

# MAPPING KONA'S FUTURE

*Kona Community Development Plan*

## Volume 1

September 2008

**FINAL**

# KONA CDP

## 8 GUIDING PRINCIPLES

1. *Protect Kona's natural resources and culture.*
2. *Provide connectivity and transportation choices.*
3. *Provide housing choices.*
4. *Provide recreation opportunities.*
5. *Direct future growth patterns toward compact villages, preserving Kona's rural, diverse, and historical character.*
6. *Provide infrastructure and essential facilities concurrent with growth.*
7. *Encourage a diverse and vibrant economy emphasizing agriculture and sustainable economies.*
8. *Promote effective governance.*

COUNTY OF HAWAI'I



STATE OF HAWAI'I

BILL NO. 333

(Draft 2)

ORDINANCE NO. 08 131

**AN ORDINANCE ADOPTING THE COUNTY OF HAWAI'I KONA  
COMMUNITY DEVELOPMENT PLAN.**

**BE IT ORDAINED BY THE COUNCIL OF THE COUNTY OF HAWAI'I:**

**SECTION 1. Purpose.** The purpose of this ordinance is to adopt the Kona Community Development Plan (attached hereto as Appendix A, as amended to Draft 2) pursuant to the County of Hawai'i General Plan, Section 15.1 (February 2005 as amended).

**SECTION 2. Adoption.** Chapter 16, section 16-2, Hawai'i County Code 1983 (2005 Edition, as amended), is amended to read as follows:

“Section 16-2. Adoption of community development plans. The community development plans listed below are adopted and incorporated by reference. A copy of the plans and amendments shall be available for public inspection at the planning department.

KONA. The document identified as “Mapping the Future: Kona Community Development Plan Volume 1” is adopted by reference subject to later amendments by ordinance, and may be cited as the “Kona CDP.” The planning area for the Kona CDP encompasses the judicial districts of North and South Kona.”

**SECTION 3. Severence.** In the event that any portion of this ordinance is declared invalid, such invalidity shall not affect the other parts of this ordinance.

**SECTION 4.** Material to be repealed is bracketed and stricken. New material is underscored. In printing this ordinance, the brackets, bracketed and stricken material, and underscoring need not be included.

**SECTION 5. Effective Date.** This ordinance shall take effect upon its approval.

INTRODUCED BY:

  
COUNCIL MEMBER, COUNTY OF HAWAII

Kona, Hawai'i

Date of Introduction: August 27, 2008  
Date of 1st Reading: August 27, 2008  
Date of 2nd Reading: September 10, 2008  
Effective Date: September 25, 2008

REFERENCE: ~~Comm.~~ 1349.16/P-Council

OFFICE OF THE COUNTY CLERK  
 County of Hawai'i  
 Kona, Hawai'i

(Draft 2)

RECEIVED

Introduced By: Donald Ikeda  
 Date Introduced: August 27, 2008  
 First Reading: August 27, 2008  
 Published: N/A

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Second Reading: September 10, 2008  
 To Mayor: September 23, 2008  
 Returned: September 26, 2008  
 Effective: September 25, 2008  
 Published: October 8, 2008

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

ROLL CALL VOTE				
	AYES	NOES	ABS	EX
Ford	X			
Higa	X			
Hoffmann	X			
Ikeda	X			
Jacobson	X			
Naeole	X			
Pilago	X			
Yagong	X			
Yoshimoto	X			
	9	0	0	0

ROLL CALL VOTE				
	AYES	NOES	ABS	EX
Ford	X			
Higa	X			
Hoffmann	X			
Ikeda	X			
Jacobson	X			
Naeole	X			
Pilago	X			
Yagong	X			
Yoshimoto	X			
	9	0	0	0

I DO HEREBY CERTIFY that the foregoing BILL was adopted by the County Council published as indicated above.

APPROVED AS TO  
 FORM AND LEGALITY:

Casey Jaiman  
 DEPUTY CORPORATION COUNSEL  
 COUNTY OF HAWAII

Date SEP 25 2008

Casey Jaiman  
 COUNCIL CHAIRMAN  
Casey Jaiman  
 COUNTY CLERK

Bill No.: 333 (Draft 2)  
 Reference: C-1349.16/PC-90  
 Ord No.: 08 131

Approved/Disapproved this 25<sup>th</sup> day

of September, 2008  
Maellon

ACTING MAYOR, COUNTY OF HAWAII

This page intentionally left blank.

**Volume 1:**  
**Mapping the Future**  
**Kona Community Development Plan**

The County of Hawai'i General Plan section 15.1 (February 2005, as amended) calls for the preparation of community development plans "to translate the broad General Plan statements to specific actions as they apply to specific geographical areas." The General Plan requires CDPs be adopted as an "ordinance", giving the plans force of law. This is a long term plan with a planning horizon to year 2020, consistent with the General Plan.

The plan consists of two volumes—Volume 1 is adopted by County Council; Volume II contains more detailed or technical material for informational purposes. An electronic version of the plan is available for download at <http://hawaiiislandplan.com/>

On behalf of present and future generations of Kona

Prepared for:  
County of Hawai'i Planning Department

Prepared by:  
Wilson Okamoto Corporation

September 2008  
FINAL

# ACKNOWLEDGEMENTS

## Steering Committee

Ken Melrose, Chair  
Chrystal Yamasaki, Vice Chair  
Roger P. Dilts (resigned)  
JoAnn Farnsworth  
Maralyn (Marni) Herkes  
Thomas Hickox  
Kate Jacobson  
Gretchen Lawson  
Lydia Mahi  
Stacie Mandaguit  
Michael Matsukawa  
Janice Palma-Glennie  
Edward J. Rapoza  
J. Curtis Tyler, III  
Anne Irene Wilcox (resigned)

## Working Groups

Agriculture  
Cultural Resources  
Energy  
Environment  
Flooding and Natural Hazards  
Government  
Housing  
Land Use Planning  
Public Facilities and Programs  
Recreation  
Transportation

## County Council

Brenda Ford  
Stacy Higa  
Pete Hoffman  
Donald Ikeda  
Bob Jacobson  
Emily Naeole  
Angel Pilago  
Dominic Yagong  
J. Yoshimoto

## Planning Commission

Andrew Iwashita  
Rodney Watanabe  
Alvin Rho  
Shelly Ogata  
Lani Bowman  
C. Kimo Alameda  
Rene Siracusa  
Takashi Domingo  
Rell Woodward

## County of Hawai'i Staff

Planning Department  
Christopher Yuen, Director  
Susan Gagorik, Planner  
Nancy Pisicchio, CDP Liaison  
Louise Winn, Recorder  
Office of the Mayor  
Roy Takemoto, Assistant to the Mayor  
Department of Research & Development  
Jane Testa, Director  
Steven McPeek

## Consultants

Wilson Okamoto Corporation (prime consultant)  
Earl Matsukawa, AICP  
Tracy Fukuda  
ACP Planning & Visioning (public outreach)  
Gianni Longo  
Jamie Green  
Environmental Simulation Center (land use scenarios)  
Michael Kwartler, FAIA  
Paul Patnode  
The Conservation Fund (green infrastructure)  
William Allen  
David Paul Rosen & Associates (housing)  
David Paul Rosen, Ph.D.

## Website:

<http://hawaiiislandplan.com/>

TABLE OF CONTENTS

	<u>Page</u>
<b>1 INTRODUCTION .....</b>	<b>1-1</b>
1.1 Planning Area .....	1-1
1.2 Purpose of this Plan .....	1-1
1.3 Planning Process.....	1-3
<b>2 KONA TODAY .....</b>	<b>2-1</b>
2.1 Unique or Valued Characteristics .....	2-1
2.2 Growth Patterns and Trends.....	2-6
<b>3 VISUALIZING KONA TOMORROW .....</b>	<b>3-1</b>
3.1 Vision Statement .....	3-1
3.2 Guiding Principles.....	3-1
3.3 Consistency with Sustainable and Smart Growth Principles.....	3-3
3.3.1 Smart Growth .....	3-3
3.3.2 Sustainability .....	3-4
<b>4. GOALS, OBJECTIVES, POLICIES, AND ACTIONS.....</b>	<b>4-1</b>
4.1 Transportation .....	4-3
4.1.1 Existing Conditions .....	4-3
4.1.2 Overall Strategy.....	4-5
4.1.3 Goal, Objectives, Policies, and Actions .....	4-6
4.2 Land Use .....	4-27
4.2.1 Existing Conditions .....	4-27
4.2.2 Overall Strategy.....	4-31
4.2.3 Goals, Objectives, Policies, and Actions .....	4-35
4.3 Environmental Resources.....	4-51
4.3.1 Existing Conditions .....	4-51
4.3.2 Overall Strategy.....	4-52
4.3.3 Goals, Objectives, Policies, and Actions .....	4-54
4.4 Cultural Resources .....	4-71
4.4.1 Existing Conditions .....	4-74
4.4.2 Overall Strategy.....	4-76
4.4.3 Goals, Objectives, Policies, and Actions .....	4-77
4.5 Housing .....	4-81
4.5.1 Existing Conditions .....	4-82
4.5.2 Overall Strategy.....	4-84
4.5.3 Goal, Objectives, Policies, and Actions .....	4-90
4.6 Public Facilities, Infrastructure, and Services .....	4-98
4.6.1 Existing Conditions .....	4-98
4.6.2 Overall Strategy.....	4-98
4.6.3 Goals, Objectives, Policies, and Actions .....	4-99

**TABLE OF CONTENTS (CONTINUED)**

	<u>Page</u>
4.7 Energy .....	4-119
4.7.1 Existing Conditions .....	4-119
4.7.2 Overall Strategy .....	4-120
4.7.3 Goal, Objectives, Policies, and Actions .....	4-121
4.8 Economic Development .....	4-123
4.8.1 Existing Conditions .....	4-123
4.8.2 Overall Strategy .....	4-126
4.8.3 Goal, Objectives, Policies, and Actions .....	4-128
<b>5. ACTION PLAN .....</b>	<b>5-1</b>
5.1 Financing Plan .....	5-1
5.1.1 Scope of the Financing Plan .....	5-1
5.1.2 Funding List .....	5-2
5.1.3 Financing Districts Map .....	5-5
5.2 Implementation .....	5-5
5.2.1 Organizational Structure and Membership .....	5-6
5.2.2 Duties .....	5-6
5.2.3 Annual and Comprehensive Review .....	5-7
5.3 Implementation Matrix .....	5-8
<b>6 MONITORING PLAN .....</b>	<b>6-1</b>
<b>7 GLOSSARY .....</b>	<b>7-1</b>
<b>8 REFERENCES .....</b>	<b>8-1</b>

**List of Tables**

Table 2-1	Population Growth .....	2-7
Table 4-1	Concurrency Table .....	4-23
Table 4-2	Total Housing Units, County of Hawai'i, 1990 - 2006 .....	4-82
Table 4-3:	2006 Affordable Income Guidelines .....	4-86
Table 4-4:	Affordable Sales and Rent Guidelines for County of Hawai'i .....	4-87
Table 4-5	Housing Credit .....	4-93

TABLE OF CONTENTS (CONTINUED)

	<u>Page</u>
<b>List of Figures</b>	
Figure 1-1	Kona CDP Planning Area ..... 1-2
Figure 2-1	Rainfall Map..... 2-3
Figure 4-1	Existing Major Streets – Ownership and Functional Classification ..... 4-4
Figure 4-2a	Official Transportation Network Map: Proposed Roads and Transit Facilities ..... 4-9
Figure 4-2b	Official Transportation Network Map: Bike and Pedestrian Paths ..... 4-11
Figure 4-2c	Official Transportation Network Map: Kahalu'u Area ..... 4-13
Figure 4-2d	Official Transportation Network Map: Nani Kailua Area..... 4-14
Figure 4-3	Concurrency Map ..... 4-25
Figure 4-4	County of Hawaii General Plan Land Use Pattern Allocation Guide ..... 4-28
Figure 4-5	Generalized LUPAG ..... 4-29
Figure 4-6	Generalized Zoning ..... 4-30
Figure 4-7	Official Kona Land Use Map ..... 4-37
Figure 4-8a	Environmental Resources Map: Kona Mauka Watershed Area ..... 4-55
Figure 4-8b	Environmental Resources Map: Native Vegetation ..... 4-61
Figure 4-8c	Environmental Resources Map: Native Plants & Animals..... 4-63
Figure 4-8d	Environmental Resources Map: Other Resources..... 4-65
Figure 4-9:	Traditional Uses Concept Map ..... 4-72
Figure 4-10a	Official Public Facilities and Services Map – Public Safety..... 4-101
Figure 4-10b	Official Public Facilities and Services Map – Community Facilities ..... 4-103
Figure 4-10c	Official Public Facilities and Services Map – Waste Management ..... 4-105

**Attachments**

- A. Official Metadata
- B. Village Design Guidelines
- C. Clustered Rural Subdivision Guidelines

**VOLUME 2—Background Information**

1. Public Involvement Summary: Process and Results, ACP-Visioning & Planning, Ltd. and The Environmental Simulation Center, November 23, 2006
2. Working Groups Objectives & Actions, ACP-Visioning & Planning, Ltd., December 12, 2006
3. Demographic Characteristics of North & South Kona, Wilson Okamoto Corporation, January 2007
4. Kona Regional Profile, Wilson Okamoto Corporation, January 2007
5. Land Use Strategies, The Environmental Simulation Center, July 2007
6. Green Infrastructure Technical Report, The Conservation Fund, February 28, 2007
7. Kona Affordable Housing Economic Analysis, David Paul Rosen & Associates, October 23, 2006
8. Grey Infrastructure Report, Wilson Okamoto Corporation, March 2007

This page intentionally left blank.

