

**Table 6 - Electrical Consumption Estimate (10<sup>6</sup> kW-hr/yr)**

Land Use Description	Area A (10 <sup>6</sup> kW-hr/yr)	Area B (10 <sup>6</sup> kW-hr/yr)	Area C3 (10 <sup>6</sup> kW-hr/yr)	Total (10 <sup>6</sup> kW-hr/yr)
Single Family Residential – Large Lots	1.77 – 7.70	---	---	<b>1.77 – 7.70</b>
Single Family Residential – Regular Lots	2.08 – 2.81	---	6.24 - 8.42	<b>8.32 – 11.23</b>
Multi-Family Residential	1.25 – 1.68	5.20 - 7.02	1.56 - 2.11	<b>8.01 – 10.81</b>
Mixed Use Residential	1.25 – 1.68	4.16 - 5.62	---	<b>5.41 – 7.30</b>
Live-Work Residential	---	1.46 - 1.96	---	<b>1.46 - 1.96</b>
Commercial/Public Use	11.60 – 12.42	10.49 – 12.75	---	<b>22.09 – 25.17</b>
Street Lighting & Incidentals	1.87 – 2.21	2.93 - 3.46	0.755 - 0.892	<b>5.56 – 6.56</b>
<b>Total (10<sup>6</sup> kW-hr/yr)</b>	<b>19.8 - 28.5</b>	<b>24.2 - 30.8</b>	<b>8.56 - 11.4</b>	<b>52.6 - 70.7</b>

**1.6.3 Telephone System – Existing Conditions**

The Property has no existing Hawaiian Telcom (HTCO) telephone facilities. The nearest source of telecommunications service is HTCO’s fiber optic lines on HELCo’s 69 KV pole line *mauka* of Queen Ka’ahumanu Highway. The next available source of telephone service is a small equipment hut serving a small agricultural subdivision to the north of the Property. However, HTCO has determined that source to be too small and too far away to serve the ‘O’oma Beachside Village. Refer to HTCO letter to ECS, Inc., **Appendix E**.

**1.6.4 Telephone System – Proposed Infrastructure**

HTCO tentatively plans to construct a new “mini-hut” or “pair-gain” on the Property to provide telecommunications service. A pair-gain or mini-hut is a packaged, self-contained metal enclosed ±10’W x 15’L x 6’H, equipment rack on a concrete pad which is fed with fiber optic lines and generates thousands of telephone copper pairs. The pair-gain requires a 30’ x 30’ lot or it may be placed in a developer-provided building. The pair-gain lot may be fenced and landscaped to soften visual impact. Similar to the HELCo substation, this “pair-gain” unit may be developed in the highway setback area thereby not impacting the current development plan.

As there are no existing ducts across Queen Ka’ahumanu Highway within the project limits, new telephone ductlines will have to be added at the highway intersection.

The telephone load demand is summarized in **Table 7 – Telephone Load Estimate**. The support calculations for these load estimates can be found in **Appendix E**.

**Table 7 - Telephone Load Estimate**

Land Use Description	Area A (PR)	Area B (PR)	Area C (PR)	Total (PR)
Single Family Residential – Large Lots	255	---	---	<b>255</b>
Single Family Residential – Regular Lots	300	---	900	<b>1,200</b>
Multi-Family Residential	180	750	225	<b>1,155</b>
Mixed Use Residential	180	600	---	<b>780</b>
Live-Work Residential	---	210	---	<b>210</b>
Commercial/Public Use	274.2	321.4	---	<b>595.6</b>
<b>Total (PR)</b>	<b>1,189</b>	<b>1,882</b>	<b>1,125</b>	<b>4,192</b>

### 1.6.5 CATV System – Existing Conditions

The Property currently has no CATV facilities on site. The nearest source of CATV service is Oceanic Cablevision's fiber optic lines on HELCo's 69 KV pole line *mauka* of Queen Ka'ahumanu Highway. Although the existing agricultural subdivision to the north of the Property has CATV service, that is not a desirable source of CATV service, as fiber lines are available directly across the highway. There is an existing node located directly across of the NELHA entrance that serves the agricultural lots on the *mauka* side of the highway. See Oceanic Time Warner's letter dated August 30, 2006, **Appendix E**.

### 1.6.6 CATV System – Proposed Infrastructure

Oceanic will require at least one "node" within the Property. This node is a free-standing cabinet located within a 6' x 6' easement. It is anticipated that Oceanic's system will also provide high-speed data connectivity. The capacity of each node is approximately 250 service accounts, therefore several nodes will be needed to extend service to the proposed commercial and residential units in the development.

Cost of the CATV system is negotiable, as estimated revenue must be balanced against installed construction cost. An estimated cost of \$20,000 per mile of line extension has been provided by Oceanic. As there are no existing ducts across Queen Ka'ahumanu Highway within the Property, new CATV ductlines will have to be added at the highway intersection.

## 1.7 ORDER OF MAGNITUDE COSTS

**Table 8 - Order of Magnitude Cost Comparison (Thousands)**

Component Description	On-Site Costs				Off-site Costs		Total	
	Area A	Area B	Area C	Other	Alt 1*	Alt 2**	Alt 1*	Alt 2**
Site Preparation***	\$350	\$250	\$400	---	---	---	\$1,000	\$1,000
Roadway	\$8,000	\$3,000	\$3,000	---	---	---	\$14,000	\$14,000
Storm Drain	\$2,500	\$450	\$2,000	---	---	---	\$4,950	\$4,950
Wastewater System	\$21,500	\$3,500	\$9,500	---	---	---	\$34,500	\$34,500
Water System	\$3,000	\$1,500	\$2,500	---	\$3,000	\$1,500	\$10,000	\$8,500
Desalination Plant	---	---	---	\$6,000	---	\$6,000	\$6,000	\$6,000
Electrical/Telephone/Cable	\$9,500	\$2,500	\$9,000	---	\$3,000	\$3,000	\$24,000	\$24,000
Mobilization & Contingencies	\$12,000	\$3,000	\$6,500	---	---	---	\$21,500	\$21,500
<b>Total</b>	<b>\$67,850</b>	<b>\$14,200</b>	<b>\$33,900</b>	<b>\$6,000</b>	<b>\$6,000</b>	<b>\$10,500</b>	<b>\$115,950</b>	<b>\$114,450</b>

Notes:

\* Alternative 1 assumes an on-site desalination plant in Area A.

\*\* Alternative 2 assumes an off-site desalination plant.

\*\*\* Site Preparation estimate does not include mass grading or earthwork costs.

---

## REFERENCES

## References

First American Real Estate Solutions, 2004, *State of Hawai'i – Third Tax Division – Real Estate Handbook – Zones 1-9*, 38<sup>th</sup> Edition, Anaheim, CA.

Department of Health, Clean Water Branch, Rules and Regulations.

Department of Health, Clean Water Branch, Island of Hawai'i Underground Injection Control Areas Map, September 1999, website address:  
<http://hawaii.gov/health/environmental/water/sdwb/uic/pdf/hawuic.pdf>

Department of Health, Safe Drinking Water Branch, Rules and Regulations.

Department of Health, Wastewater Branch, *Guidelines for the Treatment of Use of Recycled Water*, May 15, 2002.

Department of Public Works, County of Hawai'i, *Storm Drainage Standard*, October 1970.

Department of Water Supply, County of Hawai'i, *Water System Standards*, State of Hawai'i, 2002.

Division of Wastewater Management, City and County of Honolulu, *Design Standards of the Department of Wastewater Management, Volume 1*, July 1993.

Division of Wastewater Management, City and County of Honolulu, *Design Standards of the Division of Wastewater Management, Volume 2*, July 1984.

Hawai'i, County of, *County of Hawai'i General Plan 2005*, 2005.

Hawai'i, County of, *Integrated Solid Waste Management Plan*, December 2002.

Hawai'i Revised Statutes.

Hawai'i, State of, *2004 State of Hawai'i Data Book A Statistical Abstract*.

'O'oma Beachside Village Conceptual Master Plan Layout, PBR Hawai'i, July 2007.

Planning Department, County of Hawai'i, *Keahole to Honaunau Regional Circulation County Action Plan*, August 2006.

State of Hawai'i, Hawai'i Administrative Rules.

Water Quality Standards Map of the Island of Hawai'i, October 1987, website address:  
<http://www.Hawaii.gov/health/environmental/water/cleanwater/wqsmaps/pdf/Hawaii.pdf>

---

## APPENDICES

- Appendix A—Water System: Calculation and Reference Documents
- Appendix B—Wastewater System: Calculation and Reference Documents
- Appendix C—Storm Drain System: Calculation and Reference Documents
- Appendix D—Solid Waste Generation: Calculation and Reference Documents
- Appendix E—Power and Communication System: Calculation and Reference Documents

---

**APPENDIX A**  
Water System: Calculation and Reference Documents

# Potable Water Consumption Estimate

Land Uses by Area	Total Approx. Acreage (acres)	Approx. Units Count	Potable Demand Area (acres)	Landscape / Common Area (acres)	Approx. Commercial Floor Area (sq.ft.)	Estimated Potable Water Demand Rate	Estimated Average Daily Potable Water Demand (gpd)	Estimated Maximum Daily Potable Water Demand (gpd)
<b>Area A</b>								
Single Family Lot (9,000 - 15,000 sf)	22	70 - 85	22	0	-	900 GPD/DU*	76,500	114,750
Single Family Lot (5,000 - 6,000 sf)	12	90 - 100	12	0	-	550 GPD/DU**	55,000	82,500
Multi-Family Residential	5	45 - 60	3.5	1.5	-	400 GPD/DU	24,000	36,000
Makai Mixed-Use Village & Beachfront Restaurant	7	-	4	3	40,000	3,000 GPD/AC	12,000	18,000
Multi-Family & Mixed-Use Common Landscaping	(4.5)	-	4.5	-	-	3,000 GPD/AC	13,500	20,250
Residential Apartment on top of Commercial	-	35 - 60	-	-	-	400 GPD/DU	24,000	36,000
Ooma Canoe Club	2	-	1	1	10,000	3,000 GPD/AC	3,000	4,500
Road & Parking	26	-	-	13	-	-	-	-
Parks and Trails	6	-	-	6	-	-	-	-
Waste Water Treatment Plant	2	-	10 people	0	-	20 GPD/CAPITA	200	300
Mamalaho Trail Undisturbed Zone / Setback Buffer	1	-	-	0.5	-	-	-	-
Community Pavilion	1	-	1	0.5	-	4,000 GPD / AC	4,000	6,000
<b>Subtotal :</b>	<b>84</b>	<b>240 – 305</b>	<b>48</b>	<b>25.5</b>	<b>50,000</b>		<b>212,200</b>	<b>318,300</b>
<b>Area B</b>								
Mauka Mixed-Use (Commercial below Residential)	14	-	12	2	135,000	3,000 GPD/AC	36,000	54,000
Mauka Mixed-Use (Residential Apartment on top of Commercial)	-	150 - 200	-	-	-	400 GPD/DU	80,000	120,000
Mauka Mixed-Use (Live-Work Units***)	4	50 - 70	2.8	1.2	-	400 GPD/DU	28,000	42,000
Multi-Family & Mixed-Use Common Landscaping	(9)	-	9	-	-	3,000 GPD/AC	27,000	40,500
Grocery Store	1	-	1	0	15,000	3,000 GPD/AC	3,000	4,500
Multi-Family Residential	19	195 - 250	13.2	5.8	-	400 GPD/DU	100,000	150,000
Charter School	3	-	1.5	1.5	-	4,000 GPD/AC	6,000	9,000
Road & Parking	10	-	-	5	-	-	-	-
Parks	3	-	-	3	-	-	-	-
Mamalaho Highway Buffer	9	-	-	3.5	-	-	-	-
<b>Subtotal :</b>	<b>63</b>	<b>395 – 520</b>	<b>39.5</b>	<b>22.0</b>	<b>150,000</b>		<b>280,000</b>	<b>420,000</b>
<b>Area C</b>								
Single Family Lot (5,000 - 6,000 sf)	35	260 - 300	35	0	-	550 GPD/DU**	165,000	247,500
Multi-Family Residential	6	55 - 75	4	2	-	400 GPD/DU	30,000	45,000
Multi-Family Common Landscaping	(2)	-	2	-	-	3,000 GPD/AC	6,000	9,000
Community Park	7	-	-	7	-	-	-	-
Parks & Trails	7	-	-	7	-	-	-	-
Road & Parking	16	-	-	8	-	-	-	-
Mamalaho Trail Undisturbed Zone / Setback Buffer	11	-	-	6	-	-	-	-
<b>Subtotal :</b>	<b>82</b>	<b>315 – 375</b>	<b>41</b>	<b>30.0</b>	<b>0</b>		<b>201,000</b>	<b>301,500</b>
<b>Others</b>								
Costal Preserved / Open Space	57	-	-	0	-	-	-	-
Shoreline Park (Excluding the Public Canoe Club)	17	-	-	6	-	-	-	-
<b>Subtotal :</b>	<b>74</b>	<b>0</b>		<b>6.0</b>	<b>0</b>			
<b>TOTAL :</b>	<b>303</b>	<b>950 - 1,200</b>		<b>84</b>	<b>200,000</b>		<b>693,200</b>	<b>1,039,800</b>

\* Single Family Lot (9,000 - 15,000 sf) - assumes 30% of lot irrigated.  $12,000\text{sf} \times .30 = 3,600 / 43,560 = 0.083 \text{ acre} \times 6,000 \text{ gpd} = 498 \text{ gpd} + 400 \text{ gpd} = 898 \text{ say } 900 \text{ gpd/unit}$

\*\* Single Family Lot (5,000 - 6,000 sf) - assumes 20% of lot irrigated.  $5,500\text{sf} \times .20 = 1,100 / 43,560 = 0.025 \text{ acre} \times 6,000 \text{ gpd} = 150 \text{ gpd} + 400 \text{ gpd} = 550 \text{ gpd/unit}$

\*\*\* Live-Work units use multi-family standard (400 gpd/unit); No commercial areas included.



## Nonpotable Water Consumption Estimate

Land Uses by Phase	Total Approx. Acreage (acres)	Approx. Units Count	Non-Potable Landscape / Common Area (acres)	Estimated Nonpotable Water Demand Rate (gpd/acre)	Estimated Average Daily Non potable Water Demand (gpd)	Estimated Maximum Daily Nonpotable Water Demand (gpd)
<b>Area A</b>						
Single Family Lot (9,000 - 15,000 sf)	22	70 - 85	0	-	-	-
Single Family Lot (5,000 - 6,000 sf)	12	90 - 100	0	-	-	-
Multi-Family Residential	5	45 - 60	1.5**	-	-	-
Makai Mixed-Use Village & Beachfront Restaurant	7	-	3**	-	-	-
Multi-Family & Mixed-Use Common Landscaping*	(4.5)	-	-	-	-	-
Residential Apartment on top of Commercial	-	35 - 60	-	-	-	-
Ooma Canoe Club	2	-	1	6,000	6,000	9,000
Road & Parking	26	-	13	6,000	78,000	117,000
Parks and Trails	6	-	6	6,000	36,000	54,000
Waste Water Treatment Plant	2	-	0	-	-	-
Mamalaho Trail Undisturbed Zone / Setback Buffer	1	-	0.5	6,000	3,000	4,500
Community Pavilion	1	-	0.5***	-	-	-
<b>Subtotal :</b>	<b>84</b>	<b>240 – 305</b>	<b>20.5</b>		<b>123,000</b>	<b>184,500</b>
<b>Area B</b>						
Mauka Mixed-Use (Commercial below Residential)	14	-	2**	-	-	-
Mauka Mixed-Use (Residential Apartment on top of Commercial)	-	150 - 200	-	-	-	-
Mauka Mixed-Use (Live-Work Units)	4	50 - 70	1.2**	-	-	-
Multi-Family & Mixed-Use Common Landscaping*	(9)	-	-	-	-	-
Grocery Store	1	-	0	-	-	-
Multi-Family Residential	19	195 - 250	5.8**	-	-	-
Charter School	3	-	1.5	6,000	9,000	13,500
Road & Parking	10	-	5	6,000	30,000	45,000
Parks	3	-	3	6,000	18,000	27,000
Mamalaho Highway Buffer	9	-	3.5	6,000	21,000	31,500
<b>Subtotal :</b>	<b>63</b>	<b>395 – 520</b>	<b>13.0</b>		<b>78,000</b>	<b>117,000</b>
<b>Area C</b>						
Single Family Lot (5,000 - 6,000 sf)	35	260 - 300	0	-	-	-
Multi-Family Residential	6	55 - 75	2**	-	-	-
Multi-Family Common Landscaping*	(2)	-	-	-	-	-
Community Park	7	-	7	6,000	42,000	63,000
Parks & Trails	7	-	7	6,000	42,000	63,000
Road & Parking	16	-	8	6,000	48,000	72,000
Mamalaho Trail Undisturbed Zone / Setback Buffer	11	-	6	6,000	36,000	54,000
<b>Subtotal :</b>	<b>82</b>	<b>315 – 375</b>	<b>28.0</b>		<b>168,000</b>	<b>252,000</b>
<b>Others</b>						
Costal Preserved / Open Space	57	-	0	-	-	-
Shoreline Park (Excluding the Public Canoe Club)	17	-	6	6,000	36,000	54,000
<b>Subtotal :</b>	<b>74</b>	<b>-</b>	<b>6.0</b>		<b>36,000</b>	<b>54,000</b>
<b>TOTAL :</b>	<b>303</b>	<b>950 - 1,200</b>	<b>68</b>		<b>405,000</b>	<b>607,500</b>

\* Multi-Family & Mixed Use common area landscaping separated into this line item. These areas will be irrigated with potable water.

\*\* Landscape/Common Areas removed and reallocated into "Multi-Family & Mixed-Use Common Landscaping."

\*\*\* Community Pavilion to be irrigated with potable water.

---

**APPENDIX B**  
Wastewater System: Calculation and Reference Documents

# 'O'OMA BEACHSIDE VILLAGE

## Wastewater Calculations

DESCRIPTION	Units	Area (acres)	Ave Flow (gpd)	Max Flow Factor	Dry I/I (gpd)	Design Ave (gpd)	Design Max (gpd)	Wet I/I (gpd)	Design Peak (gpd)	Reported Dsn. Peak (gpd)	Design Peak (cfs)
<b>AREA A</b>											
Single Family	185	34	59,200	5	3,700	<b>62,900</b>	299,700	42,500	342,200	343,000	0.53
Multi-Family	60	5	19,200	5	1,200	<b>20,400</b>	97,200	6,250	103,450	104,000	0.16
Mixed Use (R)	60	7	13,440	5	1,200	<b>14,640</b>	68,400	8,750	77,150	78,000	0.12
Mixed Use (C)	---	7	22,400	5	1,400	<b>23,800</b>	113,400	8,750	122,150	123,000	0.19
Commercial	---	3	9,600	5	600	<b>10,200</b>	48,600	3,750	52,350	53,000	0.08
<b>TOTAL DEMAND (AREA A)</b>						<b>131,940</b>	<b>627,300</b>			<b>701,000</b>	<b>1.08</b>
<b>AREA B</b>											
Single Family	0	0	0	5	0	<b>0</b>	0	0	0	0	0.00
Multi-Family	250	19	80,000	5	5,000	<b>85,000</b>	405,000	23,750	428,750	429,000	0.66
Mixed Use (R)	270	18	60,480	5	5,400	<b>65,880</b>	307,800	22,500	330,300	331,000	0.51
Mixed Use (C)	---	18	57,600	5	3,600	<b>61,200</b>	291,600	22,500	314,100	315,000	0.49
Commercial	---	1	3,200	5	200	<b>3,400</b>	16,200	1,250	17,450	18,000	0.03
School	---	3	3,000	5	600	<b>3,600</b>	15,600	3,750	19,350	20,000	0.03
<b>TOTAL DEMAND (AREA B)</b>						<b>219,080</b>	<b>1,036,200</b>			<b>1,113,000</b>	<b>1.72</b>
<b>AREA C</b>											
Single Family	300	35	96,000	5	6,000	<b>102,000</b>	486,000	43,750	529,750	530,000	0.82
Multi-Family	75	6	24,000	5	1,500	<b>25,500</b>	121,500	7,500	129,000	129,000	0.20
<b>TOTAL DEMAND (AREA C)</b>						<b>127,500</b>	<b>607,500</b>			<b>659,000</b>	<b>1.02</b>
<b>OVERALL*</b>											
Single Family	485	69	155,200	5	9,700	<b>164,900</b>	785,700	86,250	871,950	872,000	1.35
Multi-Family	385	30	123,200	5	7,700	<b>130,900</b>	623,700	37,500	661,200	662,000	1.02
Mixed Use (R)	330	25	73,920	5	6,600	<b>80,520</b>	376,200	31,250	407,450	408,000	0.63
Mixed Use (C)	---	25	80,000	5	5,000	<b>85,000</b>	405,000	31,250	436,250	437,000	0.68
Commercial	---	4	12,800	5	800	<b>13,600</b>	64,800	5,000	69,800	70,000	0.11
School	---	3	3,000	5	600	<b>3,600</b>	15,600	3,750	19,350	20,000	0.03
<b>TOTAL DEMAND (OVERALL)</b>						<b>478,520</b>	<b>2,271,000</b>			<b>2,469,000</b>	<b>3.82</b>

**\*NOTE:** The Overall sewer calculations are based upon the overall unit and area counts. These totals may differ from the sum of the three areas due to rounding.

### Design Flows based on Average Daily Per Capita Flow

- 80 gallons per capita per day
- 4 persons per single family home
- 2.8 persons per apartment units (used for Mixed-Use)
- 4 persons per townhome/duplex unit  
(assumption on townhomes/duplex based on larger size units)
- 40 persons per acre for commercial and business areas

Pipe Hydraulics will be based on peak flow.

Design peak flow is the sum of the design maximum flow and wet weather infiltration

Design maximum flow is the sum of the maximum flow and dry weather infiltration.

Maximum flow is based on the average flow multiplied by a flow factor.

### Example Calculation: 185 single family units

- Average Flow: 185 units \* 4 persons/unit \* 80 gal/capita/day  
59,200 gallons/day
- Max flow factor: 5
- Max flow: 296,000 gallons/day
- Dry I/I: 185 units \* 4 persons/unit \* 5 gal/capita/day  
3,700 gallons/day
- Design Ave: 62,900 gallons/day
- Design Max: 299,700 gallons/day
- Wet I/I: 34 acres \* 1250 gallons/acre/day  
42,500 gallons/day
- Design Peak: 342,200 gallons/day  
say: 343,000 gallons/day  
= 0.53 cfs

---

**APPENDIX C**  
Storm Drain System: Calculation and Reference Documents

# **'O'OMA BEACHSIDE VILLAGE**

## **Storm Drain Calculations**

Sample Calculations for 10 year design storm (See Attached Tables)

PAVED AREA - Sample Area 1A

$$A = Q / CI$$

"C" based on Table 1 (County of Hawaii Storm Drainage Standards)

C = infiltration + relief + vegetal cover + development type

infiltration is negligible: 0.2

relief is flat: 0.00

vegetal cover is none: 0.0

development type is residential: 0.40

$$C = 0.6$$

I = rainfall intensity

one hour rainfall from Plate 1 is ~1.9 inches

inlet concentration is ~12 min from Plate 3

$$I = 3.75\text{in/hr (from Plate 4)}$$

Q = 6 cfs (based on average capacity of 6' deep drywell)

$$A = 2.67 \text{ acres / drywell}$$

# 'O'OMA BEACHSIDE VILLAGE

## Existing Drainage Calculations

<b>C values:</b>			
Infiltration	0.0	high	From Table 1
Relief	0.0	flat	From Table 1
Vegetal Cover	0.05	poor	From Table 1
Development	0.15	agricultural	From Table 1
<b>TOTAL C:</b>	<b>0.20</b>		

Area	Length	Slope	Tc	I	C	Planimeter	Meas. Area	Q=CIA
ID	(ft)	(%)	(min)	(in/hr)		(si)	(acres)	(cfs)
1	800	3.75	8.8	4.75	0.2	17.84	19.7	18.8
2	1,450	2.41	11.6	3.65	0.2	11.53	12.7	9.3
3	2,050	2.44	38	2.6	0.2	32.22	35.5	18.5
4a	2,000	1.875	17.25	---	---	---	---	---
4b	2,000	1.875	17.25	2.5	0.2	105.34	115.8	57.9
5	500	1	27.8	2.75	0.2	2.93	3.3	1.9
6	2,150	1.75	17.3	3.35	0.2	54.92	60.5	40.6
7	2,400	2.71	20.25	3.08	0.5	48.03	52.9	81.5
							<b>TOTAL:</b>	<b>228.5</b>

# 'O'OMA BEACHSIDE VILLAGE

## Developed Drainage Calculations

Area	Area	Area	Length	Slope	Tc	I	C	Area/Inlet	Q	# CB
ID	Name	(acres)	(feet)	%	(min)	(in/hr)		(acres)	(cfs)	or drywells
1A	A	7.5	1,375	1.96%	12.5	3.75	0.6	2.67	16.9	3
1B	A	4.4	1,265	1.82%	12.5	3.75	0.6	2.67	9.9	2
2	A	7.1	660	3.79%	8.4	3.85	0.6	2.60	16.5	3
3	A	6.2	353	4.82%	6.75	4.5	0.6	2.22	16.8	3
4	A	5.3	202	2.48%	6	4.65	0.6	2.15	14.8	6
5	A	5.7	385	3.12%	7.3	4.45	0.6	2.25	15.3	4
6	A	11.4	820	2.20%	10.25	3.85	0.6	2.60	26.4	9
7	A	2.1	406	2.96%	7.5	4.4	0.6	2.27	5.6	0
8	A	4.8	220	2.27%	6	4.65	0.6	2.15	13.4	3
9	A	2.9	245	1.63%	6.8	4.5	0.6	2.22	7.9	2
10	B	1.6	355	2.54%	7.4	4.4	0.6	2.27	4.3	1
11	B	1.9	478	3.77%	7.75	4.35	0.6	2.30	5	2
12	B	3.0	100	5.00%	5	4.9	0.6	2.04	8.9	2
13	B	2.1	145	3.45%	5	4.9	0.6	2.04	6.2	2
14	B	2.8	318	2.83%	7.2	4.45	0.6	2.25	7.5	3
15	B	3.7	435	2.76%	6.5	4.55	0.6	2.20	10.2	3
16	B	0.9	141	7.09%	6	4.65	0.6	2.15	2.6	1
17	B	7.3	573	2.97%	8.5	3.85	0.6	2.60	16.9	3
18	B	1.6	116	4.31%	5	4.9	0.6	2.04	4.8	2
19	B	5.1	596	3.02%	8.5	3.85	0.6	2.60	11.8	5
20	B	1.8	455	0.88%	10.2	3.85	0.6	2.60	4.2	1
21	B	1.3	240	3.33%	6	4.65	0.6	2.15	3.7	1
22	B	0.9	218	1.83%	6.5	4.55	0.6	2.20	2.5	1
23	B	2.0	387	2.07%	7.7	4.35	0.6	2.30	5.3	1
24	B	1.1	170	2.94%	5.2	4.85	0.6	2.06	3.3	1
25	B	2.1	240	0.83%	7.8	4.35	0.6	2.30	5.5	1
26	B	1.3	170	4.71%	5	4.9	0.6	2.04	3.9	1
27	B	3.3	363	3.03%	7.2	4.45	0.6	2.25	8.9	3
28	C	14.9	930	1.51%	11.9	3.75	0.6	2.67	33.6	6
29	C	4.6	336	1.49%	8	4.25	0.6	2.35	11.8	2
30	C	8.3	942	1.17%	12.9	3.65	0.6	2.74	18.2	5
31	C	13.6	1,087	1.84%	15.1	3.5	0.6	2.86	28.6	6
32	C	13.6	655	1.83%	10	3.9	0.6	2.56	31.9	8
33	C	7.7	752	1.86%	10.4	3.8	0.6	2.63	17.6	4
34	C	4.2	474	2.74%	7.8	4.35	0.6	2.30	11	3
	<b>TOTAL</b>	<b>168.1</b>							<b>411.7</b>	<b>103</b>

SUMMARY	Area A	Area B	Area C	TOTAL
CB/Drywell by Area	0	0	0	0
Additional for Rdwy	7	11	0	18
<b>TOTAL CB/Drywell</b>	<b>7</b>	<b>11</b>	<b>0</b>	<b>18</b>

---

**APPENDIX D**  
**Solid Waste Generation: Calculation and Reference Documents**



## Solid Waste Generation Estimate

Land Uses by Area	Total Approx. Acreage	Approx. Commercial Floor Area	Approx. Units Count	Solid Waste Multiplier	Approx. Solid Waste Generation
	(acres)	(sq.ft.)		(per year)	(tons/yr)
<b>AREA A</b>					
Single Family Lot (9,000 - 15,000 sf)	22	-	70 - 85	1.75 tons/unit	123 - 149
Single Family Lot (5,000 - 6,000 sf)	12	-	90 - 100	1.75 tons/unit	158 - 175
Multi-Family Residential	5	-	45 - 60	1.5 tons/unit	67.5 - 90
Makai Mixed-Use Village & Beachfront Restaurant	7	40,000	-	2.7 tons/1000 sq.ft.	108
Multi-Family & Mixed-Use Common Landscaping	(4.5)	-	-	-	-
Residential Apartment on top of Commercial	-	-	35 - 60	1.75 tons/unit	61.3 - 105
Ooma Canoe Club	2	10,000	-	2.7 tons/1000 sq.ft.	27
Road & Parking	26	-	-	-	-
Parks and Trails	6	-	-	-	-
Waste Water Treatment Plant	2	-	-	-	-
Mamalaloha Trail Undisturbed Zone / Setback Buffer	1	-	-	-	-
Community Pavilion	1	-	-	-	-
<b>Subtotal :</b>	<b>84</b>	<b>50,000</b>	<b>240 – 305</b>		<b>545 - 654</b>
<b>AREA B</b>					
Mauka Mixed-Use (Commercial below Residential)	14	150,000	-	2.7 tons/1000 sq.ft.	405
Mauka Mixed-Use (Residential Apartment on top of Commercial)	-	-	150 - 200	1.75 tons/unit	263 - 350
Mauka Mixed-Use (Live-Work Units***)	4	-	50 - 70	1.5 tons/unit	75 - 105
Multi-Family & Mixed-Use Common Landscaping	(9)	-	-	-	-
Grocery Store	1	15,000	-	2.7 tons/1000 sq.ft.	41
Multi-Family Residential	19	-	195 - 250	1.5 tons/unit	293 - 375
Charter School	3	-	-	-	-
Road & Parking	10	-	-	-	-
Parks	3	-	-	-	-
Mamalaloha Highway Buffer	9	-	-	-	-
<b>Subtotal :</b>	<b>63</b>	<b>165,000</b>	<b>395 – 520</b>		<b>1077 - 1276</b>
<b>AREA C</b>					
Single Family Lot (5,000 - 6,000 sf)	35	-	260 - 300	1.75 tons/unit	455 - 525
Multi-Family Residential	6	-	55 - 75	1.5 tons/unit	82.5 - 113
Multi-Family Common Landscaping	(2)	-	-	-	-
Community Park	7	-	-	-	-
Parks & Trails	7	-	-	-	-
Road & Parking	16	-	-	-	-
Mamalaloha Trail Undisturbed Zone / Setback Buffer	11	-	-	-	-
<b>Subtotal :</b>	<b>82</b>	<b>0</b>	<b>315 – 375</b>		<b>538 - 638</b>
<b>OTHERS</b>					
Costal Preserved / Open Space	57	-	-	-	-
Shoreline Park (Excluding the Public Canoe Club)	17	-	-	-	-
<b>Subtotal :</b>	<b>74</b>	<b>0</b>	<b>0</b>		
<b>TOTAL :</b>	<b>303</b>	<b>215,000</b>	<b>950 - 1,200</b>		<b>2160 - 2568</b>

\*\*\* Live-Work units use multi-family standard (1.5 tons/unit); No commercial areas included.

