SMS

Established 1960

Beyond Information. Intelligence.

Database Marketing

Economic & Social Impact Studies

Evaluations

Research

Modeling/Forecasting

HAWAI'I HOUSING PLANNING STUDY, 2011 TECHNICAL REPORT

Prepared for the:

Hawai'i Housing Finance and Development Corporation and Housing Officers/Administrators for Honolulu, Maui, Hawai'i, and Kaua'i Counties

Prepared by SMS Research & Marketing Services, Inc.
Bcj Ya VYf, 2011

CONTENTS

LIST OF TABLES

LIST OF FIGURES

INTRODUCTION

The objective of the Hawai`i Housing Planning Study (HHPS) 2011 was to add new and timely information to that gathered in previous studies and to continue the development of the Study as a comprehensive housing planning tool. In past Housing Policy Studies, results have slowly evolved toward the latter goal. The original housing study in 1992 produced the first comprehensive set of data related to housing issues in Hawai`i. The 1997 study updated that information, and added an analysis of rental housing costs in the State. In 2000, a set of items selected from the Housing Demand Survey of 1997 was administered to a large sample of Hawai`i households in order to help in reconciling HHPS data and Census estimates. The 2003 Study updated the information once again and added an evaluation of the housing needs of the elderly, the risk of homelessness in Hawai`i households, and two surveys to examine awareness of and interest in the Section 8 Housing Voucher Program. In 2006, the Study was expanded to include an analysis of housing production data over the last five years and the housing model was radically restructured in response to the needs of housing analysts in Hawai`i.

The 2011 HHPS shifted focus from providing the multitude of data tables included in previous studies to examining the policy and planning implications of the Study's findings.

PROJECT STRUCTURE

The HHPS 2011 utilizes data from six data collection and analysis sources:

1.   Housing Stock Inventory: An inventory of all housing units in the State at the end of 2010. In 2011, the inventory was expanded to include U.S. Decennial Census data and data taken from the American Community Survey (ACS)[1]. Inventory data are the foundation for counting and describing housing stock and are fundamental to the Hawai`i Housing Model.

2. Rental Housing Study: A study of rental unit advertisements, prices, and characteristics from January 2006 through May 2011. The rent study was expanded this year to include data from the ACS, the Office of Housing and Urban Development's (HUD) Fair Market Rents, and other sources.

3. Production Data: A set of interviews with housing producers to enhance understanding of issues related to housing development and a review of County data on scheduled housing unit production aimed at developing reliable estimates of short-run housing production.

4. Housing for Special Needs Groups Study: This study included a set of stakeholder interviews with persons who work with special needs groups and understand their housing needs, as well as hard data on the special needs populations, including their numbers, housing needs, available housing units, and future prospects.

5. Housing Demand Survey: A statewide survey of more than 5,000 households to measure current housing conditions, expectations to move to a new unit, new unit preferences, financial qualifications for purchase or rent, and demographic characteristics of household members.

---

[1]   For those unfamiliar with the American Community Survey, an excellent description appears on the U.S. Census website http://www.census.gov/acs/www/about_the_survey/american_community_survey/

6. Hawai`i Housing Model: Updates made to the HHPS model included Hawai`i housing conditions, prices, and sales, permit forecasting of housing unit needs by income group through the year 2030.

Each of these project elements is described in detail in the HHPS 2011 Technical Report.
In 2011, the study team also reviewed housing plans and production, government spending on housing, and comparisons with housing data in other states and municipalities.

In the following pages, these project elements are discussed in greater detail. Results of the HHPS 2011 are reported in the document entitled Hawai`i Housing Policy Study, 2011, and several short reports on special topics including the Rental Housing Report, Housing Stock Inventory Report, and the Housing of Native Hawaiians Report.[2]

---

[2] In addition, multiple data tabulations have been supplied to individual agencies under separate covers.

HOUSING INVENTORY REPORT

An extensive analysis of Hawai`i's existing housing stock was performed to provide a comprehensive data set and to identify housing production patterns. A database was developed from a number of sources including the Department of Revenue and Taxation database, Department of Land Management data, residential real estate property management companies, military housing producers, and Hawai`i's various universities, community colleges and resident high schools.

The project analyzed over 500,000 single family, multi-family and apartment residential units. Six distinct housing types have been summarized – single family[3], condominium[4], apartment[5], military, student housing[6], and cooperative[7]. The data describe total inventory for the year ending 2010. Where they are identified, vacation rentals and units otherwise unavailable to the local housing market have been eliminated from the inventory. Not all multi-family units converted to visitor accommodations, and not all single-family units converted to bed-and-breakfasts, are known. As a result, the inventory may include a limited number of these types of units.

Property characteristics such as land area, living area, number of bedrooms, year built, tenure, and owner- or tenant-occupied were compiled and analyzed. The information has been summarized for the State as a whole, and for each County.

---

[3] Includes detached units intended for single family occupancy. Excludes single family units under the condominium ownership regime.

[4] Includes all housing units registered under a condominium ownership regime, whether single family detached, or multi-family attached units.

[5] Includes all non-condominium, non-cooperative multi-family units, apartments, multiplex, duplex, etc.

[6] Student housing or dormitories were added to the TMK inventory from reports by educational institutions of the number of units they currently operate. Units intended for faculty use are included here.

[7] Includes all multi-family apartments that are owned as cooperatives.