# 1. INTRODUCTION



## 1.1 PLANNING AREA

The Kona Community Development Plan (CDP) encompasses the judicial districts of North and South Kona, hereafter referred to as Kona (see Figure 1 Planning Area). The 800 square miles of land area, which comprises the North and South Kona districts, accounts for approximately 20% of the total land area of the Island of Hawai'i.

Located on the leeward side of the Island of Hawai'i, Kona has an ideal climate. It has attracted an influx of new residents and experienced tremendous growth. The population has more than doubled during the past 25 years, driven by resort development and the second-home residential market. As a result of this rapid growth rate, we must plan better to deal with traffic congestion, affordable housing, and open space. Residents taking part in the planning process repeatedly voiced these needs. Kona is the first community development plan to commence under the framework of the February 2005 County of Hawai'i General Plan.

## 1.2 PURPOSE OF THIS PLAN

The purposes of the Kona CDP are:

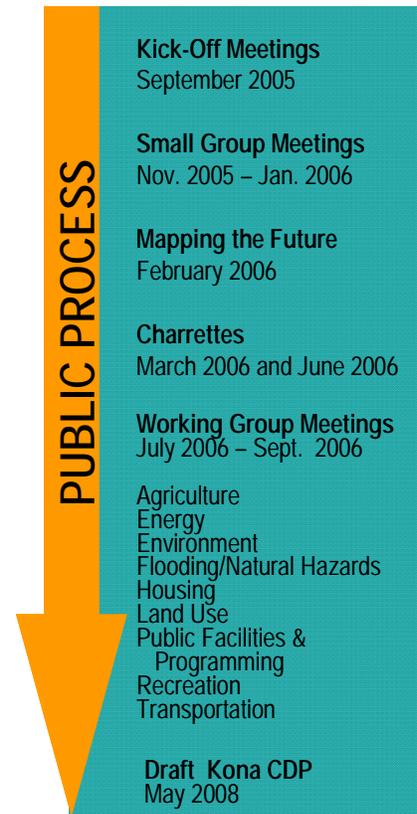
- Articulate Kona's residents' vision for the planning area;
- Guide regional development in accordance with that vision, accommodating future growth while preserving valued assets;
- Provide a feasible infrastructure financing plan to improve existing deficiencies and proactively support the needs of future growth;
- Direct growth to appropriate areas;
- Create a plan of action where government and the people work in partnership to improve the quality of life in Kona for those who live, work, and visit;
- Provide a framework for monitoring the progress and effectiveness of the plan and to make changes and update it, if necessary.



### 1.3 PLANNING PROCESS

The Hawai'i County Planning Department recognized that only with broad public input can the Kona residents take ownership of this plan, by which they may embrace the vision and commit to a better future. Initiated in September 2005, this plan is the result of an extensive public process discussed below.

1. *Steering Committee.* The Hawai'i County Mayor and the Hawai'i County Council appointed 15 citizens to serve on the Kona CDP Steering Committee, representing a cross-section of the Kona community. The Committee was given the responsibilities of helping guide the process and representing public priorities.
2. *Public Meetings.* Several large community meetings were held:
  - a. *Kick-Off Meetings.* Two public meetings, one in North Kona and the other in South Kona, were held in September 2005 to introduce the consultant team and explain the planning process.
  - b. *Small Group Meetings.* In recognition that the process needs to go to the people, meetings were held at people's homes, churches, and community centers. More intimate settings and smaller groups allowed freer interaction for people not inclined to speak before large groups. One hundred and nine meetings were held throughout Kona from November 2005 through January 2006. All these meetings received input from a balanced demographic and geographic representation of the North and South Kona Districts. Over 800 residents participated in the individual meetings generating 3,496 ideas. These ideas were sorted into 18 categories, shown at right.
  - c. *Mapping the Future Workshop.* On February 18, 2006, 350 people attended this workshop to brainstorm where future growth should occur. Breakout groups also addressed critical questions such as housing choice and affordability, agriculture, transportation and land use,



Transportation	511	14.6%
Alternative	118	3.4%
Public	141	4.0%
Vehicular	252	7.2%
Government and Governance	354	10.1%
Planning	332	9.5%
Social Issues	327	9.4%
Environment & Culture	358	10.2%
Infrastructure	242	6.9%
Economic Prosperity	191	5.5%
Public Facilities	188	5.4%
Housing	186	5.3%
Land Use	178	5.1%
Community Character	178	5.1%
Education	152	4.3%
Parks, Recreation, and Open Space	126	3.6%
Agriculture	98	2.8%
Energy	69	2.0%

- congestion, parks/recreation/open space, protection of the environment, hazard mitigation, protection of ancestral and historic sites, community character, retail, and tourism.
- d. *Charrettes*. A charrette is a “working” public meeting where technical experts sit with the public and work together on maps and images. There were two charrettes, the first held in March 2006 and the other in June 2006. In the first charrette, the public identified alternative growth scenarios and selected a preferred scenario. In the second charrette, the public articulated desired principles to provide details for a preferred scenario.
  - e. *Working Groups*. Eleven working groups made up of citizens and community stakeholders met monthly, from July 2006 – September 2006, to focus in more detail on specific issue areas. The working group developed goals, objectives, and policies for agriculture, cultural resources, energy, environment, flooding and natural hazards, government, housing, land use, public facilities and programs, recreation, and transportation. Each of the working groups focused on one of the above topics.

For a more detailed documentation of the planning process, see Public Involvement Summary: Process and Results in Volume II.



Mapping the Future Workshop, February 2006.



First meeting of the 109 small group meetings: *Sotero Agool*



March 2006 Charrette.



June 2006 Charrette.

## 2. KONA TODAY



Pu'uhonua o Hōnaunau National Historic Park.

### 2.1 UNIQUE OR VALUED CHARACTERISTICS

When people say “Keep Kona, Kona”, they mean many things:

- *Preserving rich cultural features.* In ancient Hawai‘i, Kona was the most densely populated area in the Hawaiian Islands (about 20,000 inhabitants at its peak). Kona was also a favorite area of residence for Hawai‘i’s chiefs. Ancient Hawaiian life was based around the *ahupua‘a*, a section of the land that extended from the mountain to the sea. Settlement generally occurred in three main zones: the narrow arid coastal strip consisting of small fishing villages near the shore, particularly around fishponds and bays; the barren middle zone comprised of lava fields, which supported temporary use, including natural caves used by travelers between the coast and uplands; and the agricultural uplands, which supported scattered settlements where dryland taro and sweet potatoes were extensively cultivated, along with other crops. Today’s challenge is to respect and appreciate this past while learning the ancestor’s lessons of living sustainably with the land.
- *Preserving Kona coffee, rural villages, and lifestyle.* World renowned “Kona Coffee” is the signature product of Kona. Initially introduced to Hawai‘i in the early 1800’s, coffee thrives in the rich volcanic soils and unique climate of Kona on the sheltered leeward slopes of Mauna Loa and Hualālai, roughly between the elevations of 700 to 2,000 feet, along a 15-mile long “coffee belt” extending from Kailua to Hōnaunau. The history of Kona coffee has been preserved with efforts such as the Kona Heritage Corridor. Historically, rural villages evolved in support of the agricultural lifestyle, and they are valued by the residents of Kona today as a link with their past and path to their future. This lifestyle persists through today’s thriving coffee industry and is valued by visitors to the Kona area who help to support the growth of diversified agriculture.



Coffee plant. COH



Kealakekua Bay.

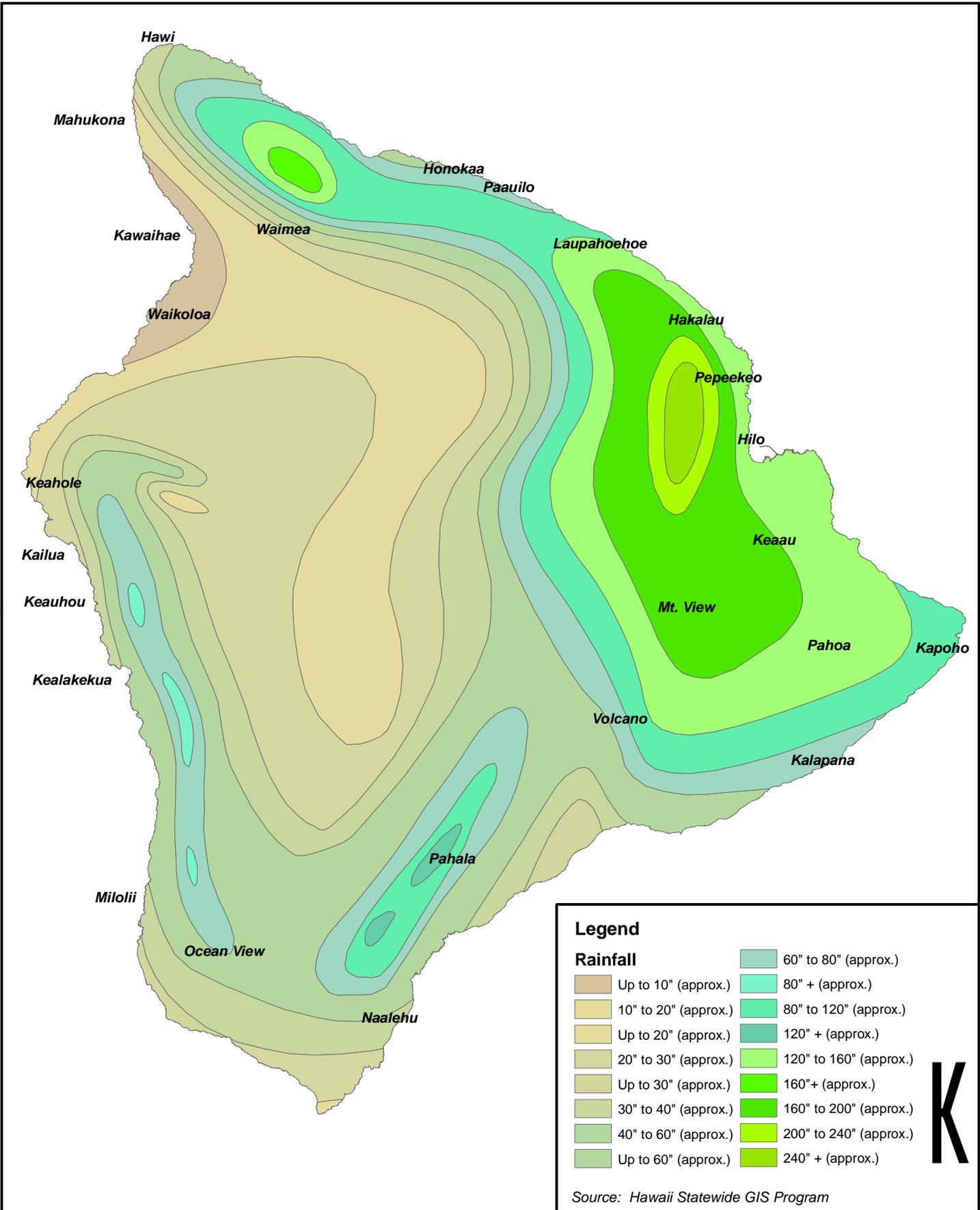
- *Preserving the diverse coastlines, protected nearshore waters, open space, and vast untouched upland landscapes.* Kona includes astonishing contrasts, ranging from near-barren lava fields, to coastal coconut groves, to dense native ‘ōhi‘a forests. The sunny, leeward climate has fostered an outdoor lifestyle epitomized by well-known events held in Kona – such as the International Ironman Triathlon, Hawaiian International Billfish Tournament, and numerous canoe regattas.

In order to plan for a sustainable future, the following unique characteristics of Kona’s ecosystem need to be considered:

- *Rainfall pattern.* The massive domes of Mauna Loa and Hualālai shelter the Kona Coast from the predominant tradewinds. In the absence of tradewinds, light sea-land breezes prevail—the heating of the land during the day causes light winds to blow in from the sea, and the cooling of the land at night causes light winds to flow from the land to the sea. The seabreezes converge with tradewinds that have passed through the Humu‘ula Saddle and around the upper slopes of Mauna Loa, producing frequent afternoon showers over the island’s interior sections and mountain slopes. This afternoon rainfall contrasts with the weather of the windward side of the island where rain most often falls near midnight. The rainfall pattern in Kona is common during the summer tradewind season, making Kona unique in the State in having its highest annual rainfall during the summer. The rainfall map reflects the sea-land breeze pattern (see Figure 2-1). Rainfall increases from the shoreline going mauka, reaching a peak between about 2,000 feet and 2,500 feet in elevation, where 60 – 80 inches can fall annually in some areas. Above this band, annual rainfall progressively declines to approximately 20 inches near the summits of Hualālai and Mauna Loa.
- *Steep topography with undefined drainageways.* Erosion has only slightly altered the lava-formed landscape of Kona. There are no perennial streams. Most rainfall, except in heavy storms, percolates rapidly into porous lava. There are recognized drainageways, but they are shallow and not well defined. Consequently, heavy localized rainfall can easily exceed the capacity of the shallow drainageways resulting in flooding of adjoining areas. Moreover, even relatively slight changes in topography through grading and other land-disturbing activities can affect the capacity of drainage courses or change the direction of flows. Areas that have not previously experienced flooding could flood during even short periods of high rainfall. The predominantly steep topography of Kona causes runoff to flow quickly, resulting in short response times to potentially rapid flooding.