---

**APPENDIX E**  
Power and Communication System: Calculation and  
Reference Documents

# Electrical Consumption Estimate

Land Uses by Phase	Total Approx. Acreage (acres)	Approx. Commercial Floor Area (sq.ft.)	Approx. Units Count	Power Unit Load	Power Demand (MVA)	Power Demand (kW)	Hours of Power Usage per Day		Daily Energy Consumption		Energy Consumption per Year (10 <sup>6</sup> kW-hr/yr)	Telephone Unit Load	Telephone Demand (PR)
							Weekdays	Weekends	(kW-hr)	(kW-hr)			
<b>AREA A</b>													
Single Family Lot (9,000 - 15,000 sf)	22	-	70 - 85	10,000 VA/Unit	0.85	850	4 - 6 <sup>1</sup>	10 - 12	3,400 - 5,100	8,500 - 61,200	1.77 - 7.70	3 PR/Unit	255
Single Family Lot (5,000 - 6,000 sf)	12	-	90 - 100	10,000 VA/Unit	1.00	1000	4 - 6 <sup>1</sup>	10 - 12	4,000 - 6,000	10,000 - 12,000	2.08 - 2.81	3 PR/Unit	300
Multi-Family Residential	5	-	45 - 60	10,000 VA/Unit	0.60	600	4 - 6 <sup>1</sup>	10 - 12	2,400 - 3,600	6,000 - 7,200	1.25 - 1.68	3 PR/Unit	180
Makai Mixed-Use Village & Beachfront Restaurant	7	40,000	-	12 VA/SF	0.48	480	10 - 12 <sup>2</sup>		4,800 - 5,760		1.75 - 2.10	1 PR/500 SF	80
Multi-Family & Mixed-Use Common Landscaping	(4.5)	-	-	-	-	-	-	-	-	-	-	-	-
Residential Apartment on top of Commercial	-	-	35 - 60	10,000 VA/Unit	0.60	600	4 - 6 <sup>1</sup>	10 - 12	2,400 - 3,600	6,000 - 7,200	1.25 - 1.68	3 PR/Unit	180
Ooma Canoe Club	2	10,000	-	12 VA/SF	0.12	120	3 - 5 <sup>3</sup>		360 - 600		.131 - .219	1 PR/500 SF	20
Road & Parking	26	-	-	-	-	-	-	-	-	-	-	-	-
Parks and Trails	6	-	-	-	-	-	-	-	-	-	-	-	-
Waste Water Treatment Plant	2	-	-	12 VA/SF	1.05	1045	24		25,080		9.15	1 PR/500 SF	174
Mamalaho Trail Undisturbed Zone / Setback Buffer	1	-	-	-	-	-	-	-	-	-	-	-	-
Community Pavilion	1	-	-	12 VA/SF	0.52	523	3 - 5 <sup>3</sup>		1,569 - 2,615		.573 - .954	-	-
Street Lighting and Incidentals (5%)	-	-	-	-	0.26	261	11 - 13 <sup>4</sup>		5,126 - 6,058		1.87 - 2.21	-	-
<b>Subtotal :</b>	<b>84</b>	<b>50,000</b>	<b>240 – 305</b>		<b>5.48</b>	<b>5,479</b>					<b>19.8 - 28.5</b>		<b>1189</b>
<b>AREA B</b>													
Mauka Mixed-Use (Commercial below Residential)	14	150,000	-	12 VA/SF	1.80	1800	10 - 12 <sup>2</sup>		18,000 - 21,600		6.57-7.88	1 PR/500 SF	30
Mauka Mixed-Use (Residential Apartment on top of Commercial)	-	-	150 - 200	10,000 VA/Unit	2.00	2000	4 - 6 <sup>1</sup>	10 - 12	8,000 - 12,000	20,000 - 24,000	4.16 - 5.62	3 PR/Unit	600
Mauka Mixed-Use (Live-Work Units)	4	-	50 - 70	10,000 VA/Unit	0.70	700	4 - 6 <sup>1</sup>	10 - 12	2,800 - 4,200	7,000 - 8,400	1.46 - 1.96	3 PR/Unit	210
Multi-Family & Mixed-Use Common Landscaping	(9)	-	-	-	-	-	-	-	-	-	-	-	-
Grocery Store	1	15,000	-	12 VA/SF	0.18	180	10 - 12 <sup>2</sup>		1,800 - 2,160		.657 - .788	1 PR/500 SF	30
Multi-Family Residential	19	-	195 - 250	10,000 VA/Unit	2.50	2500	4 - 6 <sup>1</sup>	10 - 12	10,000 - 15,000	25,000 - 30,000	5.20 - 7.02	3 PR/Unit	750
Charter School	3	-	-	12 VA/SF	1.57	1568	8-10 <sup>5</sup>		12,544 - 15,680		3.26 - 4.08	1 PR/500 SF	261
Road & Parking	10	-	-	-	-	-	-	-	-	-	-	-	-
Parks	3	-	-	-	-	-	-	-	-	-	-	-	-
Mamalaho Highway Buffer	9	-	-	-	-	-	-	-	-	-	-	-	-
Street Lighting and Incidentals (5%)	-	-	-	-	0.44	437	11 - 13 <sup>4</sup>		8,030 - 9,490		2.93 - 3.46	-	-
<b>Subtotal :</b>	<b>63</b>	<b>165,000</b>	<b>395 – 520</b>		<b>9.19</b>	<b>9,186</b>					<b>24.2 - 30.8</b>		<b>1881</b>
<b>AREA C</b>													
Single Family Lot (5,000 - 6,000 sf)	35	-	260 - 300	10,000 VA/Unit	3.00	3000	4 - 6 <sup>1</sup>	10 - 12	12,000 - 18,000	30,000 - 36,000	6.24 - 8.42	3 PR/Unit	900
Multi-Family Residential	6	-	55 - 75	10,000 VA/Unit	0.75	750	4 - 6 <sup>1</sup>	10 - 12	3,000 - 4,500	7,500 - 9,000	1.56 - 2.11	3 PR/Unit	225
Multi-Family Common Landscaping	(2)	-	-	-	-	-	-	-	-	-	-	-	-
Community Park	7	-	-	-	-	-	-	-	-	-	-	-	-
Parks & Trails	7	-	-	-	-	-	-	-	-	-	-	-	-
Road & Parking	16	-	-	-	-	-	-	-	-	-	-	-	-
Mamalaho Trail Undisturbed Zone / Setback Buffer	11	-	-	-	-	-	-	-	-	-	-	-	-
Street Lighting and Incidentals (5%)	-	-	-	-	0.19	188	11 - 13 <sup>4</sup>		2,068 - 2,444		.755 - .892	-	-
<b>Subtotal :</b>	<b>82</b>	<b>0</b>	<b>315 – 375</b>		<b>3.94</b>	<b>3,938</b>					<b>8.56 - 11.4</b>		<b>1125</b>
<b>OTHERS</b>													
Costal Preserved / Open Space	57	-	-	-	-	-	-	-	-	-	-	-	-
Shoreline Park (Excluding the Public Canoe Club)	17	-	-	-	-	-	-	-	-	-	-	-	-
<b>Subtotal :</b>	<b>74</b>	<b>0</b>	<b>0</b>										
<b>TOTAL :</b>	<b>303</b>	<b>215,000</b>	<b>950 - 1,200</b>		<b>18.60</b>	<b>18,602</b>					<b>52.6 - 70.7</b>		<b>4,196</b>

<sup>1</sup>Residential: Typical power useage between 4pm - 10pm on weekdays and 9am - 9pm on weekends

<sup>2</sup>Commercial: Typical power useage between 6am - 6pm on both weekdays and weekends

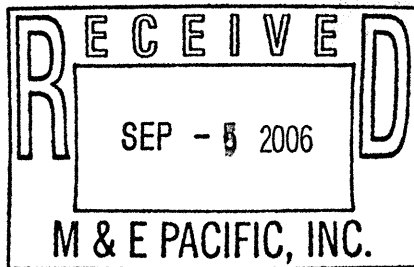
<sup>3</sup>Canoe Club/Community Pavilion: Typical power usage between 5pm -10pm on both weekdays and weekends, for lighting during non-daylight hours

<sup>4</sup>Street Lighting: Typical power useage between 6pm -7am everyday, various with season

<sup>5</sup>School: Typical power usage between 6am-4pm on weekdays only, when school is in session



M&E Pacific, Inc.  
Davies Pacific Center  
841 Bishop Street, Suite 1900  
Honolulu, HI 96813  
Attn: Jamie Hikiji



August 30, 2006

**R.E: Ooma II Development**

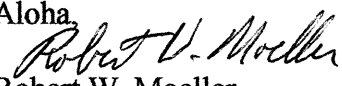
Dear Mr. Hikiji,

Thank your request for information in planning of the Ooma Properties II near Natural Energy Laboratory. Our Fiber Trunk runs on the HELCO's transmission pole line along the east side of Queen Kaahumanu Highway.

- 1.) The development would have to be served from the Queen Kaahumanu pole line where our Fiber Trunk passes the project. Due to recent changes to our Engineering Specifications we may need to do additional offsite work such as adding additional Fiber Optic Trunking. I am unsure if we would charge for this work at this time.
- 2.) We have an existing node directly across the NEL that serves the Agriculture lots on the east (mauka) side of the road. A coaxial trunk could be extended from that point approximately 10,000 feet. If the distance is further we will have to add additional nodes by extending a fiber tails into the project area. The capacity of each node is approximately 250 service accounts. If the hotel site were using all our services it would require a separate fiber extension.
- 3.) The cost per mile for CATV construction is approximately \$20K per mile. We will normally build the CATV system where there are 25 homes per mile of cable. If there are only lots we would request sharing construction costs with the developer.
- 4.) There are no existing ducts crossing Queen Kaahumanu at the project road frontage. There is a substandard 2" duct crossing QK at the NEL entry that was installed at the initial construction years ago. It is not in use and too small for more than one small cable.
- 5.) We request a 4" duct for main roadways and 2" for side roads and cul-de-sacs. We use 2' x 4', 2' x 6', and 3' x 5' pull boxes at various locations. We also need ground rods in most pull boxes. The CATV system will also require Power Supply pads and easements in certain locations.

I can be reached at 331-4925 if you have more questions.

Aloha


  
Robert W. Moeller  
Construction Manager

**MEMO****Hawaii Electric Light Co., Inc.**

September 12, 2006

To: Jamie Hikiji  
Jamie.Hikiji@m-e.aecom.com

Company: M&E Pacific, Inc.  
City & State: Honolulu, HI  
Phone: (808) 521-3051  
FAX: (808) 524-0246

From: Shelley Tomita   
shelley.tomita@helcohi.com

Subject: Response to your fax dated 8/23/06  
Ooma Development (Project No. 60012984.00300)

No. Of Pages Including Cover: 1

This memo is in response to your fax dated August 23, 2006.

Based on the updated load estimates received, HELCO has the following comments:

1. Original Conceptual Plan = 10 MVA  
Estimated cost = \$1.7 million
2. Alternate Conceptual Plan = 29 MVA  
Estimated cost = \$3.3 million

We will require a 150' x 150' minimum sized substation lot for the substation, this lot must be fairly flat with a maximum of 2% slope and preferably located near the existing overhead transmission lines on the mauka side of the existing highway. If the substation is to be located on the makai side of Queen Kaahumanu Highway, please add \$400,000 to the totals above for the 69kV underground.

Please note the cost estimates represent the off-site requirements only.

cc: H. Kamigaki - HELCO WX

fooma091206.doc



Consulting  
Electrical  
Engineers

ECS, Inc.

October 18, 2002

Mr. Gordon Yadao  
Verizon Hawaii, Inc.  
161 Kinoole Street  
Hilo, Hawaii 96720-2821

Project: Ooma Development (ECS No. 126-005)

Subject: Request for Information — sent to Mike Cheng in Kona  
10/23/02

Dear Gordon:

We are starting research for the due diligence phase of a new proposed residential/commercial development just South of the Natural Energy Laboratory along Queen Kaahumanu Highway in Keahole. See attached drawings. The estimated demand for the initial phase is 2500 pairs. Please provide us with answers to the following questions.

1. Where is your preferred service point? — existing fiber on 69KV pole line  
Yes
2. Is a mini-hut or pair gain required for the project? Are there any existing mini-huts or pair gains nearby? Spare capacity? Mauka of subdivision has a small one.
3. Please provide a ballpark cost of any mini-hut or pair gain addition or upgrades. We can estimate on-site distribution costs. Cost unknown.
4. Do you know of any existing ducts crossing Queen Kaahumanu Highway we may be able to use? If so, please indicate on one of the drawings.  
None existing

We need to turn in a pre-final report by early November. A quick response will be greatly appreciated. I will call to discuss in a few days.

Sincerely,

Glenn T. Karamatsu, P. E.  
Principal

GTK:am

---

MARKET ASSESSMENT

---



# **MARKET ASSESSMENT FOR `O`OMA BEACHSIDE VILLAGE**

North Kona, Island of Hawai`i

Prepared for:  
`O`oma Beachside Village, LLC

***FINAL REPORT***  
*December 2007*



# Market Assessment for `O`oma Beachside Village

## Table of Contents

Acronyms and Other Terms Used in this Report.....	iii
<b>Report Text</b>	
Chapter 1 – Introduction and Executive Summary.....	1
Chapter 2 – Economic and Demographic Trends.....	12
Chapter 3 – Residential Market Environment.....	22
Chapter 4 – `O`oma Residential Market Assessment.....	30
Chapter 5 – Commercial Market Environment.....	41
Chapter 6 – `O`oma Commercial Market Assessment.....	48
<b>Exhibits</b>	
Exhibit 1-1: `O`oma Beachside Village – Site Location.....	55
Exhibit 1-2: `O`oma Beachside Village – Regional Context.....	56
Exhibit 1-3: `O`oma Beachside Village – Proposed Land Uses.....	57
Exhibit 2-1: `O`oma Location and Hawaii Island Districts.....	58
Exhibit 2-2: Resident Population – Island of Hawaii.....	59
Exhibit 2-3: Projected Population by Age Group – State of Hawaii.....	60
Exhibit 2-4: Resident Population – Competitive Residential Market Area and Island of Hawaii.....	61
Exhibit 2-5: Population by Age Group – Competitive Residential Market Area and Island of Hawaii.....	62
Exhibit 2-6: Households – Competitive Residential Market Area and Island of Hawaii.....	63
Exhibit 2-7: Households by Household Income – Competitive Residential Market Area and Island of Hawaii.....	64
Exhibit 2-8: Labor Force Trends – Hawaii County.....	65
Exhibit 3-1: Residential Building Permits – County of Hawaii.....	66
Exhibit 3-2: Hawaii County Residential Resales Trends.....	67
Exhibit 3-3: Residential Resales in Kona Palisades and Kealakehe.....	68
Exhibit 3-4: Sales to Off-Island, Non Owner-Occupants.....	69
Exhibit 3-5: Potential New Resident Housing Units – Competitive Residential Market Area.....	70
Exhibit 3-6: Projected Supply and Demand for Housing – Competitive Residential Market Area.....	71

Exhibit 4-1: Market Performance of Selected Comparison Residential Projects.....	72
Exhibit 4-2: `O`oma – Market Assessment for Residential Products.....	73
Exhibit 4-3: `O`oma – Potential Residential Sales Absorption By Area.....	74
Exhibit 5-1: Existing Retail Space – Primary Trade Area and Benchmarks.....	75
Exhibit 5-2: Existing Office Space – Primary Trade Area and Benchmarks.....	76
Exhibit 5-3: Potential Future Commercial Space – Primary Trade Area.....	77
Exhibit 5-4: Resident Profiles – Primary Trade Area.....	78
Exhibit 5-5: Daytime Resident Population and Employment Residence Ratios By Census Designated Places.....	79
Exhibit 5-6: Existing Retail Areas in Relation to Consumer Population.....	80
Exhibit 5-7: Existing Office RBA in Relation to Employment.....	81
Exhibit 6-1: Projected Supportable Commercial Areas – Primary Trade Area.....	82
Exhibit 6-2: Commercial Market Assessment for `O`oma.....	83
Appendix 1: North Kona-North: Census Tract 215.01, the Portion of the North Kona District Considered Within the Competitive Residential Market Area.....	85
Appendix 2: South Kohala-Waikoloa: Census Tract 217.01, the Portion of the South Kohala District Considered Within the Competitive Residential Market Area.....	86
Appendix 3: Planned Primary Residential Development Projects in Census Tracts 215.01 and 217.01, Island of Hawaii.....	87
Appendix 4: Entitled and Planned Commercial Developments in the North Kona and South Kohala Districts.....	89
Appendix 5: Report Conditions.....	90

# Market Assessment for `O`oma Beachside Village

## Acronyms and Other Terms Used in this Report

Ac.....	acres
ACS.....	American Community Survey, prepared by the U.S. Census Bureau
Airport.....	Kona International Airport at Keāhole
CDPs.....	Census Designated Places, as defined by the U.S. Census Bureau
Claritas.....	Claritas, Inc.
County.....	County of Hawai`i
CRMA.....	Competitive Residential Market Area, as defined for purposes of this study
CT.....	census tract, as defined by the U.S. Census Bureau
DBEDT.....	State of Hawai`i, Department of Business, Economic Development and Tourism
DEIS.....	Draft Environmental Impact Statement
DHHL.....	State of Hawai`i, Department of Hawaiian Home Lands
DLIR.....	State of Hawai`i, Department of Labor and Industrial Relations
EIS.....	Environmental Impact Statement
GLA.....	gross leasable area, in square feet
HHFDC.....	State of Hawai`i, Hawai`i Housing Finance & Development Corporation
HOST.....	Hawai`i Ocean Science & Technology Park
INA.....	information not available
Island.....	island of Hawai`i
LUC.....	State of Hawai`i, Land Use Commission

Makai Area (Petition Area).....	the approximately 181.169 acre portion of the `O`oma property within TMK Nos. (3) 7-3-009: 004 and 7-3-009 (portion of State Right of Way) for which reclassification from the State Land Use Conservation District to the State Land Use Urban District is being sought
Mauka Area (Current LUC Urban District).....	the approximately 83 acres of the `O`oma property within TMK No. (3) 7-3-009: 022 and currently within the State Land Use Urban District
Makai Village.....	a residential and retail mixed-use area proposed within the <i>Makai Area</i> .
Mauka Village .....	a residential and retail mixed-use area proposed within the <i>Mauka Area</i> .
MC.....	Mikiko Corporation
MFY .....	median family income
MU.....	mixed-use, including residential and retail
NELHA .....	Natural Energy Laboratory of Hawai`i Authority
North-Kona North.....	the northwestern portion of the North Kona District, Census Tract 215.01
`O`oma.....	`O`oma Beachside Village, the subject property and/or development proposal
`O`oma Beachside Village, LLC .....	the entity that owns and proposes to develop `O`oma; also the entity that is petitioning the State Land Use Commission to reclassify the Petition Area into the LUC Urban District
PBR HAWAII.....	PBR HAWAII & Associates, Inc.
PTA.....	Primary Trade Area, retail trade area as defined for purposes of this study
QLT .....	Queen Lili`uokalani Trust Estate
RBA.....	rentable building area, in square feet
Residential Village.....	a residential area within the <i>Makai Area</i>
RHU.....	primary residential housing unit
ROR.....	residential over retail
SC.....	shopping center
SCD.....	Stanford Carr Development, LLC

SFD..... single-family residential development

SMA..... Special Management Area Permit

SMS..... SMS, Inc.

South Kohala-Waikoloa..... the southwestern portion of the South Kohala District,  
Census Tract 217.01

sq. ft..... square feet

State ROW ..... the approximately 1.814 acre portion of the State Right-of-  
Way located within TMK No. (3) 7-3-009: that separates  
the Mauka and Makai Areas

TH..... townhouse residential unit

U.S..... United States of America

U/A..... units per gross acre

U/C..... under construction

UHCWH..... University of Hawai`i Center for West Hawai`i

UHERO..... University of Hawai`i Economic Research Organization

YTD..... year to date

# 1 – Introduction and Executive Summary

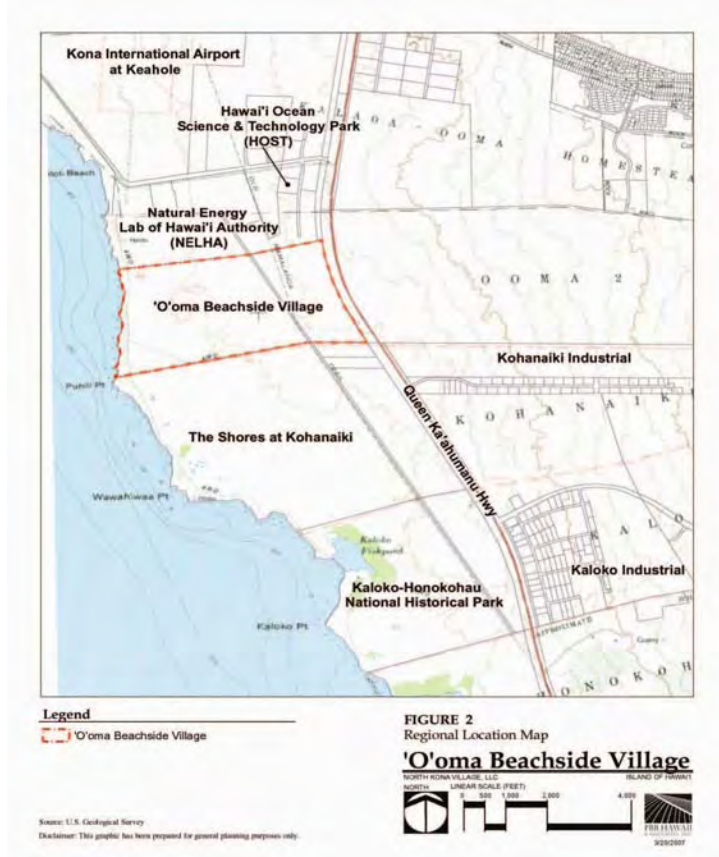
## *Project Background*

### **Location** (Exhibits 1-1 and 1-2)

`O`oma Beachside Village, LLC owns some 303 acres in the North Kona District of the Island of Hawaii (Island). Some 83 acres are currently in the State Land Use Commission (LUC) Urban District, while the balance is designated in the LUC Conservation District. `O`oma Beachside Village, LLC proposes to develop these lands as a master-planned community called `O`oma Beachside Village (`O`oma). PBR HAWAII & Associates, Inc. (PBR HAWAII) is assisting `O`oma Beachside Village, LLC in developing land use plans and other assessments related to the entitlement process for these lands.

`O`oma is in a logical area for infill development, being located alongside Queen Ka`ahumanu Highway between the Kona International Airport at Keāhole (Airport) and the town of Kailua-Kona. Immediately north of `O`oma is the State's Natural Energy Laboratory of Hawai'i Authority (NELHA) and the Hawai'i Ocean Science & Technology Park (HOST). NELHA and HOST house commercial and light industrial production as well as research and educational endeavors. Immediately south of `O`oma is The Shores at Kohanaiki, which is planned to offer 500 luxury resort residential units upon completion. Also within a four-mile radius of `O`oma are:

**Location and Vicinity of  
`O`oma Beachside Village**



Source: PBR HAWAII, 2007. See Exhibit 1-1 for copy at a larger scale

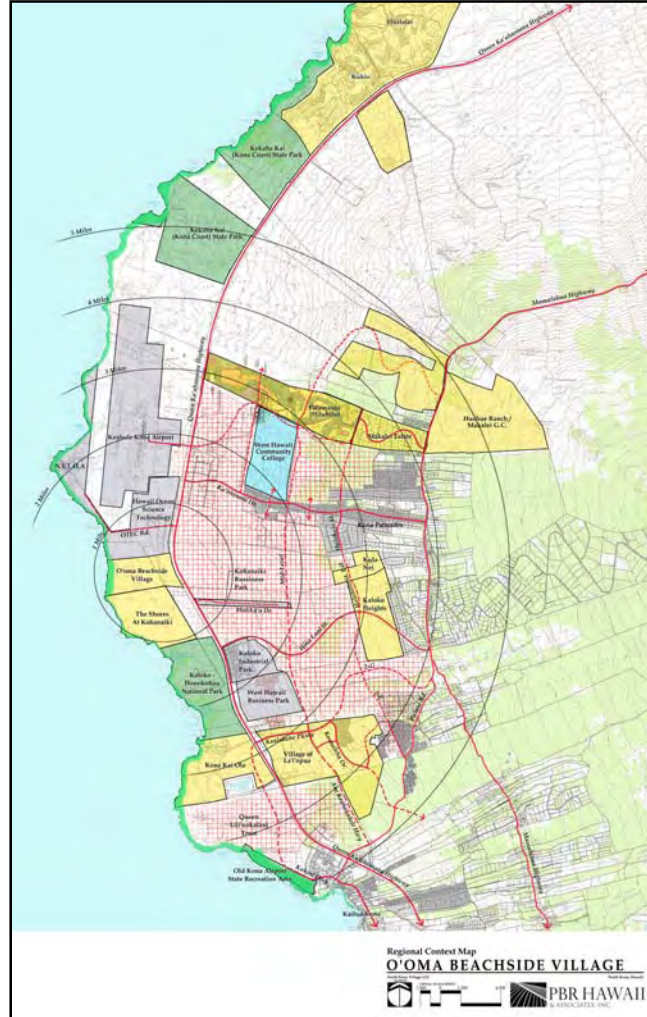
✦ **To the north** – the Airport.

✦ **Mauka**, across Queen Ka`ahumanu Highway – Kohanaiki Industrial Park, Kaloko Industrial Park and the West Hawaii Business Park; the proposed new University of Hawai`i Center for West Hawai`i (UHCWH) campus and the related, proposed community of Palamanui; the existing residential communities of Makalei Estates, Kona Palisades and the Department of Hawaiian Home Lands' (DHHL) Villages of La`i`ōpua; proposed residential, commercial and other urban developments.

✦ **To the south** – Kaloko-Honokōhau National Park; the proposed Kona Kai Ola commercial and visitor-related community to be centered around the Honokōhau Small Boat Harbor; various existing and proposed commercial uses on Queen Lili`uokalani Trust (QLT) properties.

✦ **Makai** - `O`oma fronts the ocean just north of Pūhili Point.

## Regional Context



Source: PBR Hawaii, April 2007. See Exhibit 1-2 for copy at larger scale.

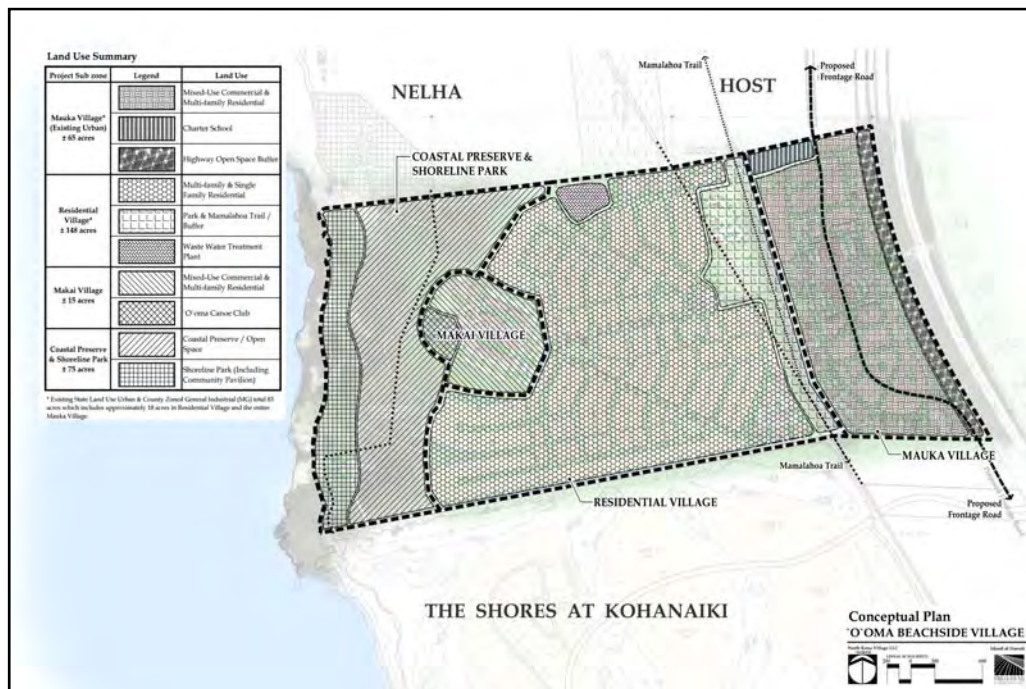


## Conceptual Master Plan (Exhibit 1-3)

The Mauka and Makai Areas are separated by the State Right-of-Way (State ROW) and are distinguished by their respective LUC Urban and Conservation District designations.

- Mauka Area (Current LUC Urban District)** - The 83-acre Mauka Area (TMK (3) 7-3-009:022) is within the LUC Urban District. These lands are proposed for development as a medium-density mixed-use village (the Mauka Village) with residential uses, including traditional apartments, “live-work” units, and residential/commercial mixed uses. The Mauka Area will also include park space, the Māmalahoa Trail and buffers and a charter school. A connector road that is proposed to take traffic from south of `O`oma to the Airport would traverse the Mauka Area.

### `O`oma Conceptual Master Plan



Source: PBR HAWAII, 2008. See Exhibit 1-3 for copy at larger scale.

- Makai Area (Petition Area)** - The Makai, or Petition, Area consists of a portion of the approximately 217-acre parcel of land designated as TMK (3) 7-3-009:004 and TMK (3) 7-3-009: (State Right-of-Way, portion). This area is located within the LUC Conservation District. `O`oma Beachside Village, LLC is seeking LUC Urban District reclassification for only 179 acres of parcel 004, and will leave the remaining 38 acres in the LUC Conservation District.



The Makai Area is generally proposed for more traditional primary resident-oriented community developments in the Residential Village, as well as mixed uses within the smaller Makai Village. The Makai Area will be enhanced by extensive parks and trails, and a large area of open space leading to a shoreline park and the ocean.

In addition to frontage on the shoreline park, the Makai Area fronts the proposed luxury resort project, The Shores at Kohanaiki.

The Makai Village will be on a promontory set back about 1,100 feet from the shoreline. This area would include housing at lower densities than offered in the Mauka Village, as well as commercial areas likely to include ocean-facing restaurants, other services, or retail. The Makai Village is also proposed to include a private canoe club.

The Residential Village will include multi-family residential areas as well as single-family residential lots. All homes in the Residential Village will have direct or easy access to pedestrian/bike community trail systems that will connect to the shoreline, the various parks and the Mauka and Makai Villages.

### **Proposed Developments to be Marketed**

Within the master plan, some 191 to 199 acres are proposed for residential or commercial uses. `O`oma Beachside Village, LLC estimates that the first real estate products at `O`oma could be sold as early as 2012. At buildout, `O`oma is proposed as shown on the following page:

**Summary of Proposed Residential and  
Commercial Land Uses at `O`oma**

	<b>Estimated gross acres*</b>	<b>Range of residential units</b>	<b>Estimated commercial development (square feet)</b>
<b>Makai Area (Petition Area):</b>			
Multifamily Units at Makai Village*	<b>+/- 11</b>	<b>35 to 60</b>	<b>Up to 30,000</b>
Restaurant & Canoe Club	<b>+/- 4</b>	<b>0</b>	<b>Up to 20,000</b>
Multifamily Units at Residential Village* (portion)	<b>+/- 9</b>	<b>75 to 105</b>	<b>0</b>
Single-Family Homes at Residential Village	<b>+/- 84</b>	<b>350 to 400</b>	<b>0</b>
Single-Family Lots at Residential Village	<b>+/- 32</b>	<b>70 to 85</b>	<b>0</b>
<b>Subtotal</b>	<b>+/- 140</b>	<b>530 to 650</b>	<b>Up to 50,000</b>
<b>Mauka Area (Current LUC Urban District):</b>			
Multifamily Units at Mauka Village*	<b>+/- 49 to 57</b>	<b>395 to 520</b>	<b>Up to 150,000</b>
Multifamily Units at Residential Village* (portion)	<b>+/- 2</b>	<b>25 to 30</b>	<b>0</b>
<b>Subtotal</b>	<b>+/- 51 to 59</b>	<b>420 to 550</b>	<b>Up to 150,000</b>
<b>Total `O`oma</b>	<b>+/- 191 to 199</b>	<b>950 to 1,200</b>	<b>Up to 200,000</b>

\* Based on current County guidelines, 20% or some 190 to 240 of the residential units may be developed as affordable housing. These units might be developed within the areas noted.

Source: PBR HAWAII, July 2007.

## ***Study Background***

`O`oma Beachside Village, LLC has initiated a planning and entitlement process for `O`oma, including an Environmental Impact Statement (EIS) that will be used in the LUC and County zoning processes. PBR HAWAII is assisting `O`oma Beachside Village, LLC in this process and asked Mikiko Corporation (MC) to prepare market, economic, and fiscal impact assessments for `O`oma, addressing the residential and commercial retail/office land uses noted above.

This report covers the market assessment. Economic and fiscal impacts are described in a separate report.

## ***Mikiko Corporation Study Objective***

MC's objective in this study was to describe the market support for the residential and commercial uses proposed at `O`oma, in terms of:

- a) Evidence of the demand and competitive supply for the residential and commercial retail/office development elements, and
- b) Assessment of supportable market shares and market absorption at `O`oma; also, for residential units, assessment of supportable pricing.

These evaluations are based in part on information and planning parameters provided by PBR HAWAII and/or `O`oma Beachside Village, LLC.

The remaining sections of this chapter summarize the market conclusions. The rationale behind these conclusions, as well as documentation of the study methodology and supportive data, may be found in the subsequent chapters and appendices.

At the end of this report, Appendix 5 presents a statement of its report conditions.

## ***Summary of Conclusions***

### **Area Character**

The North Kona area is appropriately seeing urban infill development and proposals, consistent with the Hawai`i County General Plan (2005) for this region. This urban infill development is especially along the major regional traffic corridor Queen Ka`ahumanu Highway, between the town of Kailua-Kona and the Airport. This area comprises the northwestern portion of the North Kona District, and is contained within Census Tract 215.01 (also referred to herein as "North Kona-North").<sup>1</sup> It already is the commercial and industrial heart of West Hawai`i, serving the Airport and the needs of the visitor, agriculture, ranching, technology, and other industries of the western half of the Island. The area also has a long-standing and growing residential population. This area will

---

<sup>1</sup> See Appendix 1 for a map of this census tract.

continue to be the focus of such development as the Island's population grows, given its proximity to the Airport and other existing infrastructure.

### **Need for Area Development**

Together with the coastal portion of the adjacent South Kohala District (CT 217.01, also referred to herein as "South Kohala-Waikoloa")<sup>2</sup>, North Kona-North is estimated to provide 21% of the Island's employment in 2006.<sup>3</sup> However, this center of employment supported residences for only 12% of the Island's population, leading to crowding among area households, and a tremendous amount of commuting into the region by persons who live in distant areas.

A relative lack of resident-oriented shopping, entertainment, and other services in the South Kohala-Waikoloa area also adds to traffic headed into the Kailua-Kona area from the north.

ʻO`oma is among a relatively small group of area properties that could offer a substantial solution for this imbalance of primary resident-oriented housing and services, relative to the area's existing and anticipated jobs base.

### **Residential Markets and Development Character**

ʻO`oma is proposed to be developed as a master planned residential community with a variety of housing opportunities and mixed-uses, as well as abundant recreational resources. As part of the overall master planned community, the Mauka and Makai Areas each will have their own character and feel, thereby being able to appeal to a broad range of population:

- ✦ **Mauka Area (Current LUC Urban District)** – This area is seen as a mixed-use village community planned and developed along the lines of Traditional Neighborhood Design principles.<sup>4</sup> All residential uses would be multifamily, at densities of 7.5 to 12 units per acre, including homes that will address the County's affordable housing guidelines. Some homes would be located above or within the same structures as commercial retail or office uses. This area could also include "live-work" units that are designed to accommodate a home and commercial enterprise within a single unit. These commercial components and other commercial spaces developed in the Mauka Village are intended to provide attractive locations for sole proprietorships and other small businesses.

This area is anticipated to appeal mostly to primary residents such as younger households who are attracted to an urban setting, higher activity levels, and relative

---

<sup>2</sup> See Appendix 2 for a map of this census tract.

<sup>3</sup> The 1,435 establishments of CTs 215.01 and 217.01 are estimated to support 19,100 of the Island's 92,900 employees in 2006, according to Claritas, Inc. Note that "employees" on the Island exceed the "civilian labor force," since labor force members may hold more than one job.