RENTAL HOUSING REPORT

In order to evaluate the condition of Hawai`i's rental housing market, a comprehensive data set was constructed to identify current and historical rental availability, rental rates and other trends. For each island, information including the location, rent rate, number of bedrooms and property type was assembled from rental advertisements for each island. A three-period rolling average of rent rate was used in reporting rent data in order to reduce the volatility of the rent data series. Data reported include advertisements published through the end of 2010[8]
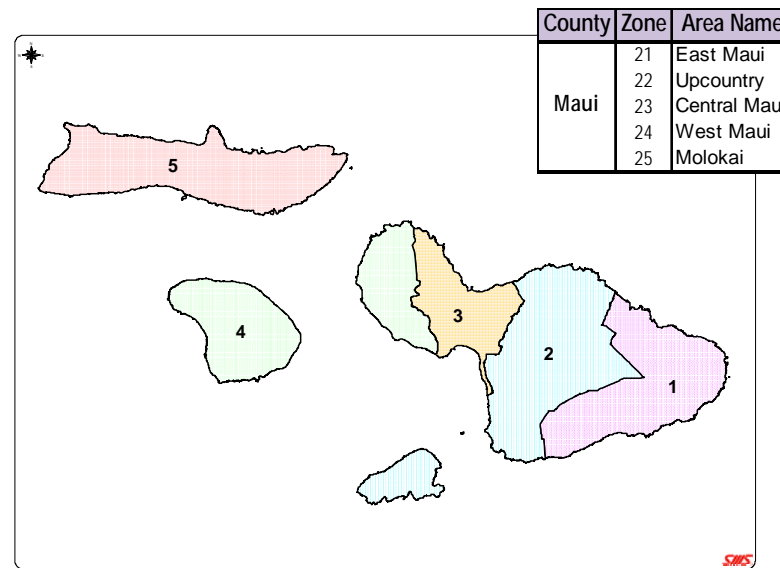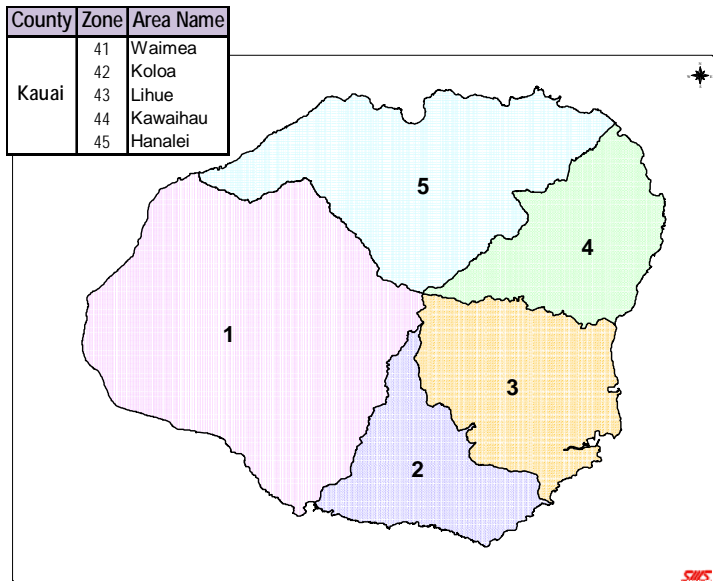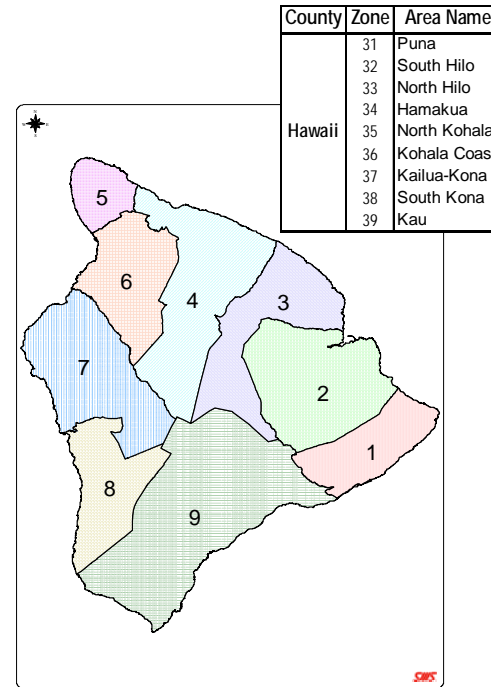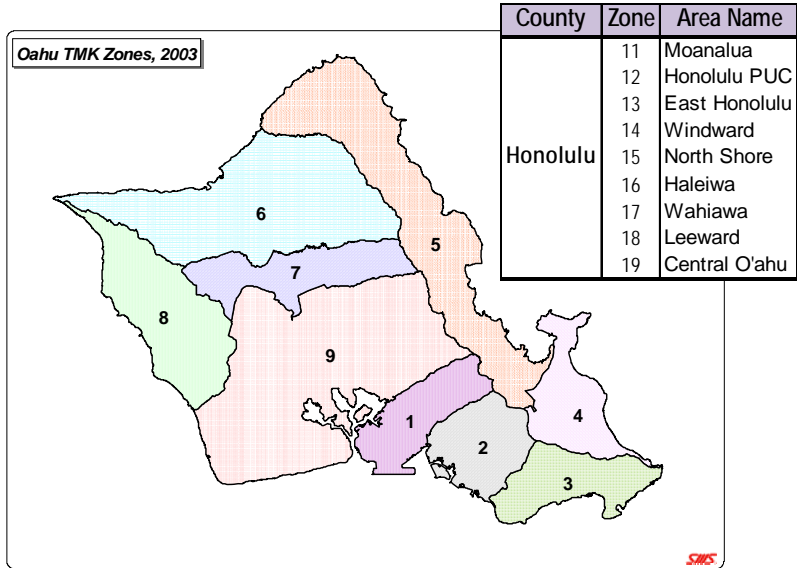
The data presented in this report reflect only market rental rates; no affordable (subsidized) rents have been included except where published in classified advertisements. Database entries also exclude rentals wanted, vacation rentals, rentals to share, property management, rooms for rent, and all commercial properties.

Rental area definitions were created using the standard Tax Map Key (TMK) Zones for each county and the rental databases have been categorized according to these geographic locations. Refer to Figure A-1 on the following page for maps of the TMK Zone boundaries. Not all areas depicted on the maps have corresponding rental data included in the report due to the extremely limited number of published rental advertisements for these areas. However, data for these areas is included in countywide averages.

The O`ahu rental database was collected from the <u>Honolulu Advertiser</u>'s mid-month Sunday classified advertisements for rentals of houses, apartments (including both apartment building units and condominium units) and townhouses. For the purposes of this review, the O`ahu rental database was filtered to include advertisements for three- and four-bedroom houses and studio, one-, two-, and three-bedroom apartments. The Neighbor Island rental database was constructed from the mid-month Sunday classified ads from the major newspapers for each island. Sources include the <u>Maui News</u>, <u>West Hawai`i Today</u>, the <u>Hawai`i Tribune Herald</u> and <u>The Garden Island</u>. The database contains information from advertisements for two-, three-, and four-bedroom houses and studio, one- and two-bedroom apartments. In addition, from the <u>Maui News</u>, studio and one-bedroom houses were categorized together as "cottage" since they constitute a significant part of Maui's rental market.

---

[8]   Data from the first half of 2011 was not included because the need to generate moving averages requires a full year of data in order to generate appropriate comparisons. Data associated with the charts is provided as a separate Excel file.

Figure A-1. Hawai`i TMK Zones, 2011

Oahu TMK Zones, 2003

County	Zone	Area Name
Honolulu	11	Moanalua
	12	Honolulu PUC
	13	East Honolulu
	14	Windward
	15	North Shore
	16	Haleiwa
	17	Wahiawa
	18	Leeward
	19	Central O'ahu

County	Zone	Area Name
Hawaii	31	Puna
	32	South Hilo
	33	North Hilo
	34	Hamakua
	35	North Kohala
	36	Kohala Coast
	37	Kailua-Kona
	38	South Kona
	39	Kau

County	Zone	Area Name
Kauai	41	Waimea
	42	Koloa
	43	Lihue
	44	Kawaihau
	45	Hanalei

County	Zone	Area Name
Maui	21	East Maui
	22	Upcountry
	23	Central Maui
	24	West Maui
	25	Molokai

HOUSING DEMAND SURVEY

This study was conducted as an update to the Hawai`i Housing Policy Study, 2006. The research design was developed to match past survey content, sampling method, data collection and data processing procedures as closely as possible. There were several important differences initiated for the 2011 study: (1) the survey content was streamlined and the instrument was a bit shorter than in previous years; (2) the sample was considerably larger than in 1992 and 1997, and somewhat more complex in design; and (3) additional measures were included to evaluate risk of homelessness, elderly housing needs and issues related to rail transit.

METHODS

SMS Research designed the survey instrument with input from the Hawai`i Housing Finance and
Development Corporation (HHFDC), County Housing Agencies, the Department of Hawaiian Home Lands, and private sector housing interests across the state. The reviewers suggested several changes in content, and most of those changes were incorporated in the final survey instrument. The final version of the survey instrument is shown in the Appendix A.

Each County was divided into several sub-areas for the survey. These geographic survey areas may not correspond exactly to those used in previous iterations of the HHPS, but are very similar. The sample sizes for the geographic subdivisions survey were sufficient to produce results that are statistically accurate within plus-or-minus five percentage points at the 95 percent confidence level.