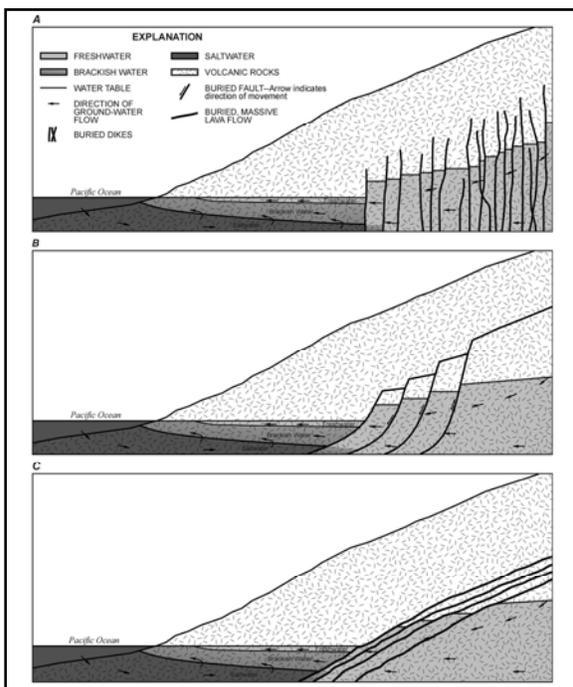


South Kona coastline. Hawaiian Images Photography &amp; Video

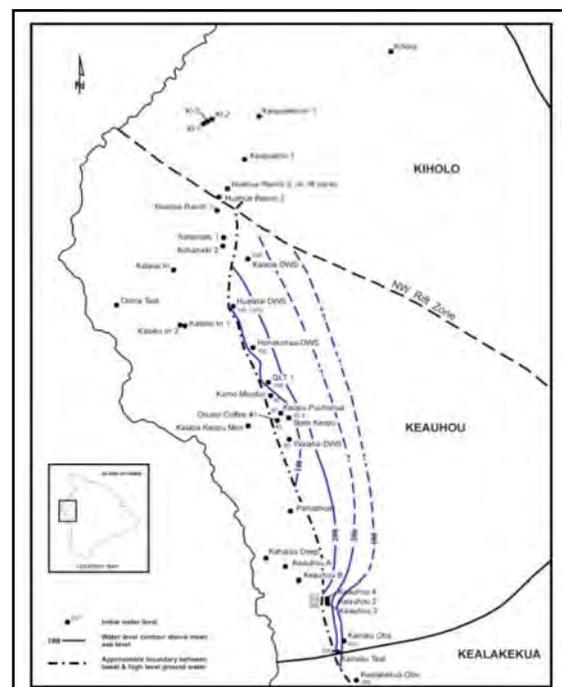


*Figure 2-1  
Rainfall Map*

- Groundwater.** On the Island of Hawai'i, groundwater is the primary source of drinking water. In Kona, groundwater occurs as both basal groundwater<sup>1</sup> and high-level groundwater<sup>2</sup>. The basal lens in Kona is relatively thin and inconsistent due to the low rainfall input and the lack of a geological "plug" that could slow the leakage of the groundwater at the coastline.<sup>3</sup> Consequently, wells drawing from basal groundwater in Kona are susceptible to salinity if they are drilled too deep or if they are over-pumped. In the 1990's, exploratory wells drilled above the 1,600-foot elevation encountered high-level groundwater 25 to 460 feet above sea level. Better understanding and protection of the high-level groundwater is important, since it has a significant potential for serving Kona.



Three possible geologic structures that could impound high-level water. (A) buried dike complex; (B) buried fault system; (C) buried, massive lava flows. Oki, Delywn, 1999.



Water level contours in the high-level aquifer. Bauer, Glenn, September 2003.

<sup>1</sup> Basal groundwater is freshwater "floating" atop deeper seawater. The freshwater forms a "lens" that extends below sea level in a phenomenon described by the Ghyben-Herzberg Principle. For every foot of fresh water above sea level there are 40 feet below sea level.

<sup>2</sup> High-Level ground water refers to potable water sources that are impounded by a relatively impermeable geologic structure such as dikes or clay soils.

<sup>3</sup> For example, on O'ahu, eroded sediment that has accumulated at the coastline is relatively impermeable and holds back the groundwater, enabling a larger lens of water to form.

- *Native ecosystems.* Native forest habitats in Kona still exist as a wet forest band at the mid-slope elevation corresponding to the area of higher rainfall, as well as in pockets of dryland forest. Although all ecosystems have been affected to some degree by human activity and the introduction of alien species, the greatest impact by far has been on the lowland areas. Modification of these ecosystems began with the Native Hawaiians, along with the introduction of non-native species such as feral ungulates, and was accelerated by cattle ranching, agriculture, and urbanization. Where remnants of native dryland forest still exist, they are a rare and precious legacy. The native wet forest remains today as a band of forest providing essential habitat and watershed functions.



- *Anchialine ponds.* Anchialine ponds are landlocked brackish bodies of water near the shoreline which rise and fall with the tides, and are federally protected. In the U.S., this habitat exists only in the Hawaiian Islands. Of the 700 known ponds in the Hawaiian Islands, most are on the Island of Hawai'i, where anchialine ponds on the west side of the island have a higher diversity of native species than those on the east side. These ponds are home to a unique assemblage of invertebrate and algal species, some of which are known to exist only in this habitat. These unique species migrate through the cracks and crevices in the groundwater table. The anchialine ponds are vulnerable to filling, introduction of exotic species (e.g., guppies, mollies and tilapia), siltation from ground grading activity, from imported soils used for landscaping, as well as groundwater pollution from cesspools, septic systems, fertilizers and pesticides. Some of these same activities also threaten the nearshore coastal waters.

- *Nearshore coastal waters.* The leeward coastal waters of Kona, ideal for coral growth and recreational activities, do not have as much flushing action as rougher coastal areas. While some pollutants mixed with the groundwater are filtered by the lava or soil, dissolved nutrients such as nitrates and phosphates from cesspools and septic systems as well as infectious microorganisms may be difficult to remove. Moreover, in Kona, due to the complex and poorly understood geology of lava tubes and porous rock formations, there is concern that groundwater can flow unfiltered to the ocean.



The coastal waters along the Kona coast are classified as "AA" marine waters by State Department of Health (DOH) Administrative Rules, Title 11, Chapter 54 "Water Quality Standards." The DOH objective for Class "AA" marine waters is that "these waters remain in their natural pristine state as nearly as possible with an absolute minimum of pollution or alteration of water quality from human-

caused source or actions. To the extent practicable, the wilderness character of these areas shall be protected”.

- *Rare, Threatened, Endangered Species.* The vast majority of native Hawaiian plants and animals are found nowhere else on Earth. Some of these plants and animals are on the brink of extinction. Kona is home to rare, threatened, and/or endangered plant and animal species such as, but not limited to Hawai'i Creeper, Hawaiian Crow ('Alalā), Hawai'i Hawk ('Io), anchialine pool shrimp, 'ahakea, kauila, halapepe, lo'ulu, 'aiea, ma'aloa. Some of these species do not live in protected areas. It is important to identify which species inhabit Kona and where they are located.
- *Open Space and Natural Areas.* Kona is blessed with open space and natural areas that have the potential for active and passive recreational opportunities, as well as to preserve and conserve sensitive natural systems (native forests, anchialine ponds, floodways, beaches, etc.).
- *Natural Hazards.* The coastal areas along Kona are vulnerable to major storms, with the most significant of these being hurricanes. While hurricanes and storm events present the most likely risks, Kona is also vulnerable to earthquakes, tsunamis, flooding, droughts, and wildfires. The County prepared the Multi-Hazard Mitigation Plan (February 2005), which identified natural hazards, conducted a risk and vulnerability analysis, and addressed mitigation measures.



## 2.2 GROWTH PATTERNS AND TRENDS

*Population growth and composition.* There are different ways to show the population growth in Kona (see Table 2-1):

- **Percentage Change.** Resident population grew in North Kona by 62% from 1980 to 1990 (3<sup>rd</sup> in percentage increase behind Puna and South Kohala) and tapered to 28% growth from 1990 to 2000 (4<sup>th</sup> among the nine districts). This percentage growth increase was nearly twice that of South Kona.
- **Absolute Numerical Change.** In terms of absolute numbers, only Puna (19,584) added more residents than North Kona (14,795) in the two decades.
- **Countywide Proportion.** In the year 2000, North Kona (19%) ranked second to South Hilo (37%) in terms of percent of population countywide. However, the trend is that North Kona and Puna are increasing their share of the countywide population, while the South Hilo share is declining.

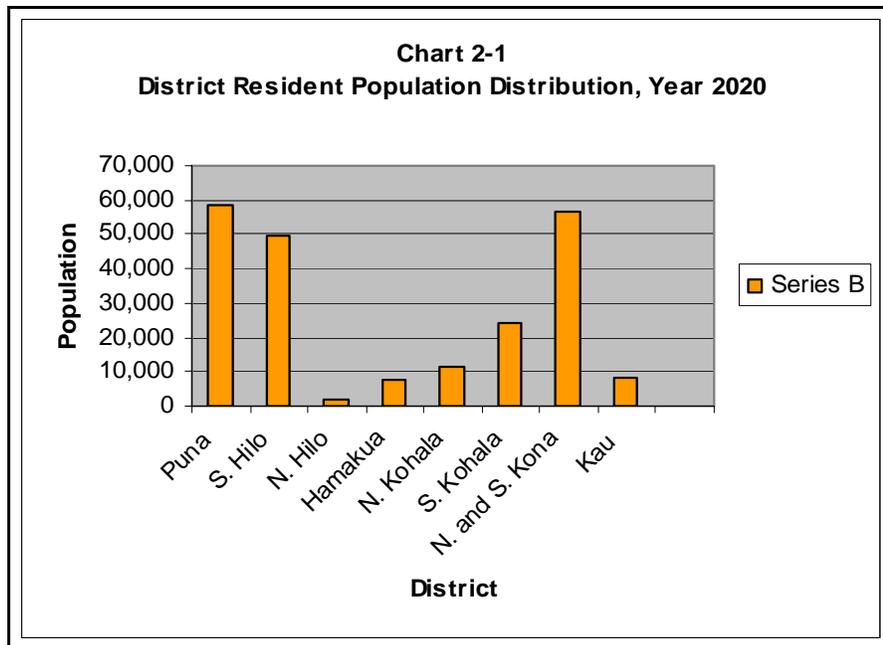
District	1-Apr-80	1-Apr-90	1-Apr-00	Percent change		Numerical Change		% of Total		
				1980 to 1990	1990 to 2000	1980 to 1990	1990 to 2000	1980 to 1990	1990 to 2000	Change
State	964,691	1,108,229	1,211,537	14.9	9.3	143,538	103,308			
Hawaii County	92,053	120,317	148,677	30.7	23.6	28,264	28,360			
Puna	11,751	20,781	31,335	76.8	50.8	9,030	10,554	13%	17%	5%
South Hilo	42,278	44,639	47,386	5.6	6.2	2,361	2,747	46%	37%	-9%
North Hilo	1,679	1,541	1,720	-8.2	11.6	-138	179	2%	1%	-1%
Hamakua	5,128	5,545	6,108	8.1	10.2	417	563	6%	5%	-1%
North Kohala	3,249	4,291	6,038	32.1	40.7	1,042	1,747	4%	4%	0%
South Kohala	4,607	9,140	13,131	98.4	43.7	4,533	3,991	5%	8%	3%
North Kona	13,748	22,284	28,543	62.1	28.1	8,536	6,259	15%	19%	4%
South Kona	5,914	7,658	8,589	29.5	12.2	1,744	931	6%	6%	0%
Kau	3,699	4,438	5,827	20	31.3	739	1,389	4%	4%	0%

Source: County of Hawaii General Plan, February 2005 and 2006 County of Hawaii Data Book

These census figures, available every ten (10) years do not fully capture the exponential growth Kona experienced from 2000 to today. Based on a 2005 estimated population of 31,900 for North Kona and 10,700 for South Kona (totaling 42,600)<sup>4</sup>, the average annual growth rate from 2000 has been 6% comparable to 6% in the rapid expansion period of 1980 to 1990<sup>5</sup>. Using the middle forecast (Series B), as suggested by the County General Plan (2005), the projected total population for the Kona districts for the year 2020 is 56,367, or 13,800 more residents than the estimated population in 2005 (see Chart 2-1).

The population growth in Kona is closely associated with continuing growth of the visitor and agricultural industries.

*Housing production.* Growth in housing units provides a more realistic picture of growth in Kona. In the period of 1990 and 2000 the number of new housing units increased at a rate more than twice the population increase, from 7,947 housing units in 1990 to 13,330 in 2000 (ACP-Visioning & Planning, Ltd. and ESC, November 2006) of which only a small portion was affordable housing for residents. This uneven increase creates greater, disproportionate land consumption and infrastructure needs than reflected by population growth statistics.



