and presented above.

14 IV.

15 Policy Implications

Opponents of TVRs have attempted, through the political process, to prohibit the operation of TVRs in Maui County, limit them to commercial or resort areas where permitted through the use of outdated zoning ordinances and/or deny them needed permits to operate legitimately.

The policy proposal debated in Maui would have denied needed permits to TVRs and cause approximately 90 percent of them to cease operations by January 1, 2008. No grandfathering of existing TVRs would be permitted. Our study has shown that there are significant positive economic impacts of TVR operations in Maui. There is prima facie evidence that the TVR subsector of the lodgings industry has grown into an industry of significant size over the last two decades and that it is providing significant economic benefits to the populace of Maui County. These include contributions to economic output between \$222.9 and \$318.8 million, contributions to earnings between \$72.5 million and \$100.6 million with the generation of 2,508 to 3,478 jobs in the county.

According to an ex-Mayor of the Maui County Council, there were written assurances to concerned people that an appropriate bill legitimizing the activities of TVRs in Maui County would be brought forward and passed at which time the TVRs would be provided the necessary permits to operate legally. Owners of TVRs that were applicants for the permit withdrew their applications and were told they could continue to operate and the County would not enforce the existing law till revised. A possible alternative to a legal operation is an illegal one. As many TVRs are currently operating outside of the law, we estimate that some portion of the range of total state tax revenues generated by TVRs (i.e. \$14.2 and \$19.7 million) are being lost to the State of Hawaii with a consequent, though much lower, loss of TAT revenues to Maui County. Maui could stand to gain tax revenues through increased property taxes if TVRs could operate as legitimate businesses and be required to pay their due share of taxes. Some of these additional funds can then be used to provide additional public goods and services such as water, sewer and parking in support of the visitor industry and for negative externality mitigation.

There are a number of negative externalities that have been associated with the transient vacation rental business. These need to be addressed to ameliorate citizen concerns. Fortunately, there are a number of policy instruments to mitigate the problems of negative externalities. These may involve up-dating community zoning laws taking into account current realities, citations for rowdy behavior and disturbing the peace in residential neighborhoods where TVRs may be permitted, fines for illegal and inappropriate parking, higher property taxes on TVR establishments to compensate residents, increased responsibility for TVR operators for the safety and security of the guests and mandatory evacuation plans in case of emergencies.

The possible impact on long term availability of housing is not a major concern given the large number of unoccupied housing in Maui. It has been shown that in other places outside of Hawaii, accessory dwelling units (ADUs) whether attached or detached have contributed to an increase in affordable housing and also generated important family income. These ADUs may be used for transient vacation rentals but they could also be used for housing local residents, if need be. The character of Ohanas and local lifestyles need to be preserved as learning local customs and being exposed to native culture is one of the reasons why visitors choose to come to Hawaii. It is an irrefutable fact in resource economics that it is most efficient to let land gravitate to highest and best use.

Future trends in the tourism business in Hawaii will be determined by many factors not discussed in this study such as Hawaii's Tourism Strategic Plan, Small Business Policy, land use policy, availability of sufficient plant inventory, infrastructure policy and the recreational choices of baby boomers. However, based on our empirical investigations, we can state that there is a growing trend for transient vacation rentals (TVRs) in the Hawaii market as in other resort areas of the mainland and worldwide. Before the issue is subjected to short shrift and TVR closure, it might be prudent for county officials to work in concert with state officials and TVR operators to improve data gathering regarding TVR visitors and do an extended cost-benefit analysis and explore every option to address community concerns fairly and equitably.

? Notes i RAM estimates that 23,000 of the 64,000 are condos. i These are considered (by RAM) to generally be longterm, owner-occupied (non-vacation) rentals. i Information regarding daily expenditures of TVR visitors in Maui was gleaned from personal communication with Cy Feng, Economist, DBEDT October 30, 2007. i It

is beyond the scope of our research efforts to substantiate the RAM visitor length of stay value for TVRs. It's ultimate credibility and any estimates we derive using this value rests with RAM. We can state, however, that a lower lodging rate per day does afford the average visitor a greater ability to stay longer (i.e. a greater length of stay) than higher priced accommodation types. The average TVR lodging rate (\$74.4) is less than average rates for other accommodation types. For example, the average daily Maui lodging expenditure across all lodging types in 2006 was \$93.4 and for hotels it was \$130. Additionally, a 9.5 day TVR length of stay estimate implies a TVR occupancy rate of 80 percent with an average visitor number per stay of 3 persons using the 2006 TVR visitor number.