<sup>4</sup> See Chapter 4 for a discussion of Traditional Neighborhood Design.

affordability. It may also appeal to retirees, empty nesters or off-island business enterprises that regularly do business in the County and are attracted by its convenience to the Airport and area business services, and their mix of business and housing functions.

☒ **Makai Area (Petition Area)** – This area is proposed with more primary resident-oriented single- and multifamily homes, developed at gross densities ranging from 2.5 to 12 units per acre. This area may also offer some of `O`oma’s affordable housing.

As in the Mauka Area, the majority of homes in the Makai Area are expected to serve a local resident base, including young families, empty nesters and move-up households. Homes along the ocean-facing edges of the community and bordering along The Shores at Kohanaiki would be developed at the lowest density range, from 2.5 to 3 units per acre. These estate lots could attract some part-time or former Island residents who customarily reside off-Island.

Considering residential developments in both the Mauka and Makai areas, some 84% of `O`oma homes are anticipated to be used as primary residences by established Island households, while the remaining 16% might be expected to attract second home or vacation property buyers.<sup>5</sup>

The residential developments could also include homes built in accordance with County affordable housing requirements.

### **Commercial Markets and Enterprise Types**

Commercial uses at `O`oma would address needs of the community’s own residents as well as those of the surrounding areas. The Primary Trade Area for `O`oma is expected to encompass the full North Kona and South Kohala Districts.

A variety of potential enterprise types are suggested in Chapter 6. They are envisioned to serve markets such as:

- ☒ `O`oma residents;
- ☒ Area shoreline park users;
- ☒ Daytime populations of North Kona and South Kohala;
- ☒ Airport users, especially if the NELHA/Airport connector road is developed;
- ☒ Businesses that support the part-time resident community of the broader region; and
- ☒ Off-island enterprises that frequently do business in West Hawai`i.

---

<sup>5</sup> This split is based on 20% of the market units being sold to second or vacation home buyers (20% x 80% = 16%).

## Supportable Absorption

The projected absorption of residential and commercial uses at `O`oma is summarized as follows:

### Supportable Market Absorption at `O`oma (At maximum development)

	Makai (Petition Area)	Mauka (Current LUC Urban District)	Total Project
<b>Residential units:</b>			
Maximum inventory	<b>650</b>	550	1,200
Average annual sales	<b>46</b>	34	67
Years on market	<b>14</b>	16	18
Start date	<b>2012</b>	2014	2012
End date	<b>By 2025</b>	By 2029	By 2029
<b>Commercial gross leasable area:</b>			
Maximum square feet	<b>50,000</b>	150,000	200,000
Absorption date	<b>By 2020</b>	By 2029	By 2029

Source: Mikiko Corporation, 2007.

The overall residential absorption represents an average of about 67 per year. Year to year sales would be expected to vary around this average depending on the amount and types of product on the market at any time as well as business cycle conditions. `O`oma's projected average absorption could represent about 9% of the projected annual requirement for new primary resident housing in a market area consisting of census tracts 215.01 and 217.01<sup>6</sup>, and about 5% of the North Kona District non owner-occupant, off-Island sales. The maximum commercial build-out could represent only about 3% of the North Kona and South Kohala commercial retail and office markets in 2030.

<sup>6</sup> See Chapter 2 for further explanation of this market reference area.

## Residential Pricing – Market Units

Supportable unit pricing for the “market priced” finished homes is estimated at an average of \$550,000, in 2007 dollars. By product type, this represents:

- ☒ **Multifamily Units at Mauka Village** (7.5 to 10 units per acre) - \$425,000;
- ☒ **Multifamily Units at Makai Village** (3 to 4.5 units per acre) - \$525,000;
- ☒ **Multifamily Units at Residential Village** (9 to 12 units per acre) - \$425,000; and
- ☒ **Single-Family Homes at Residential Village** (finished homes, 5,000 to 6,000 square foot lots) - \$650,000.

Additionally, `O`oma would offer 70 to 85 estate lots for custom home development, in a premium location. Pricing for these lots is estimated at:

- ☒ **Estate Lots at Residential Village** (with ocean views and alongside shoreline park or bordering Kohanaiki, 9,000 to 15,000+ square feet) - \$650,000.

These estimated supportable prices were developed after review of developer products marketing or soon to be marketed within the Competitive Residential Market Area (CRMA) as of the study date, as discussed in Chapter 4.

With product averages ranging from \$425,000 to \$525,000, market priced multifamily homes at `O`oma would be affordable to households earning approximately 150% to 180% of the 2007 County median income of \$58,200<sup>7</sup>, assuming interest rates of 6.0% to 7.0% and a 20% down payment. At an average \$650,000, the single-family homes, the highest priced finished product proposed, could be expected to be affordable to households earning between 210% and 220% of the 2007 County median income. A “move-up” or other household with more than 20% of purchase price funds available to apply as a down payment for a new purchase would be able to purchase any of these homes at lower income ranges.

The projected supportable prices may also be compared to recent resales of existing homes in the area. Average single family sales prices in the Kona Palisades and Kealakehe areas ranged from \$662,000 in 2006 and \$590,000 from January 1, 2007 to September 7, 2007, respectively. For multifamily homes they were \$579,000 and \$327,000, respectively. In Waikoloa Village, resales of existing single-family homes tended to be higher priced, at an average of \$717,000 in 2006 and \$748,000 as of September 7, 2007. On the other hand, multifamily homes in Waikoloa Village resold at slightly lower average prices than in the North Kona-North comparison areas, at an average of \$435,000 in 2006 and \$302,000 YTD September 7, 2007.<sup>8</sup>

<sup>7</sup> This figure, as used by the County, differs slightly from the \$58,528 estimated by Claritas, Inc. and reported in Exhibit 2-7.

<sup>8</sup> Data downloaded in September 2007, from Hawaii Information Service for tax map keys 3-7-3, 3-7-4 and 3-6-8.

## **Residential Pricing – “Affordable” Units**

Pricing of the homes to be designated affordable will be established in future agreements with the County. For illustrative purposes, as of May 1, 2007, County guidelines would require that for-sale units marketed to families of four earning between 110% and 130% of the median income would range from \$248,800 to \$294,000. Some of the affordable housing could alternatively be developed as rental housing. Example monthly rents also based on the County’s 2007 guidelines would range from \$935 to \$1,309 for one- to two-bedroom units rented to households earning between 80% and 100% of median income.

## **Style of Development**

Considering the magnitude of demand for new housing and commercial facilities, yet with respect for Hawaii’s finite island land, it is fortunate that Hawaii residents, like other people worldwide, are showing interest in “urban village” living styles. Given the environmental burdens of population growth, this Traditional Neighborhood Design sensibility not only reflects taste changes but a more sound approach to the use of natural resources. Chapter 4 offers an expanded discussion of these trends.

Most of `O`oma is within the Hawai`i General Plan’s (2005) designated Urban Expansion Area, near to existing and growing centers of employment, such as the several commercial and industrial complexes proposed in the area, and the proposed UHCWH campus. These characteristics enhance Traditional Neighborhood Design planning, and support the mixed-use, primary resident-oriented medium-density developments proposed at `O`oma.



## 2. Economic and Demographic Trends

### *Geographic Areas of Analysis*

#### **Judicial Districts**

The island of Hawai`i (Island) is divided into nine judicial districts. `O`oma is in the North Kona District, which extends from Kealahou in the south, past Kīholo Bay in the north. It includes the Airport as well as the resort communities of Keauhou, Kailua-Kona, Kona Village, Hualālai and Kūki`o.

Adjacent to and north of this district is the South Kohala District, which includes the majority of the balance of the Island's visitor and second home infrastructure in the resort areas of Waikoloa Beach, Mauna Lani, and Mauna Kea. The other major communities in South Kohala are Waikoloa Village and Waimea Town, which offer both primary and second homes.

Island of Hawai`i Districts



Source: Claritas, Inc., 2007. See Exhibit 2-1 for copy at a larger scale.

#### **West Hawai`i**

The island of Hawai`i is often considered in two major divisions, East Hawai`i and West Hawai`i. Although there is a great deal of commuting from East to West Hawai`i, this is in large part a reflection of the lack of appropriate housing opportunities for local families in West Hawai`i, rather than an integration of the two divisions' economies.

West Hawai`i is commonly defined as the districts of North Kohala, South Kohala, North Kona and South Kona. Within West Hawai`i, the North Kona and South Kohala Districts contain the primary drivers of the region's economy, which is anchored in the visitor, construction, and related service industries.

## Areas of Market Evaluation

- ✦ **For purposes of commercial market assessment,** `O`oma's Primary Trade Area (PTA) is considered to encompass all of North Kona and South Kohala, the shaded areas of the map on the prior page. While this broad area may be considered to generate the majority of demand for commercial development at `O`oma, most of the supply that serves this demand is concentrated in the northern parts of the North Kona District.
- ✦ **For purposes of residential market assessment,** a tighter area is evaluated, reflecting the need for additional residential supply in the midst of the North Kona and South Kohala Districts, where the majority of West Hawai`i's jobs are located. This smaller Competitive Residential Market Area (CRMA) for residential uses is defined herein to consist of:

**North Kona-North: Census Tract 215.01, within the North Kona District**



Source: Claritas, Inc., 2007. See Appendix 1 for copy at a larger scale.

**South Kohala-Waikoloa: Census Tract 217.01, within the South Kohala District**



Source: Claritas, Inc., 2007. See Appendix 2 for copy at a larger scale.

- ❑ “North Kona-North,” or Census Tract (CT) 215.01. This area extends from approximately Henry Street in the south to the northern border of the North Kona District. In includes the `O`oma site but excludes Kailua-Kona Town and Keauhou Resort.
- ❑ “South Kohala-Waikoloa,” or CT 217.01. This area extends from the southern border of the South Kohala District up past Kawaihae in the north. Its major residential community is Waikoloa Village; it excludes Waimea Town.

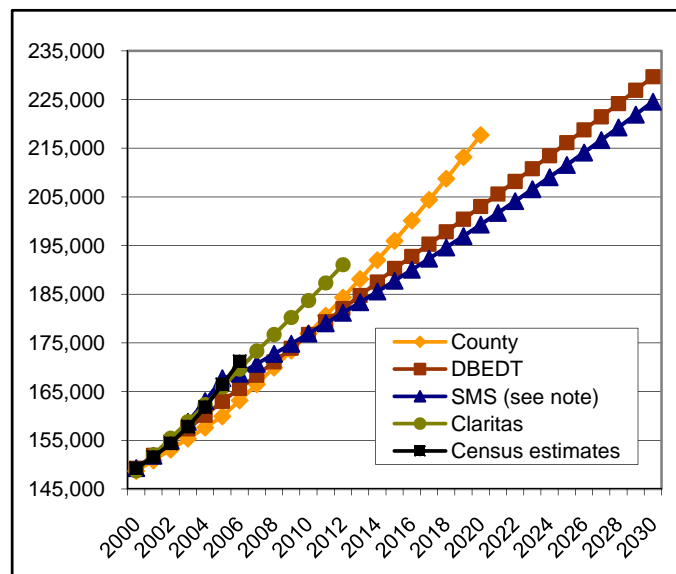
Many of the demographic trends reported in the section below refer to the Island as a whole and the CRMA as defined for residential purposes. Demographic data for the larger PTA for commercial uses are presented in Chapter 4, alongside the commercial market assessment.

### *Overview of Demographic Trends*

#### **Projected Island of Hawaii Population (Exhibit 2-2)**

Hawai`i Island had approximately 149,000 residents at the time of the U.S. Census in 2000. Five sources are considered in estimating how population has grown since then, and how it is likely to grow over the next two decades.

**Projected Resident Population – Island of Hawai`i**



See Exhibit 2-2 for sources and further information.

- ✦ The U.S. Census provides annual population estimates for counties as of July of each year. The Census estimates the Island’s 2006 resident population at 171,191 persons, representing an annual average rate of increase of 2.4% since 2000.
- ✦ Claritas<sup>7</sup> provided MC’s study with 2007 population estimates and a 5-year projection to 191,052 by 2012. Claritas’ figures were prepared on the basis of the Census’ 2006 estimate and represent a 2.2% rate of growth since 2000, and 1.6% from 2007 to 2012.
- ✦ In its 2005 General Plan (amended December 2006), the County presented three scenarios of population growth. Series “B,” the mid-range projection, showed up to 217,718 persons by 2020. The County’s series represents 2.1% per annum growth from

<sup>7</sup> Claritas derives its information from the U.S. Bureau of the Census, State and local governmental planning and forecasting entities, its proprietary Business-Facts © database and other sources.

2005 to 2020. Based on subsequent estimates, this series appears to have been low to date. However, it is the highest of the projections after 2011.

- ✦ The State of Hawai`i, Department of Business, Economic Development and Tourism (DBEDT) also offers a long-term projection; the latest was prepared in 2004. This series is relatively low in the long-term, and anticipates 229,700 residents on island of Hawai`i by 2030, a 1.4% average annual rate of growth after 2005.
- ✦ In 2007, SMS<sup>8</sup> completed a housing study that also offers a long-term population outlook, under various scenarios. Using the Hawai`i County “official parameter” growth rate of 1.2%, as cited in the SMS model, this data set yields a projected 224,573 Island residents by 2030. The SMS-derived projections are the lowest of the three long-term projections after approximately 2010.

MC has selected the 1.2% growth projection presented in the SMS housing study because this 1.2% growth rate is conservative and based upon recent estimates. SMS’ relatively conservative series is considered appropriate for this study so as not to overstate the assessments for residential and commercial uses. Following this outlook, the Island could see about 225,000 residents in 2030, meaning it would need to accommodate some 54,000 more persons over the next 24 years.<sup>9</sup>

### **Ageing of the Population (Exhibit 2-3)**

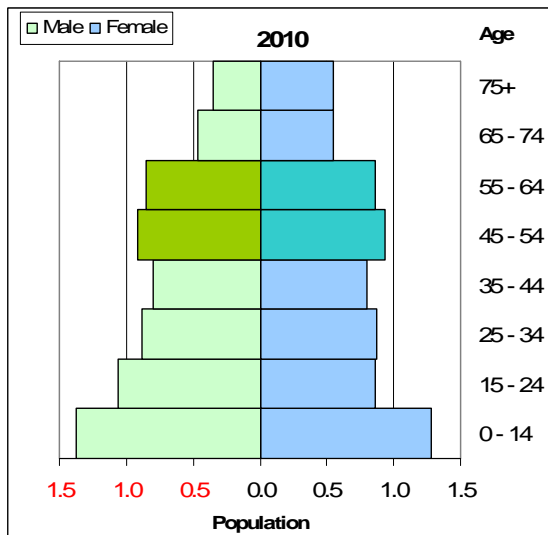
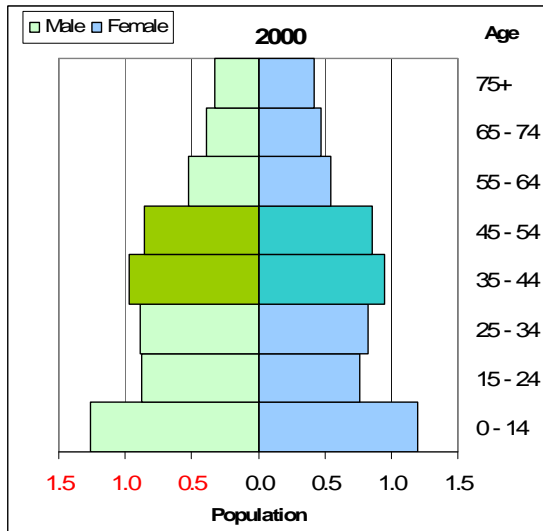
The changing age-composition of the population will have an enormous impact on home-buying and other consumer spending patterns in Hawai`i as elsewhere in the nation. While long-term projected age-cohort data is not available by county or sub-areas, the U.S. Census does prepare decennial projections by state.

---

<sup>8</sup> SMS, Inc., “Housing Policy Study, 2006: Hawaii Housing Model 2006,” February 2007. The study was prepared for a consortium including the Housing Officers and other Administrators of the four Hawai`i counties, the State of Hawai`i, Hawai`i Housing Finance and Development Corporation, the Office of Hawaiian Affairs, and the Department of Hawaiian Home Lands.

<sup>9</sup> Note that on February 22, 2007 County Planning Director Chris Yuen testified to the State Legislature that the Island was on-track to add 60,000 people within 10 years. Honolulu Advertiser, “Big Island mayor grapples with rapid population growth,” February 23, 2007.

**Age Pyramids – State of Hawai'i:  
2000 and 2010**



Note: Each unit on horizontal axis represents 100,000 persons.  
See Exhibit 2-3 for sources and further information.

✦ **2010 to 2020** – In the subsequent decade, Baby Boomers will continue to exert strong influence in the housing market. This will be reflected in rapidly growing demand for downsized, retirement and/or other specialized housing types reflecting their empty nester and retiree stages of life. Also notable in this decade will be strong growth in the entry and early-housing market, represented by persons aged 25 to 34.

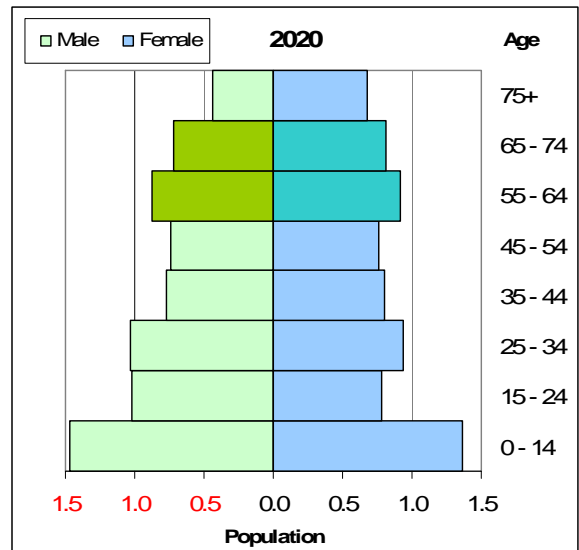
Viewed in an age pyramid, a most notable feature is the aging of the Baby Boomers, whose members were between the ages of 41 and 60 in 2006, will range from about 45 to 64 years old by 2010, 55 to 74 by 2020, and 65 to 84 by 2030.

✦ **2000 to 2010** - As the dominant consumers in the overall marketplace today and for years to come, Baby Boomers are fueling a move-up home-buying market consistent with their middle-aged, peak earnings-power status.

Age groups showing the most population gains in the 2000 to 2010 period in Hawai'i are all over 45:

- ☐ 45 to 54: +14,000 persons
- ☐ 55 to 64: +64,000 persons
- ☐ 65 to 74: +16,000 persons
- ☐ 75+: +15,000 persons

**Age Pyramid – State of Hawai'i: 2020**



Note: Each unit on horizontal axis represents 100,000 persons.  
See Exhibit 2-3 for sources and further information.

Thus, age groups projected to show the most gains in this later period include both early and older homebuyers:

- ❑ 25 to 34: +22,000 persons
- ❑ 55 to 64: +8,000 persons
- ❑ 65 to 74: +52,000 persons
- ❑ 75+: +21,000 persons

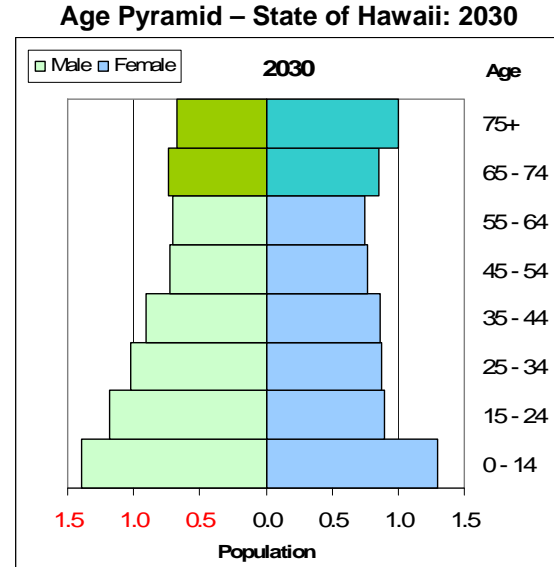
✘ **2020 to 2030** – The last decade evaluated will be characterized by rapid growth of the elderly population, necessitating specialized and age-catering housing solutions.

The second most rapidly growing potential housing market during this period will consist of those aged 15 to 24, an age that usually encompasses household formation, often in rental housing.

The third rapidly growing group would be those aged 35 to 44, typically a home-buying or early trade-up housing market.

Cohorts expected to gain population statewide in this decade include:

- ❑ 15 to 24: + 27,000 persons
- ❑ 35 to 44: + 19,000 persons
- ❑ 65 to 74: + 6,000 persons
- ❑ 75+: +56,000 persons



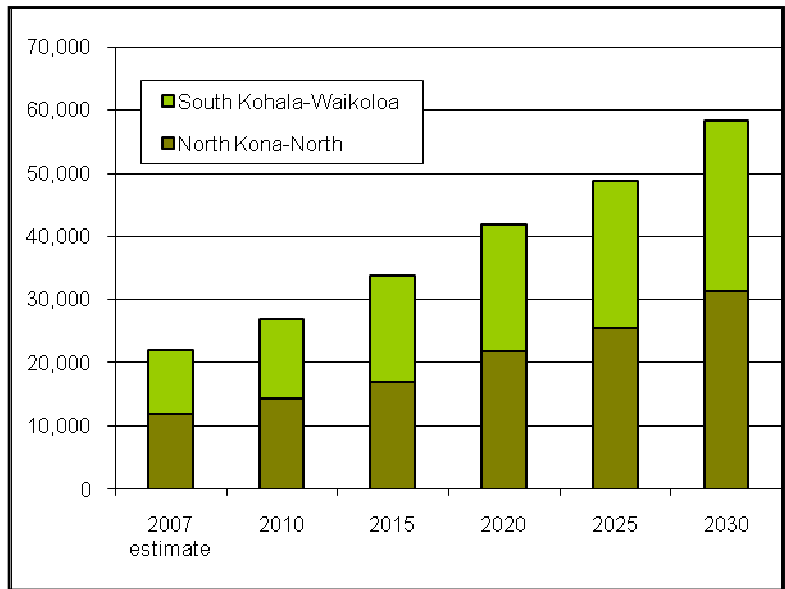
Note: Each unit on horizontal axis represents 100,000 persons.  
See Exhibit 2-3 for sources and further information.

***Projected Growth in  
the Competitive Market  
Area***

**Resident Population**  
(Exhibit 2-4)

Considering the SMS projection for population Island-wide, MC prepared 2030 projections for residents of the CRMA in North Kona-North and South Kohala-Waikoloa. MC’s projections assume it is possible and desirable from a policy standpoint that residential opportunity in the CRMA approach the level of employment opportunity in the CRMA.

**Resident Population –  
Competitive Residential Market Area**



See Exhibit 2-4 for sources and further information.

As of 2006, the CRMA was estimated to offer 21% of employment positions on the Island, while it housed only 12% of the Island population.<sup>10</sup> The area includes six of the seven largest employers on the Island, including the Hilton Waikoloa Village, the Fairmont Orchid, the Four Seasons Resort Hualālai, The Mauna Lani Bay Hotel & Bungalows, the Hāpuna Beach Prince Hotel and the Mauna Kea Beach Hotel<sup>11</sup> (the latter closed for renovations and is projected to reopen in late Fall, 2008). Additionally, large clusters of new development are planned within the CRMA at:

- ☒ UHCWH and its associated community, Palamanui;
- ☒ NELHA;
- ☒ Already zoned commercial areas in Keahuolū and elsewhere;
- ☒ Kona Kai Ola; and
- ☒ `O`oma.

MC assumed that the CRMA population matches its 2006 share of Island jobs within 14 years (achieving just over 20% of Island population in 2020), and that it continues to increase as a center of employment and population thereafter, achieving 26% of the Island population by 2030. This would result in a 2020 population of some 41,800

<sup>10</sup> The 1,435 establishments of CTs 215.01 and 217.01 are estimated to provide jobs for 19,100 of the Island’s 92,900 employees, according to Claritas, Inc., April 2007. Note that “employees” exceed the “civilian labor force” discussed in a later section, since labor force members may hold more than one job.

<sup>11</sup> Pacific Business News, “2007 Book of Lists,” December 22, 2006.



persons in CTs 215.01 and 217.01, and a 2030 population of about 58,300. These would represent a near doubling of the CRMA's population by about 2020 and a 4.3% per annum rate of increase for the 2007 to 2030 period as a whole.

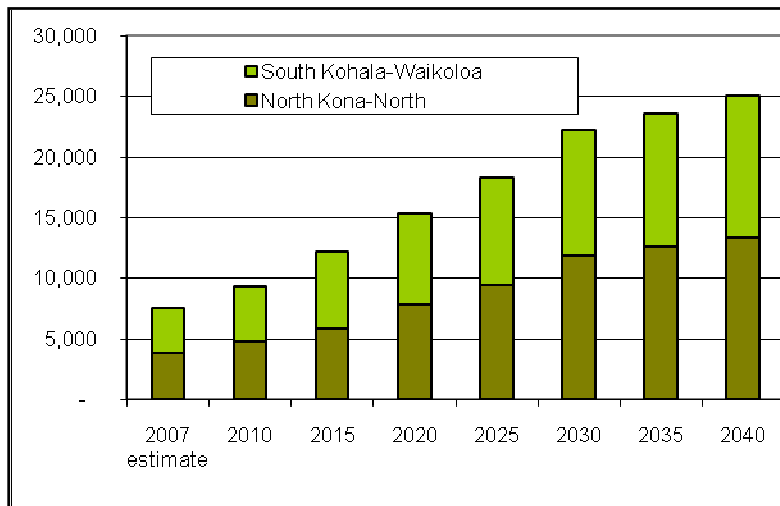
**Population by Age Group** (Exhibit 2-5)

The largest age groups in the CRMA, as for the Island as a whole, were those under age 25, followed by the 25 to 44 and 45 to 59 age groups. The CRMA as a whole includes almost 40% of the Island's population of persons under 59, but only 10% of those aged 60 to 74 and 7% of those aged 75 and over. This reflects the relatively young, working population of the CRMA, where the median age of residents in 2007 was estimated at 34 and 36 for North Kona-North and South Kohala-Waikoloa, respectively, compared to 37 for the Island as a whole.

**Number of Households** (Exhibit 2-6)

More housing opportunities in the CRMA would enable the uncoupling of some currently doubled up households. Together with age profile changes over time, this will lead to declining household sizes in the CRMA as well as the Island as a whole. MC employed Claritas' 2007 estimated household numbers for the three regions of interest, and then extrapolated future households in the CRMA by approximating the rate of decline projected by SMS for average household size in the County as a whole.

**Projected Households –  
Competitive Residential Market Area**



See Exhibit 2-6 for sources and further information.



For 2007, SMS estimated that the island of Hawai`i had about 62,000 households, at an average size of 2.75 persons. Within this, some 12% or about 7,400 households were located in the CRMA, at an average size of 3.08 persons in North Kona-North and 2.77 persons in South Kohala-Waikoloa, according to Claritas. Based on an average decline in household size of 0.3% to 0.7% per annum the CRMA, the area could expect to house some 22,200 households by 2030, assuming its future housing opportunities are allowed to approach its future employment opportunities.

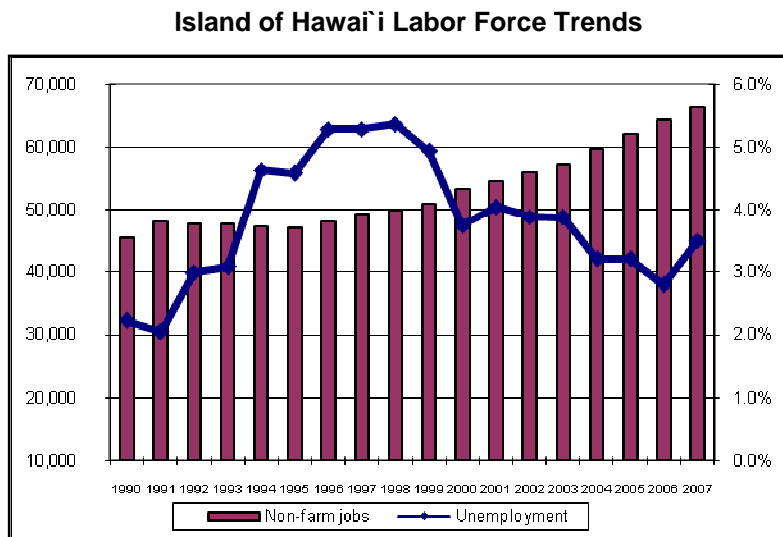
**Households by Income**  
(Exhibit 2-7)

North Kona-North and South Kohala-Waikoloa show a higher household income profile than the Island as a whole, with relatively more households earning \$50,000 or more in 2007, and relatively fewer earning less. Claritas estimates the median 2007 household income is approximately \$61,800 in North Kona-North, \$60,200 in South Kohala-South, and \$58,528 for the Island of Hawai`i.<sup>12</sup>

Per capita income is also notably higher in the CRMA CTs than for the Island as a whole.

**Employment Trends**  
(Exhibit 2-8)

The State of Hawai`i, Department of Labor and Industrial Relations (DLIR) reports island of Hawai`i unemployment averaging 3.5% as of September 2007, up from 3.0% in September 2006.<sup>13</sup> Hawai`i's unemployment rates have been among the lowest in the nation in recent years.



See Exhibit 2-8 for sources and further information.

<sup>12</sup> These do not reflect the substantially higher incomes of the region's part-time residents.

<sup>13</sup> Not seasonally adjusted, for civilian labor force.

The island of Hawai`i has supported annual increases in the number of employed persons and in non-farm and salaried jobs since 1995. In September 2007, there were an estimated 82,400 employed persons in the County, holding some 66,500 non-farm jobs. However, increases in the civilian labor force seem to be cooling since last year, according to the DLIR.

### 3. Residential Market Environment

#### *Historical Supply Conditions*

##### **2005/2006 Inventories**

✠ **Hawai`i County** had some 75,185 housing units in 2006, of which 63,178, or 84% were occupied, according to the American Community Survey (ACS).<sup>14</sup> Among occupied units, 65% were owner-occupied and 35% renter-occupied, a higher owner ratio than Honolulu County, according to the ACS. In the 2005 ACS survey, among those units estimated to be vacant, the majority was classified for seasonal, recreational or occasional use. An additional share of occupied units, estimated at a minimum of 5%, was also considered occupied by persons whose usual place of residence was outside of the County.<sup>15</sup>

Subtracting the non-primary housing units from the inventory of occupied units yields an estimated 60,000 resident housing units (RHU) in the County in 2006, or 87% of the total stock.

✠ **North Kona-North and South Kohala-Waikoloa** - While the ACS does not break out housing supply by area, according to data obtained from Claritas, about 9,474 or 13% of the Island's 2007 housing units was located in the CRMA.<sup>16</sup> With its many resort second home communities such as Mauna Kea, Mauna Lani, Waikoloa, Hualālai, Kūki`o and others, the CRMA has a far greater share of units held for seasonal, recreational or occasional use than the County as a whole. Also, among homes that are occupied, a greater than average share is occupied by persons who customarily live off-Island.

Considering these factors together, there were an estimated 6,900 RHUs in the CRMA in 2006, representing 73% of the area's total estimated housing stock. Based on surveys of new housing currently marketed in the CRMA, the RHU inventory in the CRMA in 2007 is estimated to have increased by about 200 units to some 7,100 homes.<sup>17</sup>

---

<sup>14</sup> U.S. Census, "2006 American Community Survey," released September 12, 2007 and as reported in Hawai`i State Department of Business, Economic Development & Tourism, Research & Economic Analysis Division. This survey marked the first time that the ACS survey included group quarter populations, rather than household populations only.

<sup>15</sup> DBEDT does not report these variables for the 2006 ACS survey.

<sup>16</sup> Competitive Residential Market Area, as defined for the housing market analysis of this study, and explained in Chapter 2. The CRMA is defined to consist of Census Tracts 215.01, the northern part of the North Kona Judicial District (including `O`oma and excluding Kailua-Kona Town) plus 217.01, the Waikoloa area of the South Kohala Judicial District (excluding Waimea Town). These two Census Tracts may also be referred to in this report as North Kona-North and South Kohala-Waikoloa, respectively.

<sup>17</sup> The survey excluded new product being marketed in the beach resorts, and all properties makai of Queen Ka`ahumanu Highway.

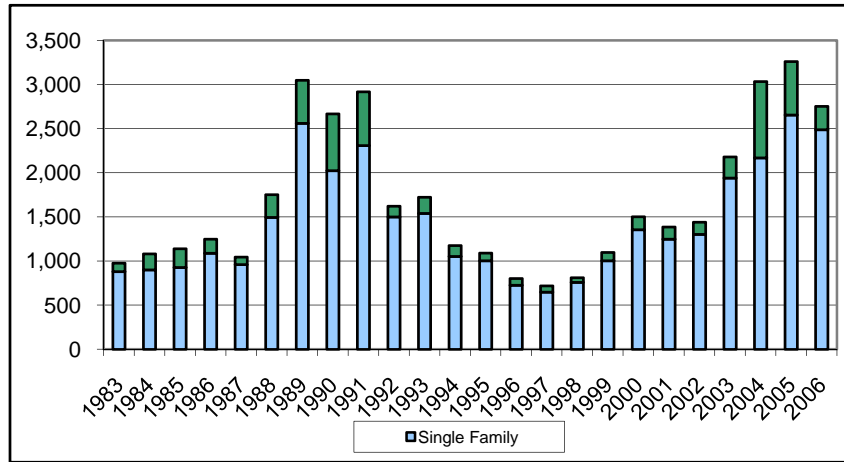
North Kona-North's homeownership rate is equivalent to the County's as a whole, at 64%, while South Kohala-Waikoloa's is lower, at an estimated 53%, according to Claritas in 2007.

**Residential Building Permits**

(Exhibit 3- 1)

Hawaii County residential permitting is dramatically cyclical and evidenced a trough from 1996 to 1998. After 2001, permitting activity increased rapidly, culminating in a record 3,262 permits obtained in 2005. Activity has cooled since then, and 2006 showed 2,754 residential permits, of which 10% were multifamily and 90% single-family. As of September 2007, 1,070 single family and 349 multi-family permits had been obtained.