Source: County of Hawaii General Plan, 2005

<sup>4</sup> The General Plan, Table 2-2, provides population projections at 5-year intervals by district. The 2005 projections for North and South Kona were adjusted by the Census population estimate dated July 2005. The Census estimate for the island was 186,836 (2005 Hawaii County Data Book, Table 1.2, which was higher than the islandwide GP projections of 159,907, resulting in an adjustment factor of 1.168 (186,836/159,907)

<sup>5</sup> Average annual growth rate computed by taking the difference of the end year and the start year, divide by number of years, and divide the quotient by the value of the start year (e.g. for North Kona [(22,284-13,748)/10]/13,748 = 0.06 = 6%)

# 3. VISUALIZING KONA TOMORROW



## 3.1 VISION STATEMENT

### KONA'S FUTURE SHALL BE:

*A more sustainable Kona characterized by a deep respect for the culture and the environment and residents that responsively and responsibly accommodate change through an active and collaborative community.*

## 3.2 GUIDING PRINCIPLES

In order to achieve this vision, the following principles, derived from public meetings and working groups, are the foundation for the goals, objectives, policies, and implementation actions.

1. **Protect Kona's natural resources and culture.**
  - a. *Natural resources.* The watershed, including coastline, flood plains, important agricultural land, open space, and areas mauka of Māmalahoa Highway shall be protected. Guided by a principle of respect for the land, environment and natural resources shall be preserved and protected to ensure clean air and water, thriving native species, conservation of shorelines and open space, improvements in watershed management and flood control, and reductions in solid waste.

*"For the benefit of present and future generations, the State and its political subdivisions shall conserve and protect Hawai'i's natural beauty and all natural resources, including land, water, air, minerals and energy sources, and shall promote the development and utilization of these resources in a manner consistent with their conservation and in furtherance of the self-sufficiency of the State. All public natural resources are held in trust by the state for the benefit of the people.*

*The Constitution of the State of Hawai'i  
Article XI*



- b. *Culture.* The multi-ethnic culture is preserved, protected, and restored in a manner that perpetuates all aspects of the aloha spirit.
2. **Provide connectivity and transportation choices.** Future growth should connect communities with movement alternatives such as sidewalks, trails, and bike lanes. We need an efficient public transportation system for moving people. It should have comfortable and frequent service to key destinations, along prominent commuter routes, and at transfer points that offer connections to alternative modes of transportation.
3. **Provide housing choices.** Future growth should offer a broad range of mixed housing choices with a variety of types and price ranges that are affordable and available in close proximity to places of work. They should also accommodate populations with special needs, including seniors, disabled persons, and the homeless.
4. **Provide recreation opportunities.** Future growth should provide a diversity of recreational opportunities that are well-maintained, attractive, and easily accessible to the entire community.
5. **Direct future growth patterns toward compact villages, preserving Kona's rural, diverse, and historical character.**
- a. *Compact villages.* The majority of future growth should be directed north of Kailua, with some future growth in the Kailua to Keauhou area, in the form of compact villages that offer increased density and mixture of homes, shops, and places to work.
- b. *Rural character of Kona.* Density in South Kona should be kept low, and its character should remain rural, with most future growth directed around existing villages and towns.
- c. *Community character.* Diversity, history, and the host culture are celebrated in neighborhoods and communities that incorporate beautification, architectural continuity, and respect for the natural environment, in order to maintain Kona's character and its Hawai'i Island style.
6. **Provide infrastructure and essential facilities concurrent with growth.** Future growth should occur where infrastructure (roads and utilities) and essential facilities (i.e. police, fire, and schools) are already in place. These facilities should be maintained at a level that will enhance the quality of life for Kona residents.
7. **Encourage a diverse and vibrant economy emphasizing agriculture and sustainable economies.**
- a. *Agriculture.* Agricultural lands should be preserved in a manner that supports family farms, ecotourism, and a self-sufficient agricultural economy that encourages the local use of Hawai'i products.



- b. *Sustainable industries.* Diverse and sustainable industries such as ecotourism, agriculture, aquaculture, technology, and health should be enhanced, expanded and marketed to take full advantage of Kona’s unique environmental assets and reduce dependence on food and fossil fuel imports. Community collaborations supported in order to meet the needs of businesses, residents and visitors.
8. **Promote effective governance:** An effective and accountable regional government structure that improves the quality of life for Kona residents should manage the impacts of growth and meet the needs of the Kona community by encouraging cooperation among public, private, and civic partners, ensuring equitable distribution of resources, and instituting policies and regulations in a predictable and consistent manner.

*"We the people of Hawai'i, grateful for Divine Guidance, and mindful of our Hawaiian heritage and uniqueness as an island State, dedicate our efforts to fulfill the philosophy decreed by the Hawai'i State motto, "Ua mau ke ea o ka 'āina I ka pono."*

*We reserve the right to control our destiny, to nurture the integrity of our people and culture, and to preserve the quality of life that we desire.*

*We reaffirm our belief in a government of the people, by the people and for the people, and with an understanding and compassionate heart toward all the peoples of the earth, do hereby ordain and establish this constitution for the State of Hawai'i".*

*The Constitution of the State of Hawai'i  
Preamble*

### 3.3 CONSISTENCY WITH SUSTAINABLE AND SMART GROWTH PRINCIPLES

These foregoing eight Guiding Principles are consistent with the principles of “smart growth” and “sustainability.”

#### 3.3.1 Smart Growth

Smart growth refers to the management of growth to make it possible “for communities to grow in ways that support economic development and jobs; create strong neighborhood with a range of housing, commercial, and transportation options; and achieve healthy communities that provide families with a clean environment.”<sup>6</sup> The following 10 smart growth principles are incorporated into the Kona CDP’s Guiding Principles:

1. Protect and preserve open space, natural beauty, agricultural lands, cultural and environmental resources;
2. Utilize compact building design;
3. Create a range of housing opportunities and choices;
4. Create walkable communities;

<sup>6</sup> Smart Growth Network, Getting to Smart Growth: 100 Policies for Implementation, <http://smartgrowth.org>.

5. Foster distinctive, attractive communities with a strong sense of place;
6. Mix land uses;
7. Strengthen and direct development towards existing communities;
8. Provide a variety of transportation choices;
9. Make development decisions predictable, fair and cost effective; and
10. Foster community and stakeholder collaboration in development decisions.

### 3.3.2 Sustainability

The term “sustainability” has special meaning in an island context, where our resources are limited and the consequences of our actions have a more immediate impact.

*Sustainability in Hawai'i means achieving a quality of life that achieves the following goals:*

- *It emphasizes respect for the culture, character, beauty and history of our state's island communities.*
- *It strikes a balance between economic prosperity, social and community well-being, and environmental stewardship.*
- *It meets the needs of the present community without compromising the ability of future generations to meet their own needs.<sup>7</sup>*

The eight Guiding Principles are consistent with this definition and provide the basis for Goals, Objectives, Policies, and Actions that set forth a sustainable path for Kona. To become a sustainable community requires commitment on all levels—as individuals, households, businesses, communities, and government. We need to do our part in as many ways as we can.

The following elaborates the eight Guiding Principles specifically in terms of sustainability principles:

1. **Sense of Community.** The manner in which we meet our human needs determines the quality of our existence and ability to adapt. Pertinent initiatives include the following:
  - a. *Cultural emphasis.* The vision emphasizes the importance of mutually appreciating our respective cultural traditions.
  - b. *Affordable housing.* The vision affirms that decent affordable housing is needed in Kona.
  - c. *Participatory governance.* The vision is to create a structure through which Kona residents may meaningfully engage in decision making. Engagement breeds caring and learning, which, in turn, creates the energy and expertise needed to better the community.
  - d. *Innovation.* The Design Center proposed in Section 4.2 Land Use will hopefully stimulate the exposure of and willingness to try new ideas, thus enabling Kona to become a cutting edge sustainable community.

---

<sup>7</sup> Hawai'i 2050 Sustainability Plan, January 2008. See also, *The Natural Step for Communities* by S. James and T. Lahti which explains the four conditions of a sustainable society.

2. **Interaction with Nature.** Only through opportunities to interact with nature can we develop knowledge and respect for natural environment. The vision is to establish an Open Space Network Program (see Section 4.3 Environmental Resources) to guide the provision of such opportunities through subsistence activities (e.g., fishing, diving, hunting, gathering), recreational activities (e.g., swimming, surfing, hiking, camping, biking), and educational activities (e.g., interpretive signage and printed material).

3. **Building Standards.** The Leadership in Energy and Environmental Design (LEED) Green Building Rating System is the nationally recognized standard for green buildings (see sidebar). The vision supports LEED design of buildings and neighborhoods. LEED embraces all the aforementioned principles—waste reduction, toxics reduction, conservation of resources, and energy efficiency— by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality. LEED certification provides independent, third-party verification that a development's location and design meet accepted high standards for environmentally responsible, sustainable, development. LEED certification recognizes and rewards builders for meeting the highest performance standards, and gives users confidence that their building is durable, healthy, and environmentally friendly.

4. **Energy Efficiency.** The energy policies aim at reducing greenhouse gas emissions (i.e., conservation measures, renewable energy conversion), reducing energy costs to the consumer (e.g., net metering, alternatives to driving), and developing a more resilient system, such as reduced dependence on fossil fuel imports, and decentralized distributed energy systems. Although most changes require action by the State, County, or utility company, the vision expresses Kona community's aspirations to do its part. The largest consumer of electricity on the island is the County Department of Water Supply, to pump and distribute water. Therefore, water conservation and leak detection, besides conserving water resources, is also a significant energy conservation measure.

5. **Non-degradation.** Whether intentionally or inadvertently, we degrade our resources by clearing, introducing invasive species, introducing sediments or chemicals to our water resources through non-point or point sources and depleting our water, soil, fisheries, and other resource consumption activities. To prevent degradation, the vision is to support biodiversity through protection of native

**Specific LEED programs include:**

- Homes
- Neighborhood Development
- New Commercial Construction and Major Renovation projects
- Existing Building Operations and Maintenance
- Commercial Interiors projects

About LEED for Homes  
 LEED for Homes is a voluntary rating system that promotes the design and construction of high performance "green" homes. A green home uses less energy, water, and natural resources; creates less waste; and is healthier and more comfortable for the occupants.

About LEED for Neighborhood Development  
 LEED for Neighborhood Development is a collaboration between the U.S. Green Building Council, the Congress for the New Urbanism, and the Natural Resources Defense Council. The LEED for Neighborhood Development Rating System integrates the principles of smart growth and green building into the first national standard for neighborhood design.

LEED for Neighborhood Development recognizes development projects that successfully protect and enhance the overall health, natural environment, and quality of life of our communities. The rating system encourages urban smart growth best practices, promoting the design of neighborhoods that reduce vehicle miles traveled and communities where jobs and services are accessible by foot or public transit. This framework can serve as the means of measuring the sustainability of the Kona CDP's Village Design Master Plans.

and endangered habitats, controlling pollution at the source and pathways, and rewarding “best practices” of managed resources.

6. **Toxic materials reduction/substitution.** Through awareness and innovation, the vision is to encourage reducing (or substituting) toxic substances.
7. **Zero waste.** The concept of zero waste attempts to emulate nature where the “waste” of one thing becomes the food or shelter of another thing in an efficient flow of materials and energy. This means not just recycling and reusing, but also redesigning products and packaging to reduce toxicity and increase recoverability. The vision is to increase the awareness of businesses and households, thus helping them to modify their modes of operation, encourage innovation, and discourage waste.
8. **Climate change (global warming).** The emission of greenhouse gases, primarily carbon dioxide, prevents heat from escaping and contributes to global warming. The primary source of carbon dioxide is the burning of fossil fuels (oil, natural gas, and coal). Carbon dioxide is also removed from the atmosphere (or “sequestered”) when it is absorbed by plants as part of the biological carbon cycle. The vision is to reduce energy use and convert to renewable sources, as well as to preserve and restore the mauka forests, which are the most significant actions Kona can take to do its part to stem global warming.

## 4. GOALS, OBJECTIVES, POLICIES, AND ACTIONS

Chapter 4 presents the goals, objectives, policies, and actions of the Kona Community Development Plan (CDP). They are presented as eight elements, including:

1. Transportation
2. Land Use
3. Environmental Resources
4. Cultural Resources
5. Housing
6. Public Facilities, Infrastructure and Services
7. Energy
8. Economic Development

These elements generally correspond with the thirteen elements of the County of Hawai'i General Plan (GP) except that five elements of the GP have been combined in two of the Kona CDP elements. Specifically, the Kona CDP element for Public Facilities, Infrastructure and Services combines the GP elements for Public Facilities, Public Utilities and Recreation; and, the Kona CDP element for Environmental Resources combines the GP elements for Environmental Quality, Flooding and Other Natural Hazards, Natural Beauty and Natural Resources and Shoreline. The GP element for Historic Sites is referred to in the Kona CDP as Cultural Resources and the GP element for Economic is referred to as Economic Development. The concepts of sustainability variously addressed in the GP element for Environmental Quality form a part of the overall vision for the Kona CDP, as presented in Chapter 3 Visualizing Kona Tomorrow.