Thirty pre-test surveys were conducted among Hawai`i households using the same methodology as were employed for the actual survey. The purpose of the pre-test was to determine whether survey items were understandable to the general public, included the most appropriate response options, and were arranged in the proper order for effective inquiry. Some minor changes to the survey content were made as a result of the pretest. These are reflected in the survey instrument as shown in the Appendix.

Sampling

The target population for this survey included all residents of the State of Hawai`i residing in non-institutionalized housing units with working telephone service at the time of the study. The sample design was a dual frame design in which independent samples are selected from two different sampling frames representing the same population. In this case the two frames were the list of landline telephone numbers active at the time of the survey and the list of wireless telephone (cell phone) number active in Hawai`i at the same time.

Two independent samples with identical designs were selected, one from each frame. The samples were both random digit dialing (RDD), disproportionate across geographic area and random within areas. In the case of the landline sample, independent samples were selected for each of the required geographic areas (see below). The frame was the SMS RDD sample

selection system which permits disproportionate sampling by telephone exchange. A similar system has been developed for wireless telephone numbers.

The landline sampling frame was stratified by geography comparable to districts selected by each county agency participating in the study. Districts differed from one county to another. There were five districts on the Hawai`i Island (Ka`u/South Kona, North Kona, North Hawai`i, North and South Hilo, Puna), Oahu (Leeward Oahu, Central Oahu, Windward Oahu, PUC Honolulu, East Honolulu) and Ka`ua`i (Waimea, Koloa, Lihue, Kawaihau, Hanalei). Maui County had the largest number of districts with six on the island of Maui (Hana, Makawao/Pukalani/Kula, Paia/Haiku, Kihei/Makena, Wailuku/Kahului, West Maui) and one each for Moloka`i and Lana`i.

The wireless sampling frame was stratified by county only. At the present time, this frame cannot be meaningfully stratified at any lower level. The address associated with each number is taken from the location of the retail company that sold the phone and/or plan being used with each number. Internal survey data are then used to locate the user address according to the same areas noted above. The disproportionate samples were designed to produce equal sampling precision for these districts. The number of households in each district in 2011 was estimated by SMS Research and sample sizes were selected to produce standard errors of the proportion of plus-or-minus five percentage points at the 95 percent confidence level, with p = .50. The sample design is shown in Table 1 on the following page.

Interviewer Selection and Training

SMS Research was responsible for the selection, training, and supervision of all interviewers assigned to this project. Regardless of background or experience, all interviewers were specially trained to conduct the housing survey interviews. The training session included: a review of general telephone interviewing procedures; a question-by-question review of the survey instrument; on-screen CATI training; and a question-and-answer session to make sure that interviewers had all problems handled before beginning work on the survey. During the fielding of the survey, there were frequent, short debriefing sessions in which interviewers could bring up any additional questions or issues and have them addressed by the project manager.

Data Collection

Survey data were collected by phone from March through August 2011. All interviews were conducted from the SMS Honolulu Calling Center and separate calling protocols were developed for landline and wireless surveys. The Calling Center is equipped with a state-of-the-art computer assisted telephone interviewing (CATI) system that was used for this project. The system provides for rigorous control of sampling, disposition of all calls dialed, and survey administration. It works equally well for landline and wireless calling, but the call disposition codes are set differently for each survey type. Calls were placed between the hours of 12:00 PM and 9:00 PM on weekdays and 10:00 AM and 9:00 PM on weekends. An unlimited callback procedure was employed. In practice, some numbers were re-dialed as many as eight times in order to complete interviews.

SMS conducted a follow up mailing to areas of Maui County (Hana, Pa'ia-Haiku, West Maui, and Lana`i) to supplement areas in which we were able to reach quota for the telephone surveys. Surveying took place during September 2011. A total of 344 surveys were returned from those areas.

A professional supervisor was present at all times during the fielding process and a call monitor was responsible for monitoring calls. Interviews were monitored on a rotating basis through the CATI system and neither the interviewer nor the caller is aware that monitoring is taking place. Monitors follow the course of the interview and watch the choices being recorded as the respondent answers. If any deviation from procedures is noted, the call monitor conducts a short re-training session with the interviewer to assure that inter-coder reliability is maintained.

Table 1. Demand Survey Sample Results, 2011

Geographic Area	Households 2010	Household Sample		Modes		
		Sample Size	Margin of Error	Landline	Cellphone	Mail
Total	449,360	5,554	1.31	3,936	976	
City & County of Honolulu	292,003	1,111	2.93	907	204	--
Primary Urban Center	130,196	227	6.50	157	70	--
Central Oahu	77,668	249	6.20	187	62	--
East Honolulu	13,753	195	6.97	183	12	--
Leeward	29,310	219	6.60	189	30	--
Windward	41,076	221	6.57	191	30	--
County of Hawaii	54,644	1,299	2.69	1,115	184	--
South Kona-Ka`u	4,249	210	6.59	190	20	--
Puna	11,506	330	5.32	295	35	--
North & South Hilo	18,091	340	5.26	284	56	--
North Hawaii	8,726	211	6.66	178	33	--
North Kona	12,073	208	6.74	168	40	--
County of Maui	43,687	2,106	2.08	1,127	337	642
Island of Maui	40,223	1,620	2.39	874	315	431
Hana	593	111	8.39	61	2	48
Makawao, Kula	9,296	291	5.65	232	59	--
Wailuku-Kahului	12,832	277	5.82	174	103	--
Paia-Haiku	3,819	328	5.17	141	31	156
Kihei-Makena	7,572	213	6.62	156	57	--
West Maui	6,111	400	4.74	110	63	227
Island of Molokai	2,305	205	6.53	193	12	--
Island of Ianai	1,160	281	5.09	60	10	211
Kauai	20,460	1,038	2.96	787	251	--
North Kauai	8,837	408	4.74	301	107	--
Kawaihau	6,374	252	6.05	181	71	--
Hanalei	2,463	156	7.60	120	36	--
Lihue	4,057	194	6.87	133	61	--
Waimea, Koloa	7,567	436	4.56	353	83	--
Waimea	5,566	235	6.26	195	40	--
Koloa	2,001	201	6.56	158	43	--

Data Processing

The CATI system is programmed to conduct certain types of data editing as the interview is being conducted. Out-of-range codes are not allowed and contingencies are enforced. Following the fielding process, data files are reviewed and edited for internal consistency and other possible errors that may have passed the automatic editing routines. Edited data are then coded by professional staff who assign numeric codes to open-ended items, and sort and check verbatim responses.

Weighting and Balancing of Demand Survey Data

An analysis was conducted to identify any serious non-response bias in the demand survey data and the check for mode effects between the landline and cell phone surveys. It was determined that there was no need to statistically adjust for mode effects. Disproportionate coverage for several demographic variables was noted, especially in the cell phone surveys.

Following the procedures developed by The Centers for Disease Control for the Behavioral Risk Factors Surveillance System, with some adaptations based on system applied at Pew Research, SMS has developed a weighting system for dual frame sample surveys in Hawai`i. The weighting has three components as shown below.

1. ***Sample Weights:*** The disproportionate sample design assured equal precision by district, but resulted in an unbalanced sample by district. Sample weights are designed to statistically adjust survey results for a disproportionate design by weighting survey results to the distribution of the populations form which the sample was drawn. Weights were constructed by dividing the population estimates by the sample counts on a cell-by-cell basis. This procedure is the same as the weighing procedure used in previous Housing Policy Study Demand Surveys.