**Building Permits – Hawai`i County**



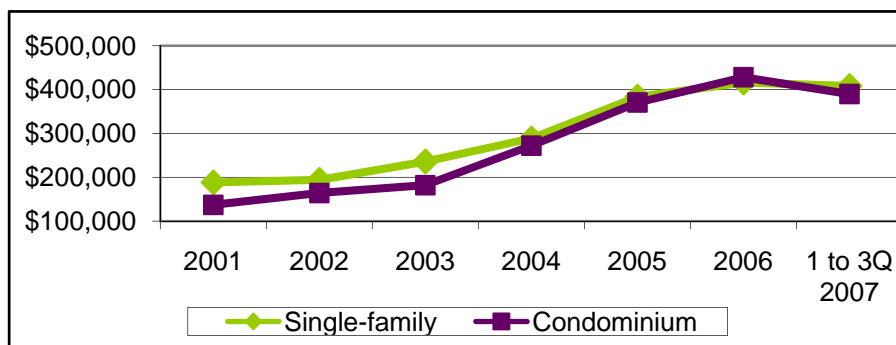
See Exhibit 3-1 for sources and further information.

**Market Trends**

**Islandwide Sales (Exhibit 3-2)**

Rapidly rising home prices in recent years reflect the relatively limited production of new housing, combined with strong labor market conditions and favorable financing conditions in recent years.

### Hawaii Island Sales – Median Prices



See Exhibit 3-2 for sources and further information.

Sale recordations during the first three quarters of 2007 showed a median single-family price of \$408,500 and a median condominium price of \$390,000, according to UHERO.<sup>18</sup> These represent 5% and 13% declines from the corresponding periods in 2006, respectively.

The near parity in prices between condominiums and single-family homes reflects the relatively large share of resort and second home product on the Island. These units are generally higher priced than RHUs and much of the Island's existing condominium stock is in such use.

Residential sales velocity has slowed since a peak in 2005, and the first three quarters of data in 2007 reflect 16% and 35% fewer closings than in the corresponding period in 2006, for single-family and condominium units respectively.

In October 2007, the median priced single-family unit closed at \$386,000, while the median price of a condominium unit was \$420,000. These prices are -6% and +9% compared to October 2006 sales, according to Hawai'i Information Service.

The short-term outlook is for continued slowing sales and stabilized or somewhat declining prices as the market makes adjustments to reflect the overly rapid rises of past years. However, longer-term, ongoing population growth, household formation and pent-up demand will continue to fuel demand for new housing.

<sup>18</sup> University of Hawai'i Economic Research Organization, Economic Information Service, as accessed November 2007.

### **Single-Family Sales in North Kona and South Kohala (Exhibit 3-2)**

Like the island as a whole, North Kona and South Kohala are recording fewer sales, while prices continued to appreciate through 2006.

☒ In 2006, single-family sales in the North Kona District numbered 456 at a median price of \$645,000, but prices appear to have come down in 2007.

☒ South Kohala showed a 2006 median price of \$550,000 with 287 closings.

Prices in these districts tend to be significantly higher than typical for the Island, and can be compared to the median single-family sale of \$416,100 for the Island as a whole. These area premiums reflect both (1) the strong demand to live in the CRMA compared to a limited supply of area housing, as well as (2) the relatively high mix of resort residential product in the region.

### **Sales in Selected Areas, North Kona-North (Exhibit 3-3)**

An analysis of residential sales in the Kona Palisades and Kealakehe communities of North Kona-North, both very close to `O`oma, was conducted. These are well-established primary residential communities with a predominance of single-family product. As for their surrounding districts and the Island as a whole, 2007 prices are generally lower than 2006. The median prices of single-family sales during the first eight months of 2007 were \$540,000 in Kona Palisades, and \$500,000 in Kealakehe.

### **Off-Island Markets (Exhibit 3-4)**

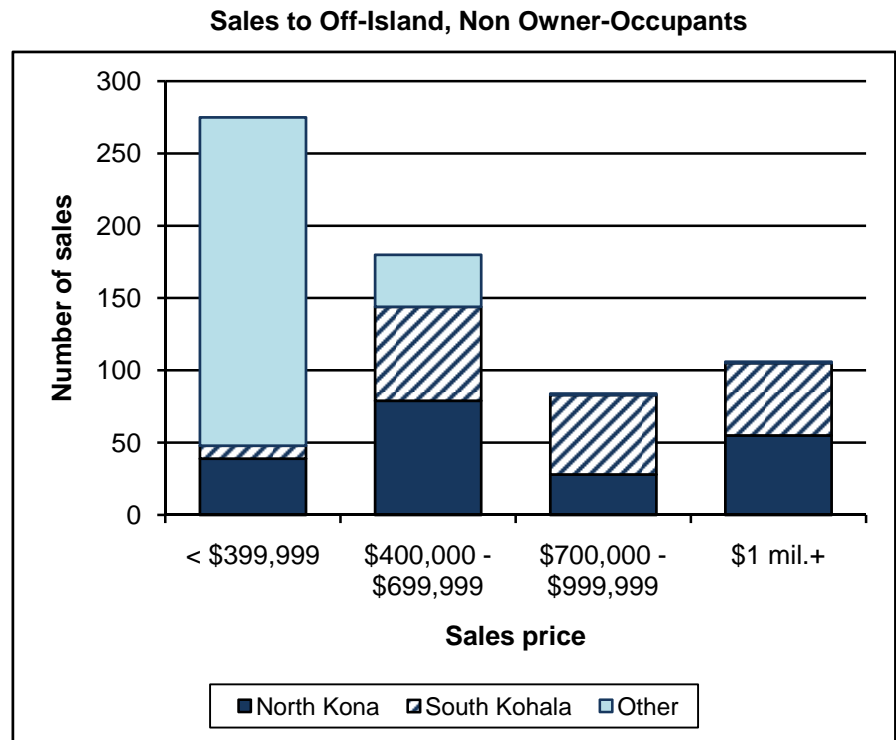
Portions of `O`oma, particularly those areas facing the ocean and shoreline park, as well as those along the southern border fronting Kohanaiki's golf fairways, are expected to appeal to off-Island buyers seeking part-time or vacation homes. To evaluate the potential market support from this segment, data was collected on sales transactions where the buyer did not claim an owner-occupant exemption and where the tax bill address is not on the Island. In 2007, there were 645 such transactions Island-wide, of which 31% were North Kona properties, 28% South Kohala properties, and 41% located elsewhere on the Island.<sup>19</sup> The total sample is down from about 800 such sales recorded in 2006. These findings are similar to those of another survey of vacation home sales.<sup>20</sup>

---

<sup>19</sup> The sample excludes vacant land sales and partial or multiple deed transactions. It includes 120 non owner-occupant sales transactions for which no tax bill address information was available. Data obtained from Hawai'i Information Service.

<sup>20</sup> Ricky Cassiday, in Honolulu Advertiser, "Fewer, pricier sales at resorts," August 21, 2007.

By sales price, 28% of 2007 off-Island, non owner-occupant sales were priced from \$400,000 to \$699,000, which as demonstrated elsewhere in this report, is a range encompassing the anticipated prices of all the market-priced, for-sale residential properties at `O`oma. North Kona is also shown to be the dominant location for property within this range, with 79 of the 180 transactions, or 44%.



See Exhibit 3-4 for sources and further information.

The less than \$400,000 and \$700,000+ ranges also demonstrate strong activity, although beyond \$700,000, such transactions were largely confined to North Kona and South Kohala. This reflects a number of factors including:

- ☒ The desirability of proximity to the Airport and Kona area commercial offerings;
- ☒ Location on the Island’s leeward side, which tends to offer beaches, drier weather, and sunset orientations;
- ☒ Development activity, which is centered in the Island’s master-planned resort areas; and
- ☒ The off-Island market’s familiarity with West Hawai`i locations, after years of successful marketing and operations.

### ***Housing Supply Outlook***

#### **Potential New RHUs in the CRMA (Exhibit 3-5)**

MC conducted a survey of planned residential projects within the CRMA, or CTs 215.01 and 217.01. This survey targeted projects of 100 units or more for which the LUC Urban District designation was in place as of October 1, 2007, and/or for which the landowner

may be exempt from LUC governance.<sup>21</sup> The planned units reported are the maximum allowed by existing entitlements, and/or the maximum currently planned for development according to project representatives, whichever is lower. As such, these counts are likely to overstate future production, since most projects are not built to their ultimate entitled or planned capacity. Planned totals were also adjusted according to the share of development anticipated to be built for the primary residential market, as opposed to a second home or investor/other non-resident market.

The survey does not consider emergency shelters, dormitory beds, or other group living quarters.

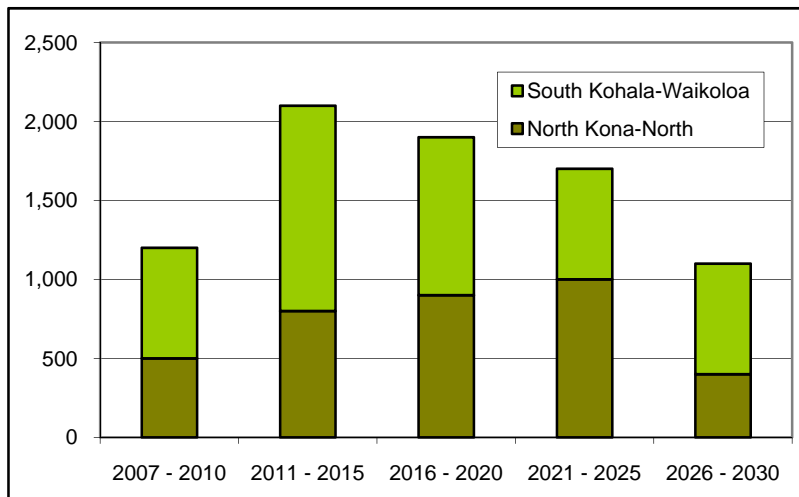
✠ **North Kona-North** - Some 3,700 future units were identified at five projects in CT 215.01, of which 3,600 units are considered deliverable by 2030. The largest planned neighborhoods are Kaloko Heights by Stanford Carr Development (SCD) (estimated up to 1,160 RHUs) and the Villages of La`i`ōpua by the State of Hawai`i, DHHL (another 1,130 RHUs). With respect to La`i`ōpua, in 2012, DHHL faces an end to the significant State funding the department has been receiving, and this could disrupt its future production.

These figures do not include `O`oma.

✠ **South Kohala-Waikoloa** shows about 4,800 future units entitled and planned, at seven projects. Among these projects, 4,400 units are considered deliverable by 2030. The largest in terms of potential future RHUs are Keolalani at Waikoloa by Keolalani Investment

Partners (estimated 1,950 RHUs) and the County's Kamakoa Vistas, or Waikoloa Workforce Housing development (estimated at 1,140 RHUs). The development team for Kamakoa Vistas is still seeking to secure financing and funding for its project.

**Potential New Resident Housing Units –  
Competitive Residential Market Area**



See Exhibit 3-5 for sources and further information.

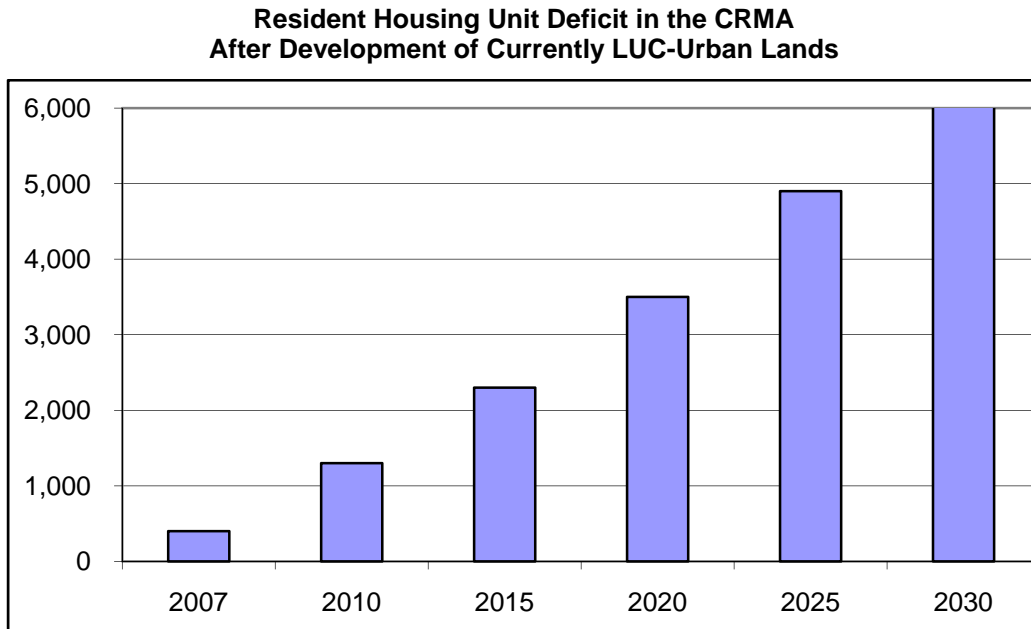
<sup>21</sup> The inventory excludes proposed residential developments on QLT lands in Keahuolū, where LUC-Urban District designation is already in place, but the lands are zoned for commercial use. QLT is considering petitioning the LUC for review of the use of these Urban lands within the next year. Likewise, the projected future inventory does not count plans on lands designated within the LUC Agricultural or Conservation districts as of October 1, 2007, because these plans require discretionary approvals at both the State and County levels and thus are currently considered too speculative to assume production. Such projects include `O`oma itself, as well as other announced proposals such as Kula Nei, Kaloko Makai and Waikoloa Highlands.



As noted, these potential inventories are generous since they consider current zoning or plan maximums and projected development schedules. Often projects get developed at less than their permitted or planned densities, and/or experience delays that push inventory further into the future.

### Summary of Island Demand and Supply Factors (Exhibit 3-6)

- ✦ **Current and Future Demand** – As presented previously in Exhibit 2-6, households in the CRMA would have to increase from about 7,481 in 2007, to 22,200 in 2030 in order to begin to address the area’s imbalance of jobs and primary resident housing. This suggests a need to provide housing for some 15,000 new households by 2030. In addition, existing pent-up demand for RHUs in the CRMA as of the end of 2007 is estimated at 400 units.
- ✦ **Current Supply** – The 2007 supply of RHUs in the CRMA is estimated at 7,100 units, as presented at the beginning of this chapter.
- ✦ **Future Supply** – Future supply estimates are based on the schedule of LUC-entitled maximum potential future developments in the CRMA<sup>22</sup>. The identified projects could produce up to 8,000 new units by 2030, as discussed above. From this figure a 5% vacancy allowance is deducted, resulting in some 7,600 new units available for resident housing use. Note that these estimates are considered generous, as explained previously.



Source: Mikiko Corporation, 2007; see Exhibit 3-6 for further information.

<sup>22</sup> See previous footnote regarding sample selection based on land entitlement.

Taken together, the demand and entitled supply projections indicate a growing shortfall in currently permitted housing opportunities. In addition to the desire to house up to 15,000 new households in the CRMA by 2030, there is an estimated pre-existing pent-up demand for about 400 housing units, and only 7,600 net units LUC-enabled.<sup>23</sup> Thus, even with aggressive housing production efforts, without further LUC entitlement to allow for additional housing developments in the CRMA, the unmet demand for housing in the CRMA is estimated to be approximately 7,900 homes by the year 2030.

---

<sup>23</sup> Based on 8,000 LUC-entitled units delivered by 2030, less a 5% vacancy allowance among those units.

## 4 – `O`oma Residential Market Assessment

### *Future Housing Market Setting*

#### **Demand Generators** (reference Exhibit 3-4)

`O`oma Beachside Village, LLC anticipates `O`oma's first housing units could be available for occupancy in 2012, with the first units produced within the Makai Area. At that time, there could be more pent-up demand for primary resident housing in the CRMA than there is today. The RHU supply in the area is projected to be more than 1,300 units short of what is anticipated to be desired by Island residents, even assuming aggressive and sustained development in the interim.

Additionally, demand generated during `O`oma's marketing will originate from new household formation as well as from existing households wishing to move into the area. This new demand can be characterized as:

✘ **Downsizers** – This is the Baby Boom generation between 2010 and 2020, and a larger share will be entering their mid-60s than their mid-50s by 2020. Many members of this generation can be expected to seek to live closer to community amenities as their children move out from home, they enter retirement and/or as they no longer care to maintain a large home.

After 2020, the 55 to 64 age cohort could decline as Baby Boomers move into their 70s (see “senior markets,” below.)

✘ **Entry level markets** – Hawai`i's next most rapidly growing cohort between 2010 and 2020 is likely to be persons aged 25 to 34, the “Echo Boom” generation. This life phase often includes household formation, and one's first rental or home purchase. Since affordability is key to this market and many do not yet have spouses or children, this market also tends to accept smaller units.

✘ **First move-ups** – A strong move-up market could emerge after 2020, as the Echo Boom cohort ages into its mid 30s and early 40s.

✘ **Retirement/senior markets** – The retiree/senior market will also show significant gains between 2010 and 2030. Typically one or two persons per household, this market is also amenable to smaller units.

As noted, many of these household types are expected to be willing to accept smaller living units and to value accessibility to community amenities. Within the Island, the CRMA (and `O`oma's site in particular) is considered a good location for attracting these growing market segments because of its proximity to existing and future anticipated Island jobs, the shoreline and regional parks, shopping and entertainment, the Airport and the many ongoing regional investments in public and private infrastructure throughout the region.

**Housing Demand and Supply** (reference Exhibit 3-6)

Currently entitled projects are estimated to yield up to 7,600 of the potentially demanded 15,000 housing units in the CRMA by 2030, if they are developed within the time frame and at the maximum levels of current plans and entitlements<sup>24</sup>

Despite these substantial developments and a strong and sustained rate of new home production forecast throughout the period, the CRMA could still anticipate a 7,800 to 7,900 unit shortage by 2030, the end of the projection period:

**Supply and Demand for New Resident Housing Units -  
Competitive Regional Market Area, 2006 to 2030**

<b>Future Demand</b>	Pent-up demand, 2006	400
	Future need, 2007-2030	<u>15,000</u>
	Total need	15,400
<b>Future Supply</b>	Planned and entitled (8,000 less 5% vacancy)	7,600
<b>Shortage</b>	<b>As of 2030</b>	<b>7,800*</b>

\* Exhibit 3-6 shows a 2030 shortage of 7,900 units; the difference is due to rounding of subtotals.

Source: Mikiko Corporation, 2007. See Exhibit 3-6 for further information.

The shortage appears to be particularly acute after about 2015, when many of today's projects could have already delivered substantial portions of their entitled and planned inventory.

<sup>24</sup> The projected future supply does not count plans on lands designated LUC Agricultural or Conservation District as of October 1, 2007, because these plans would require discretionary approvals at both the State and County levels and thus are currently considered too speculative to assume production. Such projects include `O`oma itself, as well as other announced proposals such as Kula Lei, Kaloko Makai and Waikoloa Highlands.

## Development Style - Traditional Neighborhood Design

The mixed-use village development concept for portions of `O`oma is one that has been widely tested and refined as the principles of “Traditional Neighborhood Design,” “New Urbanism,” or “Smart Growth” are adopted in communities worldwide.<sup>25</sup> In contrast to the former suburban/commuter model of development, typical guidelines for Traditional Neighborhood Design include:

- ☒ Mixed land uses (residential, commercial, community);
- ☒ Walkable neighborhoods;
- ☒ A range of transportation opportunities;
- ☒ Housing opportunities and choices for a range of household types and incomes; and
- ☒ A greater balance of jobs and housing within each community.

According to The Congress for New Urbanism, even if overall demand for new housing were to slow, cultural changes are resulting in a preference for living in walkable neighborhoods, and thus the demand for homes in New Urbanism communities is expected to increase rapidly. This is being driven by several trends:

- ☒ Demand stemming from rapid increases in the number of households that are headed by persons who are middle-aged or older, even though these same persons likely grew up in and raised their children in suburban, car-centered communities;
- ☒ Receptivity of the young adult “Echo Boomers” to urban lifestyles and Traditional Neighborhood Design values, as well as a typical inability to afford living in the suburbs;
- ☒ Deteriorating driving experience on most US highways and roadways and ever-increasing transportation costs; and
- ☒ Workforce changes related to technology and outsourcing that encourage and enable more people to work from home.

## *`O`oma’s Proposal*

### Development Concept

Consistent with the land use pattern envisioned for this region by The Hawai`i County General Plan (2005) and the Kona Community Development Plan concepts (in process), `O`oma is planned to respond to the trends and community needs discussed above. It will serve a County population that is evolving in terms of age profile and lifestyle, and it will

---

<sup>25</sup> The term “Traditional Neighborhood Design,” as used herein, connotes similar design concepts as those that may be referred to elsewhere as “New Urbanism” or “Smart Growth.” Although often dated to the late 1990s, all of these movements are rooted in the ideas of Jane Jacobs, who’s The Death and Life of Great American Cities was published in 1961.

make available opportunities for primary resident living at more modest cost than now available almost anywhere else makai of Queen Ka`ahumanu Highway.

- ✦ It offers significant primary resident housing in a region that tends to be dominated by luxury resort second home developments.
- ✦ It offers a wide variety of housing types, including “live-work” units where a resident can combine a home and a small business.
- ✦ It offers an accessible lifestyle that is not car-driven, due to its medium-densities, mixed-uses, trails and “walkable” streets. These non-car options further enhance the affordability of the community, as studies have shown that automobile costs represent up to 15% or more of the typical U.S. household budget (and much more for lower income households.)
- ✦ It offers housing in an area with significant existing and anticipated jobs as well as schools, parks and other community amenities.

### **Product Mix**

About 60% of `O`oma’s residential units could be for-sale multifamily units, and 40% for-sale single-family units, including some estate lots for custom home development. A share of `O`oma’s units is expected to be developed as affordable housing, in accordance with the County’s affordable housing requirements. A portion of these “affordable” homes could alternatively be developed as multifamily rental units.

The exact mix of units by type will be determined upon finalizing agreements with the County and during the years of build-out, as market conditions and preferences materialize.

A conceptual development scenario for `O`oma includes three distinct areas and types of multifamily development, and two main single-family product types:

**Conceptual Mix of Residential Units at `O`oma**

Unit type	Development density (units per gross acre)	Total planned units	Multifamily homes	Single-family homes	Single-family lots
Multifamily Units at Mauka Village	7.5 to 10	395 to 520	395 to 520	0	0
Multifamily Units at Makai Village	3 to 4.5	35 to 60	35 to 60	0	0
Multifamily Units at Residential Village	9 to 12	100 to 135	100 to 135	0	0
Single-Family Lots at Residential Village (ocean-facing properties)	2.5 to 3	70 to 85	0	0	70 to 85
Single-Family Homes at Residential Village	4 to 5	350 to 400	0	350 to 400	0
<b>Total</b>		<b>950 to 1,200</b>	<b>530 to 715</b>	<b>350 to 400</b>	<b>70 to 85</b>

Sources: PBR HAWAII, July 2007; prior studies.

***Comparison Project Characteristics*** (Exhibit 4-1)

To develop market conclusions regarding the above product types, several North Kona and South Kohala projects were identified and evaluated in terms of their development densities, pricing, absorption and other characteristics. The survey results are summarized in Exhibit 4-1; highlights include:

☒ **Mixed-use villages (Mauka and Makai)** – The Big Island does not yet have any Traditional Neighborhood Design developments. However, a portion of Palamanui, a planned development north and mauka of the `O`oma site, is proposed for this style. Palamanui projects multifamily units in this area are proposed to be priced from about \$400,000 to \$500,000.

☒ **Other multifamily** – Makana Kai at Wehilani and Stanford Carr’s developing Kaloko Heights project both offer townhomes, at 10 to 12 units per acre, comparable to what is proposed at `O`oma. As of this study’s field work, these were priced from

\$337,000 to \$400,000+ at Makana Kai and are proposed to average about \$400,000 at Kaloko Heights. Most buyers to date at Makana Kai were long-time Island residents.

- ✦ **Other single-family, finished homes** – Four mid-density comparison projects from North and South Kohala were identified as comparisons for single-family home development at `O`oma. These include Malulani Gardens (smaller lot homes only) and Pualani Estates in the southern part of North Kona (mauka of Kailua-Kona), Sunset Ridge in Waikoloa Village, and the planned mid-density single-family products at Kaloko Heights. Development densities at these projects range from 4.2 to about 5 units per acre, while achieved or planned sales prices clustered in the \$500,000 to \$600,000 range, but ranged up to \$746,000.
- ✦ **Single-family estate lots** – There has been little vacant lot development catering to the primary residential market in the 2.5 to 3 units per acre range in West Hawai`i. Lot developments at these densities have generally been in resort settings and/or at very high-end oceanfront or golf-front locations. The most similar product identified was Bayview Estates, which is in an off-ocean but excellent view location in Keauhou Resort. Bayview resales between November 1, 2006 and October 31, 2007 ranged from \$469,000 to \$997,000 for still vacant lots with 71% of the buyers appearing to be established Island residents.

## ***Residential Market Evaluation and Conclusions for `O`oma***

### **Anticipated Buyer Markets (Exhibit 4-2)**

The proposed products respond to the market opportunities identified previously as follows:

- ✦ **Entry-level markets** – Those units designated as affordable units, as well as many of the multifamily units in the Mauka Area are conceived to appeal to entry-level markets, typified by the rapidly increasing 25- to 34-year-old Echo Boom cohort in the 2010 to 2020 period.
- ✦ **Move-up markets** – `O`oma's Makai Village, which will be developed at lower densities than the Mauka Area, as well as its single-family housing, is expected to appeal to move-up markets and growing families. The first level move-up market, typified by persons aged 35 to 44, is projected to grow particularly rapidly in the 2020 to 2030 period as the Echo Boomers mature. A second-tier move-up market could be attracted to the custom home development opportunities at the estate lots.
- ✦ **Downsizers** – `O`oma's single-family units and all of its mixed-use multifamily units are seen to appeal to the Baby Boomer cohort that is looking to simplify its lifestyle, lessen homeowner commitments and enhance access to urban amenities. This market may overlap with the retiree segment described below.



- ✘ **Retirement/senior markets** – All of the multifamily units and some of the built single-family product could appeal to retiree markets. The age 70+ population will be a rapidly increasing age classification especially towards the latter years of `O`oma’s marketing.

The great majority of `O`oma homebuyers (estimated at 84%) are anticipated to be long-term Island residents. However, some product types, notably a few of the Mauka Village live-work” units and the estate lots, could also appeal to second home buyers, relocating retirees, or others that may come from off-Island. Such non-primary resident buyers are projected to account for about 16% of all homes at build-out.<sup>26</sup>

### **Projected Sales Prices** (Exhibit 4-2)

Evaluation of supportable residential prices at `O`oma takes into account its unique community characteristics:

- ✘ It is in North Kona, on the ocean side of Queen Ka`ahumanu Highway, an area that has been dominated by luxury second home developments with little to no housing opportunities for full-time Island residents.
- ✘ `O`oma includes more than a half-mile of shoreline planned for public use, including a beach and shoreline park. It will also connect to an extensive public waterfront park and other open spaces that will extend beyond `O`oma to the Kaloko-Honokōhau National Park, the Honokōhau Harbor, and possibly further south.
- ✘ It is planned to include a private canoe club as well as a public community pavilion.
- ✘ It is planned as a mixed-use community that is walkable and bikeable through a network of paths offering easy access to the beach, the shoreline park and retail, dining and entertainment options.
- ✘ It will offer considerable employment within the community itself, as well as “live-work” units that allow residents to combine their business and residential investments.
- ✘ The mixed-use villages would provide community retail and support services to minimize the need to travel outside the community for everyday needs.
- ✘ It is within a rapidly developing area of North Kona, where new developments include:
  - The proposed UHCWH, which would support new professional, technical, and research careers;

---

<sup>26</sup> This split is based on 20% of the market units being sold to second or vacation home buyers (20% x 80% = 16%).

- ❑ Additional tenants and expansions at NELHA and HOST, which are likewise expected to generate new positions in research, education and manufacturing;
  - ❑ West Hawai`i's first regional mall and "lifestyle center" at Kona Commons; and
  - ❑ Some of the Island's most unique commercial establishments.
- ✠ `O`oma's proximity to the Airport is both a positive and negative factor. On the one hand, it offers great convenience for those who travel frequently or whose business involves use of the Airport facilities. On the other hand, the Airport generates noise levels that are addressed through project design.

On balance, where density and other product characteristics are equivalent, `O`oma's site and location characteristics are considered to convey a premium over prices for comparable product at the selected comparison properties that were surveyed. It is also noted that elsewhere in the U.S., Traditional Neighborhood Design communities tend to enjoy a price premium over equivalent other residential products not developed in a mixed-use village setting with support community services.

The pricing conclusions for `O`oma are presented in Exhibit 4-2 and summarized as follows:

**Market Unit Price Conclusions for `O`oma**  
2007 dollars

	Average sales price	Average unit density or lot size
<b>Finished homes:</b>		
Multifamily Units at Mauka Village*	\$425,000	7.5 to 10 units/acre
Multifamily Units at Makai Village*	\$525,000	3 to 4.5 units/acre
Multifamily Units at Residential Village*	\$425,000	9 to 12 units/acre
Single-Family Homes at Residential Village (finished units)	\$650,000	5,000 to 6,000 square foot lots
<b>Vacant lots:</b>		
Single-Family Lots at Residential Village	\$650,000	9,000 to 15,000+ square foot lots

\* Prices are for market-priced units, not considering any affordable units that could be offered among these product types.

Source: Mikiko Corporation. See Exhibit 4-2 for further information.

The prices listed on the prior page do not consider the affordable units that would also be developed on-site. Their pricing would be set in accordance with County requirements. Likewise, rental rates, assuming some affordable housing units are developed as rentals, would also be based on County requirements.

For illustrative purposes, according to County guidelines in effect as of May 1, 2007, affordable housing prices would include:

- ☒ For-sale units priced from \$248,800 to \$294,000, for those offered to families of four earning 110% to 130% of the median income; and
- ☒ One- to two-bedroom rental units priced from \$935 to \$1,309 per month, including utilities, and offered to households earning 80% to 100% of the median income.

### **Projected Supportable Sales Absorption**

It is concluded that `O`oma could support a long-term sales absorption averaging about 67 units per year. Within this absorption rate are the 16% or so of buyers anticipated to come from off-Island and to be purchasing for other than primary housing purposes. As discussed in Chapter 3, North Kona is a well-proven area for such market activity, and the \$400,000 to \$699,999 price range is a very strong segment. The single-family estate lots, with a projected average price of \$650,000, can be expected to result in finished home values of \$900,000 or more, and these price ranges are also well tested in the North Kona vacation and part-time resident market.

Assuming off-Island buyers account for 16% of `O`oma's residential sales, they would account for approximately 11 sales in an average year. This in turn would represent an Island market share of less than 2% of the non owner-occupant sales identified in 2006 and 2007, or about 5% of 2007 North Kona non owner-occupant purchases (reference Exhibit 3-4.)

The remaining 56 of the 67 total average annual sales projected at `O`oma are assumed to be to Island residents who are seeking a primary home. This would mean `O`oma could satisfy approximately 9% of the 650 new units projected to be required within the CRMA in an average year between 2007 and 2030 (reference page 25 and Exhibit 3-4).

The overall conclusion considers:

- ☒ The experience of single-product types at the selected price comparison projects;
- ☒ The variety of product types at varying prices (including affordable units) to be provided at `O`oma, enabling appeal to many market segments;
- ☒ The location, pricing and community characteristics represented for `O`oma;
- ☒ `O`oma's extensive shoreline park and ocean access; and

✘ The strong future demand for new housing in the CRMA, which is projected at an average of about 650 units per year until 2030.

The 67 unit average might support the various product types approximately as follows:

**Projected Supportable Residential Unit Sales Rate at `O`oma  
by Product Type, 2012 - 2029**

	<b>Maximum units</b>	<b>Average annual absorption*</b>	<b>Potential marketing period (years)*</b>	<b>Comments</b>
<b>Makai Area (Petition Area)</b> (start 2012):				
Multifamily Units at Makai Village	60	10	6	Some mixed-use units
Multifamily Units at Residential Village (portion)	105	15	7	No mixed-use; site spans Urban and Petition Areas
Single-Family Lots at Residential Village	85	10	9	No mixed-use
Single-Family Homes at Residential Village	400	30	13	No mixed-use
<b>Subtotal</b>	<b>650</b>	<b>46</b>	<b>14</b>	
<b>Mauka Area (Current LUC Urban District)</b> (start 2014):				
Multifamily Units at Mauka Village	520	33	16	Some "live-work" units
Multifamily Units at Residential Village (portion)	30	15	2	No mixed-use; site spans Urban and Petition Areas
<b>Subtotal</b>	<b>550</b>	<b>34</b>	<b>16</b>	
<b>Total `O`oma</b>	<b>1,200</b>	<b>67</b>	<b>18</b>	

Note: Total and subtotals assume several but not all products are marketed simultaneously in any given year.

\* Based on maximum number of units of each type, assuming all marketed for-sale (rather than some also as rentals), thus possibly high estimates. However, sales periods for products may also be extended due to phasing.

Absorption rates assume affordable for-sale housing. Actual inventory and unit tenure to be determined in future agreements with relevant government agencies.

Sources: PBR HAWAII, October 2007; Mikiko Corporation, 2007. See Exhibits 4-2 and 4-3 for further information.

Actual sales from year to year would vary depending on market cycles and the types of units available for sale at any given time. An illustrative mix of absorption periods for residential products within the Mauka and Makai areas of `O`oma are provided below:

**Illustrative Summary of Maximum Potential Residential Sales Absorption at `O`oma**

	<b>Makai Area (Petition Area)</b>	<b>Mauka Area (Current LUC Urban District)</b>	<b>Total for-sale housing (maximum)*</b>
Potential total inventory	<b>650</b>	550	1,200
Average annual sales	<b>46</b>	34	67
Years on market	<b>14</b>	16	18
Start date	<b>2012</b>	2014	2012
<b>End date</b>	<b>By 2025</b>	By 2029	By 2029

\*Assumes several but not all products are marketed simultaneously in any given year, thus total project years on market could exceed that for the Makai or Mauka Areas individually; also, total average annual sales is less than the sum of those for the two areas individually.