Each of the eight Elements in this chapter has seven components, described as follows:

1. Introduction to the Element, discussing its scope, purpose and/or guiding principle(s). A table shows which of the eight guiding principles the Element supports.
2. Existing Conditions, describing the issues, concerns, and/or state of knowledge that are addressed in the Element.
3. Overall Strategy, explaining the major approaches by which the issues and concerns described in Existing Conditions will be addressed.
4. Goal, stating the intended outcome for the Element, as derived from the community outreach phase of the Kona CDP process.
5. Objectives, corresponding to each of the major approaches identified in the Overall Strategy. Each of the objectives in an Element is identified by an alphabetical prefix identifying the element and a sequential numeral. For example, "Objective LU-1" is the first objective in the Land Use Element.

6. Policies, that prescribe how each objective will be achieved. The policies that use the word “shall” are mandatory directives legally binding on County agencies. Among the most significant legally binding policies are those presented in Section 4.2 Land Use. These policies must be implemented through land use decisions and development permits issued after the Kona CDP is adopted. Such policies, however, would not be retroactive to prior decision-making and existing zoning. Some mandatory policies require balancing with other policies, particularly those that require County funding. Some policies create special provisions that differ from the County Code; these Code-amending policies are summarized and noted as “enacted by plan” in Section 5.3. Other policies that use the word “should” are not legally binding as they recommend desired actions especially those affecting agencies over which the plan does not have authority (e.g. State agencies, utilities, non-profits). Each policy is identified by the alpha-numeric code for its corresponding objective, followed by a decimal and its numeric sequence. For example, “Policy TRAN-3.2” is the second policy of the third objective in the Transportation Element.
  
7. Actions, that specify how the policy will be implemented. An action may be a precursor to implementing a policy or may specify what is required or recommended to implement it. The list of actions are meant to be refined during the process of implementation in consideration of available resources, more detailed analysis, feasibility, and other factors. Thus, these actions are not legally binding but are meant to be implemented in good faith. The Implementation Committee (IC) shall have the authority to revise the action and report any such revision in the Committee’s annual report (see Section 5.2.1). Each action identifies, by acronym (see sidebar), the specific agencies or organizations that will implement or participate in implementing the action. County agencies identified have a particular responsibility for implementation. Each action also specifies when the action should be implemented, whether it is enacted by the plan, on-going, within one to two years, within two to three years, within three to five years or within five to ten years. Each Action is identified by the alpha-numeric code for its corresponding

<u>Acronyms/Abbreviations</u>	
App.	Applicant
BUS.	Businesses
CD	Civil Defense
COE	US Army Corps of Engineers
COMM	Community-based Organization
DATA	County Data Systems
DBEDT	State Department of Business, Economic Development, and Tourism
DEM	County Department of Environmental Management
DC	Design Center
DOA	State Department of Agriculture
DOE	State Department of Education
DOH	Department of Health
DOT	State Department of Transportation
DHHL	State Department of Hawaiian Home Lands
DLNR	State Department of Land & Natural Resources
DPW	County Department of Public Works
DWS	County Department of Water Supply
Fin.	County Finance Department
HCCRC	Hawai'i County Cultural Resources Commission
HELCO	Hawai'i Electric and Light Company
HHFDC	Hawai'i Housing Finance and Development Corporation
KCC	Kona Chamber of Commerce
KCRC	Kona Cultural Resources Committee
KVBID	Kailua Village Business Improvement District
KVDC	Kailua Village Design Commission
Mayor's	County Mayor's Office
MT	County Mass Transit Agency
NELHA	Natural Energy Laboratory of Hawai'i
NPS	National Park Service
OA	County Office of Aging
OHCD	County Office of Housing and Community Development
OSC	County Open Space Commission
OSP	Office of State Planning
PATH	People's Advocacy for Trails Hawai'i
PC	County Planning Commission
PD	County Planning Department
PR	County Department of Parks & Recreation
QLT	Queen Lili'uokalani Trust
R&D	County Research & Development
SHPD	State Historic Preservation Division
State	State agency
SWCD	Soil Water Conservation District
TNC	The Nature Conservancy
UH	University of Hawai'i

policy, followed by an alphabet sequence. For example, “Action ENV-1.4a” is the first action of the fourth policy of the first objective in the Environmental Resources Element. All of the Actions are summarized in Implementation Matrix in Chapter 5 Action Plan.

8. Official Maps, that are meant to be legally binding. All other figures in the plan not designated as Official Maps are for information purposes only. Because the Official Maps are created from GIS files, these maps may be printed at any scale with all or selected data layers. The Official Maps distinguish “Policy Layers” from “Information Layers”. The Policy Layers are the official information on that map that require an amendment to the plan to add, delete, or relocate records on the map. Changes that improve the accuracy of the map are not considered amendments. The Information Layers provide background and may be changed in any way or removed without a plan amendment. The metadata for the Official Maps specify, at a minimum, the source of the data and explain the attribute features (see Attachment A). The GIS files and metadata shall be housed and maintained by the County of Hawai‘i Planning Department.

## 4.1 TRANSPORTATION

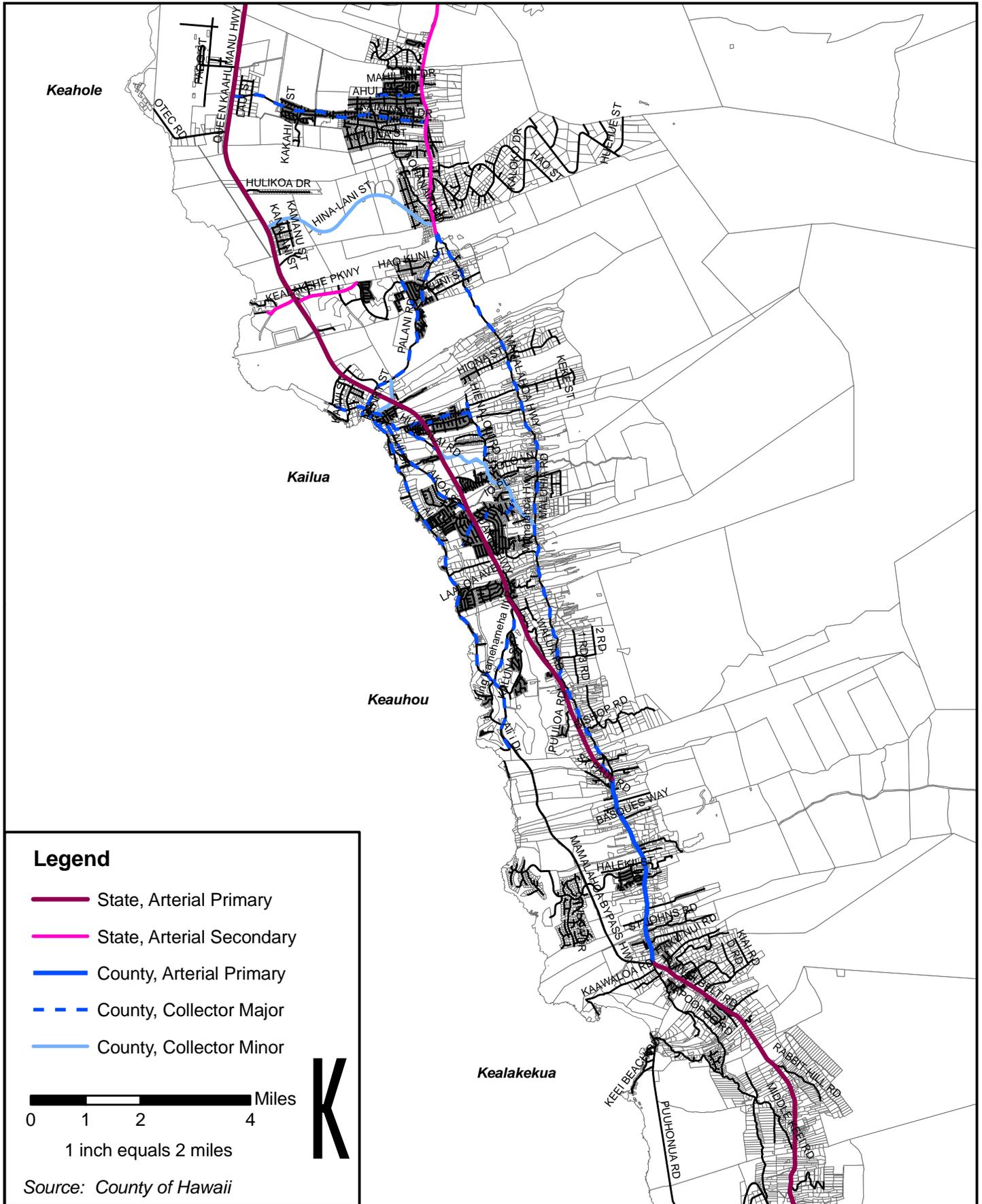
The Transportation section of the Kona CDP serves as a policy guide for County decisions regarding transportation systems. Its objectives, policies, and actions establish a transportation-oriented basis for future development that is integrated with the Land Use section, as well as the Public Facilities, Infrastructure and Services section of the Kona CDP. In addition, it provides guidance for concurrency and connectivity of transportation facilities with future development to ensure that all communities are adequately served.

### 4.1.1 Existing Conditions

Traffic congestion in Kona is bad and grows worse with time. The congestion is fueled by the rapid growth and exacerbated by the road network, land use patterns and dependence on the automobile. Road improvements have not kept pace with development. Poor management of past development has eliminated or compromised future roadway corridor options. Major road improvements take a long time to complete and limited financial resources have to be prioritized and supplemented by innovative funding sources.

Two major north/south roadways, Queen Ka‘ahumanu/Kuakini (Highway 19) and Māmalahoa Highway (Highway 190), are well beyond capacity and carry the majority of the north/south traffic through and within Kona. Both State and County share jurisdiction over the roads in Kona (see Figure 4-1).

Guiding Principles	Transportation
1. Protect Kona's natural resources and culture.	
2. Provide connectivity and transportation choices.	✓
3. Provide housing choices.	✓
4. Provide recreation opportunities.	✓
5. Direct future growth patterns toward compact villages, preserving Kona's rural, diverse, and historical character.	✓
6. Provide infrastructure and essential facilities concurrent with growth.	✓
7. Encourage a diverse and vibrant economy emphasizing agriculture and sustainable economies.	
8. Promote effective governance.	✓



*Figure 4-1  
Existing Major Streets - Ownership and Functional Classification*

Based on State DOT traffic counts, several locations along regional transportation facilities in the planning area currently operate at poor levels of service (COH Planning Department, August 14, 2006). In general, the following roadway segments operate at Level of Service (LOS) "D" or worse (COH Planning Department, August 14, 2006):

- Queen Ka'ahumanu Highway, Keāhole to Palani Road
- Hawai'i Belt Road, Palani Road to Kealakekua
- Palani Road, east of Henry Street and west of Queen Ka'ahumanu Highway

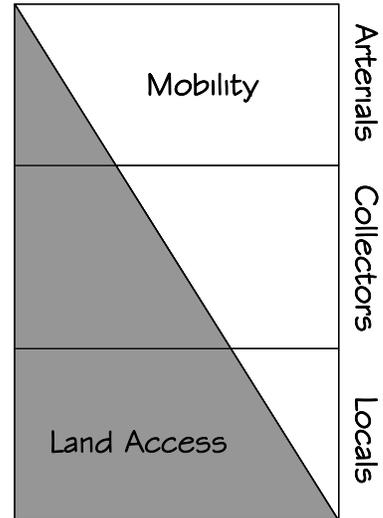
Over the years, new development mauka and makai of the primary arterial highways has occurred without local road connectivity. New developments have been built with no or very little connection to each other.

Lacking such connectivity, all traffic funnels to the arterials and conditions have deteriorated to the degree that Kona's residents' quality of life, visitors' regional experience, and overall public safety suffered.

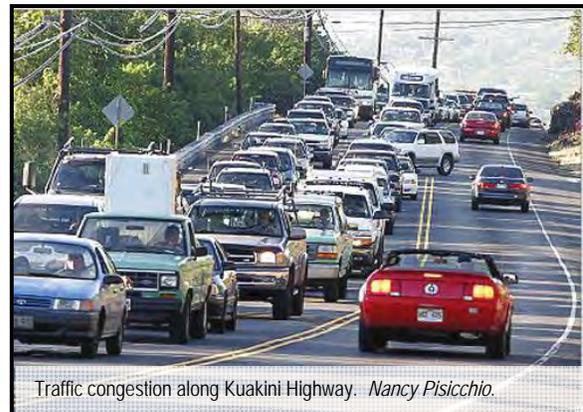
#### 4.1.2 Overall Strategy

Widening, improving, and extending major arterials, as well as increasing connectivity between and within existing and future development are necessary to enhance mobility in Kona. Priority arterial highway projects include widening Queen Ka'ahumanu Highway between Henry Street and the airport, Kuakini Highway Widening between Henry Street and Kamehameha III Road, and the construction of the Māmalahoa Highway Bypass Road and Kahului-Keauhou Parkway. The proposed Keohokālole Highway (Mid-Level Road) will add capacity to the north-south arterial network, and reduce demands on the existing regional facilities. It would also serve as the central multi-modal corridor serving future regional development. A series of east-west (mauka-makai) collector roads linking the regional north-south facilities must also be provided for added circulation and to further reduce the reliance upon the regional facilities. In addition, future urban development must contribute to a well-connected local transportation network that provides for safe, direct, and convenient access for automobile, bicycle, and pedestrian traffic. Local streets include all streets that are not designated as collectors or arterials. Although local streets are not designed for through or heavy traffic, the connectivity of these streets with each other and with collectors is crucial ensuring that residents can easily reach destinations within the community.