This would seem within the realm of reasonableness in the context of a UHERO reported 2006 average Maui occupancy rate of 80%, a DEBDT reported average party size across all lodging types on Maui of 2.17 in 2006 and the fact that individual TVRs may have multiple accommodation units which would not be accounted for in the TVR count used for our analysis. i The Type II multiplier category used for determining the indirect and induced effects of direct TVR lodging is for "accommodation." i The total expenditure Type II multiplier categories used for determining the indirect and induced effects of direct TVR total expenditures is the weighted average per the total expenditure distribution as shown in the following table.

16 Expenditure



Figure 1:

1

Figure 2: Table 1

1

¹Economic Impact of Transient Vacation Rentals (TVRs) on Maui County, Hawaii

16 EXPENDITURE

1

Lodging Type	2000	2001	2002	2003	2004	2005	2006
Hotel*	1,273,679	1,102,568	1,099,959	1,097,701	1,088,990	1,077,167	1,040,891
Condo*	498,425	447,965	434,100	478,093	473,284	504,137	522,327
Timeshare*	65,471	87,474	108,050	111,191	127,455	147,042	178,568
Bed & Breakfast	31,217	27,746	28,737	29,082	27,469	28,924	30,599
Friends / Relatives	124,978	119,190	143,309	144,866	141,700	151,341	169,752
Mixed**	252,483	263,824	325,272	335,514	348,928	437,869	535,179
Total Visitors	2,246,253	2,048,768	2,139,427	2,196,447	2,207,826	2,346,480	2,477,316

* These accommodations only. **Staying in multiple accommodations

e) TVR Share of Maui Visitors

Figure 3: Table 1 :

2

Year	Rental Houses	B&B	TVR Total
2006	75,368	30,599	105,967
2005	65,195	28,924	94,119
2004	54,624	27,469	82,093
2003	49,232	29,082	78,314
2002	17,220	28,737	45,957
2001	23,061	28,780	51,841
2000	26,558	32,557	59,115

[Note: f) Visitor Demand and Market Share of Lodgings by Accommodation Type for Maui County Table]

Figure 4: Table 2 :

3

Lodging Type	2000	2001	2002	2003	2004	2005	2006
Hotel*	1,273,679	1,102,568	1,099,959	1,097,701	1,088,990	1,077,167	1,040,891
Condo*	498,425	447,965	434,100	478,093	473,284	504,137	522,327
Timeshare*	65,471	87,474	108,050	111,191	127,455	147,042	178,568
TVR	59,115	51,841	45,957	78,314	82,093	94,119	105,967
Mixed**	177,733	197,452	271,916	286,282	330,440	414,952	506,663
Total	2,074,423	1,887,300	1,959,982	2,051,581	2,102,262	2,237,417	2,354,416
Market Share	86.6%	84.9%	82.3%	82.2%	81.8%	78.7%	75.5%

Figure 5: Table 3 :

4

Island Type		Available Units	Properties	Change From 2005
Maui	Apartment/Hotel	37	5	-8
	Bed & Breakfast	122	30	6
	Condominium Hotel	7830	114	321
	Hostel	37	3	0
	Hotel	7595	27	-379
	Individual Vacation Unit	495	71	-75
	Timeshare	1959	16	107
	Other	366	15	0
	Total	18441	281	-28
Molokai	Bed & Breakfast	3	2	0
	Condominium Hotel	259	6	0
	Hotel	141	3	0
	Individual Vacation Unit	29	22	-1
	Timeshare	15	0	0

Figure 6: Table 4 :

[California Coastal Commission Staff Report and Recommendations: City of Encinitas Major Amendment LCPA (2006)]
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