Source: Mikiko Corporation, 2007.

As shown, developments within the Makai Area could be expected to be absorbed within about 14 years, or by 2025. Marketing of the Mauka Area could be expected to overlap with the Makai Area, but could extend somewhat longer, to about 2029.

Alternatively, if the community is developed at less than its planned maximum capacity, or if some of the units were developed as rental products, the residences could be absorbed more rapidly.

## 5 - Commercial Market Environment

### *Background*

Various commercial areas offering retail and office facilities are planned at `O`oma. This chapter presents a review of area retail and office market conditions. Although many retail shopping centers include substantial office space, and office buildings often include retail, comparison properties are classified as one or the other based on the predominant use or representation of type by property managers.

### **Analytical Approaches**

- ✦ **Retail** - The market assessment for retail space compares retail supply to area daytime populations. Daytime population consists of residents of an area, less those who may be away during the daytime for work or other purposes, plus those who may live elsewhere but are in the area during the daytime, such as workers employed in the area. The U.S. Census estimates daytime population for primary residents of the area; to this MC adds average daily visitors. Daytime population is a better indicator of commercial demand in West Hawai`i than resident population because of the strong influence of visitor spending on area commercial markets.<sup>26</sup>
- ✦ **Office** – Demand for office space is related to civilian employment at jobs located within the region, regardless of where the employees live. Government office buildings are not considered, since their development and placement is more often a matter of policy and budget processes than market trends.

### **Primary Trade Area**

The Primary Trade Area (PTA) for commercial uses at `O`oma is considered to be the entire North Kona and South Kohala districts of the Island. This is a larger reference area than considered in the residential market review, where it was referred to as the Competitive Residential Market Area. This larger area of interest for commercial purposes is appropriate because:

- ✦ Commercial establishments in North Kona, and particularly its northern half, defined by CT 215.01, serve broad regional markets on the Island that extend far beyond CT 215.01. Obvious examples of this are Costco and The Pottery Terrace, the latter being the largest office building on the Island.

---

<sup>26</sup> Part-time residents of the region are another potentially very significant market segment, but this source is not evaluated quantitatively here.

✦ There appears to be significant commuting within North Kona and South Kohala, meaning that residents travel within the area for work, their children's schooling or for other activities. Hence, they may shop or patronize businesses within a broad area.

✦ There is a large daily visitor population in the PTA, mostly accommodated along the coastline. A significant share of this population is likewise considered quite mobile within the region, since they are vacationing.

North Kona and South Kohala also serve commercial markets that originate outside their borders. These sources of market demand are not addressed quantitatively in this analysis, and hence the conclusions expressed could be somewhat conservative.

## Primary Trade Area



See Exhibit 2-1 for sources and further information.

## ***Commercial Supply***

### **Existing Retail Supply in the PTA (Exhibit 5-1)**

The PTA had some 2.1 million square feet of retail space in place as of the first quarter of 2007. About 75% or 1.6 million square feet of this was located in the North Kona District. The PTA accounts for about 65% of Island's retail-based commercial gross leasable area (GLA).

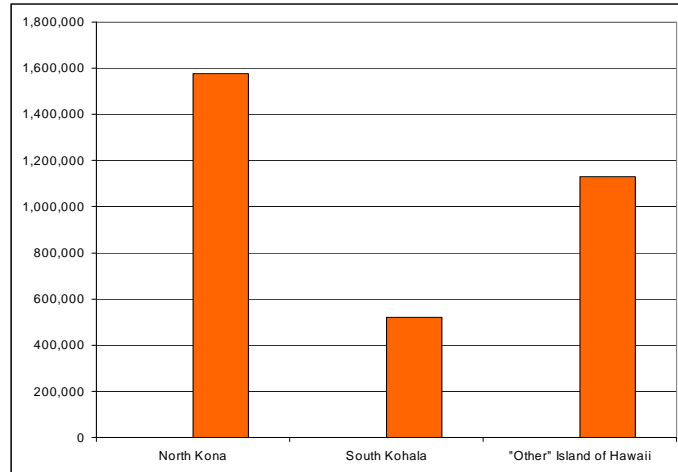
On the other hand, Hilo is home to the Island's largest existing centers, the Prince Kuhio Plaza with over 500,000 square feet, and Waiakea Center with about 230,000 square feet.

Overall, Hawai`i Island's retail market appears undersupplied, with an August 2007 composite vacancy rate of about 3%. The West Hawai`i area appears to be near balance with an average vacancy of about 5%.

**Retail Benchmark Areas**  
(Exhibit 5-1)

Hawai`i Island as a whole has a different economic profile than does West Hawai`i, with significantly less visitor influence, and without the benefit of the major international port of the Island. Thus, while market data is provided and considered for the Island, it is not viewed as an ideal benchmark for the PTA, and a comparison locale was sought on Oahu.

**Existing Retail GLA – Island of Hawai`i**  
(square feet)



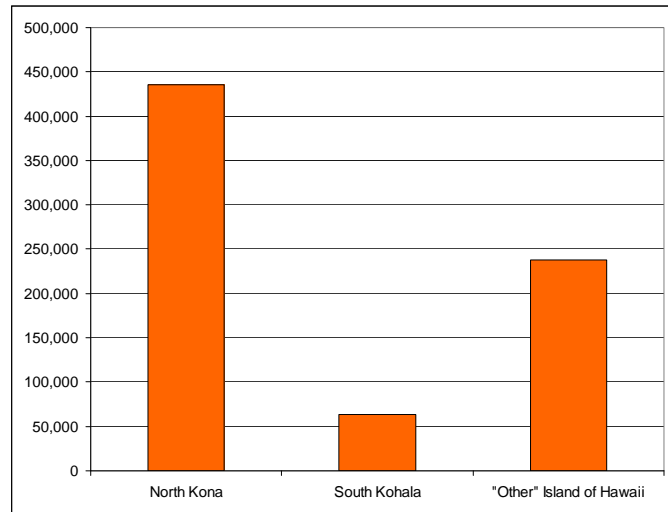
See Exhibit 5-1 for sources and further information.

As a planned community nearing buildout, with retail centers operating at or near capacity and a growing jobs base, Hawai`i Kai is a better indicator for the relationship of balanced retail supply to population levels in a suburban community.<sup>27</sup> Hawai`i Kai has about 857,000 square feet of GLA, of which 247,000 are in the regional Hawai`i Kai Towne Center, about 322,000 in Koko Marina Shopping Center, and 133,600 in Hawai`i Kai Shopping Center.

**Existing Office Supply in the PTA**  
(Exhibit 5-2)

Office supply and demand is evaluated in terms of rentable building area (RBA), also expressed in square feet. Like retail, North Kona also dominates the office-based supply in the PTA, with an estimated 435,000 RBA, compared to only 63,000 in South Kohala and 238,000 elsewhere on the Island.

**Existing Office RBA – Island of Hawai`i**  
(square feet)



See Exhibit 5-2 for sources and further information.

<sup>27</sup> Because Hawai`i Kai is a suburban community, whereas the PTA is emerging as an urban infill development, Hawai`i Kai's ratios are possibly low indicators for the PTA.



The PTA as a whole houses about 66% of the County's office-based RBA.

Office vacancies were about 7% in North Kona, 0% in South Kohala, and 10% for the Island as whole, as of November 2006.

### **Office Benchmark Areas (Exhibit 5-2)**

As in the retail market, office market characteristics for Hawai'i Island as a whole are considered low indicators for office demand in the PTA. Thus, the study also looks to O`ahu as an example of more mature office markets and a labor force that includes a greater share of non-service-based employment, as may West Hawai'i in the future. While O`ahu includes some highly urbanized areas, taken as a whole it is a composite of urban, rural and suburban areas.

The island of O`ahu had a total of 15.7 million RBA, of which 11.4 million or 73% was in urban Honolulu. O`ahu's average vacancy rate was about 7% as of the third quarter of 2007.

### **Planned and Future Space in the PTA (Exhibit 5-3)**

A total of 2.6 million square feet of planned and entitled commercial inventory was identified in North Kona and South Kohala.<sup>28</sup>

Within the PTA, North Kona is the focus of current commercial development interest. There is an estimated 1.9 million square feet of potential retail- and/or office-based commercial spaces proposed or already underway on lands that are entitled and planned for commercial development, as of October 2007.

- ☒ The largest will be the Kona Commons, an approximately 70,000 square foot "lifestyle" center planned on lands leased from QLT in the Keahuolū area. The first phase of about 132,000 square feet of this center is anticipated in October 2008.
- ☒ Second largest is the up to 500,000 square feet proposed at Kona Kai Ola, which would also include a marina and hotel, and timeshare units on lands extending from Honokōhau Harbor to Queen Ka`ahumanu Highway. Although most of these lands are now designated LUC-Urban, developer Jacoby and the State landowners Department of Land & Natural Resources (DLNR) and DHHL are initiating an EIS process because of agreements between DLNR and Jacoby. The property will also require a Special Management Area Permit (SMA) to proceed.

---

<sup>28</sup> As for residential developments, this analysis considers only those proposals on lands designated Urban by the LUC as of October 1, 2007. Additionally, commercial developments within projects designated for industrial use are not considered. These would include the West Hawaii Business Park and Kaloko Industrial Park. In addition, the Department of Transportation-Airports division is currently working a revised Master Plan for KOA, which may result in additional commercial uses at KOA. These potential uses have not been considered here because the DOT-A master planning process is still underway and specific uses have not been determined, therefore such development is too speculative for analysis at this time. "

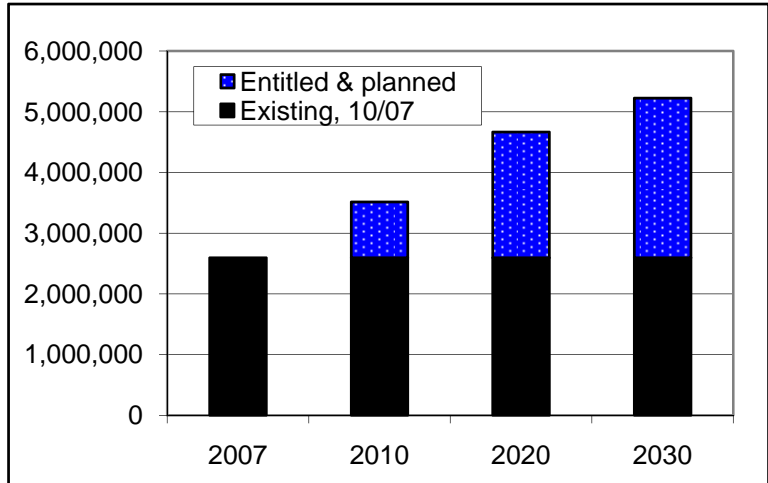
South Kohala has some 740,000 square feet of commercial area proposed over the next 20 years, at four locations: Queen’s Marketplace in Waikoloa Beach Resort (under construction), the proposed Aina Le`a development across from Mauna Lani Resort, Waikoloa Village and in Waimea Town.

Specific projects and land areas from which these estimates were derived are presented in Appendix 4.

**Future Trade Area Inventory**  
(Exhibit 5-3)

If all of the planned and entitled projects identified were developed to their full capacity, and no existing retail- or office-based centers were demolished, the PTA’s commercial inventory could approximately double by 2030, to some 5.2 million square feet.

**Potential Future Commercial Space - PTA (square feet)**



See Exhibit 5-3 for sources and further information.

**Retail Supply and Demand Relationships**

**Area Resident Profiles** (Exhibit 5-4)

The PTA was home to some 50,917 persons, representing an estimated 30% of the Island’s population in 2006. Claritas estimates the PTA population grew 3.4% per year after 2000, much more rapidly than the Island as a whole. The benchmark market Hawai`i Kai housed about 28,000 persons in 2000 and is estimated to have grown just 0.8% per annum to about 29,000 in 2006.

North Kona’s median age in 2006 was about 39, somewhat older than in South Kohala or the Island as a whole, whose medians were estimated at 36 and 37, respectively. North Kona’s median age is closer to that of Hawai`i Kai, where it was estimated at 44 in 2005.

**Daytime Population Ratios** (Exhibit 5-5)

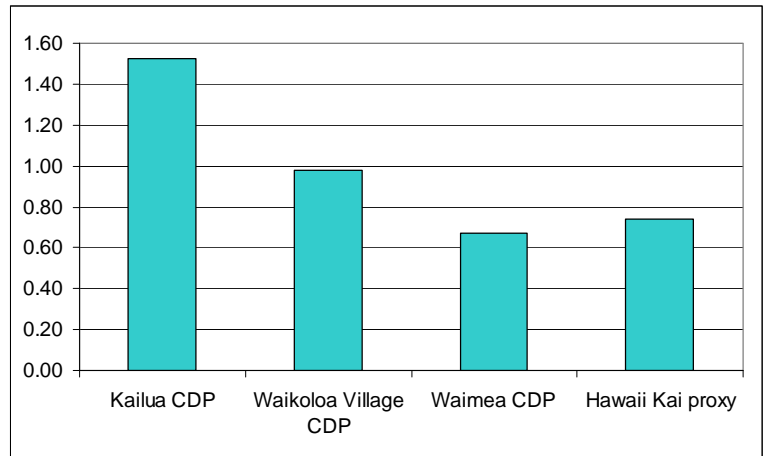
Daytime populations within the Trade Area and benchmark market are estimated based on 2000 ratios prepared by the U.S. Census within Census Designated Places (CDPs).<sup>29</sup> The PTA is evaluated by means of three CDPs: Kailua (Kailua-Kona area), Waikoloa Village and Waimea. The ratios derived from this source are considered baseline figures for the current analysis, as explained below.

<sup>29</sup>US Census Bureau, Census 2000, PHC-T-40, "Estimated Daytime Population and Employment-Residence Ratios: 2000" Journey to Work and Migration Statistics Branch, 2005.

Hawai`i Kai is not a “Place” designated by the Census. Therefore, Kailua on O`ahu is used as a proxy for Hawai`i Kai, since both are long-established bedroom communities to Honolulu, located about 30 minutes away, and both have shown recent increases in retail- and service-related employment.

On average, the PTA CDPs showed a daytime to resident ratio of 1.13 persons in 2000, suggesting significant in-commuting during the day, especially to the Kailua-Kona area. These figures do not consider the impact of non-Island residents such as visitors staying at area resorts.

**Ratio of Daytime Population to Residents**



See Exhibit 5-5 for sources and further information.

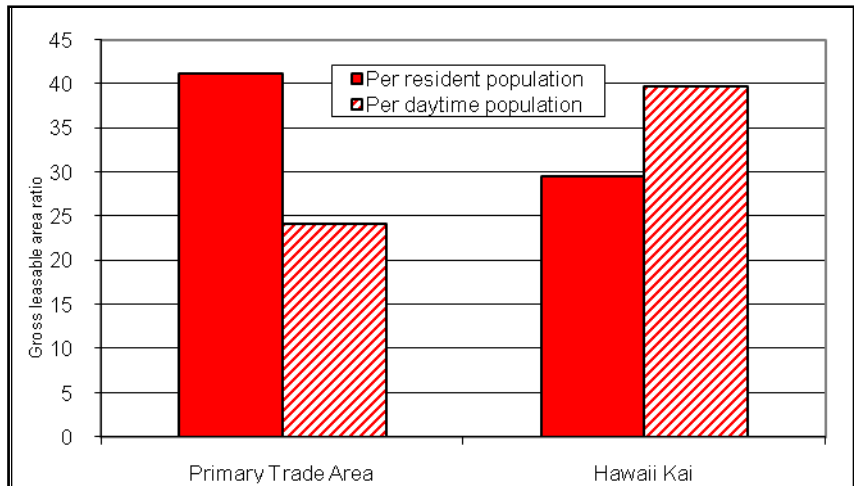
In-commuting to the PTA as a whole could be even greater than these figures reflect, because there are persons who live and work in different CDPs but still within the Trade Area.

As a proxy for Hawai`i Kai, Kailua CDP showed a 0.74 daytime to resident population ratio.

**Retail Supply in Relation to Population**  
(Exhibit 5-6)

Comparing retail GLA to resident population, the PTA suggests high supply when one considers resident population, but upon evaluation of the more relevant daytime population, it is well below the Hawai`i Kai benchmark. The PTA supply represents 24 square feet per daytime resident, while Hawai`i Kai is considered a relatively balanced suburban market, at 40 square feet per daytime resident.

**Retail GLA Per Person**  
(square feet)



See Exhibit 5-6 for sources and further information.

Hawai'i Kai was able to support this significantly higher space ratio despite virtually no vacancies.

### ***Office Supply and Demand Characteristics***

#### **Employment Ratios (Exhibit 5-7)**

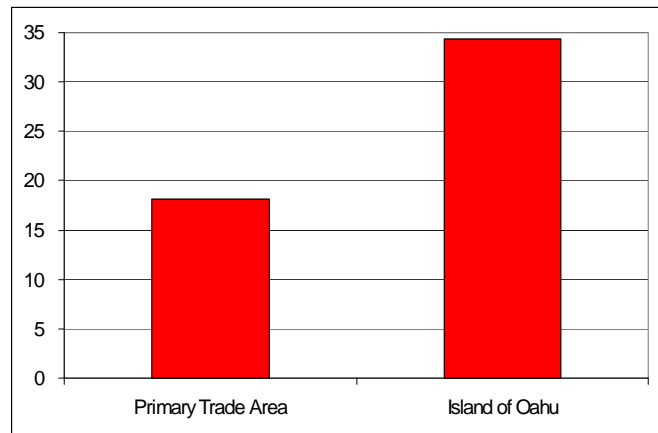
The PTA's civilian labor force accounted for about 54% of its resident population in 2006, with insignificant variation between North Kona and South Kohala. For the island of Oahu as a whole, the ratio was 49%. The PTA's higher ratio reflects its relatively young and workforce-dominated population. With the job and career opportunities of the PTA, it is likely to continue to attract a substantial workforce population, but its age profile will also "gray" as will the rest of the State's.

#### **RBA Ratios**

(Exhibit 5-7)

Comparing existing office RBA to the number of civilian employed persons, the PTA offered significantly less office space than O`ahu as a whole. In 2006, the PTA's private office inventory was estimated at 18 square feet per person in the civilian labor force, compared to 34 for O`ahu.

RBA Per Civilian Employee  
(square feet)



See Exhibit 5-7 for sources and further information.

## 6 – `O`oma Commercial Market Assessment

This chapter presents the estimated market support for additional commercial space in the PTA and at `O`oma, as derived from retail- and office-based market indicators.

### *Supportable Commercial Area in the Primary Trade Area*

#### **Methodology** (Exhibit 6-1)

Additional future retail-and office-based market needs will be related to growth in the daytime populations of the PTA for retail space, and in the labor force for office space. The potentially rapidly increasing resident population of the PTA itself would anchor demand in the area. Additionally, the populations of rest of West Hawai`i could also contribute significant retail expenditures to the PTA, as the PTA becomes further established as the regional hub for jobs, services, entertainment and shopping. This analysis of supportable commercial area considers only demand that originates within the PTA, and thus may be considered conservative.

#### **Retail-Based Demand** (Exhibit 6-1)

- ☒ Retail-based demand is evaluated as a function of daytime population. This assessment assumes daytime to resident population ratio in the PTA rises from the 1.28 level that was derived from year 2000 working patterns, to 1.40 by 2020 and beyond. This is considered possibly conservative due to:
  - ☐ The PTA ratio is likely already higher than the 1.28, since that figure reflects 2000 working patterns and only those persons remaining within small CDP areas within the Trade Area.
  - ☐ The many proposed commercial developments in North Kona reinforce its position as a jobs and commercial hub of West Hawai`i, and reflect its status as an urban infill area.
- ☒ Added to this “resident daytime population” is an estimate of the average daily visitor population in the area, which is assumed to grow at about 2% in the future, according to projections prepared by UHERO.<sup>30,31</sup>

---

<sup>30</sup> UHERO, “Tourism Pause Means Further Slowing Ahead,” March 2, 2007.

<sup>31</sup> This methodology may also be considered conservative in that the sizeable and growing area population of second home residents is not quantified as a part of daytime population.

These components identify a future PTA retail consumer population of about 179,000 persons by 2030, reflecting a 3.1% per annum rate of increase from 2010. Employing a ratio of 40 GLA square feet per person, equivalent to that realized in Hawai'i Kai in 2006, the PTA could be expected to support some 3.0 million square feet of retail-based GLA by 2010, or up to 5.9 million by 2030.

**Office-Based Demand** (Exhibit 6-1)

North Kona already dominates the Island's office market with the majority of the Island's supply at better than average occupancy.

Future office-based demand is considered a function of growth in the civilian labor force in the PTA. This can be expected to follow from the relocation and expansion of UHCWH, additional job creation at NELHA and HOST, and from plans for commercial, second home, timeshare and hotel developments within the area. Some of these developments represent expansion of non-service industries in the PTA and can be expected to support more professional and technical opportunities than are available today. These sectors tend to generate more office-based employment than others. Accordingly, supportable RBA in the PTA is projected to increase to up to 25 square feet per civilian employed resident by 2020. This would be a significant change from the 2006 profile of the area, but is still well within the 34-square foot average evidenced on Oahu.

Using these assumptions and considering just the PTA as a demand generator, by 2030, the PTA could require up to 1.4 million square feet of office RBA.

**Total Commercial Demand** (Exhibit 6-1)

In total, the retail- and office-market derived demand indicator suggest support for up to 3.6 million square feet of commercial area by 2010, or 7.3 million throughout the PTA, by 2030:

**Projected Supportable Commercial Areas in the PTA** (square feet)

	2010	2020	2030
Retail-based demand	3,000,000	4,700,000	5,900,000
Office-based demand	600,000	1,100,000	1,400,000
<b>Total</b>	<b>3,600,000</b>	<b>5,800,000</b>	<b>7,300,000</b>

Note: Represents total projected supportable areas, including existing and entitled/planned developments. See Exhibit 6-1 for further information.

**Supportable Additional Areas**

Considering the already existing State entitled and planned areas,<sup>32</sup> the PTA could be expected to support an additional 1.13 million square feet of commercial space by 2020. By 2030, the cumulative total of new supportable areas could amount to about 2.07 million square feet over and above those areas already existing or proposed and entitled for development.

**Assessment for `O`oma**  
(Exhibit 6-2)

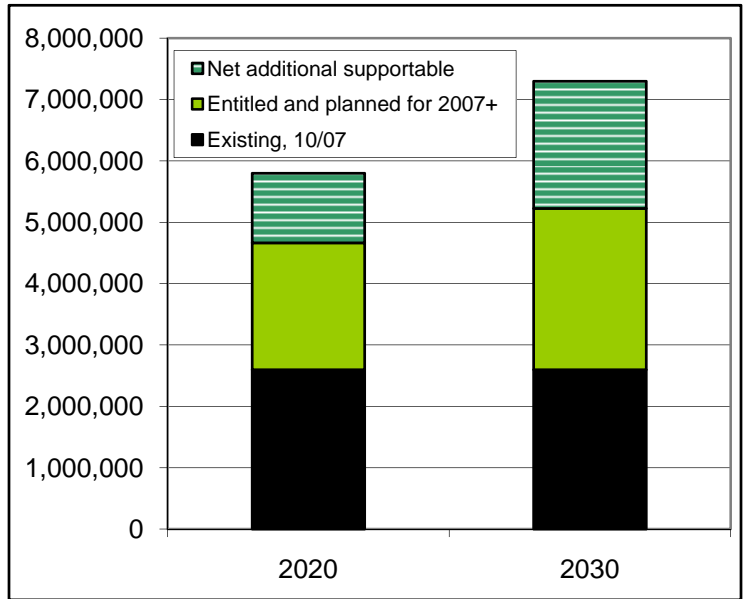
**`O`oma Proposal**

`O`oma Beachside Village, LLC proposes to offer approximately 200,000 square feet of commercial areas at `O`oma. The majority, up to about 150,000 square feet, would be located in the Mauka Village, which may be traversed by a proposed NELHA/Airport connector road. This would create highly desirable commercial sites at the Mauka Village.

The balance of up to about 50,000 square feet would be located in the ocean-facing, Makai Village, at the edge of the shoreline park. This Village could include a private canoe club, restaurants and other retail or entertainment-oriented establishments that would benefit from the ocean and shoreline views.

As with the residential development, the first finished commercial building products are assumed to be available for use in about 2012.

**Projected Supportable Commercial Areas in the PTA**  
(square feet)



Source: Mikiko Corporation. See Exhibit 6-2 for further information.

<sup>32</sup> See Appendix 4 for listing and explanation of areas considered “entitled and planned” future inventory.

## Commercial Markets and Enterprise Types

`O`oma's commercial development will address `O`oma residents' retail and office needs as well as those of the PTA and in some cases, the broader West Hawai`i community. Facilities could include neighborhood or community shopping centers, office buildings, "live-work" or "flex units" that could accommodate a proprietor's office as well as home, and retail spaces mixed into residential and/or office structures.

The location suggests a variety of enterprise types of interest, such as:

- ✦ **Neighborhood retail and services** directed at `O`oma and Kohanaiki primary residents and the `O`oma and NELHA workforce. This demand could support establishments such as eating and drinking places, convenience grocery, sundries, laundry services and banking;
- ✦ **Community retail and businesses** directed at `O`oma residents as well as the broader West Hawai`i community, but particularly the North Kona and South Kohala districts. These could include unique eating and drinking places, specialty foods or nursery/floral shops; postal or other civic services; and offices for professional services, real estate and rental agencies;
- ✦ **Airport convenience goods and services** such as gas stations, gifts and packaging/mailing, especially if the NELHA/Airport connector road is developed;
- ✦ **Service businesses that support area part-time resident communities** such as at Hualālai, Kūki`o and Kohanaiki, with services such as home maintenance and repair, housekeeping, pool maintenance, landscaping, and auto storage and maintenance;
- ✦ **Branch offices** of professional or construction-related enterprises that frequently do business in West Hawai`i.

It is estimated that a majority of the commercial space planned throughout `O`oma could be supported by resident and daytime populations that originate within a three- to four-mile radius of `O`oma. In addition to offering convenience to these area residents, workers and visitors, the planned commercial areas could also benefit the broader region:

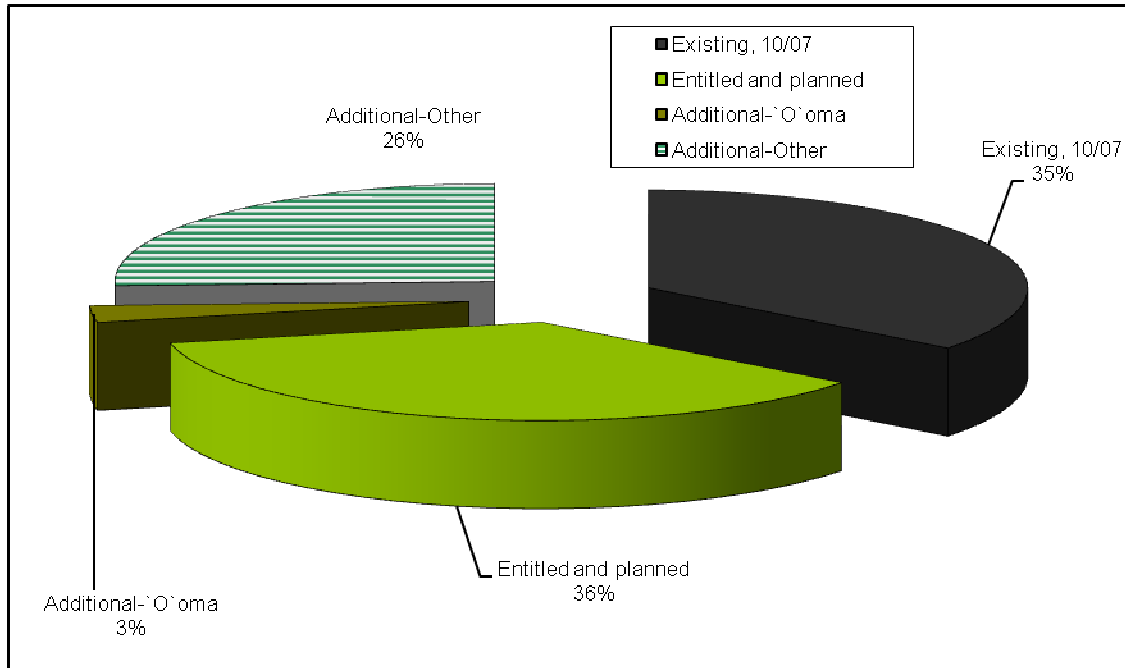
- ✦ **Traffic alleviation** – With its prime location near to the Airport, between Kailua-Kona and the resorts of North Kona, and with frontage along Queen Ka`ahumanu Highway and a potential NELHA/Airport connector road, commercial development at `O`oma could alleviate unnecessary traffic into congested Kailua-Kona for residents, employees and visitors to the region.
- ✦ **Ocean access** – The proposed Makai Village will greatly enhance public access to the shoreline. This would be a great departure from existing commercial developments near to the shoreline in North Kona, which have tended to be entirely private or very exclusive.



## Projected Supportable Commercial Areas (Exhibit 6-2)

If developed to the full-proposed approximate capacity of 200,000 square feet, `O`oma's commercial spaces could represent some 3% of the PTA's total 2030 inventory. It could also represent a venue for about 10% of the currently unplanned but future supportable commercial space in the PTA.

**Distribution of Projected Supportable Commercial Space in the PTA: 2030**



See Exhibit 6-2 for sources and further information.

`O`oma is projected to support about 100,000 square feet within nine years (by 2020). This could include all of the 50,000 square feet proposed within the Makai Area, and about one-third of areas proposed within the Mauka Area. The balance of commercial development could be expected to be completed coincident with the buildout of the residential community.

A potential development scenario consistent with the market findings is outlined on the following page. The assessment addresses commercial spaces that may be developed within "live-work" units, as well as those that may be built in dedicated commercial or mixed-use centers.

**Summary of Projected Commercial Absorption at `O`oma  
2012 - 2029**

	2012 - 2020	2021 - 2029	Total
Number of years	9	9	18
<b>Makai Area (Petition Area)</b> (start 2012):			
Mixed-use	30,000	0	30,000
Restaurant/canoe club	20,000	0	20,000
<b>Subtotal</b>	<b>50,000</b>	<b>0</b>	<b>50,000</b>
<b>Mauka Area (Current LUC Urban District) (start 2014):*</b>			
Mixed-use*	50,000	100,000	150,000
<b>Total</b>	<b>100,000</b>	<b>100,000</b>	<b>200,000</b>

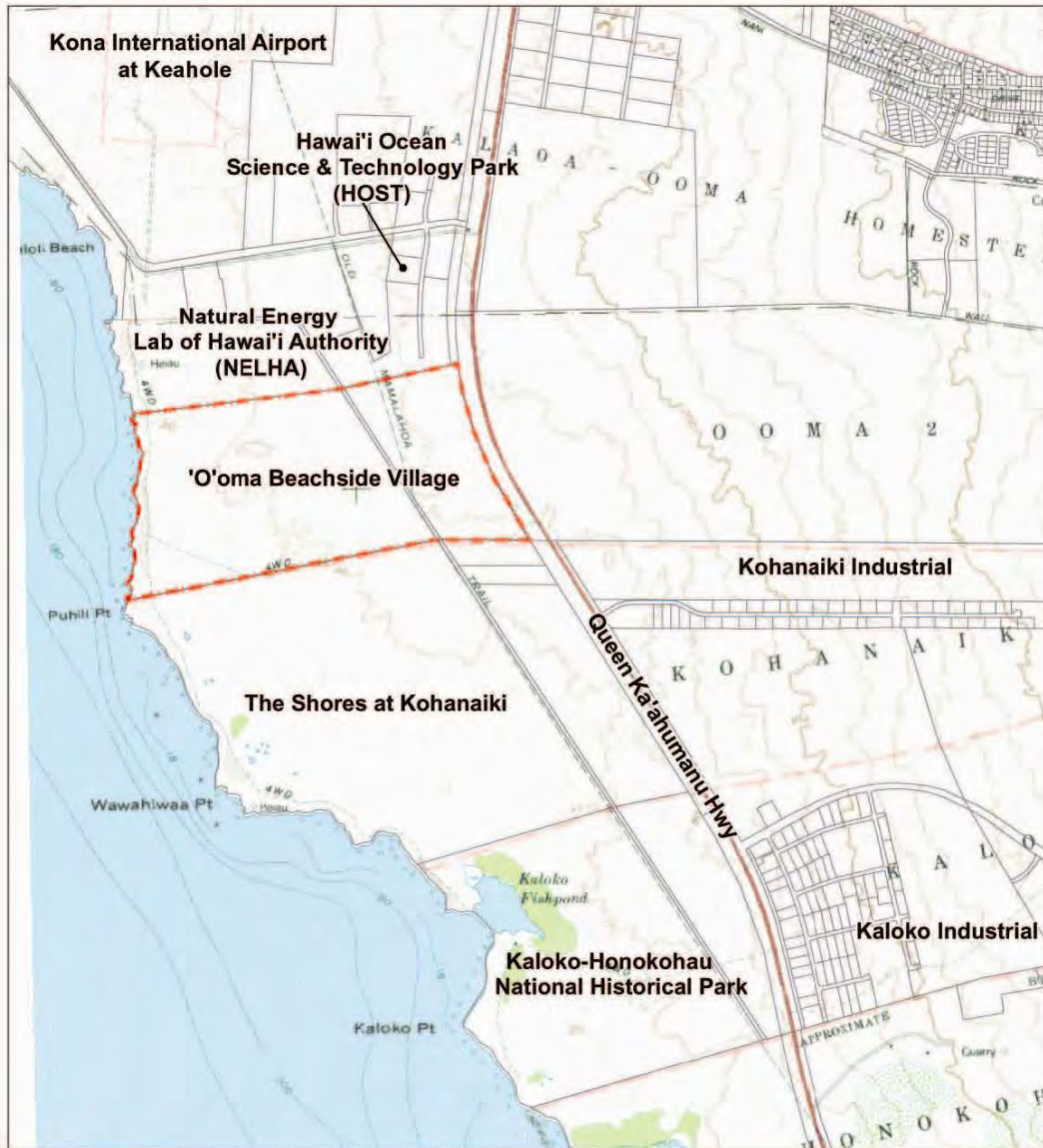
\* Start date refers to all developments within the Current LUC Urban District, including residential uses. Commercial uses likely to be initiated a year or more after residential uses within this area.