Levels of Service (LOS) is a quantitative and qualitative assessment of traffic operations. LOS are defined by LOS "A" through "F"; LOS "A" representing ideal or free-flow traffic operating conditions and LOS "F" unacceptable or potentially congested traffic operating conditions.



Relationship of Functionally Classified Systems Serving Traffic Mobility and Land Access: Arterials for main movement or distribution emphasize the high level of mobility for through movement. Collectors offer approximately balanced service for both functions.



The design of local streets also plays an important role in affecting traffic speed and choice of travel modes. Narrow local streets tend to slow traffic and are more conducive to pedestrian travel. Narrow local streets also cost less to build and maintain, encourage more efficient land use, and improve neighborhood character. Narrow streets are an efficient way of connecting the local street system without encouraging the use of local streets for through or fast moving traffic. Local streets must be wide enough to accommodate emergency vehicles and provide for on-street parking.

Current budget limitations will hinder rapid major investment in public road improvements. But, even if immediate financing and approvals were available to improve roadways, other solutions to Kona's long term traffic woes are necessary. There are several other major strategies that embody the Guiding Principles expressed in Sections 4.3 Land Use, 4.5 Housing, and 4.6 Public Facilities, Infrastructure and Services. They relate to transportation, housing, land use, and infrastructure that needs to be integrated and incorporated into Kona's long-term transportation policies as Kona's population continues to grow in the years ahead. These strategies include the following:

1. **Mass Transit.** A major expansion of the County's public mass transit service in Kona would provide significant alternatives to individual automobile use.
2. **Multi-Modal Transportation.** Taking advantage of Kona's consistently mild climate, a network of interconnected bike lanes, trails, and sidewalks within and outside road right-of-ways would provide a healthy and green alternative to automobile use.
3. **Transit-Oriented Development (TOD).** The development of compact, mixed-use villages which would integrate housing, employment, shopping, and recreation opportunities. Villages would be designed around transit stations/stops which would reduce the need for daily trips and financially support the expanded transit system.
4. **Multi-Purpose Design.** Beyond getting us from one place to another, our transportation corridors are major public spaces that must safely accommodate uses other than vehicular travel.
5. **Safety and Aesthetic Qualities.** Safety and aesthetic qualities need to play a larger role in improving existing and designing future roadways, in order to contribute to Kona's quality of life and tourism appeal.
6. **Affordable Housing.** Affordable housing located near major employment centers would serve to decrease the number of people who fill the roadways commuting long distances to work every day. These housing policies, which recognize their relationship to transportation, are addressed in the Section 4.5: Housing.

#### 4.1.3 Goal, Objectives, Policies, and Actions

*Transportation Goal: An efficient, safe, and attractive multi-modal transportation system integrated with land use planning that allows movement around and through Kona with minimal reliance on the automobile.*

**Objective TRAN-1: Transportation and Land Use.** To organize growth on a regional level in Kona, growth should be compact and transit-supportive. Compact mixed-use villages along transit routes provide sufficient densities to support transit feasibility and enable people to meet a variety of daily needs within walking distance.

**Policy TRAN-1.1: Official Transportation Network Map.** The Official Transportation Network Map shall show proposed transit routes, proposed arterials and collectors, and pedestrian/bicycle paths (see Figures 4-2a to 4-2d). This map shall designate the functional classification of the roadway. The purpose of this map is to show intended interconnections, plan and preserve these corridors, budget public improvements, and provide notice to affected landowners of potential impacts from these projects.

**Action TRAN-1.1a: Adopts Official Transportation Network Map (Enacted by plan).**

**Action TRAN-1.1b: Update the accuracy of the Official Transportation Network Maps with alignment locations as they are determined through preliminary engineering reports or other plans and/or studies (Figures 4-2a and 4-2b) (PD, on-going).**

**Policy TRAN-1.2: Trunk Line.** The new Keohokālole Highway (Mid-Level Road) shall function as the trunk transit route connecting Kailua Village with the airport, along which transit-oriented developments (TODs) will be located. As the trunk transit route, there will be future allowance for a dedicated transit-way within the right-of-way and the headways will be of the highest among all transit routes in Kona (see Figure 4-2a).

**Action TRAN-1.2a: Design and construct Keohokālole Highway (Mid-Level Road) in functional sections.**

- 1) Phase I - Palani Road to Kealakehe Parkway
  - a) Design ready (PD, 1-2)
  - b) Construction Ready (DPW, 2-3)
  - c) Construct (DOT, DPW, 3-5)
- 2) Phase II – Kealakehe Parkway to Hina Lani Street
  - a) Design Ready (PD, 1-2)
  - b) Construction Ready (DPW, 2-3)
  - c) Construct (DPW, 3-5)
- 3) Phase III – Hina Lani Street to Ka’iminani Drive
  - a) Design Ready (PD, 5-10)
  - b) Construction Ready (DPW, 5-10)
  - c) Construct (DPW, 5-10)
- 4) Phase IV – Ka’iminani Drive to University Drive
  - a) Design Ready (Private, 1-2)
  - b) Construction Ready (Private, 3-5)
  - c) Construct (Private, 3-5)

**Policy TRAN-1.3: Spacing of TODs along Trunk Line.** Transit-Oriented Development (TOD) Urban Villages shall be located a minimum of one mile apart, between major transit stations, along Keohokālole Highway trunk route in order to preserve the transit efficiency of this route.

**Action TRAN-1.3a:** General locations of TODs have been determined by the Official Kona Land Use Map. (see Policy LU-2.3 and Figure 4-7) (Enacted by plan).

**Policy TRAN-1.4: Secondary Transit Route.** A secondary transit route shall connect Kailua Village with Keauhou and also serve the areas mauka of Queen Ka'ahumanu and Kuakini Highways (see Figure 4-2a). As a secondary transit route, transit will share the vehicular travel lane, and its headways will be equal or less than the trunk route. Any new developments along these routes shall pay their proportionate share for the frontage road costs and provide transit stops or stations.

**Action TRAN-1.4a:** Establish bus routes on existing streets along the designated Secondary Transit Route (MT, on-going)

**Action TRAN-1.4b:** Establish bus routes on proposed streets as they are built along the designated Secondary Transit Route (MT, on-going).

**Action TRAN-1.4c:** Provide bus maintenance facility in the Kona Urban Area (UA) to support the expanded bus service (see Figure 4-10c) (MT, 5-10)

**Policy TRAN-1.5: Frontage Road.** A frontage road makai of the Queen Ka'ahumanu Highway, or, if permitted by DOT, within the 300-foot wide Queen Ka'ahumanu Highway right-of-way between the airport and Honokōhau Harbor shall serve as a Secondary Transit Route. It will enable the consolidation of Queen Ka'ahumanu Highway vehicular access points for the developments makai of Queen Ka'ahumanu Highway.

**Action TRAN-1.5a:** Design and construct Frontage Road.

- 1) Phase I – Airport to Huliko'a Drive
  - a) Coordinate design and intersections with the DOT's Queen Ka'ahumanu Highway widening (PD, DOT, 1-2)
  - b) Coordinate financing with public and private owners (PD, Fin., 1-2)
  - c) Obtain permit approvals (PD, 2-3)
- 2) Phase II – National Park Service (NPS) Section
  - a) Determine alignment within 300 foot right-of-way or NPS property (PD, NPS, 3-5)
- 3) Connect to Kuakini Highway extension
  - a) Coordinate financing and construction with DLNR/DHHL and QLT (PD, DPW, DLNR/DHHL, QLT, 3-5)

**Policy TRAN-1.6: Kailua or Makaao Village as a Transit Hub.** The redevelopment of Kailua shall include a plan to create an intra-Kona transportation service, with Kailua Village or Makaao Village as the "hub" or transit center. Buses would operate from Captain Cook to the Kailua or Makaao Village hub. At the hub, buses would intersect with other routes operating

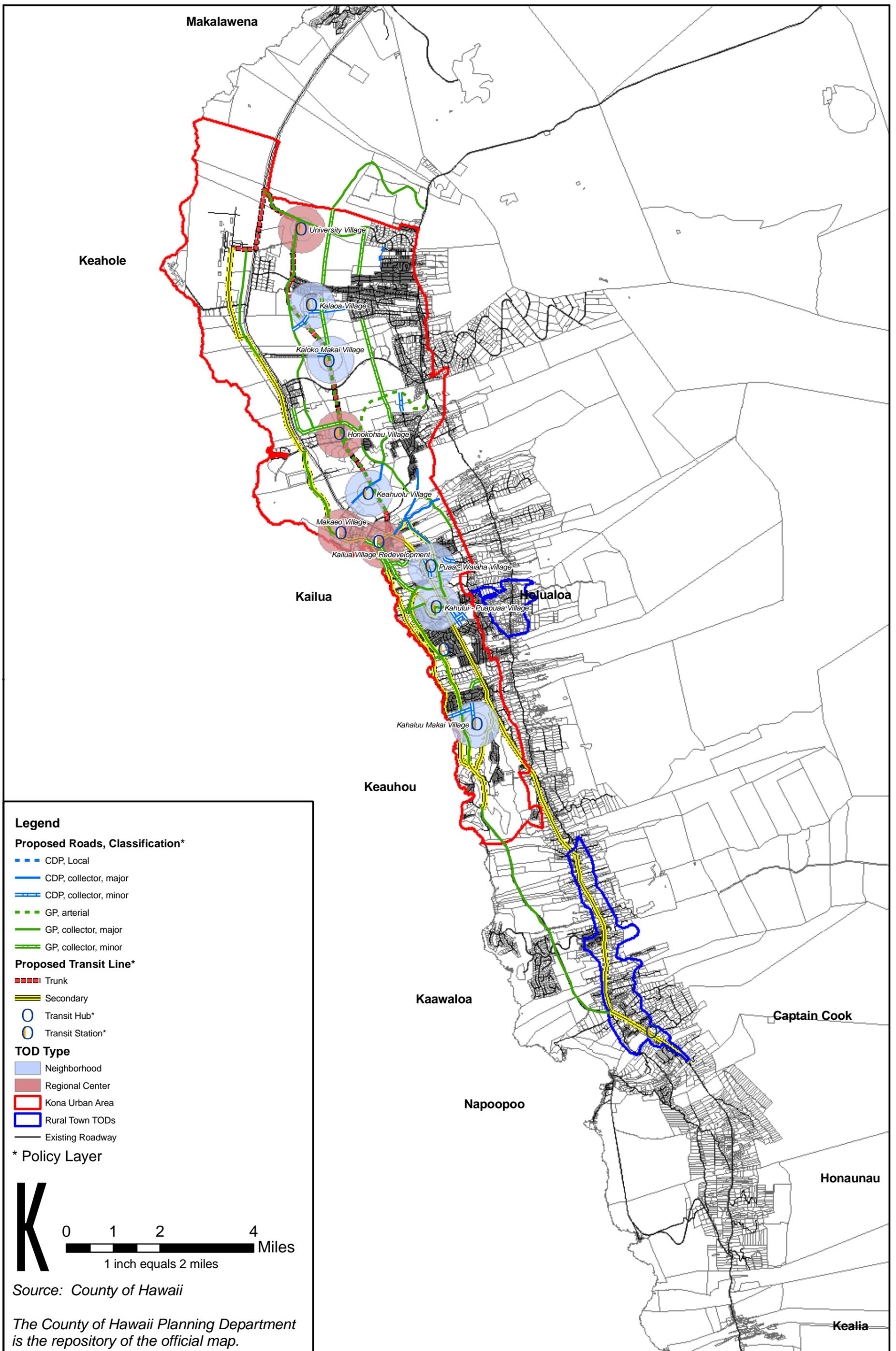
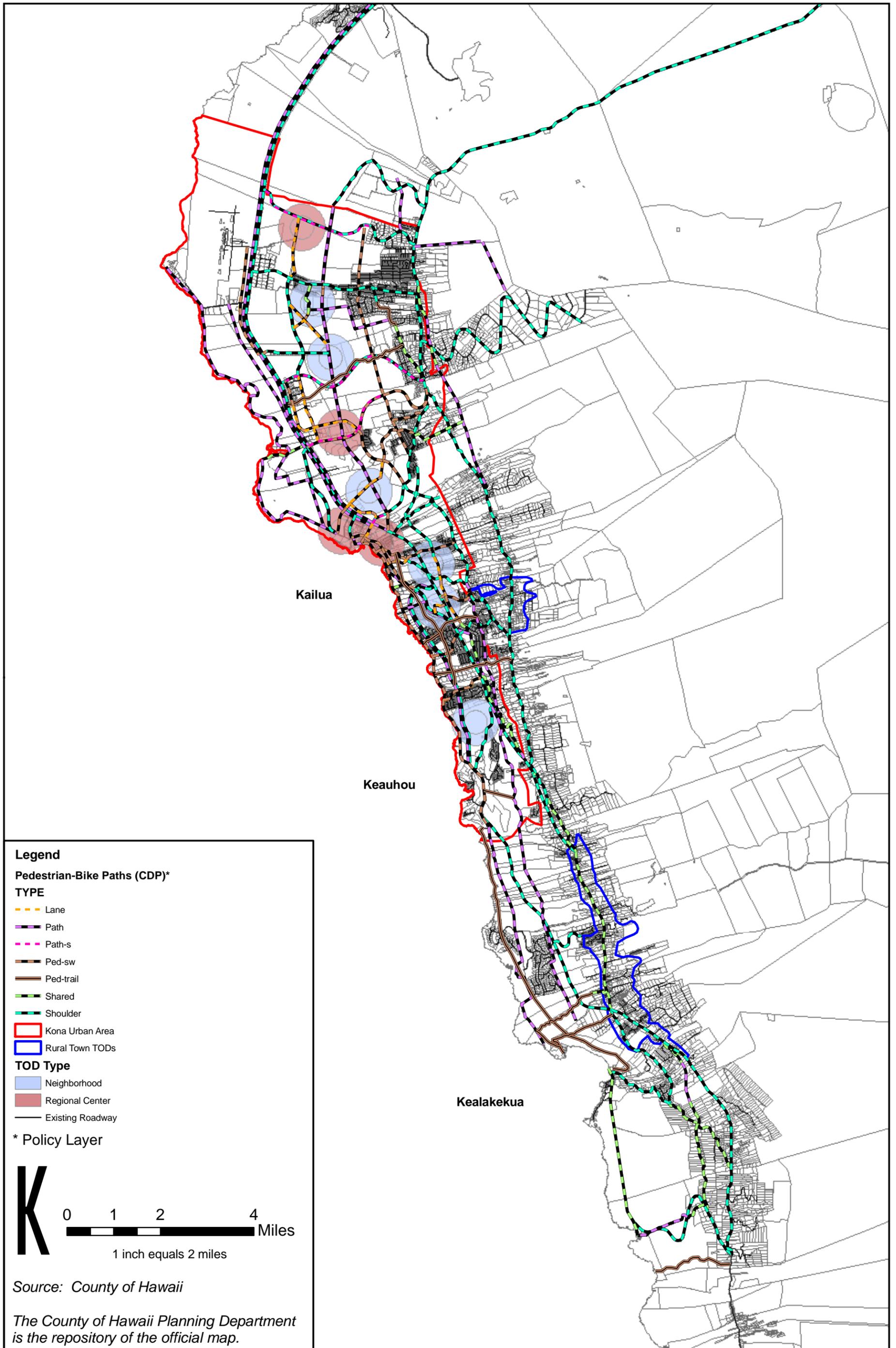