2. ***Sample Raking:*** The weighting scheme for the housing demand survey in 2011 must also account for dual frame sampling (a difference in telephone service available to each household) and the heavier non-sampling error associated with two-frame sample surveys involving cell phones. Since the exact number of households by type of phone services, household size, home ownership, age and gender of respondents, etc., is unknown, the standard methods of poststratification (statistical adjustment for non-sample error) will not work. The solution is to use one of several methods of sample balancing, or raking as it is better known these days. The method begins with sample weighs applied as noted above, and then balances the sample for type of phone service (landline only, landline mostly, wireless mostly, wireless only, and no phone service). In the same procedure survey data are simultaneously balanced for disproportionality in other raking variables including: age of respondent, household size and type, homeownership, marital status, and households with and without children under the age of 18.

3. ***Replicated Weights:*** Replication-based weights have been developed to adjust for variance distortion resulting from to complex sample designs. They are required to adjust sample variances used for statistical tests and certain forms of multivariate analysis. Using the replicated weights, users can estimate standard errors for simple estimators like totals or complicated ones like logistic regression parameter estimates.

Sample weights and raked weights were applied in all tabulations developed for and all analyses conducted based on demand survey data. This weighting was necessary to statistically adjust housing demand survey so that the data accurately represent the number of households by district, the size of household, number of children in the household, unit tenure, marital status, age of respondent, as well as landline and cell phone usage.

DATA TABULATIONS

A. Comparison of 1992, 1997, 2003, 2006 and 2011 Housing Demand Survey data.

The data on current housing conditions, preferences for new units, qualifications for ownership and rental, and demographic characteristics of households were collected in the same manner in all three years. Results are also reported in the same format. With few exceptions, it is possible to compare results for 1992, 1997, 2003, 2006 and 2011 in great detail. The full range of comparisons will require comparing data in this report with the tabulations in *The Hawai`i Housing Policy Study, 1992, The Hawai`i Housing Policy Update, 1997, The Hawai`i Housing Policy Update, 2003 and The Hawai`i Housing Policy Update, 2006*. The 1997 report also produced summary tables of the most important information in the study. This year's report provides those tables for 1992, 1997, 2003, 2006 and 2011. Data include:

1. Housing unit condition
2. Housing costs for current units
3. Household composition and crowding
4. Shelter-to-income ratios
5. Intention to move
6. Tenancy preferences
7. Housing unit preferences for renters and buyers
8. Preferred locations of new units for owners and renters
9. Affordable housing costs for new units
10. Financial profiles of potential buyers and renters in all counties
11. Interest in sustainable housing

B. 2011 survey results by County.

This subsection presents the 2011 demand survey results for the state as a whole and for each of the four counties. In general, the material on current housing conditions is presented first, followed by housing preferences. The affordability data is next, and the final tables present demographic characteristics of survey respondents.

C. 2011 survey results for districts within counties.

This subsection presents the same data as described above, separately for each county. Within each county's section, demand survey results are shown for the following geographic districts:

Honolulu: Primary Urban Center, Central Oahu, East Honolulu, Leeward Oahu, and Windward Oahu

Maui: Hana, Makawao-Pukalani-Kula, Paia-Haiku, Kihei-Makena, Wailuku-Kahului, West Maui, Lana`i, Moloka`i

**Hawai`i**: South Kona to Ka`u (census tracts 212, 213), Puna (census tracts 210, 211), North and South Hilo (census tracts 201-209, 221), North Hawai`i (Hamakua, North and South Kohala) (census tracts 217-220), North Kona (census tracts 214-216)

Ka`ua`i: Waimea, Koloa, Lihue, Kawaihau, Hanalei

HAWAI`I HOUSING MODEL

From the start, the Hawai`i Housing Planning Study has included a model of Hawai`i's housing market intended to summarize the findings of the study and support estimates of current demand and forecasts of unit needs into the future. The model has become a central focus of the study over the years and has been updated each time the study was conducted. As housing planners became familiar with each new model their expectations grew. By 2003 it was apparent that the original model structure was insufficient to answer the growing number of questions planners put forth and some structural changes were made. In 2006, it was decided to maintain the basic structure developed in 2003 and to significantly redesign the model and its outputs. In 2011, the Request for Proposal (RFP) for the project called for no changes to the Hawai`i Housing Model.

HOUSING MODEL 2011

The Hawai`i Housing Model for 2006 is the base of housing modeling in the State of Hawai`i today. It will be useful to review its basic composition here. The model combines information from the housing inventory and housing demand surveys with basic population and economic series in a multi-faceted model designed to simulate the structure of Hawai`i's housing market and to produce a forecast of housing units needed through the year 2030.

Foundation Data

The foundation variables for the Hawai`i Housing Model are the population of Hawai`i (taken from DBEDT and Census estimates) and the number of housing units in the State (taken from the Housing Inventory). Several important data series round out the foundation data: +

  ➢ Total housing units in the State; single family and multi-family units
  ➢ Market rent data for single family and multi-family units, including:
    ▪ Percent of households that rent
    ▪ Number of single family and multi-family rental monthly ads (supply)
    ▪ Median single family and multi-family rents (value)
  ➢ Single family and multi-family new construction estimates
  ➢ Affordability calculated from HUD income guidelines each year for each county
  ➢ Visitor unit estimates, including:
    ▪ New construction
    ▪ Units that enter visitor plant (used as hotel rooms)
    ▪ Units lost to visitor industry (when tourism is strong)
  ➢ Housing resale estimates for single family and multi-family units, including:
    ▪ Number of units on market
    ▪ Excess inventory
    ▪ Number of resales

All of the data series listed above are gathered for each county. The Hawai`i Housing Model can be used to develop estimates for the State as a whole or for each individual County. SMS updates these data periodically, regardless of the HHPS schedule.

Important Calculations

Several important variables from the Hawai`i Housing Model are calculated internally and checked against external sources. The procedure provides for smooth and reliable forecasts. The newly calculated variables include:

➢ **Affordability Ratios:** The ratio of the housing price affordable to a household with a median family income to the median sales price in a given year.

➢ **Population and Households:** Estimates are now for the housed population only, and for the empirical number of households in the State. In the past, the number of households was calculated by dividing population by the average household size. The new estimate is a more accurate indication of household formation.

➢ **Vacancy Rates:** Vacancy rates for past models were a blanket estimate of five percent per year. The new model uses empirical estimates of vacancies in each county.

➢ **Household Income:** Household income is a new addition to the model.

➢ **Prices and Sales:** Formerly, housing prices and sales were gathered for separate sources.

New Model Structure

Before 2006 the Hawai`i Housing Model was a relatively straightforward population model. It assumed that the demand for new housing units was a linear function of the number of people in Hawai`i and the number of housing units. Modules were developed to estimate the number of households from raw population estimates and the number of housing units available to the resident market from housing inventories and estimated numbers of units withheld from the market. The different between the two was calculated as a surplus or deficit in housing units available to the resident housing market.

The redevelopment accomplished in 2006 produced a supply and demand model. It simulates the effects of income and affordability on supply and demand and on prices, rents, etc., based on past market performance. The model is driven by affordability ratios that change in response to supply (the availability of units affordable to buyers in different income categories) and demand (the change in number of households and household income).

Functionality

The Hawai`i Housing Model is a dynamic model that allows for several types of what-if analysis. The model was designed to be user-friendly, and allows the user to customize numerous parameters. Safeguards are built into the model to assure that important data are not compromised by user manipulations. Three types or levels of user manipulations are available.