Source: Mikiko Corporation, 2007.

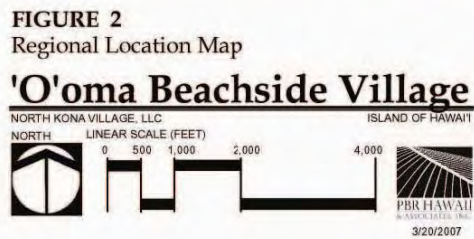
# **Market Assessment for `O`oma Beachside Village**

## **Exhibits**

# Exhibit 1-1 `O`oma Beachside Village – Site Location



**Legend**  
 'O`oma Beachside Village

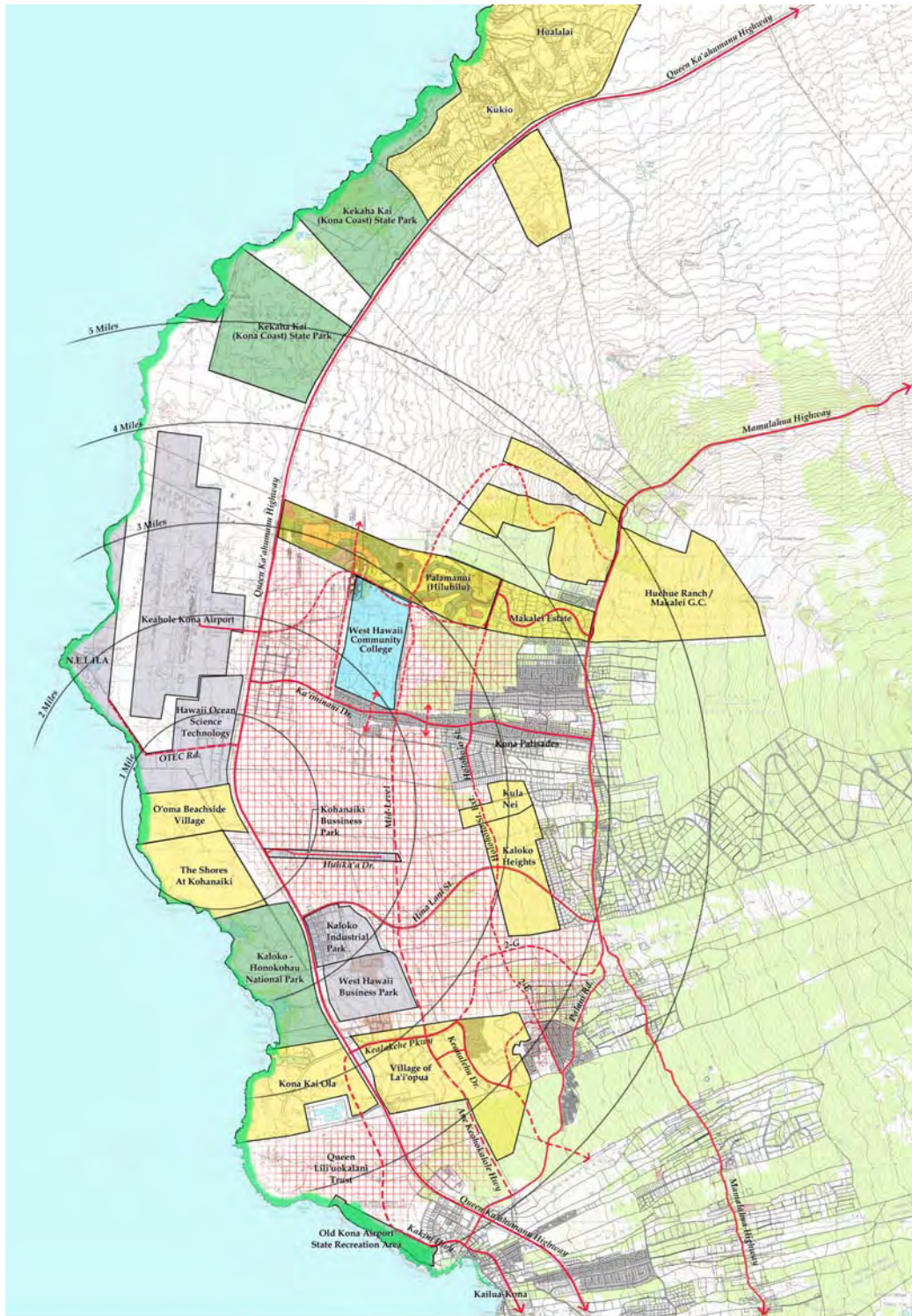


Source: U.S. Geological Survey  
 Disclaimer: This graphic has been prepared for general planning purposes only.

Source: PBR Hawaii, 2006.



# Exhibit 1-2 O`oma Beachside Village – Regional Context

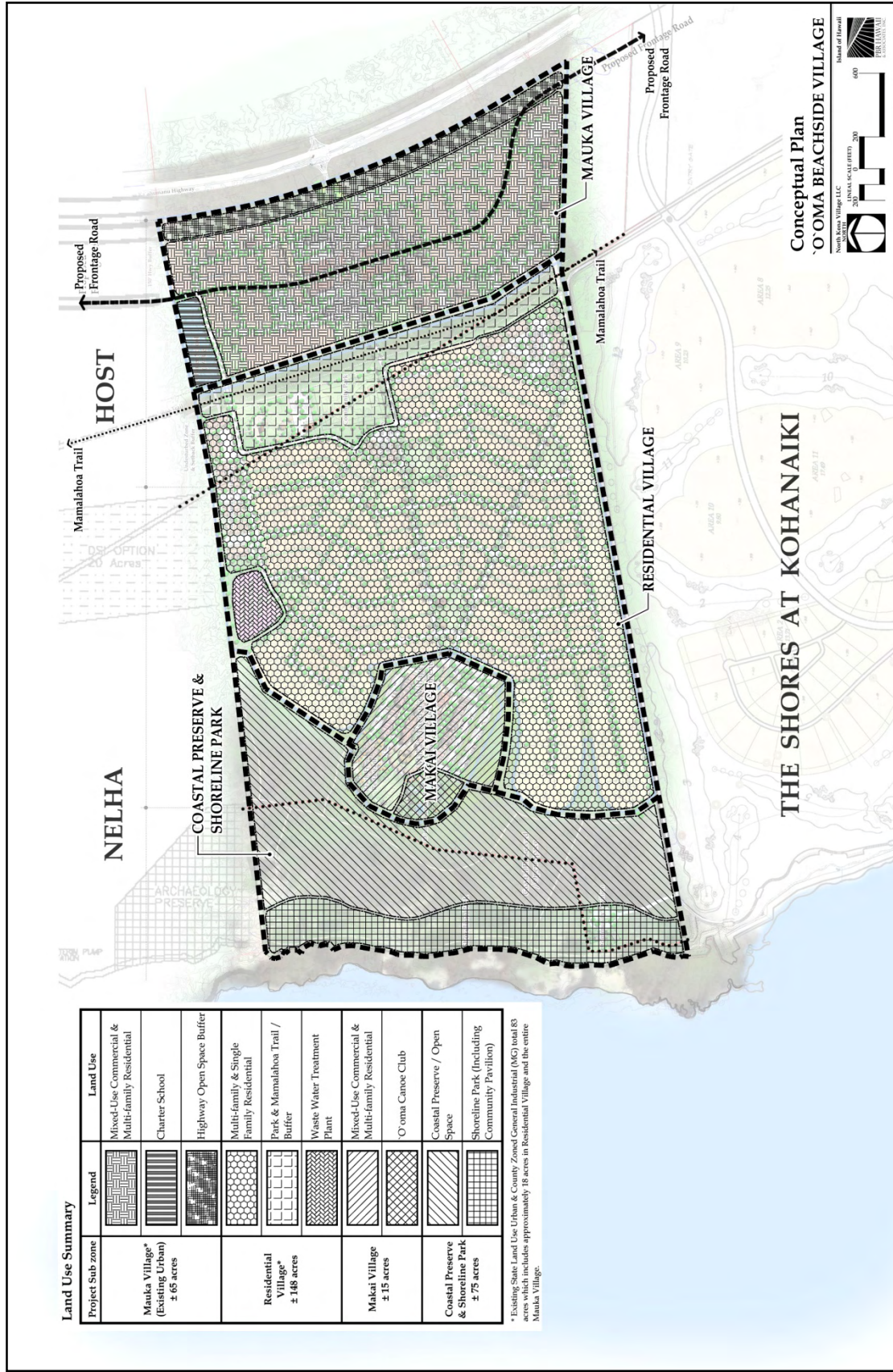


Regional Context Map  
**O'OMA BEACHSIDE VILLAGE**  
North, East, West, South  
  
**PBR HAWAII**  
& ASSOCIATES, INC.

Source: PBR Hawaii, April 2007.

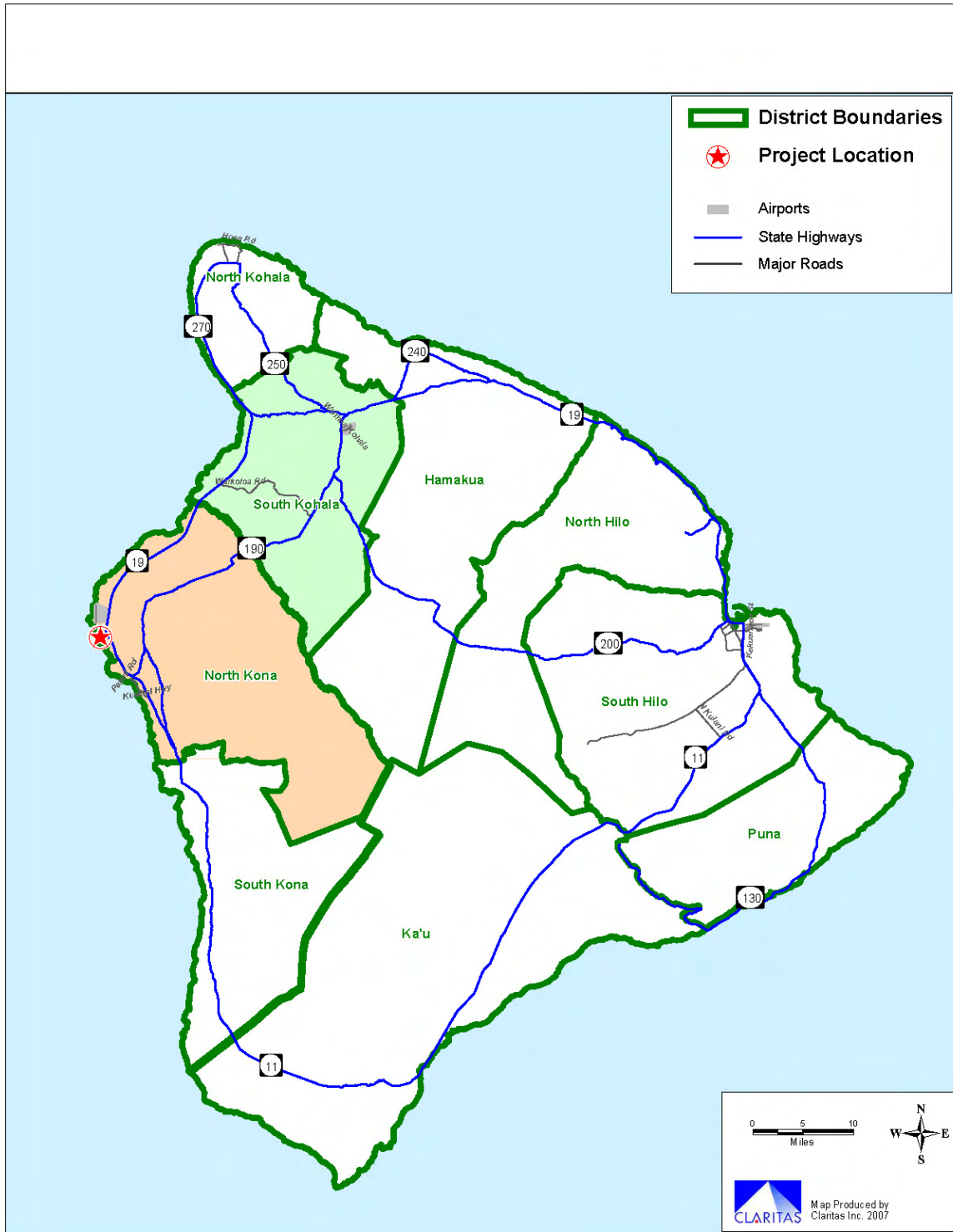


# Exhibit 1-3 O`oma Beachside Village – Proposed Land Uses



Source: PBR Hawaii, 2008.

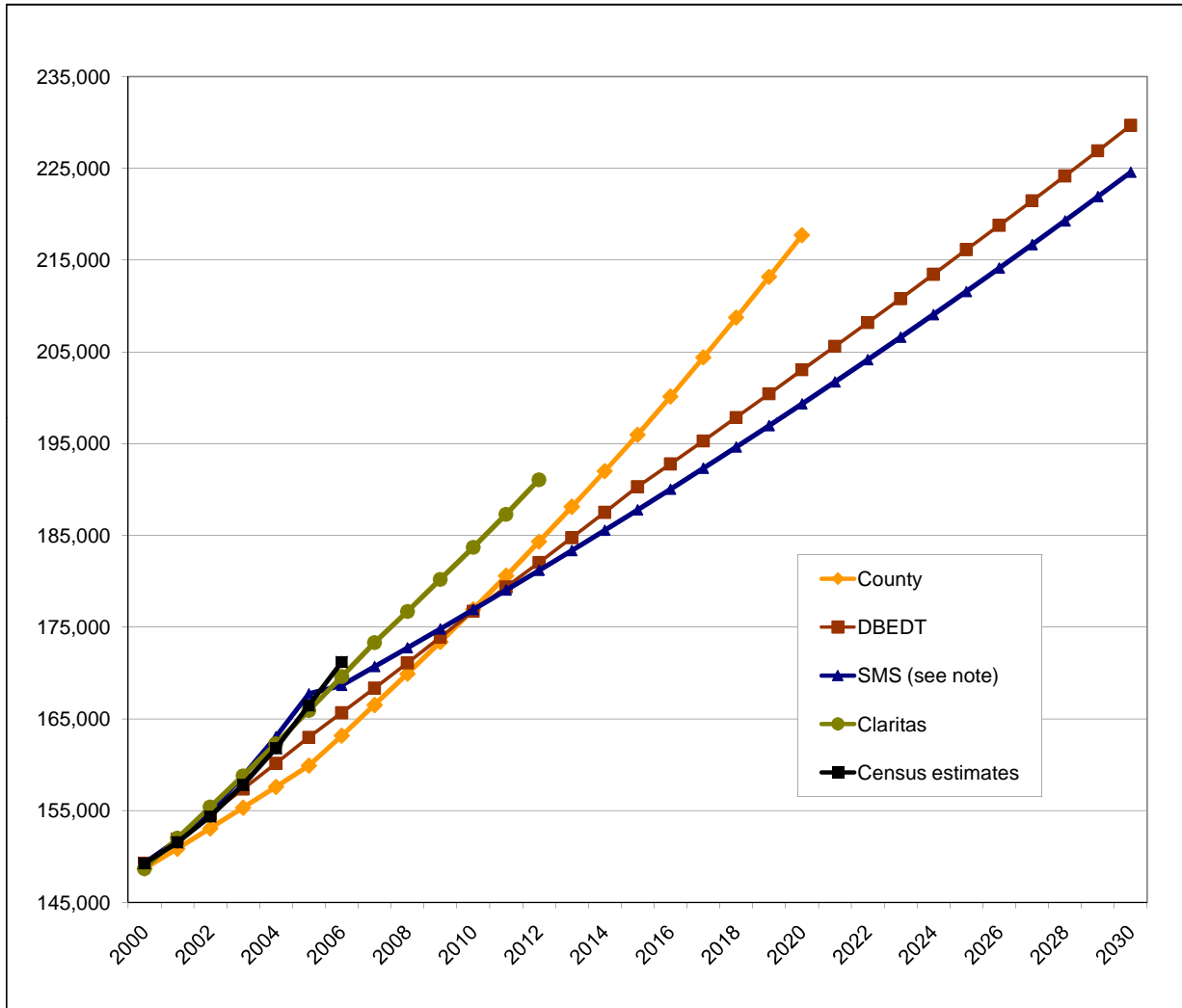
## Exhibit 2-1 `O`oma Location and Hawaii Island Districts



Source: Claritas, Inc., March 12, 2007.

**Exhibit 2-2  
Resident Population - Island of Hawaii  
Comparison of Estimates and Projections  
2000 to 2030**

	<u>Date of study</u>	<u>2000</u>	<u>2005</u>	<u>2007</u>	<u>2012</u>	<u>2020</u>	<u>2030</u>	<u>Average annual growth</u>		
								<u>2000-2005</u>	<u>2005-2020</u>	<u>2020-2030</u>
County <sup>1</sup>	2001	148,677	159,907	166,513	184,316	217,718		1.5%	2.1%	NA
DBEDT <sup>2</sup>	2004	149,261	163,000	168,367	182,050	203,050	229,700	1.8%	1.5%	1.2%
SMS <sup>3</sup>	2007	149,261	167,729	170,689	181,179	199,321	224,573	2.4%	1.2%	1.2%
Claritas <sup>4</sup>	2007	148,677	165,900	173,314	191,052			2.2%	NA	NA
U.S. Census <sup>5</sup>	2007	149,243	166,461					2.2%	NA	NA



NA - Not applicable.

<sup>1</sup> County of Hawaii, Hawaii County General Plan, 2001; ("Series "B," mid-range projections).

<sup>2</sup> State of Hawaii, Research and Economic Analysis Division, Department of Business, Economic Development and Tourism, "Population and Economic Projections for the State of Hawaii to 2030," August 2004.

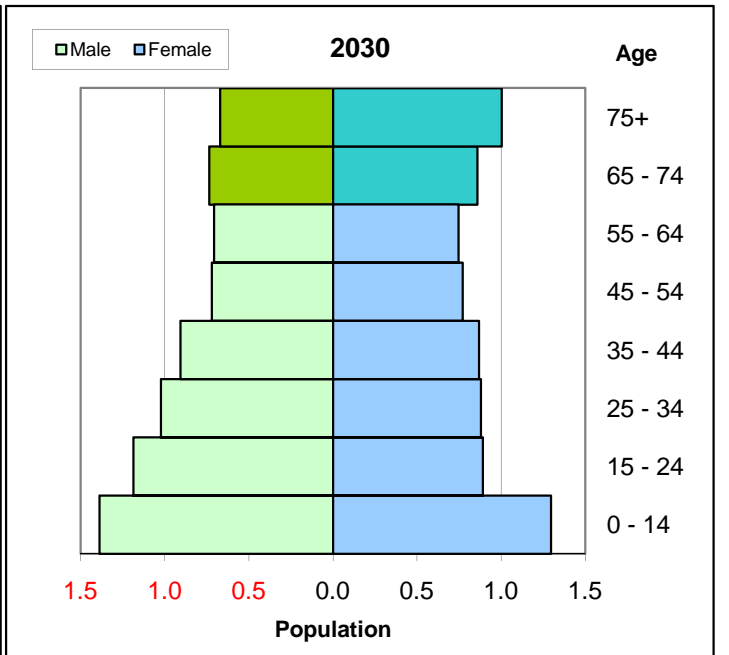
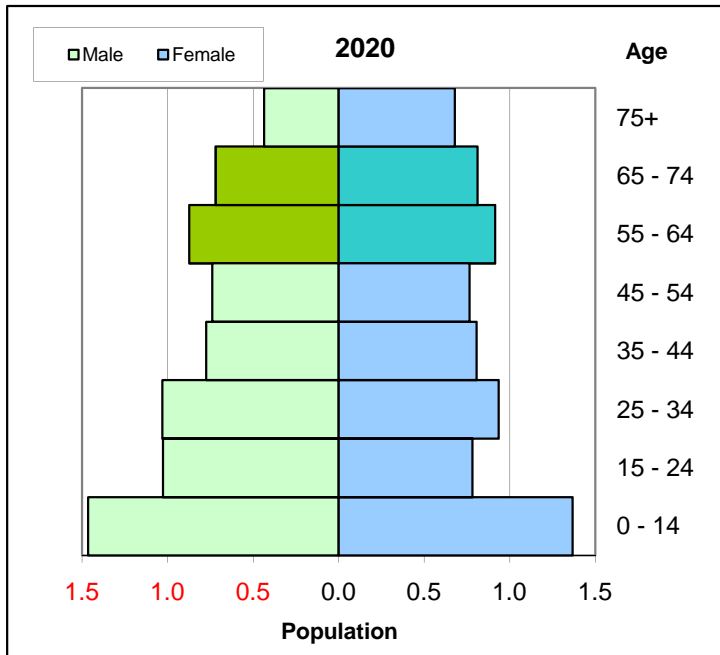
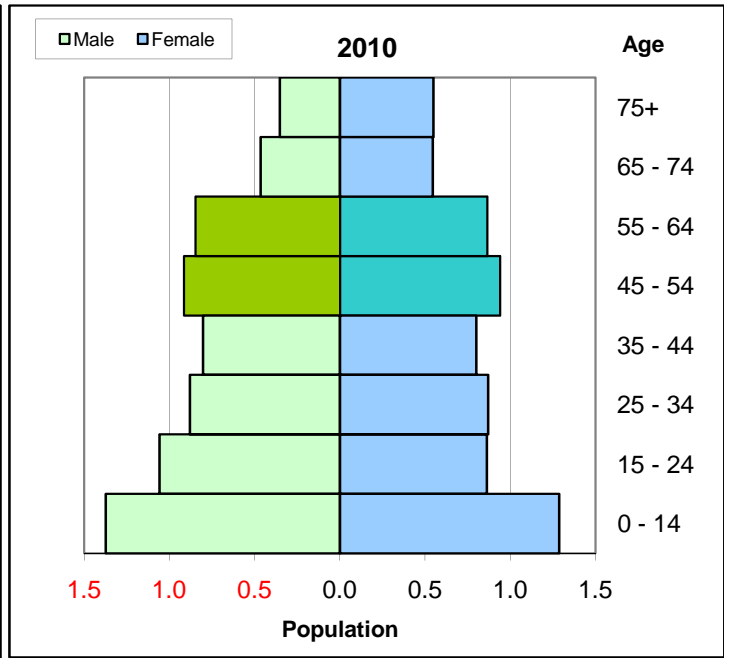
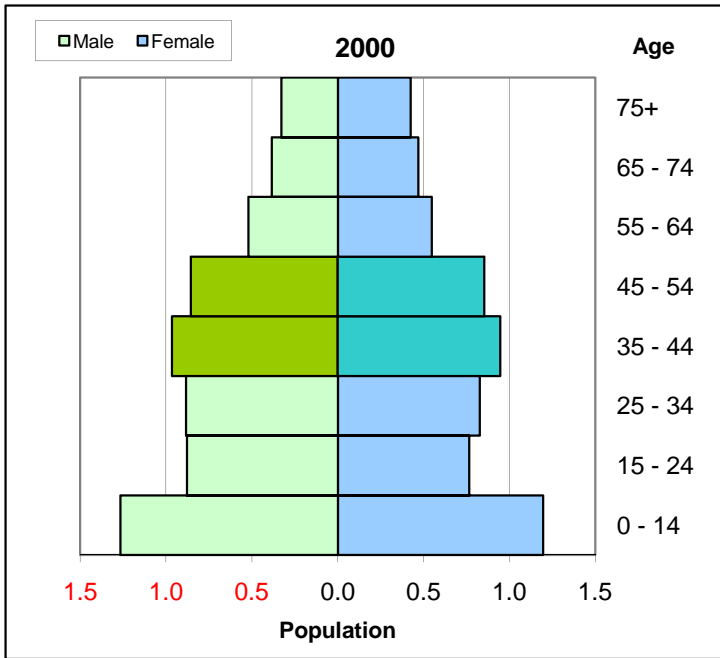
<sup>3</sup> SMS, Inc. "Hawaii Housing Policy Study, 2006: Hawaii Housing Model 2006," February 2007, prepared for the State of Hawaii, Hawaii Housing Finance and Development Corporation and the housing officers/administrators for Honolulu, Maui, Hawaii and Kauai Counties. The population projections shown above are obtained from the excel model SMS prepared for HHFDC in association with this study, with Hawaii County population growth set to the "official parameter" of 1.2% to 2030.

<sup>4</sup> Claritas, Inc., November 6, 2007. Estimate for 2007; projection for 2012; figures interpolated in-between.

<sup>5</sup> U.S. Census Bureau, Population Division, Table 1: Annual Estimates of the Population for Counties of Hawaii: April 1, 2000 to July 1, 2006 (COEST2006-01-15), March 20, 2007 (as of July 1 each year).



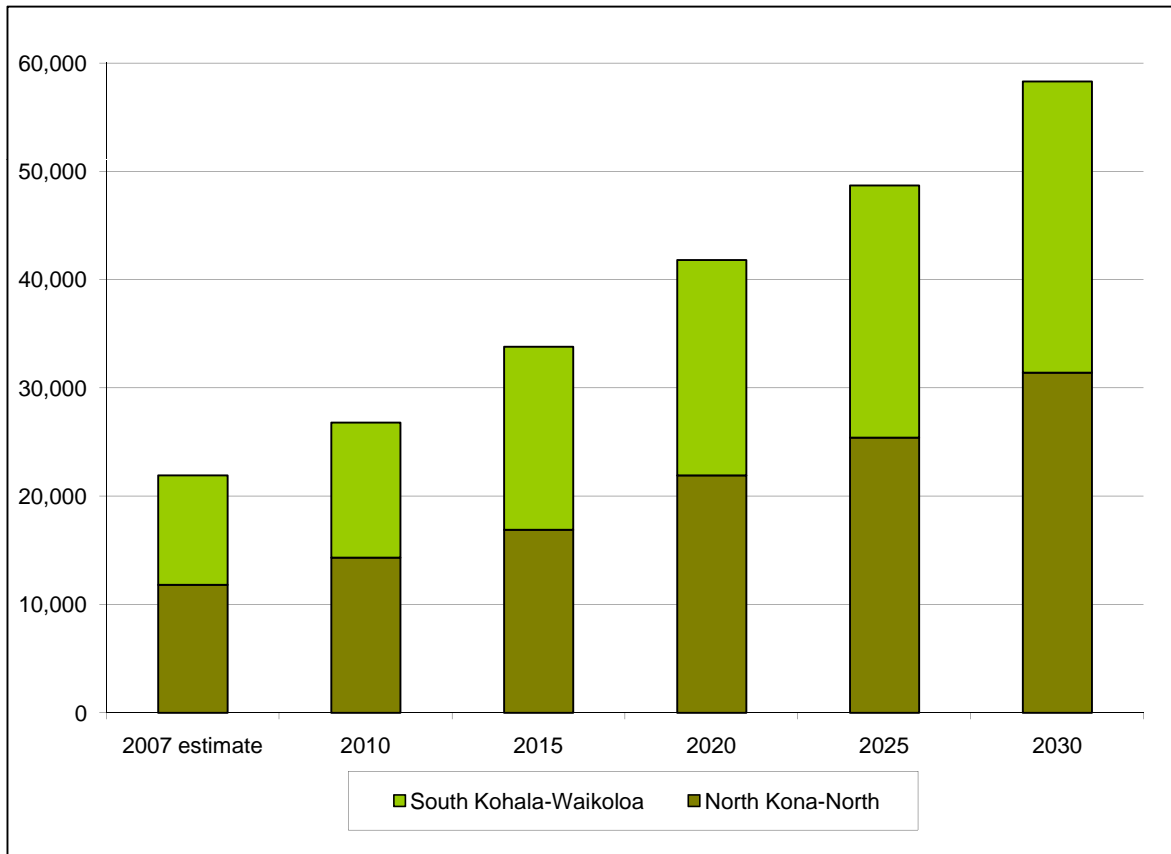
## Exhibit 2-3 Projected Population by Age Group - State of Hawaii 2000 to 2030



Notes: Each unit on X axis represents 100,000 persons. Highlighted bars include Baby Boom cohort.  
 Source: U.S. Census Bureau, Population Division, Interim State Population Projections (released 4/21/05),  
<http://www.census.gov/population/www/projections/statepyramid.html>.

**Exhibit 2-4**  
**Resident Population -**  
**Competitive Residential Market Area and Island of Hawaii**  
2007 to 2030

	<b>2007 Estimate</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>Average annual % increase, 2007-30</b>
<b>Competitive Residential Market Area<sup>1</sup>:</b>							
North Kona-North <sup>2</sup>	11,804	14,300	16,900	21,900	25,400	31,400	4.3%
South Kohala-Waikoloa <sup>3</sup>	10,114	12,500	16,900	19,900	23,300	26,900	4.3%
<b>Total</b>	<b>21,918</b>	<b>26,800</b>	<b>33,800</b>	<b>41,800</b>	<b>48,700</b>	<b>58,300</b>	<b>4.3%</b>
<b>Island of Hawaii<sup>4</sup></b>	168,665	179,031	187,780	199,321	211,570	224,573	1.3%
<b>As a percentage of Island:</b>							
North Kona-North <sup>2</sup>	7.0%	8.0%	9.0%	11.0%	12.0%	14.0%	--
South Kohala-Waikoloa <sup>3</sup>	6.0%	7.0%	9.0%	10.0%	11.0%	12.0%	--
<b>Total Trade Area</b>	<b>13.0%</b>	<b>15.0%</b>	<b>18.0%</b>	<b>21.0%</b>	<b>23.0%</b>	<b>26.0%</b>	<b>--</b>



<sup>1</sup> As provided by Claritas for 2007. Thereafter, population projected by Mikiko Corporation assuming the area's Island share should approach alignment with its jobs base.

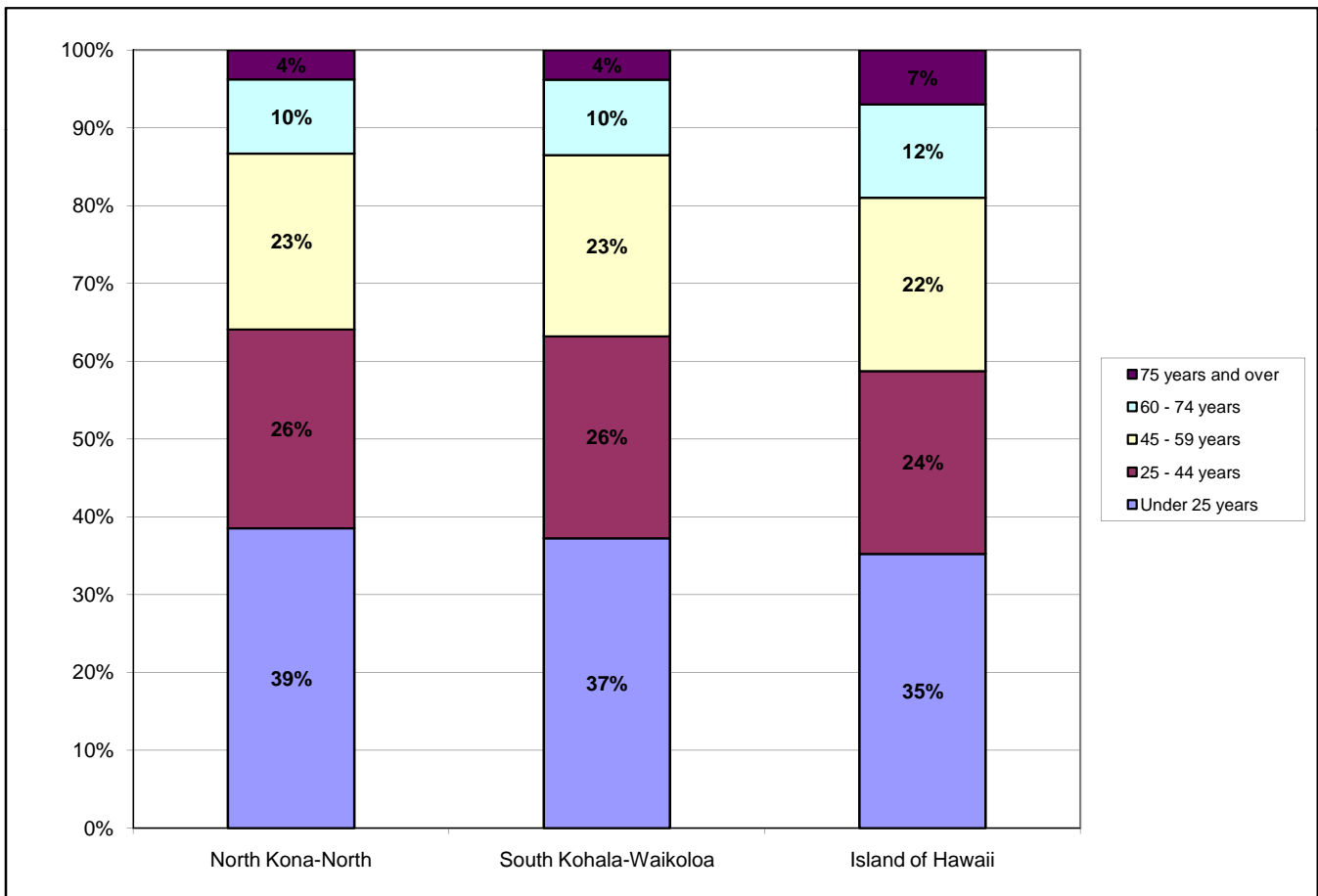
<sup>2</sup> Census Tract 215.01, the northern part of the North Kona District, generally to Henry Road. Excludes Kailua-Kona and areas southward. See Appendix 1 for map.

<sup>3</sup> Census Tract 217.01, the southern part of the South Kohala District, generally from Waikoloa Beach Resort to Mauna Kea Resort, and mauka to Waikoloa Village. Excludes Waimea Town. See Appendix 2 for map.

<sup>4</sup> SMS/Mikiko series, as shown in Exhibit 2-2.