Figure 4-2a  
Official Transportation Network Map - Proposed Roads and Transit

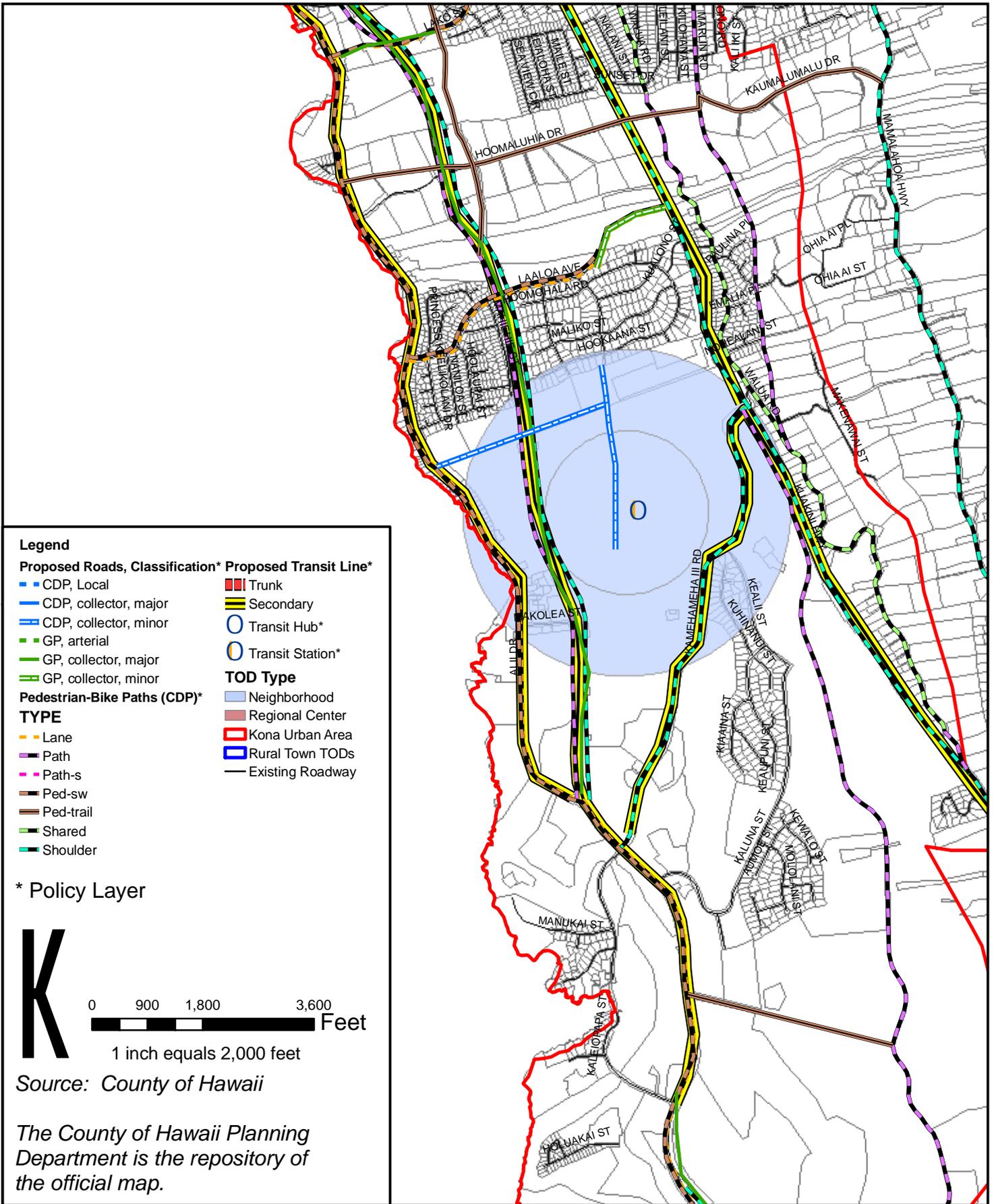
This page intentionally left blank.



*Kona Community Development Plan*

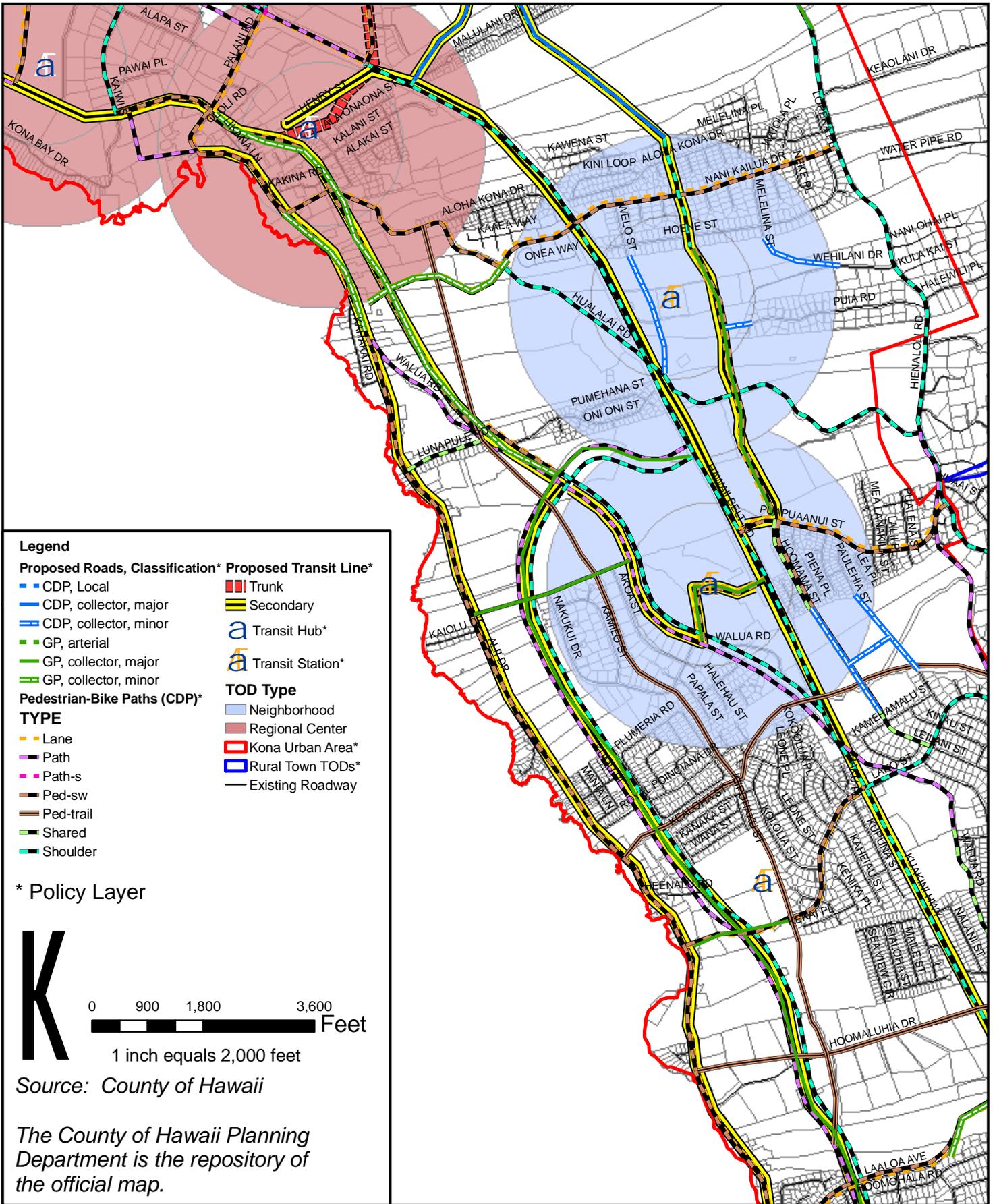
*Figure 4-2b  
Official Transportation Network Map - Pedestrian and Bike Paths*

This page intentionally left blank.



*Kona Community Development Plan*

*Figure 4-2c  
Official Transportation Network Map -Kahaluu Area*



Kona Community Development Plan

Figure 4-2d  
Official Transportation Network Map - Nani Kailua Area

from Keohokālole Highway (Mid-Level Road), the frontage road, and other Kona destinations. Transfers for continued travel would be made at this location.

**Action TRAN-1.6a:** Determine the location, design, and function of the major transit hub (MT, PD, 1-2).

**Action TRAN-1.6b:** Determine funding and construction schedule (MT, PD, 2-3).

**Action TRAN-1.6c:** Identify Kailua urban transit routes, including phasing and transfer points (MT, 2-3).

**Policy TRAN-1.7: Transit Route to Rural Town Transit-Oriented Developments (TODs).** The existing rural towns between Honalo and Captain Cook are encouraged to be redeveloped as TODs with Māmalahoa Highway (Highway 190) functioning as a Secondary Transit Route connecting these villages to Kailua or Makaeo Village.

**Action TRAN-1.7a:** Establish a route to Kailua or Makaeo Village with enhanced frequency and in coordination with rural paratransit service (MT, 1-2).

**Action TRAN-1.7b:** Master plan transit stations in coordination with Rural Town redevelopment (MT, PD, 3-5).

Also refer to Policy LU-3.1 and Figure 4.3b.

**Objective TRAN-2 Street Network Connectivity.** To develop a system of interconnected roads in Kona that will provide alternative transportation routes that will disperse automobile trips and reduce their length, while not compromising the through functions of arterials and major collectors with excessive intersections.

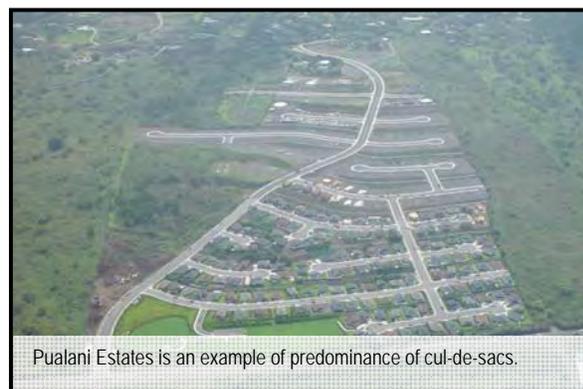
A highly connected transportation system within Kona's Urban Area (UA) serves to do the following:

- (a) provides safe choices for drivers, bicyclists, and pedestrians;
- (b) promotes walking and bicycling;
- (c) connects neighborhoods to each other and to popular destinations, such as schools, parks, shopping, libraries, and post offices, among others;
- (d) provides opportunities for residents to increase their level of physical activity each day by creating walkable neighborhoods with adequate connections to destinations;
- (e) reduces vehicle miles traveled and travel time, thus improving air quality and mitigating the effects of auto emissions on the health of residents and the environment;
- (f) reduces emergency response times;
- (g) increases effectiveness of municipal service delivery;
- (h) restores arterial street capacity to better serve regional long-distance travel needs; and
- (i) provides increased emergency evacuation opportunities.

New development that is not well-connected with existing neighborhoods contributes more cars and creates greater traffic congestion on collector roads. When new development is integrated into existing street patterns, providing additional choices for movement in and out of the neighborhood, new developments can actually increase connectivity within the region.