1. **Parameters Changes:** The model features an easy-to-use set of interactive drop-down menus for conducting what-if analysis by changing the values of model parameters such as income growth rates, population growth rates, interest rates, and new construction. Users may change one or more parameters and re-estimate the model. The

programming code itself cannot be affected by these parameter changes and users need not worry about damaging the model software.

2. ***Customizable Parameters:*** The more experienced user may wish to change entire sets of parameters such as household income, population, interest rates, or new construction. For this set of operations, entire sets of data, which combine starting levels, growth rates and growth curves are available to the user to change as needed. This procedure requires some brief training, but provides substantial latitude for developing model solutions to fit client needs.

3. ***Model Changes or Additions:*** Users with more knowledge of programming may wish to make substantial changes to the model design or add capacity or functionality to the model itself. Most users will want to contact SMS for this kind of work. For those who wish to try it themselves, unlocked versions of the model are available to Consortium members.

Unlike previous models, the new Hawai`i Housing Model provides a more comprehensive forecasting ability. It is possible, for instance, to use the model to estimate what the next housing price run-up will look like. Although the model is not designed to predict exactly what will happen and when, it shows a rough approximation of what supply and demand forces do to the housing market.

The new model also comes with a caveat. Like all forecasting models, future projections depend heavily on the past behavior of the key data series -- the Hawai`i housing market. Since the early eighties, Hawai`i's housing market has witnessed three price run-ups, interspersed with adjustment periods. It is quite likely, then, that any manipulation of the model parameters may change the shape and character of the next priced run up, but will not eliminate them as features of the market trend. There are no data to suggest that a run-up will not occur in the future, or that the next run-up will not be followed by an adjustment period.

Technical Specifications

The Hawai`i Housing Model was developed using Microsoft Excel™. The decision was made in 1997 by Consortium members to forego migrating to more complex modeling languages in order to assure that the model could be operated by a broad range of planners using commonly available hardware and software. Although this imposes some limitations on functionality, it seems worth the price. The model is available to all members of the Consortium and requires a standard PC with at least 2.0 gigs of RAM and about 30 Megs of storage space. Of course the user would need a reasonably recent version of Excel.

The model was built up from a set of custom built user-defined functions (macros) in Excel. This allows for more complexity and options in the calculations. The specifics of the calculations will not be described here, but the calculations simulate the effects of inputs on supply and demand, prices, and affordability. The model also simulates the conditions that cause a price run-up, like the one that occurred from 2003-2006, and the effects of the run-up.

MODEL CHANGES FOR 2011

As requested by users, no major changes were made to the Hawai`i Housing Model in 2011. There were changes made to the data. Most of these were required because of advances in data collection and reporting between 2005 and 2011. All of those changes provided more data and more accurate data for use in the model. Employing them, however, required some major manipulations of some data series and some minor changes in programming. For those who are interested in these niceties, we discuss them briefly below. Readers who are interested in learning even more about these issues can contact Jim Dannemiller at SMS.

Rental Prices, 2005 to 2011

This topic has been covered in greater detail in another report in the HHPS 2011 series. The fundamental issue is that the rental housing study, which has always been based on capturing newspaper advertisements on Hawai`i rentals, has been recently compromised. The rental advertising trade is rapidly moving from print media to the Internet. Those who are engaged measuring rental advertising have not yet been able to develop systems to accurately reflect the market. Their efforts are continuing and program may be made from the next study.

In the meantime, the Census Bureau has begun to include a question on recent rent prices (and recent home purchase prices) in the American Community Survey. This may be an excellent source of information in the future, but is a new effort in 2011 that has not been adequately tested.

Other sources of rental price information are available, especially the HUD measurement of Fair Market Rents (FMR). But these too have definitional problems that compromise their utility for use in the Housing Model.

For 2011, we have forecast the past rental prices based on the rate of change in FMR. The 2010 level is currently based on a combination of estimates from the old rental studies and the 2009 ACS. We will update to the 2010 census numbers as they become available.

Housing Unit Counts, 2000 to 2011

This is another topic that has been covered in a separate report in the HHPS 2011 series. The issue is that the Housing Inventory, based on review of TMK records, does not coincide with figures on housing units and housing typos supplied by the Census and ACS. The problem is being approached by several agencies in Hawai`i and will be resolved within the next year or so. For the current Model we have built in the 2010 Census data where possible as an anchor. The pathway from past Inventory made through the last half of the decade has been straight-lined from 2006 to 2011.

Other New Data Series

Several other pieces of data have proved to be problematic in the updating of the housing model for this report. We list them briefly below. Those who are interested in further detail may contact the authors.

Housing vacancy rates are now available in greater detail and for all counties in the Census and the ACS. Data users are familiar with the impact of ACS on their work and the problems involved with acquiring this new, more detailed, and more timely set of data. ACS is a survey, with all of the accompanying variance issues, especially for areas with smaller sample sizes. Perhaps more important, ACS data do not seem to match the 2010 Census data and that causes all of us some concern. These issues can and will be worked out, but it takes time to acquire the larger samples sizes required for that work. When the vacancy rate data "settles down", the ACS and census combined data will be the data we need for analysis and modeling of Hawai`i's housing market. For the 2011 housing model, we used to Census and ACS data, modeling them to fit the previous data series.

"Snowbird Units" is a series that is important to estimating needed units in Hawai`i because those units are lost to the local housing market but appear in counts of total housing units. In the 2010 census, the Bureau includes the definition (and counts) for housing units defined as "vacant, resident lives elsewhere". This is certainly the best estimate we have seen so far for what we sometimes call "snowbird units". The dividing line between snowbird units and other vacant units is now well defined.

Population and Households are also problematic when using ACS data. Here, the population growth trend seems reasonable and accurate, but the year-to-year fluctuations in the data are more likely the result of sample variation than actual changes in population. For many applications this does not present a serious problem, but the fluctuations affect forecasting routines in important ways, and cause dramatic changes in housing predictions. For the 2011 model we use the Census estimates and smoothed the estimates between 2005 and 2010.

Doubling Up and Crowding are two more variables that are better measured in 2011 than they have been in the past. In this case, it occurs without serious drawbacks. The crowding indices are defined in the same way that have been in the past and are no routinely available   by year and county. The doubling-up variable, however, is still one for which we must rely on the HHPS Demand Survey data.

The Housing Policy Study 2011 also brought to light information that will likely change the housing model significantly in the next several years. The data on homelessness, hidden homelessness, and at-risk of homelessness will be more valuable in the future. More and more, homelessness is seen as a housing problem. With respect to housing policy, it has never been possible to ignore the important role of homelessness in funding housing initiatives. As homelessness becomes understood as an integral result of the working of the housing market in Hawai`i, it will be more important to include it in the housing model.

The same might be said for the problems of persons with special needs. It would seem that housing is a central need of this important subpopulation. The likelihood is that they will be included in Hawai`i housing policy and planning in more meaningful ways in the futures. And if that is so, we might expect to hear the call that their data be included in the Housing Model. Everyone who took part in the study this year look forward to those challenges.

APPENDIX

APPENDIX 1: HOUSING DEMAND SURVEY INSTRUMENT

Q.1 Hello, I'm _____ with SMS Research, a Honolulu research company. We are conducting a survey about housing in Hawai`i. The results will be used to plan for housing needs in the State. Are you an adult resident of Hawai`i? Are you one of the heads of the household?

Q.2 Please be aware that my supervisor may be taping this interview for internal quality control.