**Exhibit 2-5**  
**Population by Age Group -**  
**Competitive Residential Market Area and Island of Hawaii**  
 2007 Estimate

				As a percentage of Island of Hawaii	
	North Kona-North <sup>1</sup>	South Kohala-Waikoloa <sup>2</sup>	Island of Hawaii	North Kona-North <sup>1</sup>	South Kohala-Waikoloa <sup>2</sup>
Under 25 years	4,553	3,769	61,088	7%	6%
25 - 44 years	3,016	2,626	40,737	7%	6%
45 - 59 years	2,667	2,355	38,670	7%	6%
60 - 74 years	1,129	982	20,782	5%	5%
75 years and over	439	382	12,037	4%	3%
<b>Total</b>	<b>11,804</b>	<b>10,114</b>	<b>173,314</b>	<b>7%</b>	<b>6%</b>
<b>Median age</b>	<b>34</b>	<b>36</b>	<b>37</b>		

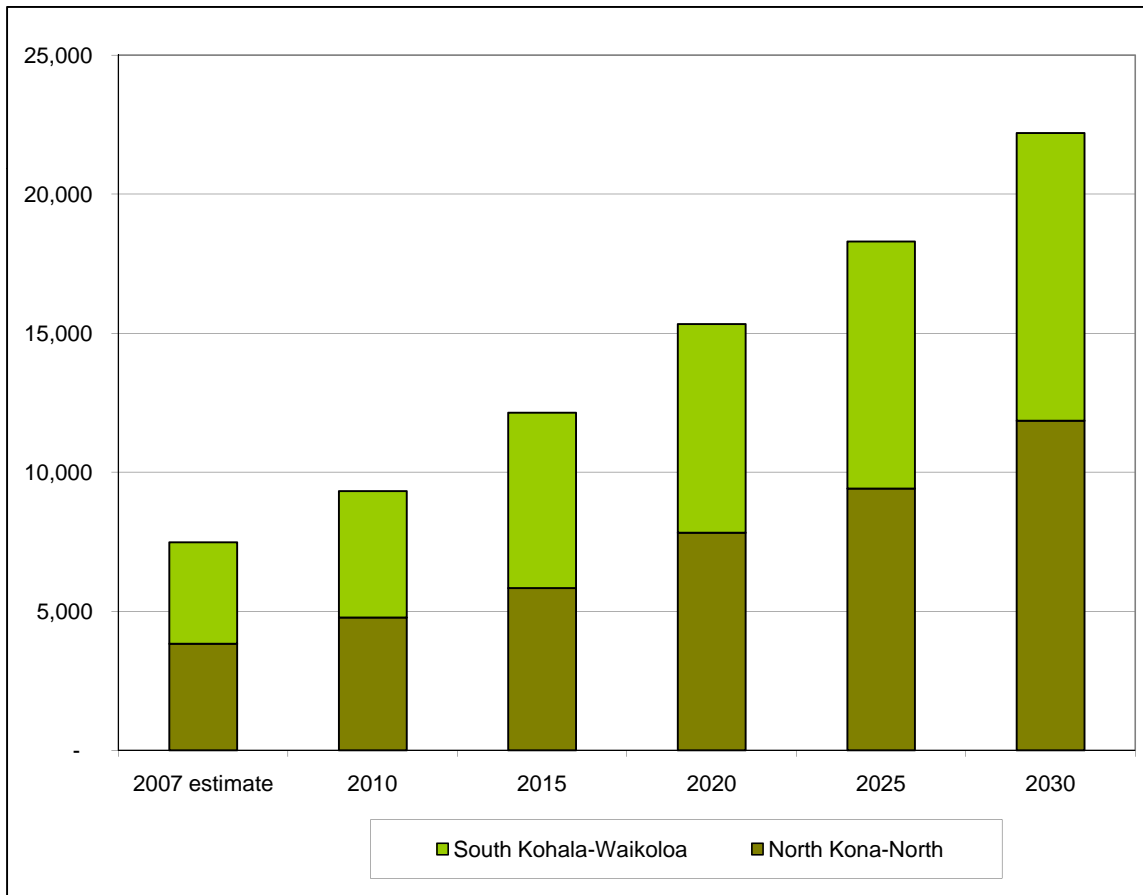


<sup>1</sup> Census Tract 215.01, the northern part of the North Kona District, generally to Henry Road. Excludes Kailua-Kona and areas southward. See Appendix 1 for map.

<sup>3</sup> Census Tract 217.01, the southern part of the South Kohala District, generally from Waikoloa Beach Resort to Mauna Kea Resort, and mauka to Waikoloa Village. Excludes Waimea Town. See Appendix 2 for map.

**Exhibit 2-6**  
**Households - Competitive Residential Market Area and Island of Hawaii**  
 2007 to 2030

	<b>2007 Estimate</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>Average annual % increase, 2007-30</b>
<b>Number of households:</b>							
<b>Competitive Residential Market Area<sup>1</sup> -</b>							
North Kona-North <sup>2</sup>	3,831	4,770	5,830	7,820	9,410	11,850	5.0%
South Kohala-Waikoloa <sup>3</sup>	3,650	4,550	6,310	7,510	8,890	10,350	4.6%
<b>Total</b>	<b>7,481</b>	<b>9,320</b>	<b>12,140</b>	<b>15,330</b>	<b>18,300</b>	<b>22,200</b>	<b>4.8%</b>
Island of Hawaii <sup>4</sup>	62,021	64,510	68,881	73,549	78,533	83,855	1.3%
<b>Average household size:</b>							
North Kona-North <sup>2</sup>	3.08	3.00	2.90	2.80	2.70	2.65	-0.7%
South Kohala-Waikoloa <sup>3</sup>	2.77	2.75	2.68	2.65	2.62	2.60	-0.3%
Island of Hawaii <sup>4</sup>	2.75	2.74	2.73	2.71	2.69	2.68	-0.1%



<sup>1</sup> As provided by Claritas for 2007. Thereafter, based on projected population as shown in Exhibit 2-4 and household sizes as shown.

<sup>2</sup> Census Tract 215.01, the northern part of the North Kona District, generally to Henry Road. Excludes Kailua-Kona and areas southward. See Appendix 1 for map.

<sup>3</sup> Census Tract 217.01, the southern part of the South Kohala District, generally from Waikoloa Beach Resort to Mauna Kea Resort, and mauka to Waikoloa Village. Excludes Waimea Town. See Appendix 2 for map.

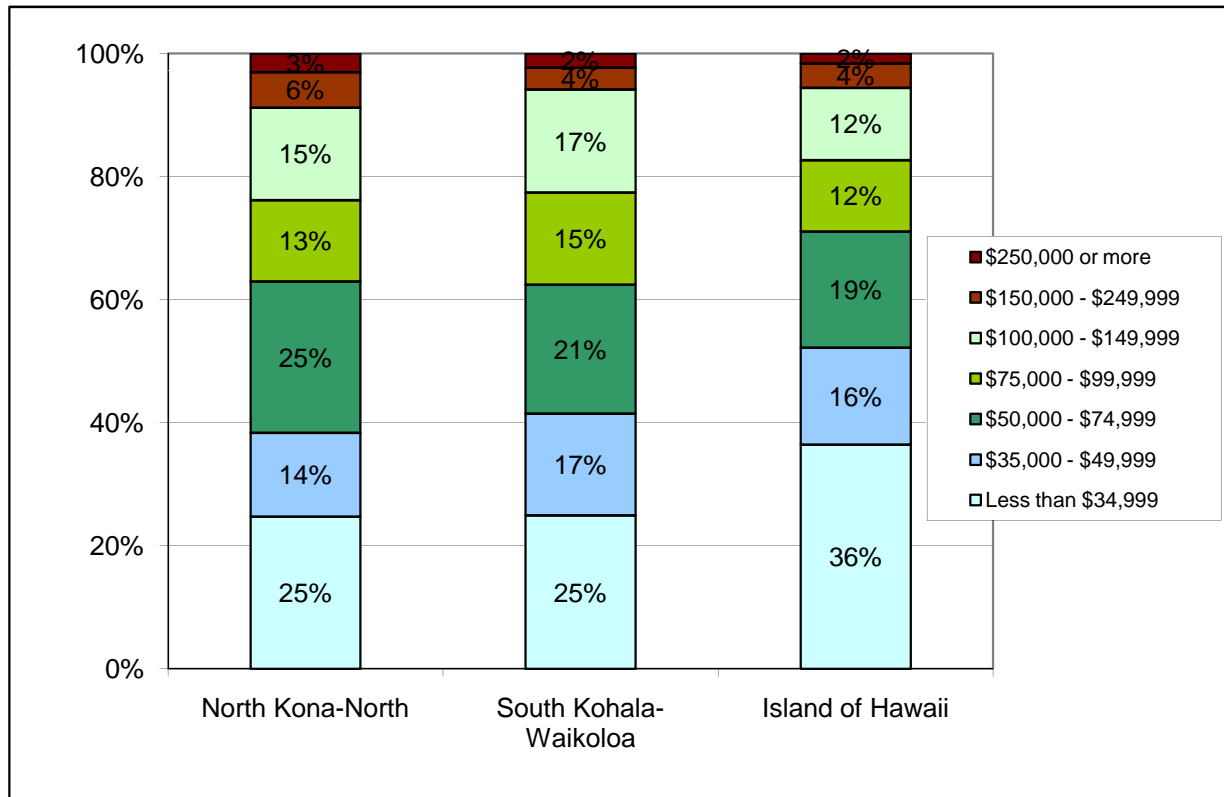
<sup>4</sup> SMS, Inc., excel model accompanying "Hawaii Housing Policy Study, 2006: Hawaii Housing Model 2006," February 2007. Population growth set to 1.2%, the "official parameter" for the County.

**Exhibit 2-7**  
**Households by Household Income -**  
**Competitive Residential Market Area and Island of Hawaii**  
 2007 Estimate

	<u>North Kona-North<sup>1</sup></u>	<u>South Kohala- Waikoloa<sup>2</sup></u>	<u>Island of Hawaii</u>
<b>Median household income</b>	<b>\$61,825</b>	<b>\$60,166</b>	<b>\$58,528</b>
<b>Per capita income</b>	<b>\$26,042</b>	<b>\$27,092</b>	<b>\$22,973</b>

**Number of households, by income -**

Less than \$34,999	947	911	22,569
\$35,000 - \$49,999	522	603	9,740
\$50,000 - \$74,999	944	765	11,699
\$75,000 - \$99,999	506	547	7,180
\$100,000 - \$149,999	576	612	7,277
\$150,000 - \$249,999	220	129	2,439
\$250,000 or more	116	83	993
<b>Total</b>	<b><u>3,831</u></b>	<b><u>3,650</u></b>	<b><u>61,897</u></b>



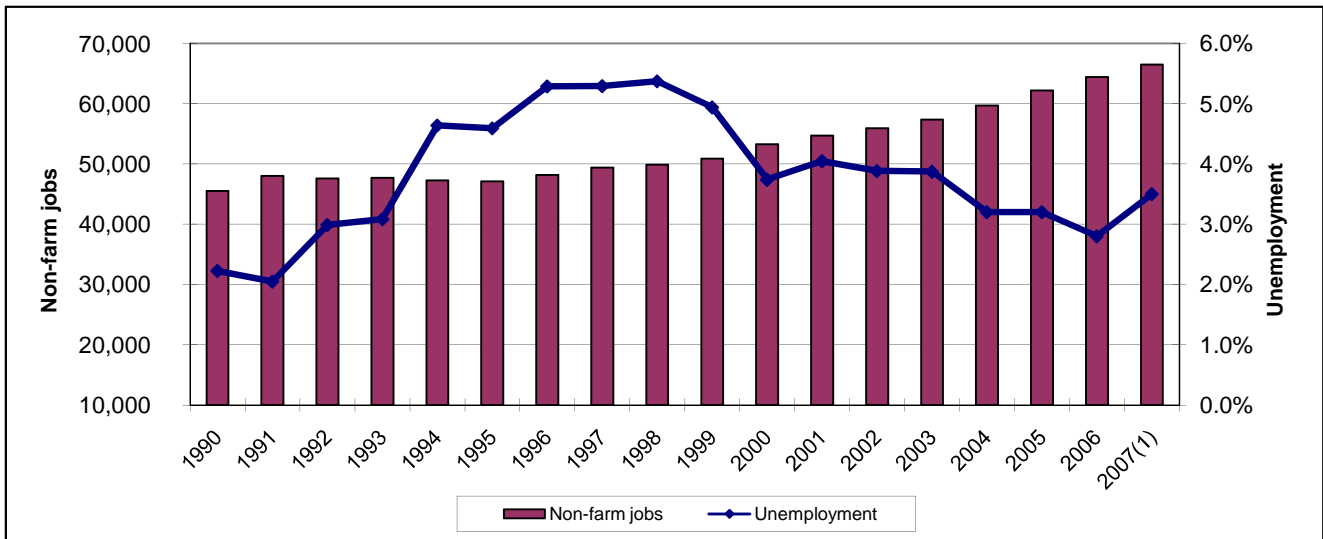
<sup>1</sup> Census Tract 215.01, the northern part of the North Kona District, generally to Henry Road. Excludes Kailua-Kona and areas southward. See Appendix 1 for map.

<sup>2</sup> Census Tract 217.01, the southern part of the South Kohala District, generally from Waikoloa Beach Resort to Mauna Kea Resort, and mauka to Waikoloa Village. Excludes Waimea Town. See Appendix 2 for map.

Source: Claritas, Inc., November 6, 2007.

## Exhibit 2-8 Labor Force Trends - Hawaii County 1990 to 2007

	Civilian labor force	Employed persons	Non-farm wage & salary jobs	Percent unemployment
1990	58,350	56,300	45,500	3.5%
1991	62,600	59,750	48,000	4.5%
1992	64,250	59,450	47,600	7.5%
1993	64,850	59,900	47,700	7.6%
1994	65,500	59,400	47,300	9.2%
1995	65,400	59,100	47,100	9.6%
1996	67,400	61,200	48,200	9.2%
1997	69,300	62,900	49,400	9.3%
1998	69,500	63,400	49,900	8.7%
1999	70,750	65,250	50,900	7.8%
2000	74,200	70,750	53,300	4.7%
2001	76,300	72,500	54,700	5.0%
2002	76,450	72,950	55,950	4.6%
2003	77,900	74,300	57,350	4.6%
2004	79,100	76,050	59,700	3.8%
2005	81,300	78,650	62,200	3.2%
2006	83,650	81,300	64,400	2.8%
2007 <sup>1</sup>	85,400	82,400	66,500	3.5%

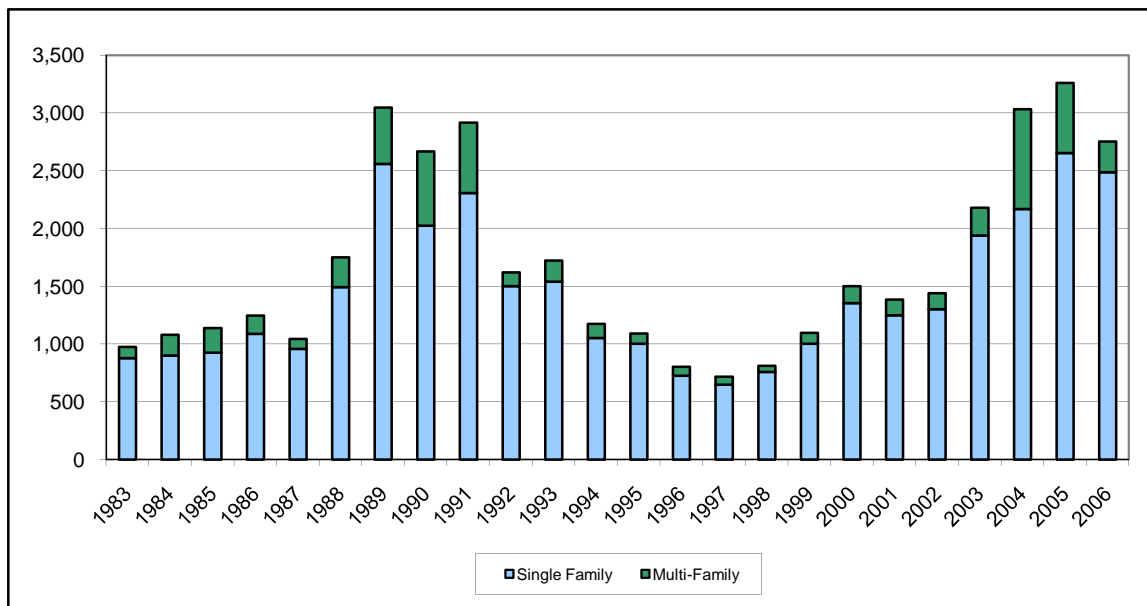


<sup>1</sup> Data are for September 2007; year to date data are not available.

Source: "Hawaii State Department of Labor & Industrial Relations, 2007. Labor force estimates revised by DLIR with new methodology employed by U.S. Bureau of Labor Statistics, as of 2007. As referenced in: [www.hiwi.org/admin/uploadedPublications/469\\_LFHC.PDF](http://www.hiwi.org/admin/uploadedPublications/469_LFHC.PDF). Non-farm wage and salary job estimates provided by DLIR as referenced in: [http://www.hiwi.org/admin/uploadedPublications/778\\_CESH90S.PDF](http://www.hiwi.org/admin/uploadedPublications/778_CESH90S.PDF); [http://www.hiwi.org/admin/uploadedPublications/700\\_CESH00S.PDF](http://www.hiwi.org/admin/uploadedPublications/700_CESH00S.PDF); and [http://www.hiwi.org/admin/uploadedPublications/1687\\_CHC2007.pdf](http://www.hiwi.org/admin/uploadedPublications/1687_CHC2007.pdf)

**Exhibit 3-1**  
**Residential Building Permits - County of Hawaii**  
 1990 - 2007<sup>1</sup>

	<u>Single Family</u>	<u>Multi-Family</u>	<u>Total</u>
<b>Average</b>	<b>1,513</b>	<b>263</b>	<b>1,776</b>
1990	2,025	644	2,669
1991	2,309	609	2,918
1992	1,501	121	1,622
1993	1,540	184	1,724
1994	1,052	123	1,175
1995	1,003	88	1,091
1996	726	77	803
1997	649	69	718
1998	759	53	812
1999	1,004	94	1,098
2000	1,356	147	1,503
2001	1,249	138	1,387
2002	1,303	138	1,441
2003	1,941	239	2,180
2004	2,169	866	3,035
2005	2,655	607	3,262
2006	2,488	266	2,754
2007 <sup>1</sup>	1,070	349	1,419

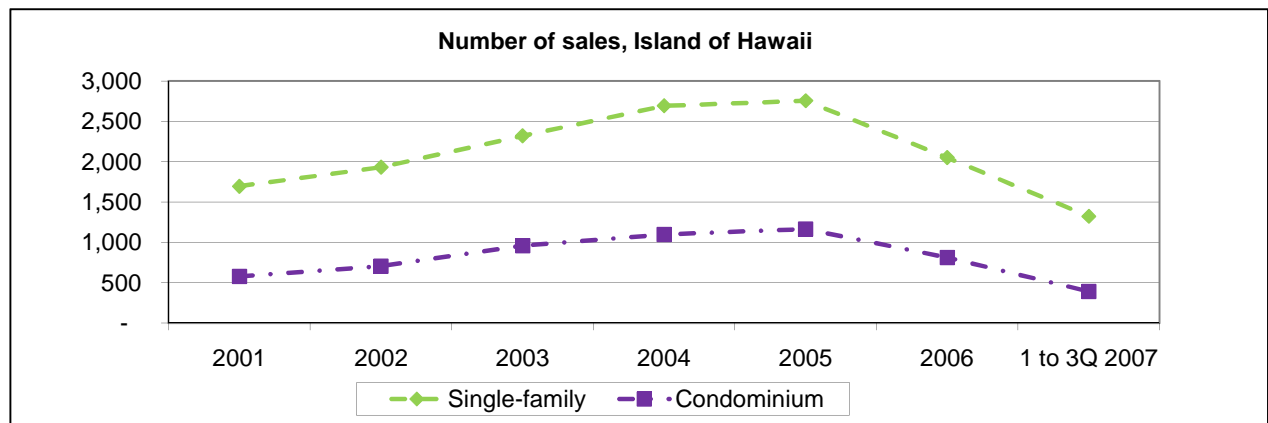
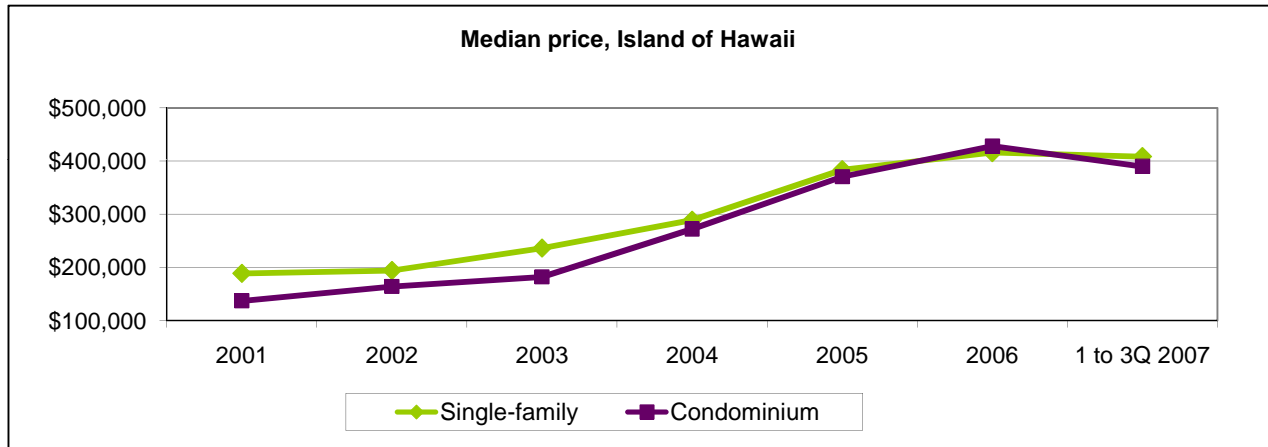


<sup>1</sup> Through September 2007.

Source: County of Hawaii, Department of Public Works.

**Exhibit 3-2**  
**Hawaii County Residential Sales Trends**  
 2001 to 3rd Quarter 2007

	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007, 1st-3rd Q</u>	<u>2007-Oct</u>
<b>Island of Hawaii:</b>								
Median price -								
Single-family	\$188,400	\$194,100	\$236,000	\$288,800	\$383,800	\$416,100	\$408,500	\$386,000
Condominium	\$137,100	\$164,000	\$182,000	\$272,200	\$370,600	\$428,200	\$390,000	\$420,000
Number of sales -								
Single-family	1,696	1,933	2,322	2,694	2,757	2,052	1,324	118
Condominium	580	707	959	1,097	1,166	814	392	39
<b>North Kona District - single-family:</b>								
Median price	INA	INA	INA	INA	\$620,000	\$645,000	INA	(down)
Number of sales	INA	INA	INA	INA	651	456	INA	INA
<b>South Kohala District - single-family:</b>								
Median price	INA	INA	INA	INA	\$530,000	\$550,000	INA	(up 3%)
Number of sales	INA	INA	INA	INA	313	287	INA	INA



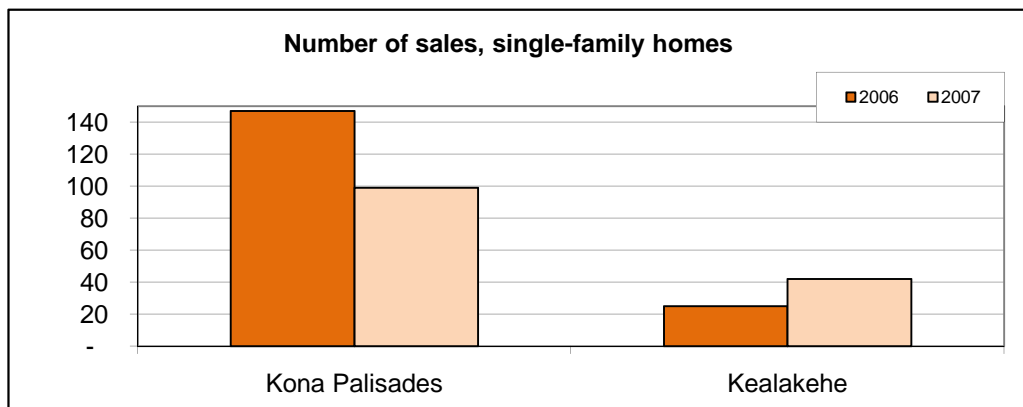
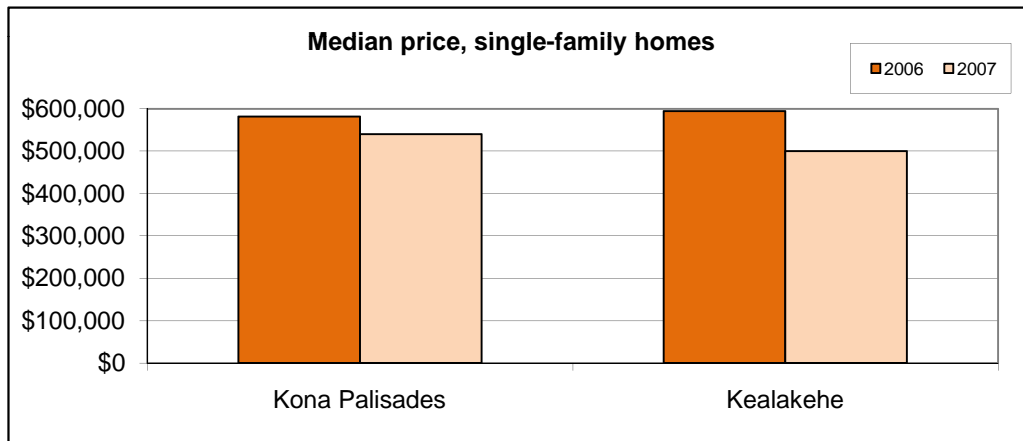
INA = Information not available.

Sources: Annual county data from University of Hawai'i Economic Research Organization, Economic Information Service, as accessed November 4, 2007; 2007 updates and district data from (1) Hawaii Information Service, in Honolulu Advertiser, November 6, 2007 (Andrew Gomes), Pacific Business News, October 5, 2007 (Leroy Laney) and West Hawaii Today, January 7, 2007; and (2) Star Bulletin, October 6, 2007.



**Exhibit 3-3**  
**Residential Sales in Kona Palisades and Kealakehe**  
 TMKs 3-7-3 & 4, North Kona-North  
 2006 and 2007<sup>1</sup>

	<u>2006</u>	<u>2007</u>	<u>Percent change</u>
<b>Kona Palisades:</b>			
Median price -			
Single-family	\$581,900	\$540,000	-7%
Condominium	\$585,000	\$293,400	-50%
Number of sales <sup>1</sup> -			
Single-family	147	99	-33%
Condominium	13	20	50%
<b>Kealakehe:</b>			
Median price -			
Single-family	\$595,000	\$500,000	-16%
Condominium	\$489,000	\$510,000	4%
Number of sales <sup>1</sup> -			
Single-family	25	42	68%
Condominium	3	2	-50%

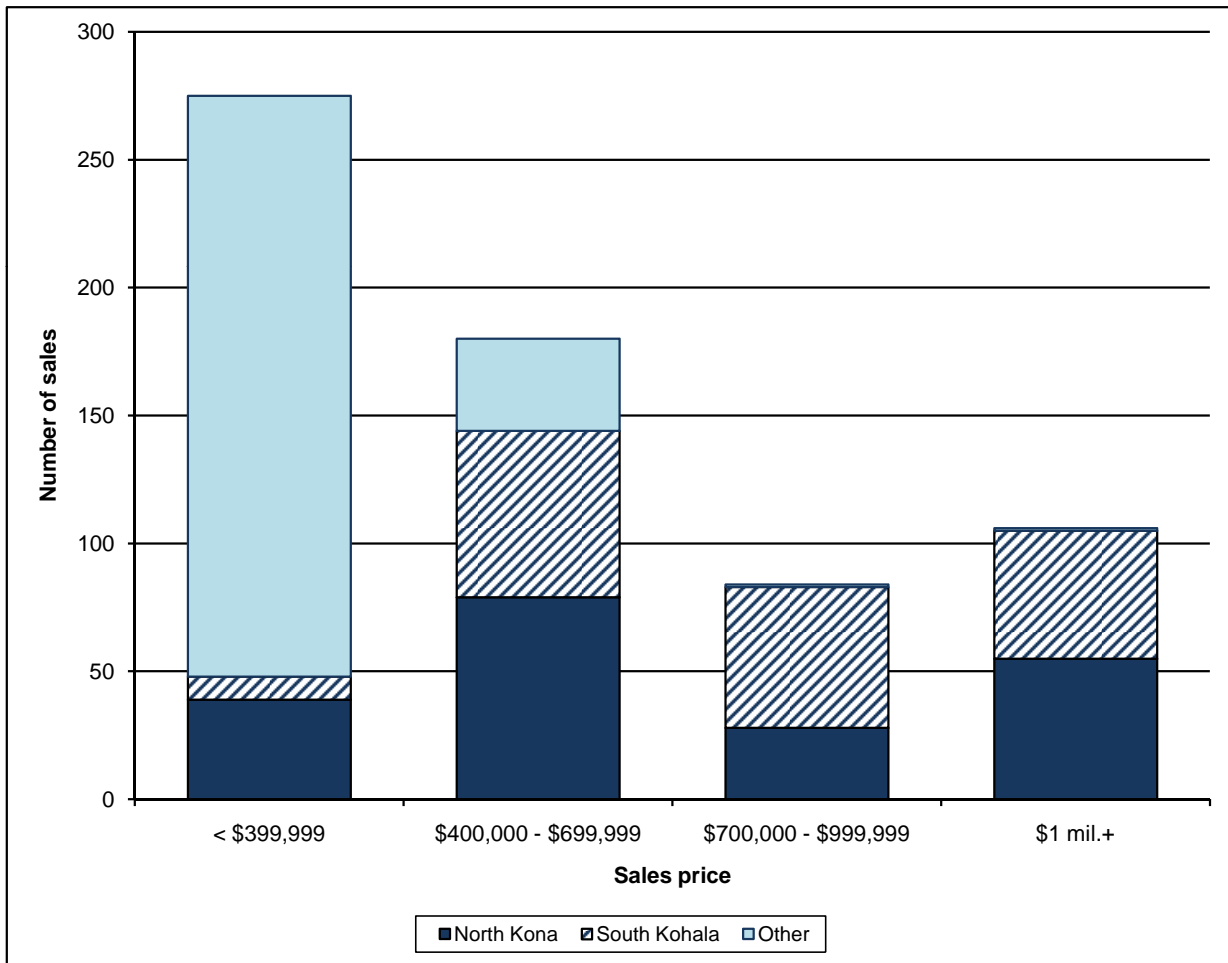


<sup>1</sup> Annualized based on 8 months data.

Source: Hawaii Information Service, data as of September 7, 2007.

**Exhibit 3-4**  
**Sales to Off-Island, Non Owner-Occupants**  
 Island of Hawaii, 2007

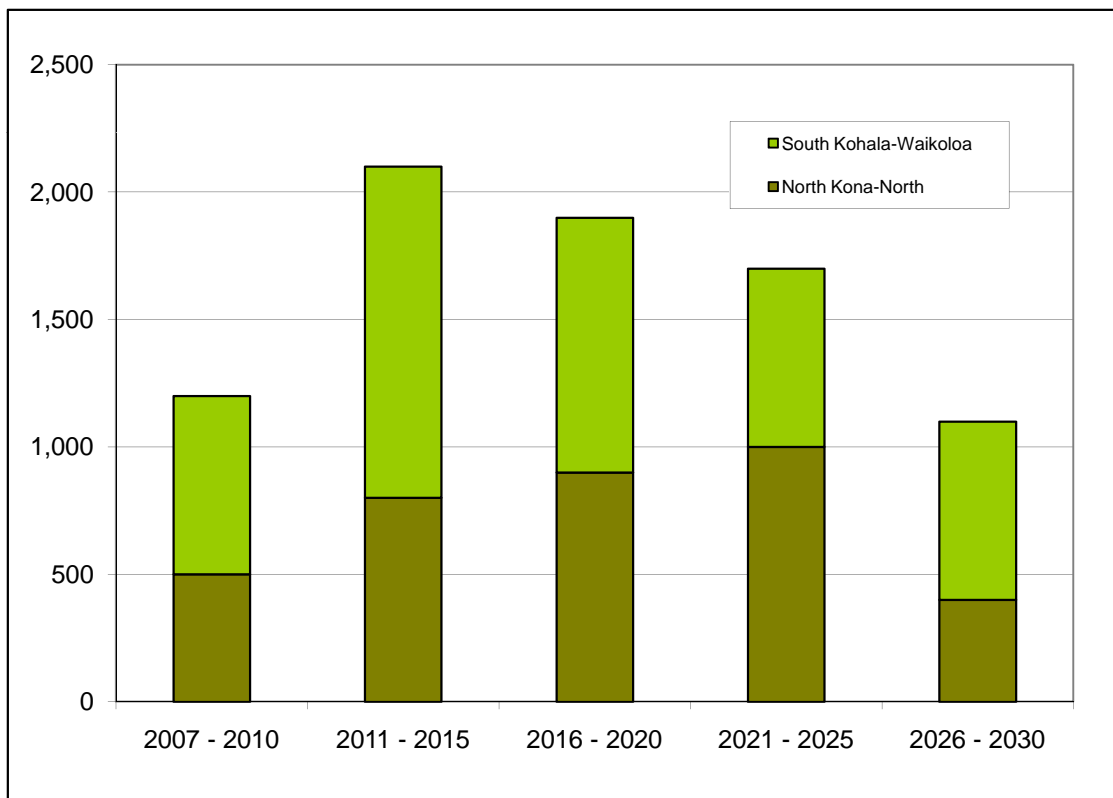
	<u>&lt; \$399,999</u>	<u>\$400,000 - \$699,999</u>	<u>\$700,000 - \$999,999</u>	<u>\$1 mil.+</u>	<u>Total</u>	<u>Distribution</u>
North Kona	39	79	28	55	201	31%
South Kohala	9	65	55	50	179	28%
Other	227	36	1	1	265	41%
Total	<u>275</u>	<u>180</u>	<u>84</u>	<u>106</u>	<u>645</u>	<u>100%</u>
Distribution	<u>43%</u>	<u>28%</u>	<u>13%</u>	<u>16%</u>	<u>100%</u>	



Source: Based on data obtained from Hawaii Information Service, March 13, 2008. Represents closed deed sales that do not show an owner-occupant exemption and where the tax bill address is other than Hawaii Island. Excludes vacant land sales, and partial or multiple deed transactions.