Q.3 We would like to begin by asking you a few questions to determine what we will ask you during the survey. First, what was your age at your last birthday?
    1 - Under 18 years
    2 - 18 to 21
    3 - 22 to 34
    4 - 35 to 59
    5 - 60 to 74
    6 - 75 or older
    9 – Refused

Q.4 What island do you currently live on?
    1 - Oahu
    2 - Maui
    3 - Hawai`i
    4 - Ka`ua`i
    5 - Moloka`i
    6 - Lana`i
    9- Refused

Q.5 What is your current zip code?

Q.6 What is your ethnic background?
    01 - Caucasian
    02 - Black or African-American
    03 - Hawaiian or Part-Hawaiian
    04 - Japanese
    05 - Chinese
    06 - Filipino
    07 - Korean
    08 - Vietnamese
    09 - Asian Indian
    10 - Other Asian
    11 - Guamanian or Chamorro
    12 - Micronesian, Chuukese, etc.
    13 - Samoan
    14 - Other Pacific Islander
    15 - American Indian or Alaska Native
    16 - Hispanic or Latino
    17 - Other
    99- Don't Know/Refused

Q.7 Are you or anyone in your household at least 25% Hawaiian?
    1 - Yes
    2 - No
    9 – Refused

Q.8 Are you a DHHL applicant on the waiting list for Hawaiian Homestead land?
    1 - Yes
    2 - No
    8- Don't Know
    9 – Refused

Q.9 Is anyone else in your household on the DHHL waiting list for Hawaiian Homestead land?
    1 - Yes
    2 - No
    8- Don't Know
    9 – Refused

Q.10 Are you a DHHL Lessee?
    1 - Yes
    2 - No
    8- Don't Know
    9 – Refused

Q.11 Are you living on Hawaiian Homestead land right now?
    1 - Yes
    2 - No
    8- Don't Know
    9 – Refused

Q.12 Are you a part of DHHL's Undivided Interest Group who are lessee's soon to be awarded their land?
    1 - Yes
    2 - No
    8- Don't Know
    9 – Refused

Q.13 Thank you. Next, I have some questions about your current home. How many bedrooms are there in your home?
    NUMBER OF BEDROOMS: _____

Q.14 How many bathrooms are there in your home?
    NUMBER OF BATHROOMS: _____

Q.15 How many other rooms in your home? THE FOLLOWING ROOMS **DO NOT COUNT**:
> utility rooms - washer/dryer room
> pantry
> hallways
> foyer
> gallery
> Lana`i
> breezeway

NUMBER OF "OTHER" ROOMS: _____

Q.16 Is your home a single-family house, a townhouse, a condo, or an apartment?
01 - Single family house
02 - Townhouse
03 - Condominium
04 - Duplex/multiplex
05 - Apartment
06 - Co-op
07 - OTHER
08- Don't Know

Q.17 Do you own or rent your home?
1 - Own
2 - Rent
3 - Occupy without payment
4 - Homeless
9- Refused

Q. 18 Do you own any other types of investment or primary properties?
1 - Yes
2 - No
8- Don't Know
9 – Refused

Q.19 What is your best estimate of the market value for your primary property? This includes the cost of the land and the home.
1 - Less than $150,000
2 - $150,000 to $200,000
3 - $200,000 to $250,000
4 - $250,000 to $350,000
5 - $350,000 to $500,000
6 - $500,000 to $1 million
7 - More than $1 million
9- Don't Know/Refused

Q.20 How much is the total monthly mortgage for your home, including any utility payments, maintenance fees or parking? Is it**...**
01 - Less than $200
02 - $200 to $499

03 - $500 to $799
04 - $800 to $1,099
05 - $1,100 to $1,399
06 - $1,400 to $1,699
07 - $1,700 to $1,999
08 - $2,000 to $3,000
09 - Over $3,000
10 - Already paid for
99- Don't Know/Refused

Q.21 What is your best estimate of the market value for your additional properties? This includes the cost of the land and the home.
1 - Less than $150,000
2 - $150,000 to $200,000
3 - $200,000 to $250,000
4 - $250,000 to $350,000
5 - $350,000 to $500,000
6 - $500,000 to $1 million
7 - More than $1 million
9- Don't Know/Refused

Q.22 How much is the total monthly rent for your home, including any utility payments, maintenance fees or parking? Is it...
01 - Less than $200
02 - $200 to $499
03 - $500 to $799
04 - $800 to $1,099
05 - $1,100 to $1,399
06 - $1,400 to $1,699
07 - $1,700 to $1,999
08 - $2,000 to $3,000
09 - Over $3,000
10 - Already paid for
99- Don't Know/Refused

Q.23 Do you live in public housing?
1 - Yes
2 - No
8- Not Sure
9 – Refused

Q.24 Do you receive Section 8 assistance?
1 - Yes
2 - No
8- Not Sure
9 – Refused

Q.25 For the following questions, the word "home" means any type of home - either a house, condo, apartment or townhouse. About how old is your home? If you're unsure of the

exact age, would you be able to give us an estimate of the year it was built?
NUMBER OF YEARS: _____

Q.26 What year was your home built? Was it…
01 - Prior to 1950
02 - 1950 to 1959
03 - 1960 to 1969
04 - 1970 to 1979
05 - 1980 to 1989
06 - 1990 to 1999
07 - 2000 to 2009
08 - 2010 or newer
88- Don't Know

Q.27 Do you think it is. . .
1 - Less than 10 years old
2 - 10 to 20 years old
3 - Or more than 20
8- Don't Know

Q.28 How long have you lived in your current home?
Days _____
Weeks_____
Months _____
Years _____

Q.29 Would you say that your home is large enough for the number of people living there?
1 - Yes
2 - No
8- Don't Know

Q.30 Would you say that the physical condition of your home is...
1 - Excellent
2 - Satisfactory
3 - Fair
4 - Or poor?
8- Don't Know

Q.31 When is the soonest that you would probably move to another home?
01 - Less than 6 months
02 - 6 months to a year
03 - 1 to 2 years
04 - 3 years
05 - 4 to 5 years
06 - 6 to 10 years
07 - Over 10 years
08 - Probably never
88- Don't Know

Q.32 When you do move, do you expect to stay on the same island, move to a different island, or move out of the state?
1 - Stay on same island
2 - Move to different island
3 - Out of state
8- Don't Know

Q.33 What island would you move to?
1 - Oahu
2 - Maui
3 - Hawai`i
4 - Ka`ua`i
5 - Moloka`i
6 - Lana`i
8- Not Sure yet
9- Refused

Q.34 What are the major reasons that you will be moving out of Hawai`i?
1 - Mentioned housing as a reason
2 - Did not mention housing
8- Don't Know

Q.35 Do you think you will be buying or renting your next home?
1 - Buying
2 - Renting
3 - Moving in with relative, friends
4 - OTHER
8- Don't Know

Q.36 Are you pretty certain that you will buy, or do you think you might rent, instead?
1 - Sure to buy
2 - Might rent
8- Don't Know

Q.37 What are the main reasons you won't buy a place?
01 - Too expensive
02 - Won't stay long enough
03 - Don't want to buy, prefer rent
04 - It's up to someone else
05 - Might buy, but probably not
06 - Can't afford down payment
07 - Don't want to be tied down
08 - Can't qualify for loan
09 - Can't afford monthly payment
10 - Worried about job security
11 - Think market is bad now
12 - OTHER
88- Don't Know

Q.38 Would you consider renting an affordable housing unit provided by DHHL?
  1 - Yes
  2 - No
  8- Don't Know

Q.39 Do you intend to buy a home later on in the future?
  1 - Yes
  2 - No
  8- Don't Know

Q.40 In approximately how many years do you expect to buy a home?

Q.41 If there were currently homes available that you could afford, would you want to buy one?
  1 - Yes
  2 - No
  8- Don't Know
  9 – Refused

Q.42 About how much can you afford to pay each month for all housing costs, including rent, utilities, maintenance fees, and parking?

  01 - Less than $200
  02 - $200 to $499
  03 - $500 to $799
  04 - $800 to $1,099
  05 - $1,100 to $1,399
  06 - $1,400 to $1,699
  07 - $1,700 to $1,999
  08 - $2,000 to $2,499
  09 - $2,500 to $2,999
  10 - $3,000 or more
  99- Don't Know/Refused

Q.43 About how much money do you have in savings or other sources of money that you could use for a down payment?
  01 - Less than $500
  02 - $500 to $999
  03 - $1,000 to $1,999
  04 - $2,000 to $2,999
  05 - $3,000 to $3,999
  06 - $4,000 to $4,999
  07 - $5,000 to $7,499
  08 - $7,500 to $9,999
  09 - $10,000 to $12,499
  10 - $12,500 to $14,999

  11 - $15,000 to $17,499
  12 - $17,500 to $19,999
  13 - $20,000 or more
  88- Don't Know
  99 – Refused

Q.44 About how much do you think you would be able to pay as a down payment? Include money from relatives, or from the equity in property you would sell.
  01 - None
  02 - Less than $5,000
  03 - $5,000 to $14,999
  04 - $15,000 to $24,999
  05 - $25,000 to $39,999
  06 - $40,000 to $59,999
  07 - $60,000 to $99,999
  08 - $100,000 or more
  88- Don't Know

Q.45 About how much would you be able to afford to pay each month for all housing costs if you buy a home?
  01 - Less than $200
  02 - $200 to $499
  03 - $500 to $799
  04 - $800 to $1,099
  05 - $1,100 to $1,399
  06 - $1,400 to $1,699
  07 - $1,700 to $1,999
  08 - $2,000 to $2,999
  09 - $3,000 to $3,999
  10 - $4,000 or more
  99- Don't Know/Refused

Q.46 Would you be most likely to move to a single family house, a townhouse, or a condo?
  1 - Single family home
  2 - Townhouse
  3 - Condo
  4 - Other
  8- Don't Know
  9- Refused

Q.47 The next home you move to -- Would that most likely be a single family house, a townhouse, a condo, or an apartment?
  1 - Single family home
  2 - Townhouse
  3 - Condo
  4 - Apartment
  5 - Other
  8- Don't Know
  9 – Refused

Q.48 If you can't find a house in your price range for monthly rent, would you be willing to move to a townhouse or condo?

1 - Yes
2 - No
8- Don't Know

Q.49 If you had your choice, in what area would you live? Probe: Are there any other areas you prefer?

Q.50 How many bedrooms would you like to have in your new home?
1 - None - studio
2 - One
3 - Two
4 - Three
5 - Four
6 - Five or more
8- Don't Know

Q.51 What is the smallest number of bedrooms you can live with?
1 - One
2 - Two
3 - Three
4 - Four
5 - Five or more
8- Don't Know

Q.52 How many bathrooms would you like to have in your new home?
01 - One
02 - One and one-half
03 - Two
04 - Two and one-half
05 - Three
06 - Three and one-half
07 - Four or more
08- Don't Know

Q.53 What is the smallest number of bathrooms you can live with?
01 - One
02 - One and one-half
03 - Two
04 - Two and one-half
05 - Three
06 - Three and one-half
07 - Four or more
08- Don't Know

Q.54 What is the smallest size house you would be willing to live in?
01 - About 800 square feet
02 - 800 to 999 square feet
03 - 1,000 to 1,199 square feet
04 - 1,200 to 1,499 square feet
05 - 1,500 to 1,999 square feet
06 - 2,000 or more square feet
07 - None of the above; I'd prefer a multi-family unit
08- Don't Know
09- Refused

Q.55 Is there any need for any of the following features in your next home?
1 - Ramps
2 - Railings
3 - Wheelchair modifications
4 - Bathroom grab bars
5 - Shower seat
6 - Emergency call device (to summon help)
7 – None of these
9 – Refused

Q.56 Do you need these features for someone over the age of 60?

1 - Yes
2 - Depends
3 - No
8- Don't Know

Q.57 Next, we have a few more questions about your future home. Would you consider buying a housing unit with features designed to meet the needs of senior citizens?

1 - Yes
2 - Depends
3 - No
8- Don't Know

Q.58 What does it depend on?

Q.59 Would you consider buying an affordable housing unit for Kupuna only on DHHL land?

1 - Yes
2 - Depends
3 - No
8- Don't Know

Q.60 What does it depend on?

Q.61 Would you consider buying a unit in a multiplex building?
1 - Yes
2 - Depends
3 - No
8- Don't Know

Q.62 What does it depend on?

Q.63 Would you consider buying a home in a community or building designated for senior citizens only?
1 - Yes
2 - Depends
3 - No
8- Don't Know
9 – Refused

Q.64 What does it depend on?

Q.65 Would you consider buying a home in a community or building where people of all ages live?
1 - Yes
2 - Depends
3 - No
8- Don't Know
9 – Refused

Q.66 What does it depend on?

Q.67 Next, we have a few employment questions. Are you currently employed outside your home, for pay?
1 - Yes
2 - No
8- Don't Know
9- Refused

Q.68 What is your current employment status?
1 - Full time
2 - Part time
3 - Neither

Q.69 Then are you…
1 - Unemployed and looking for work
2 - Retired
3 - Student
4 - Homemaker
5 - Other
9 – Don't Know/Refused

Q.70 Are there any other adults in your household currently employed full-time outside the home for pay?
1 - Yes
2 - No
9- Don't Know/Refused

Q.71 What is the zip code at your work place?
_____

Q.72 How many full-time employed adults are in this household?
_____

Q.73 Do you commute from home to work or schools at least four days a week, for a distance more than a mile?
1 - Yes
2 - No
9- Don't Know/Refused

Q.74 Do you use public transportation to get to work or schools at least three times a week?
1 - Yes
2 - No
9- Don't Know/Refused

Q.75 How many other people in your household commute to work or to school at least four days a week for a distance of more than one mile?

Q.76 How many other people in your household use public transportation to get to work or schools at least three times a week?

Q.77 Please think about the commuter in your household who travels the longest distance to get to school or work. On average, how many minutes does it take that person to travel in one direction to their destination?

Q.78 When you move to your next home, do you intend on moving closer to the workplace of someone in the household?
1 - Yes
2 - No
9- Don't Know/Refused

Q.79 Do you want to move to a place where you are closer to bus stops?
1 - Yes

2 - No
9- Don't Know/Refused

Q.80 Would you want to move closer to one of the rail stations when they are built?
1 - Yes
2 - No
9- Don't Know/Refused

Q.81 You're going to buy a new home. You learn that condominium units within walking distance of a rail station are available on Oahu. How important would that be in your decision on where to move next? Would you say it's an…
1 - Extremely important consideration
2 - Somewhat important consideration,
3 - Not very important, or
4 - You would never consider moving to a condominium near a rail station
8- Not Sure

Q.82 You're going to rent a new home. You learn that apartments within walking distance of a rail station are available on Oahu. How important would that be in your decision on where to move next? Would you say it's an…
1 - Extremely important consideration
2 - Somewhat important consideration,
3 - Not very important, or
4 - You would never consider moving to a condominium near a rail station
8 – Not Sure

Q.83 Now, think about having a choice between 2 new homes, both are exactly the same <u>except</u> for the price and location.