**Exhibit 3-5**  
**Potential New Resident Housing Units -**  
**Competitive Residential Market Area**  
 Based on Planned Developments with State Entitlement or Exemption  
 as of October 2007

	2007 - 2010	2011 - 2015	2016 - 2020	2021 - 2025	2026 - 2030	Total, 2007- 2030
<b>North Kona-North<sup>1</sup></b>	500	800	900	1,000	400	3,600
<b>South Kohala- Waikoloa<sup>2</sup></b>	700	1,300	1,000	700	700	4,400
<b>Total (rounded)</b>	<b>1,200</b>	<b>2,100</b>	<b>1,900</b>	<b>1,700</b>	<b>1,100</b>	<b>8,000</b>
<b>% of projection period</b>	<b>15%</b>	<b>26%</b>	<b>24%</b>	<b>21%</b>	<b>14%</b>	<b>100%</b>



<sup>1</sup> Census Tract 215.01, the northern part of the North Kona District, generally to Henry Road. Excludes Kailua-Kona and areas southward. See Appendix 1 for map.

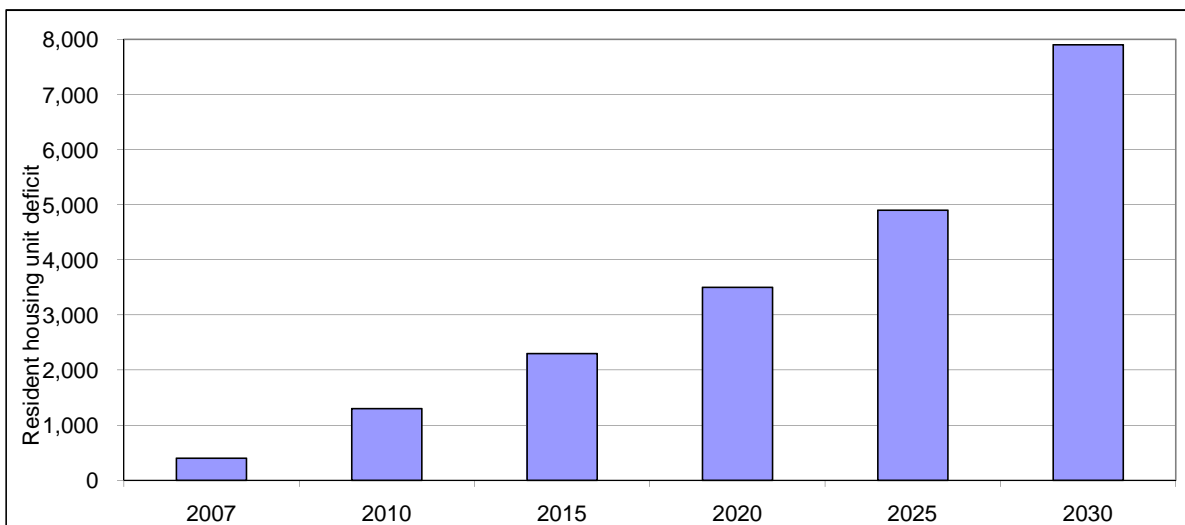
<sup>2</sup> Census Tract 217.01, the southern part of the South Kohala District, generally from Waikoloa Beach Resort to Mauna Kea Resort, and mauka to Waikoloa Village. Excludes Waimea Town. See Appendix 2 for map.

Note: Targeting projects of 100 units or more. Excludes emergency shelters, dormitory beds and other group living quarters.

Sources: Interviews with developers, landowners and project principals as shown in Appendix 3. Component numbers may vary slightly from those in Appendix 3, due to rounding.

**Exhibit 3-6**  
**Projected Supply and Demand for Housing -**  
**Competitive Residential Market Area**  
**2007 to 2030**

	<i>Basis/ reference</i>	<b>2007</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>Total/ average, 2007-2030</b>
<b>Demand (households):</b>								
Number	Exhibit 2-6	7,481	9,320	12,140	15,330	18,300	22,200	
Change since prior date -								
Total (rounded)		--	2,000	3,000	3,000	3,000	4,000	15,000
Average annual		--	670	600	600	600	800	650
<b>Supply (resident housing units):</b>								
Estimated occupied RHUs in 2006 <sup>1</sup>	ACS/ Claritas	6,900						
Developer RHUs delivered 2007 <sup>2</sup>		200						
Entitled new developments -								
Development since prior date	Exhibit 3-4	--	1,200	2,100	1,900	1,700	1,100	8,000
Less vacancy allowance (applied to new units)								
	5%	--	-60	-105	-95	-85	-55	-400
Net available RHUs (rounded)		7,100	8,240	10,240	12,050	13,670	14,720	7,600
Change since prior date -								
Total		--	1,140	2,000	1,810	1,620	1,050	7,600
Average annual		--	380	400	360	320	210	330
<b>Resident housing unit surplus/(deficit):</b>								
At prior date shown		INA	(400)	(1,300)	(2,300)	(3,500)	(4,900)	
Net surplus (deficit) in RHU production since prior date		INA	(860)	(1,000)	(1,190)	(1,380)	(2,950)	
By end of column date (rounded)		(400)	(1,300)	(2,300)	(3,500)	(4,900)	(7,900)	



INA = Information not available.

<sup>1</sup> RHU = resident housing unit. 2006 estimate based on data provided by the U.S. Census Bureau, 2005 American Community Survey, as accessed April 2007; Ricky Cassidy, April 2007; Claritas, Inc., 2007. See beginning of Chapter 3 text for discussion.

<sup>2</sup> Estimated 2007 developer closings in CMRA as of October 2007.

## Exhibit 4-1 Market Performance of Selected Comparison Residential Projects

	Comparison projects					
	Name, location (developer)	Density (U/A)	Typical current pricing <sup>1</sup>	Recent developer sales rate	% Island buyers <sup>2</sup>	Comment
<b>O`oma product type (density in U/A)</b>						
<b>Mixed-use villages (3 to 10)</b>	<b>Palamanui, North Kona-North (Hiluhilu Development LLC)</b>	7 to 14	\$400,000-\$500,000 (proposed)	INA-not yet marketed	INA	Reported preliminary pricing for market units in mixed-use setting.
<b>Other multifamily, at residential village (7.5 to 12)</b>	<b>Makana Kai, Wehilani, Waikoloa Village (Castle &amp; Cooke)</b>	10.3	\$337,000-\$400,000+	51	85%	TH 4- and 6-plexes. 4 units bought as housing for off-island construction workers.
	<b>Kaloko Heights, North Kona-North (Stanford Carr Development)</b>	11.8	\$400,000 (average, proposed)	INA-not yet marketed	INA	THs on RM-3 zoning.
<b>Single-family lot, rim (2.5 to 3.0)</b>	<b>Bayview Estates at Keauhou (Kamehameha Investment Corporation)</b>	2.2	\$469,000 to \$997,000; \$525,000 (median)	INA - resales only	71%	Vacant lots, 15,000 to 22,650 sq. ft.; all have ocean view.
<b>Other single-family, finished home (4 to 5)</b>	<b>Malulani Gardens, North Kona-South (Brian Cook)</b>	5	\$485,000 - \$645,000 \$609,500 (median)	INA - resales only	25%	Only considers those homes on lots of 6,000 s.f. or less.
	<b>Pualani Estates, North Kona-South (DR Horton)</b>	4.2	Up to \$706,750; \$555,000 (median)	65	36%	Average 6,000 sq. ft. lots, range 5,000 to 8,000
	<b>Kaloko Heights, North Kona-North (Stanford Carr Development)</b>	4.2 and 4.7	\$550,000 and \$520,000 (proposed)	INA-not yet marketed	INA	SFD starter homes on RS-7.5 and SFD condos.
	<b>Sunset Ridge, Waikoloa Village (Towne Development)</b>	4+	Up to \$746,000; \$500,700 median	70 (2006)	67%	SFD, two product types

<sup>1</sup> Current asking prices for projects in marketing; recorded sales prices since 11/1/06 - 10/31/07 for projects in resales; projected sales prices for planned developments. Excludes pricing of affordable units within projects, where applicable.

<sup>2</sup> Based on tax bill address of sampled buyers or interviews.

INA - Information not available; SFD - single-family detached home; U/A - units per acre.

Sources: Interviews with developers and other project representatives, project websites, Hawaii Information Service.

**Exhibit 4-2**  
**Residential Market Assessment for `O`oma**  
 2007 Dollars

Unit type/area	Number of units		Average density (U/A)	Lot size (sq. ft.)	Average annual absorption rate <sup>1</sup>	Average unit sales price, market units <sup>2</sup>	Potential marketing period (years) <sup>3</sup>	Comments
	Low	High						
<b>Finished homes</b>								
Multifamily Units at Mauka Village <sup>4</sup>	395	520	7.5 to 10	n/a	33	\$400,000	16	Young families, singles, retirees, corporate investors; ROR or TH.
Multifamily Units at Makai Village	35	60	3 to 4.5	n/a	10	\$500,000	6	Move-up families, singles, empty nesters, corporate investors; ROR or TH.
Multifamily Units at Residential Village <sup>4</sup>	100	135	9 to 12	n/a	15	\$425,000	9	Young and move-up families, singles, corporate investors; TH or flats.
Single-Family Homes at Residential Village	350	400	4 to 5	5,000 - 6,000	30	\$650,000	13	Move-up families, local and off-Island buyers.
Subtotal/average, finished homes	880	1,115	6.8			\$500,000	16	<b>Average price excludes affordable units</b>
<b>Vacant lots</b>								
Single-Family Lots at Residential Village	70	85	2.5 to 3	9,000 - 15,000+	10	\$650,000	9	Price for lot only, expected to appeal to local and off-Island buyers.
<b>Total/average, all products</b>	<b>950</b>	<b>1,200</b>	<b>6.2</b>		<b>46 to 80 (av. 67)</b>	<b>\$510,000</b>	<b>16</b>	<b>Average price excludes affordable units</b>

U/A - units per gross residential acre; ROR - residential over retail; TH - townhouse; n/a - not applicable.

<sup>1</sup> Total assumes several but not all products are marketed simultaneously; therefore it is less than sum of average absorption of individual product types. Absorption rates within Mauka Village and Residential Village assume for-sale affordable housing is also marketed within those two areas.

<sup>2</sup> For market-priced units only. See footnote 4 for price indicators on affordable unit pricing.

<sup>3</sup> Based on high scenario for unit counts and assuming all units are marketed for-sale (rather than some also as rentals), which could make the numbers shown high. On the other hand, anticipated phasing of development could extend sales periods. See text for further information.

<sup>4</sup> Area expected to include for-sale affordable housing, assumed to represent 20% of total units being developed, based on current County guidelines. Actual affordable home inventory and tenure to be determined based on future agreements with government agencies and then-prevailing market conditions.

For illustrative purposes, Hawaii County guidelines in effect as of May 1, 2007 would specify for-sale affordable housing offered to families of four earning 100% to 140% of median income be priced from \$226,200 to \$316,600; and one- to two-bedroom rental units offered to households earning 80% to 100% of median income be priced from \$935 to \$1,309 per month, including utilities.

**Exhibit 4-3**  
**ʻOʻoma - Potential Residential Sales Absorption By Area**  
 Based on maximum development scenario and no rentals

Unit type/area	Maximum units	Average annual absorption rate <sup>1</sup>	2012 - 2020	2021 - 2025	2026 - 2030
<b>Number of years in period</b>			<b>9</b>	<b>5</b>	<b>5</b>
<b>Current Urban District</b> (start 2014):					
Multifamily Units at Mauka Village <sup>2</sup>	520	33	230	170	120
Multifamily Units at Residential Village (portion) <sup>2</sup>	30	15	0	30	0
<b>Subtotal, Urban Area</b>	<b>550</b>	<b>34</b>	<b>230</b>	<b>200</b>	<b>120</b>
<b>Petition Area</b> (start 2012):					
Multifamily Units at Makai Village	60	10	60	0	0
Multifamily Units at Residential Village (portion) <sup>2</sup>	105	15	105	0	0
Single-Family Lots at Residential Village	85	10	85	0	0
Single-Family Homes at Residential Village	400	30	270	130	0
<b>Subtotal, Petition Area</b>	<b>650</b>	<b>46</b>	<b>520</b>	<b>130</b>	<b>0</b>
<b>Total ʻOʻoma</b>	<b>1,200</b>	<b>46 to 80 (av. 67)</b>	<b>750</b>	<b>330</b>	<b>120</b>

<sup>1</sup> Total and subtotals consider that not all products would be marketed simultaneously; therefore they are less than the sums of individual product types or areas.

<sup>2</sup> Based on 20% of total units being developed as affordable for-sale housing, with some in indicated locations. Actual inventory and unit tenure to be determined in future agreements with government agencies.

**Exhibit 5-1**  
**Existing Retail Space - Primary Trade Area and Benchmarks**  
 In square feet, 2007

	Island of Hawaii					Benchmark - Hawaii Kai
	Primary Trade Area			Other	Total	
	North Kona	South Kohala	Total PTA			
<b>Gross leasable area</b>	1,576,000	522,000	2,098,000	1,130,000	3,228,000	857,000
<b>Vacancy indicators<sup>1</sup></b>	"West Hawaii" - 5%			INA	3%	1%
<b>Largest properties</b>	Makalapua Shopping Center (170,000)	Parker Ranch Center (146,800)	Makalapua Shopping Center (170,000)	Prince Kuhio Plaza (505,600)	Prince Kuhio Plaza (505,600)	Koko Marina Shopping Center (322,300)
	Keauhou Shopping Center (169,700)	Waikoloa Village Center (78,000)	Keauhou Shopping Center (169,700)	Waiakea Center (229,300)	Waiakea Center (229,300)	Hawaii Kai Towne Center (247,000)

INA - Information not available.

Note: Includes retail in shopping centers and free-standing "big box" stores. Excludes other single-tenant or owner-occupied buildings as well as retail uses in light industrial or business centers. Includes some office/service tenants within shopping centers or other primarily retail complexes.

<sup>1</sup> Based on shopping center-based retail only, as surveyed by Colliers Hawaii Consulting in August 2007; for centers representing approximately 70% of the Island's GLA.

Sources: PM Realty, 2007; Metric Holdings, Inc.; Colliers Hawaii Consulting, A Division of Colliers Monroe Friedlander, Inc., private communication, 11/19/2007; Ibid, "Big Island Retail Guide," in Hawaii Business, November 2006; Pacific Business News, "The List: Shopping Centers - Neighbor Islands," November 3, 2006; Pacific Business News, 2007, "Book of Lists: 2007;" listing agents for respective centers.



**Exhibit 5-2**  
**Existing Office Space - Primary Trade Area and Benchmarks**  
Rentable building area, 2007

	Island of Hawaii					Benchmark - Island of Oahu
	Primary Trade Area			Other	Total	
	North Kona	South Kohala	Total PTA			
<b>Rentable building area (rounded)</b>	435,000	63,000	498,000	238,000	736,000	15,702,000
<b>Vacancy indicators<sup>2</sup></b>	7%	0%	6%	11%	10%	7%
<b>Largest properties/areas</b> (Rentable building area)	The Pottery Terrace (47,500)	Waikoloa Highlands Center (19,900)	The Pottery Terrace (47,500)	Bank of Hawaii Building - Hilo (31,600)	The Pottery Terrace (47,500)	Central Business District (8,057,000)
	Kaiwi Square (37,600) <sup>3</sup>	Kamuela Business Center (18,400)	Kaiwi Square (37,600) <sup>3</sup>	Kealakekua Business Center (27,000)	Kaiwi Square (37,600) <sup>3</sup>	Kaka`ako/ Kapiolani/ King (3,370,000)

Notes: Excludes government-owned buildings and exclusively owner-occupied buildings. Properties may include some retail spaces. INA - information not available.

<sup>1</sup> Includes the Central Business District, Kapiolani and King Streets and Kaka'ako District, as defined by CMF. Excludes Waikiki.

<sup>2</sup> Hawaii Island data is as of November 2006 and based properties for which vacancy and total RBA figures are available (36 of 47 properties, or 83% of total RBA reported), as provided by Colliers Monroe Friedlander. Oahu data is as of 3rd quarter 2007.

<sup>3</sup> May include ground floor retail.

Sources: PM Realty Group; interviews with property managers and agents; Loopnet, April 2007; Colliers Hawaii Consulting, A Division of Colliers Monroe Friedlander, Inc., "Big Island Office Guide," in Hawaii Business, November 2006; *ibid*, "Office Market Briefing: Honolulu 3Q2007."

**Exhibit 5-3**  
**Potential Future Commercial Space - Primary Trade Area**

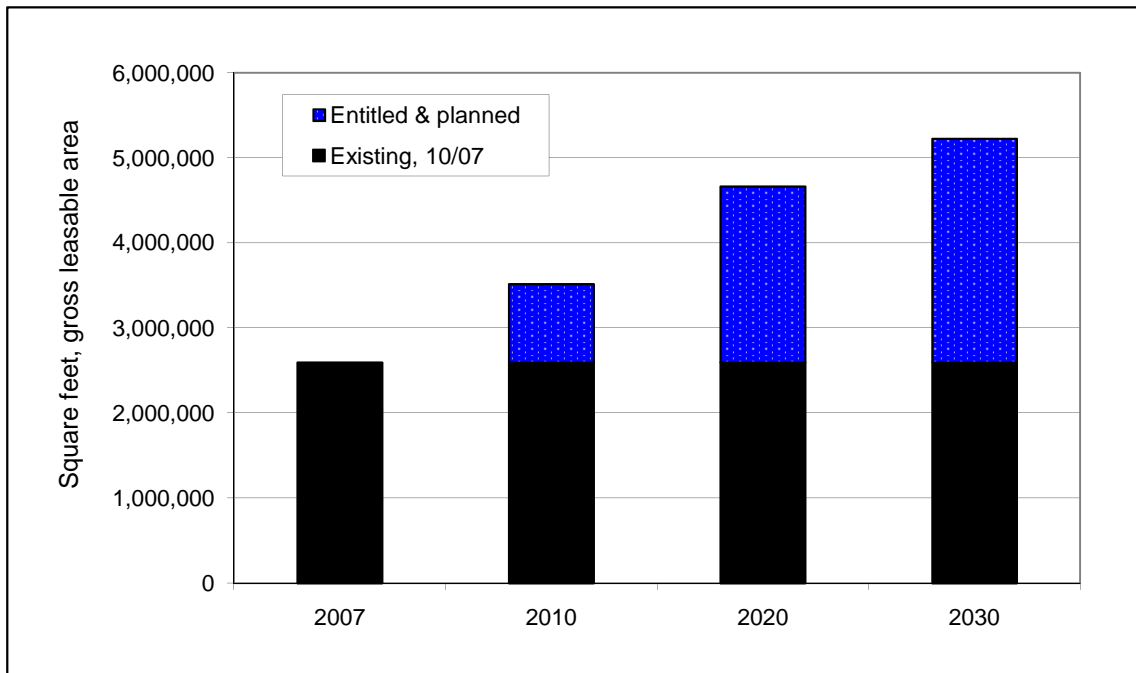
Existing and Planned/Entitled Developments as of October 2007

Square feet of gross leasable area

	Reference	Existing, October 2007	Potential future, by period end:			Total
			2007 - 2010	2011 - 2020	2021 - 2030	
<b>Existing inventory:</b>						
Retail	Exhibit 5-1	2,098,000				2,098,000
Office	Exhibit 5-2	498,000				498,000
<b>Entitled &amp; planned space (in period)</b>	Appendix 4, distributed					
North Kona			640,000	900,000	350,000	1,890,000
South Kohala			280,000	250,000	210,000	740,000
<b>Total</b>			<u>920,000</u>	<u>1,150,000</u>	<u>560,000</u>	<b>2,630,000</b>

**Potential future inventory**  
(cumulative)

**2,596,000**    **3,516,000**    **4,666,000**    **5,226,000**



Note: Includes proposed retail and office uses, but excludes industrial lands that could potentially accommodate similar uses.

**Exhibit 5-4**  
**Resident Profiles - Primary Trade Area**  
 2000 Census and 2006 estimates

	Primary Trade Area			Benchmark markets	
	North Kona	South Kohala	Total PTA	Island of Hawaii	Hawaii Kai
<b>Resident population:</b>					
2000 U.S. Census	28,543	13,131	41,674	148,677	27,657
2006 estimated	33,634	17,283	50,917	168,612	29,023
Compound annual % increase, 2000-2006	2.8%	4.7%	3.4%	2.1%	0.8%
<b>Median age</b> (2006, except Hawaii Kai)	39	36	INA	37	44 (2005)
<b>Civilian labor force</b> (2006):					
Number	18,225	9,203	27,428	83,850	16,500
Percent of population	54%	53%	54%	50%	57%

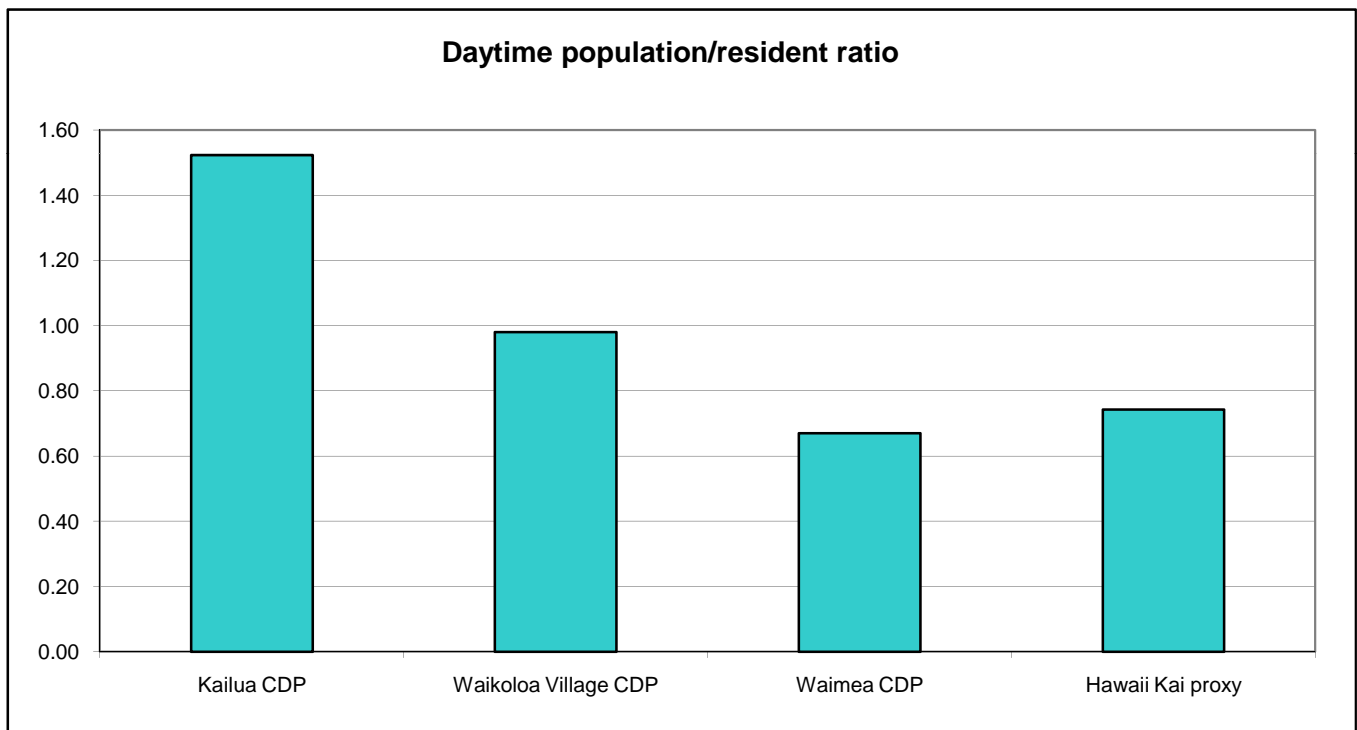
---

Note:     INA = Information not available.

Sources: Claritas Inc., 2005, 2006 and 2007. Hawaii Kai income data supplied by ESRI; Hawaii Kai 2006 population and labor force estimates based on growth rates projected by Claritas in 2005.

**Exhibit 5-5**  
**Daytime Resident Population and Employment Residence Ratios**  
**by Census Designated Places**  
2000

	Residents, 2000	Employment residence ratio <sup>1</sup>	Daytime population <sup>2</sup>	Daytime pop/ residents
<b>Primary Trade Area CDPs:</b>				
Kailua CDP	9,870	2.07	15,036	1.52
Waikoloa Village CDP	4,806	0.96	4,713	0.98
Waimea CDP	7,028	0.53	4,713	0.67
Total Trade Area	21,704	1.33	24,462	1.13
<b>Benchmark markets:</b>				
Hawaii County	148,677	1.00	148,509	1.00
Hawaii Kai proxy <sup>3</sup>	INA	0.49	INA	0.74



INA = Information not available.

Note: All ratios shown are within the respective CDP. Ratios would be higher if reported on a regional basis.

<sup>1</sup> Workers working in the CDP divided by workers living the CDP.

<sup>2</sup> Residents of area plus workers working in area less workers living in area.

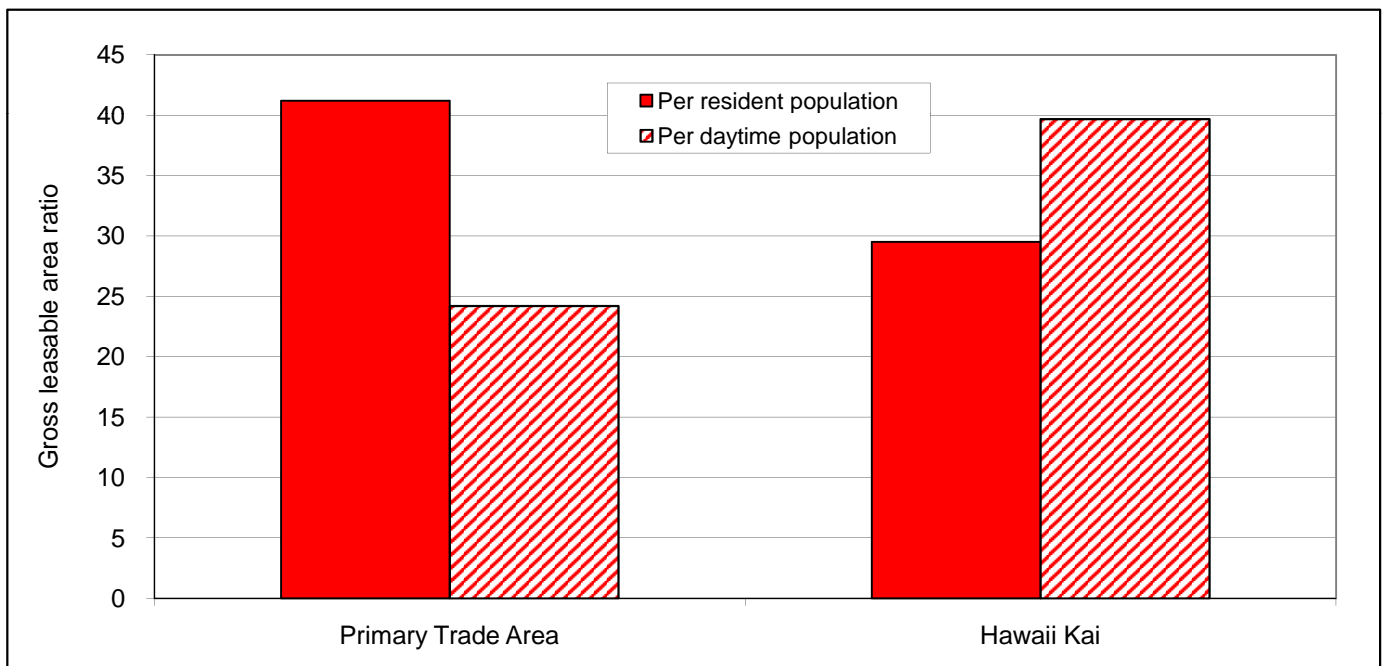
<sup>3</sup> The 2000 Census included Hawaii Kai within the Honolulu CDP, so Kailua CDP used as a proxy for Hawaii Kai ratios; actual population figures not relevant.

Source: US Census Bureau, Census 2000, PHC-T-40, "Estimated Daytime Population and Employment-Residence Ratios: 2000" Journey to Work and Migration Statistics Branch, 2005.

## Exhibit 5-6 Existing Retail Areas in Relation to Consumer Population

As of 2006, except where noted

	Primary Trade Area			Island of Hawaii	Benchmark - Hawaii Kai
	North Kona	South Kohala	Total PTA		
<b>Estimated consumers:</b>					
Resident population <sup>1</sup>	33,634	17,283	50,917	168,612	29,023
Daytime population -					
<i>Daytime resident ratio</i> <sup>2</sup>	<i>1.52</i>	<i>0.80</i>	<i>1.28</i>	<i>1.00</i>	<i>0.74</i>
Daytime resident pop.	51,200	13,800	65,000	168,400	21,600
Average daily visitors <sup>3</sup>	11,200	10,500	21,700	27,600	0
Total daytime pop.	62,400	24,300	86,700	196,000	21,600
<b>Existing retail GLA<sup>4</sup></b>	1,576,000	522,000	2,098,000	3,228,000	857,000
<b>Existing GLA ratios:</b>					
Per resident population	47	30	41	19	30
Per daytime population	25	21	24	16	40



Note: DPAs (Development Plan Areas) are those defined by the City and County of Honolulu, but approximated for data generation purposes by zip code area. See Chapter 2 for further information.

INA - Information not available.

<sup>1</sup> Primary Trade Area populations as shown in Exhibit 5-4.

<sup>2</sup> 2000 ratios, as shown in Exhibit 5-5. Total PTA ratio shown here varies from that shown for the three CDPs within the PTA in Exhibit 5-5, since the former reflects a weighted average for the total PTA, while the latter is a weighted average for the CDPs only.

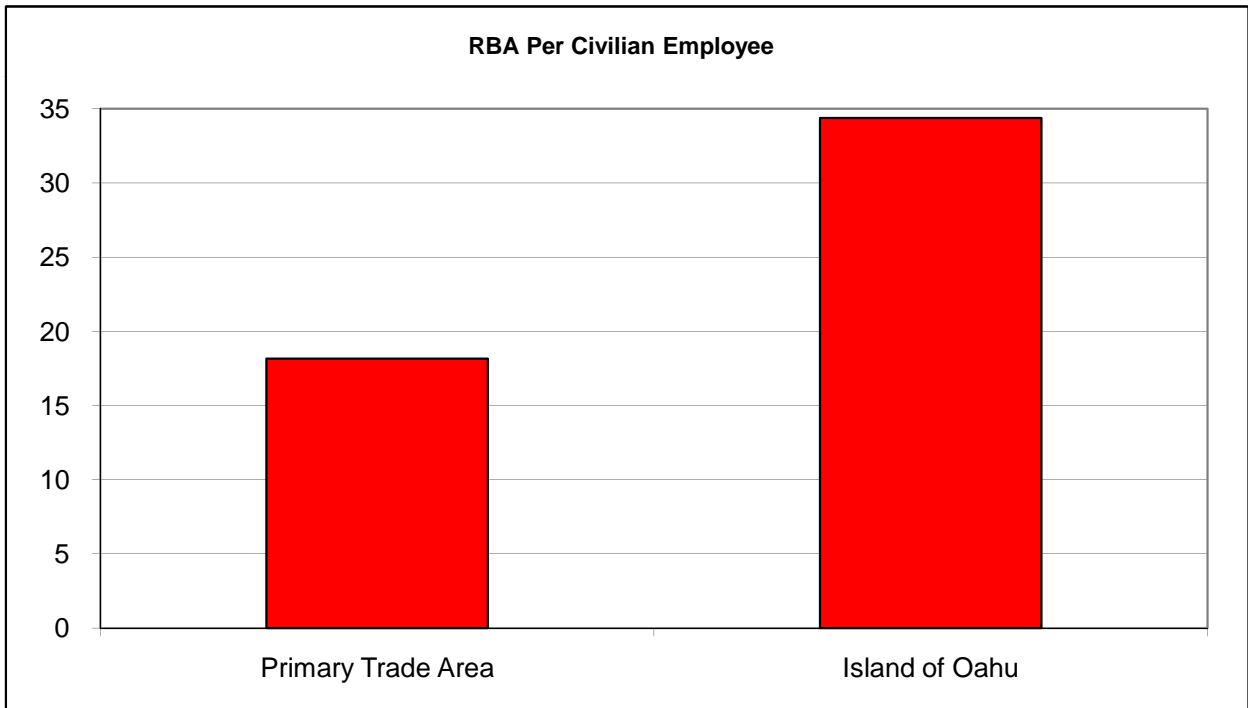
<sup>3</sup> Hawaii island data based on average daily visitor census for Kona, 2005.

<sup>4</sup> As shown in Exhibit 5-1.

Sources: Claritas Inc., 2006 & 2007; State of Hawaii, Department of Business Economic Development and Tourism, "Annual Research Report," 20065.

**Exhibit 5-7**  
**Existing Office RBA in Relation to Employment**  
 As of 2006

	Primary Trade Area			Benchmark - Island of Oahu
	North Kona	South Kohala	Total PTA	
<b>Estimated consumers:</b>				
Resident population	33,634	17,283	50,917	909,408
Civilian labor force <sup>1</sup>	18,225	9,203	27,428	446,200
% in civilian LF	54%	53%	54%	49%
<b>Existing office RBA<sup>2</sup></b>	435,000	63,000	498,000	15,337,000
<b>Existing RBA ratio</b>				
Per civilian employee	24	7	18	34



Notes: INA - Information not available; RBA - Rentable building area, in square feet.

<sup>1</sup> Trade Area estimates provided by Claritas, Inc., 2007; Island figures derived from DLIR data on civilian labor force; Hawaii island figure, as shown in Exhibit 2-8.

<sup>2</sup> As shown in Exhibit 5-2.

Sources: Claritas Inc., 2007; American Factfinder, 2007; Colliers Monroe Friedlander, 2007; prior exhibits as cited.