For the <u>first</u> home you could pay the price you wanted and travel a shorter amount of time you currently travel to work each day (and, thereby, reduce the amount of time and cost to commute to work).
For the <u>second</u> home, you could pay $20,000 less and travel twice the time to work.
If you had a choice, would you choose the home with the shorter travel time or the lower purchase price?
1 - Shorter travel time
2 - Lower priced
3 - Not sure
9 – Refused

Q.84 One of the new kinds of housing being considered is a sustainable lease that is used to make sure affordable homes stay in the affordable market.

Would you consider buying a leasehold property if there was a nominal monthly payment for the lease that is the lease payment is between $30 and $50 a month with only periodic cost of living adjustments for the entire lease term? (Note: Versus a lease rent that is tied to the fair market value of the land and adjusted throughout the term of the lease.)
1 - Yes
2 - No
8- Don't Know
9 – Refused

Q.85 Would you consider buying leasehold if the lease term was 60 to 99 years and renewable?
1 - Yes
2 - No
8- Don't Know
9 – Refused

Q.86 Would you consider buying leasehold if you could pass the home on to your heirs, and they started off with a new 60 to 99 year lease?
1 - Yes
2 - No
8- Don't Know
9 – Refused

Q.87 OK, if all that were true for all sustainable leasehold properties, that is they had a 60 to 99 year lease, with nominal lease payments, and you could pass to your heirs -- Do you think you would buy your next home sustainable leasehold or fee simple?
1 - Sustainable Leasehold
2 - Fee simple
3 - Willing to consider sustainable leasehold
8- Don't Know
9- Refused

Q.88 One way to bring down the cost of a single family house is to use smaller lot sizes. If you had a choice between a house on a smaller lot or a multifamily unit like a townhouse, which would you prefer?

1 - House on a smaller lot
2 - Multifamily unit
8- Don't Know
9- Refused

Q.89 Then, what would be the smallest lot size you would consider? Would it be…
1 - 3000-4000 square feet
2 - 4001-5000 square feet
3 - 5001-6000 square feet
4 - Or none of the above, I need more than 6,000 feet
8- Don't Know
9- Refused

Q.90 Now we have some questions for statistical purposes. What is your current marital status? Are you…
1 - Married
2 - A member of an unmarried couple
3 - Widowed
4 - Divorced
5 - Separated
6 - Single, never married
9- Don't Know/Refused

Q.91 Including yourself, how many people live in your household?
01 - One
02 - Two
03 - Three
04 - Four
05 - Five
06 - Six
07 - Seven
08 - Eight
09 - Nine
10 - Ten or more
99 – Don't Know/Refused

Q.92 Of the [##] people in your household, how many are. . .
Under 18 years of age ..____
18 to 21 ..____
22 to 34 ..____
35 to 59 ..____
60 to 74 . ____
75 or older . ____

Q.93 Earlier you said that you are over 60, are you...
1 - Under 62
2 - 62 or older
9- Refused

Q.94 The people in your household -- are they ALL related to you by blood, marriage or adoption?...OR are some who are NOT related to you at all?
1 - ALL are related to me
2 - Only SOME are related to me
3 - NONE are related to me
9 - Don't Know/Refused

Q.95 Are the unrelated individuals a family themselves, or are they single individuals?
1 - A family or families
2 - Single individuals
3 - Both
9- Don't Know/Refused

Q.96 How many generations of your family live in your household?
1- One
2- Two
3- Three or more
8- Don't Know/Refused

Q.97 Is there anyone living in your household, besides you, who might buy or rent in the next three years -- so you would be in two different households instead of one?
1 - Yes - someone might move out
2 - No
8- Don't Know

Q.98 Do you think their next home will be in Hawai`i or out of State?
1 - In Hawai`i
2 - Out of State
3 - Some in Hawai`i, some out of State
9- Refused

Q.99 Is anybody in your household on active duty in the military?

1 - Yes
2 - No
8- Don't Know

Q.100 Is anybody in your household disabled?
1 - Yes
2 - No
8- Don't Know
9- Refused

Q.101 Last year at this time, where did you live?
1 - Same house 1 year ago

2 - Moved within the same county
3 - Moved from a different county within same state
4 - Moved from a different state
5 - Moved from abroad
9- Refused

Q.102   How long have you lived in Hawai`i?
1 - Less than 1 year
2 - 1 to 5 years
3 - 6 to 10 years
4 - 11 to 20 years
5 - More than 20 years, not lifetime
6 - Lifetime
8- Don't Know

Q.103 What is your mother's ethnic background?
01 - Caucasian
02 - Black or African-American
03 - Hawai`ian or Part-Hawai`ian
04 - Japanese
05 - Chinese
06 - Filipino
07 - Korean
08 - Vietnamese
09 - Asian Indian
10 - Other Asian
11 - Guamanian or Chamorro
12 - Micronesian, Chuukese, etc.
13 - Samoan
14 - Other Pacific Islander
15 - American Indian or Alaska Native
16 - Mixed, not Hawai`ian
17 - Hispanic or Latino
18 - Other
99- Don't Know/Refused

Q.104 What is your father's ethnic background?
01 - Caucasian
02 - Black or African-American
03 - Hawai`ian or Part-Hawai`ian
04 - Japanese
05 - Chinese
06 - Filipino
07 - Korean
08 - Vietnamese
09 - Asian Indian
10 - Other Asian
11 - Guamanian or Chamorro
12 - Micronesian, Chuukese, etc.
13 - Samoan
14 - Other Pacific Islander
15 - American Indian or Alaska Native
16 - Mixed, not Hawai`ian

17 - Hispanic or Latino
18 - Other
99- Don't Know/Refused

Q.105   Are you 50% or more Hawai`ian?
1 - Yes
2 - No
8- Not Sure, DON'T KNOW
9 – Refused

Q.106   Are there any other people in your household are any part Hawai`ian?
1 - Yes
2 - No
8- Not Sure/Don't Know
9- Refused

Q.107 Including yourself, how many people in your household are 50% or more Hawai`ian?

Q.108 What was the total 2010 income, before taxes, for all members of your household? Was it. . .
01 - Less than $15,000
02 - $15,000 to $24,999
03 - $25,000 to $29,999
04 - $30,000 to $34,999
05 - $35,000 to $39,999
06 - $40,000 to $44,999
07 - $45,000 to $49,999
08 - $50,000 to $59,999
09 - $60,000 to $74,999
10 - $75,000 to $99,999
11 - $100,000 to $124,999
12 - $125,000 to $150,000
13 - More than $150,000
99- Don't Know/Refused

Q.109   Is your annual income above or below $##,###? [HUD Levels]
1 - Above
2 - Below
9- Don't Know/Refused

Q.110   How many people in your household are supported on that income?

Q.111 What would you do if you or your family were forced to move out of your home and had no place to live?
1 - Move in with someone else
2 - Seek help from public or private agency
3 - Move to mainland

4 - Move somewhere else in Hawai`i
5 - Camp out on beach, in park, etc.
6 - Be homeless
7 - Just look for another place
8 - Other
88- Don't Know
99- Refused

Q.112 Is anyone living in your home who is not a member of your immediate family, not paying rent, and does not have the resources to buy or rent their own place?
1 - Yes
2 - No
8- Don't Know

Q.113 How many?

Q.114 Thank you very much for participating in the survey.