**Policy TRAN-2.1: Connectivity Standards.** Connectivity refers to the directness of links and the density of connections that make up the transportation network. Within the Kona Urban Area (UA) new development shall contribute to this interconnected transportation network of streets, pedestrian, and bicycle access that work to disperse traffic and connect and integrate new development with the existing fabric of the community. Proposals for new development or redevelopment within Kona's UA shall meet the following connectivity standards:

1. **Maximum Block Size.** In lieu of Hawai'i County Code (HCC) Section 23-29(c), the maximum length of blocks for predominantly residential subdivisions shall be 800 feet, unless unfeasible due to natural topography, protected resources, or surrounding development patterns.
2. **Connection to Adjoining Development.** The road system for new development shall contribute to the local transportation network. To supplement HCC Section 23-40, at a minimum, new subdivisions shall incorporate and continue all collector streets, and selected local streets to adjoining property. If a portion of the stub-out is not improved, the current developer shall improve the stub-out portion. Connection to adjoining properties may not be required if seriously constrained by topography or other physical hindrances, or in cases where through travel cannot occur because the property is bounded by development with private streets previously allowed.
3. **Gated Entry.** In the Kona UA, gates will be prohibited across new roadways identified to service the local transportation network.
4. **Cul-de-sacs Discouraged.** Cul-de-sacs are discouraged based on Policy TRAN-2.1 (1) Maximum Block Size and Policy TRAN-2.1 (2) Connection to Adjoining Property unless construction of a through street is found to be impracticable. Where cul-de-sacs or dead-end streets are allowed, they shall meet the prevailing standards in the Chapter 23 Subdivision Code.
5. **Future Extensions.** Roads serving future transportation interconnectivity will be identified for any proposed subdivision located adjacent to a vacant parcel. To supplement HCC Section 23-44, where necessary to give access to or permit a satisfactory future subdivision of adjoining land, or to conform with the Official Transportation Network Map



Pualani Estates is an example of predominance of cul-de-sacs.

(Figures 4-2a to 4-2d), a street stub-out or pedestrian path improved to the boundary is required unless financially guaranteed to enable the County to coordinate the stub-out construction as a regional project or in coordination with the development of the adjoining property. Applicants submitting preliminary development plans shall provide for extension of selected local streets to adjoining undeveloped properties and eventual connection with the existing street system. Within phased subdivisions, temporary stub-outs shall be required.

6. **Connectivity.** In the Kona UA, all new roads that will serve as part of the interconnecting roadway system shall be dedicated to the County.

**Action TRAN-2.1a: Amends Chapter 23 Subdivision Code to incorporate connectivity standards (Enacted by plan).**

**Policy TRAN-2.2: Access Management.** To preserve the through functions of arterials and major collectors, driveway access along new arterials and major collectors shall be minimized to the greatest extent consistent with the need to provide access to adjoining property. Access to such adjoining properties shall be planned to occur from local streets, and not from the arterial or collector road, whenever possible. On existing arterials and major collectors, the number of access driveways currently permitted shall not be increased, and when development is proposed that would increase the usage of an existing driveway access, every effort should be made to eliminate the driveway access in favor of access at an existing or planned intersection. Four-way intersections with arterials and major collectors shall be permitted only as shown on the Official Transportation Network Map (Figures 4-2a to 4-2d), in order to preserve the through functions of arterials and major collectors.

**Action TRAN-2.2a: Update the Official Transportation Network Maps with intersection locations as they are determined through preliminary engineering reports or other plans and/or studies (Figures 4-2a and 4-2b) (PD, on-going).**

**Objective TRAN-3. Multi-Modal System.** To develop a multi-modal transportation system to encourage walking, biking, transit, and other non-vehicular modes of travel. A multi-modal system needs to be attractive, safe, comfortable, convenient, accessible, environmentally friendly, and affordable. Such a system would reduce congestion, improve air quality, reduce fuel consumption, and increase healthy activity. Not only would the system enhance the mobility of the elderly and youth, who do not drive, it would also make it possible for residents to divert automobile ownership expenses to other daily needs, such as a homeownership mortgage or insurance. The network could connect pathways within and outside of street rights-of-way. The system should provide convenient transfers between modes of transportation.

**Policy TRAN-3.1: Street Standards.** County street standards should be pedestrian-friendly, safely accommodate bicycles, accessible to the disabled, and appropriate for its surrounding land use context.

**Action TRAN-3.1a:** Complete on-going effort to revise County of Hawai'i Street Standards (PD, 1-2).



**Policy TRAN-3.2: Public Right-of-Way Maintenance.** Recognizing that the County is not currently staffed or equipped to maintain landscaping within street rights-of-ways, a combination of new and existing tools, both public and private, shall be developed to implement a landscaping maintenance program.

**Action TRAN-3.2a:** Determine staffing and equipment requirements for landscaping maintenance program (DPW, PD, 1-2).

**Action TRAN-3.2b:** Identify financing tools for maintenance programs through public financing plan (DPW, PD, Fin., 2-3).

**Action TRAN-3.2c:** Implement financing plan for maintenance programs (DPW, PD, Fin., 2-3).

**Policy TRAN-3.3: Right-of-Way Landscaping.** Recognizing that the availability of water should dictate the nature of landscaping within public rights-of-way, lush landscaping shall be provided on streets where reclaimed wastewater will be available for irrigation as noted on the Official Public Facilities and Services Map (see Figure 4-10c), and xeriscape landscaping shall be the preference where reclaimed wastewater is not available.

**Action TRAN-3.3a:** Designates the reclaimed wastewater zone on Figure 4-10c Official Public Facilities and Services Map (Enacted by plan).

**Action TRAN-3.3b:** Establish list of recommended vegetation, in consultation with the Kona Outdoor Circle, as an amendment to the County of Hawai'i Street Standards (PD, DPW, 2-3).

**Policy TRAN-3.4: Retrofit of Existing Streets.** To the extent practicable, pedestrian improvements and/or bicycle accommodations shall be added to existing public streets when repaving or doing other repair or maintenance work, especially on those streets identified for such multi-modal purposes in the Official Transportation Network Map (see Figure 4-2b).

**Action TRAN-3.4a: Identify high priority retrofits and coordinate with DPW (PD, DPW, 2-3).**

**Action TRAN-3.4b: Obtain DPW's repaving and repair project schedule and coordinate retrofits in conjunction with those projects (DPW, PD, 2-3).**

**Policy TRAN-3.5: Safe Routes to Schools.** Every public elementary school in Kona shall have a Safe Routes to School program.

**Action TRAN-3.5a: Identify high priority routes in coordination with DOE, DOT and DPW (DPW, DOE, DOT, PATH, 3-5).**

**Policy TRAN-3.6: Multi-Modal Network.** The Official Transportation Network Map (Figures 4-2a to 4-2d) shall designate a system of pedestrian and bicycle paths to use as a guide for street design, public improvements, and subdivision improvements. Recognizing that the appropriate type of facility may evolve, the Implementation Committee (see Chapter 5) shall have the authority to change the designated type and maintain such changes on a database.

**Action TRAN-3.6a: Designate multi-modal paths (pedestrian and bicycle) (DPW, PD, on-going).**

**Policy TRAN-3.7: Traffic Calming Standards.** In order to slow traffic for pedestrian safety or comfort, standards for traffic calming shall be included, as part of the County of Hawai'i Street Standards.

**Action TRAN-3.7a: Develop criteria for selecting and determining appropriate traffic calming tools as part of the on-going revision of the County of Hawai'i Street Standards (DPW, PD, 2-3).**

**Policy TRAN-3.8: Inter-Modal Connections.** To facilitate the transfer between modes of travel:

1. **Automobile/Transit and Bike/Transit Transfer.** Park and ride facilities are desirable and must be built to ameliorate the traffic congestion in Kona. A transit station or transit hub will be located within each of the TODs, as shown in the Official Transportation Network Map (Figures 4-2a to 4-2d). Park and ride facilities will be provided in the vicinity of the transit station and transit hub. Park and ride facilities shall include storage for bicycles.
2. **Ground/Air Transfer.** The transit and bicycle network shown on the Official Transportation Network Map (Figures 4-2a to 4-2d) shall provide connections from major residential areas to the airport. The Kona International Airport's Master Plan should include accommodations for transit and bicycles.

3. **Bike/Transit Transfer and Beach Accommodation.** To the extent feasible, public transit should have the ability to carry bicycles and surfboards.

**Action TRAN-3.8a: Master plan, design, and construct park and ride facilities (MT, 1-2).**

**Action TRAN-3.8b: Coordinate inter-modal connection with Kona International Airport Master Plan (MT, PD, DOT, on-going).**

**Action TRAN-3.8c: Investigate beach service options (MT, 1-2).**

**Objective TRAN-4 Non-Structural Solutions to Manage Congestion.** To manage peak-hour traffic using a diversity of non-structural approaches in order to reduce congestion on Kona roads, while acknowledging that building new roads is only one of many needed solutions.

**Policy TRAN-4.1: Transportation Demand Management (TDM) Solutions.** The County government will educate its community on the value of a rideshare program and provide incentives towards its use; the County will encourage flexible hours among its staff and workers and educate by example; or the County will encourage the community to reach and adopt innovative solutions to transportation demand.

The community will recognize all employers in Kona who do their part to either, participate in the County's Rideshare Program, subsidize transit costs for their employees, provide flexible work hours or work-at-home options, or use other innovative programs to reduce reliance on the automobile for work-related trips.

**Action TRAN-4.1a: Implement Rideshare Program for County employees (MT, Mayor's, 2-3).**

**Action TRAN-4.1b: Identify major employers to initiate TDM programs (MT, 2-3).**

**Policy TRAN-4.2: Commuter Transit Service.** Express bus commuter routes and schedules should be provided to major employment centers.

**Action TRAN-4.2a: Evaluate work shifts of major employers in relation to existing bus schedules and routes (MT, 1-2).**

**Action TRAN-4.2b: Request major employers to contribute toward subsidizing commuter transit service (Businesses, 1-2).**

**Policy TRAN-4.3: Managed Parking.** New construction in Transit-Oriented Developments (TODs) shall provide parking in accordance with the Village Design Guidelines in Attachment B, which were designed to limit parking as a means of discouraging automobile trips to TODs. The public improvements program, as part of the TOD Master Plan, centralized public parking

facilities shall be included. Public parking fees should be set low enough to be affordable yet high enough to discourage automobile use.

**Action TRAN-4.3a: Identify centralized public parking as part of the TOD Village Master Plans (PD, developers, on-going).**

**Action TRAN-4.3b: Identify centralized public parking as part of the Kailua Redevelopment Plan (PD, KBID, on-going).**

**Action TRAN-4.3c: Investigate appropriate parking fees (PD, KVBID, 1-2).**

**Objective TRAN-5 Rural Transit.** To provide a paratransit system for Kona – with emphasis on mauka areas and South Kona recognizing that a rural population cannot support an urban transit system.

**Policy TRAN-5.1: Paratransit.** An affordable public paratransit system shall serve the general public of South Kona (i.e., it should not be restricted by age or disabilities).

**Action TRAN-5.1a: Establish fares for seniors, disabled, students, and general public. (MT, 1-2)**

**Action TRAN-5.1b: Commence shuttle service using mini-vans and small buses (i.e. Handi-Van) (MT, 1-2).**

**Action TRAN-5.1c: Modify shared ride taxi program to use coupons for the first nine (9) miles and to allow starting the meter after nine (9) miles (MT, 1-2).**

**Objective TRAN-6 Concurrency.** To manage the timing of growth so as to avoid overloading the arterial system.

**Policy TRAN-6.1: Official Concurrency Map.** The Kona UA shall be designated as a "critical road area", as defined in HCC 25-2-46. Rezoning within the Kona UA shall comply with the Official Concurrency Map (see Table 4-1 and Figure 4-3), which identifies the road segments to be constructed concurrent with occupancy of units as the minimum "area mitigation", as defined in HCC 25-2-46(Zoning Code).

The Official Concurrency Map assumes:

1. The widening of Queen Ka'ahumanu Highway to four lanes from the Kona

*"Critical road area"* means a geographical area where any of the transportation facilities serving the area have been determined by the Council to be worse than the acceptable level of service.

*"Area mitigation"* consists of improvements which increase the capacity of an arterial or other major road, such as additional lanes, in the general region containing the project, or construction of a new arterial or collector road in the general area containing the project, or improvements to public transportation such as buses or park and ride facilities, sufficient to offset the traffic demand generated by the project.

HCC 25-2-46  
Zoning Code

- International Airport to Henry Street, and
2. Completion of the Māmalahoa Bypass Road to the Napo'opo'o junction.

Any rezoning outside of a designated TOD within the Kona UA approved prior to completion of the Queen Ka'ahumanu Highway widening to the Airport shall restrict occupancy until this widening project is completed. Any rezoning in South Kona approved prior to the completion of the Māmalahoa Bypass Road shall restrict occupancy until this bypass project is completed. This policy does not apply to projects exempt under concurrency provisions in HCC Section 25-2-46 (e.g. affordable housing).

The Concurrency Map shall distinguish the current planning status of the corridor alignment. Table 4-1 shows the roadway corridors that shall be built concurrently within the concurrency zone and/or TOD Village. Other roadway corridors shown on the Concurrency Map, but not listed in Table 4-1 are part of the proposed roadway network, but are not critical to concurrency determinations.

**Action TRAN-6.1a: Adopts Concurrency Map (Enacted by plan).**

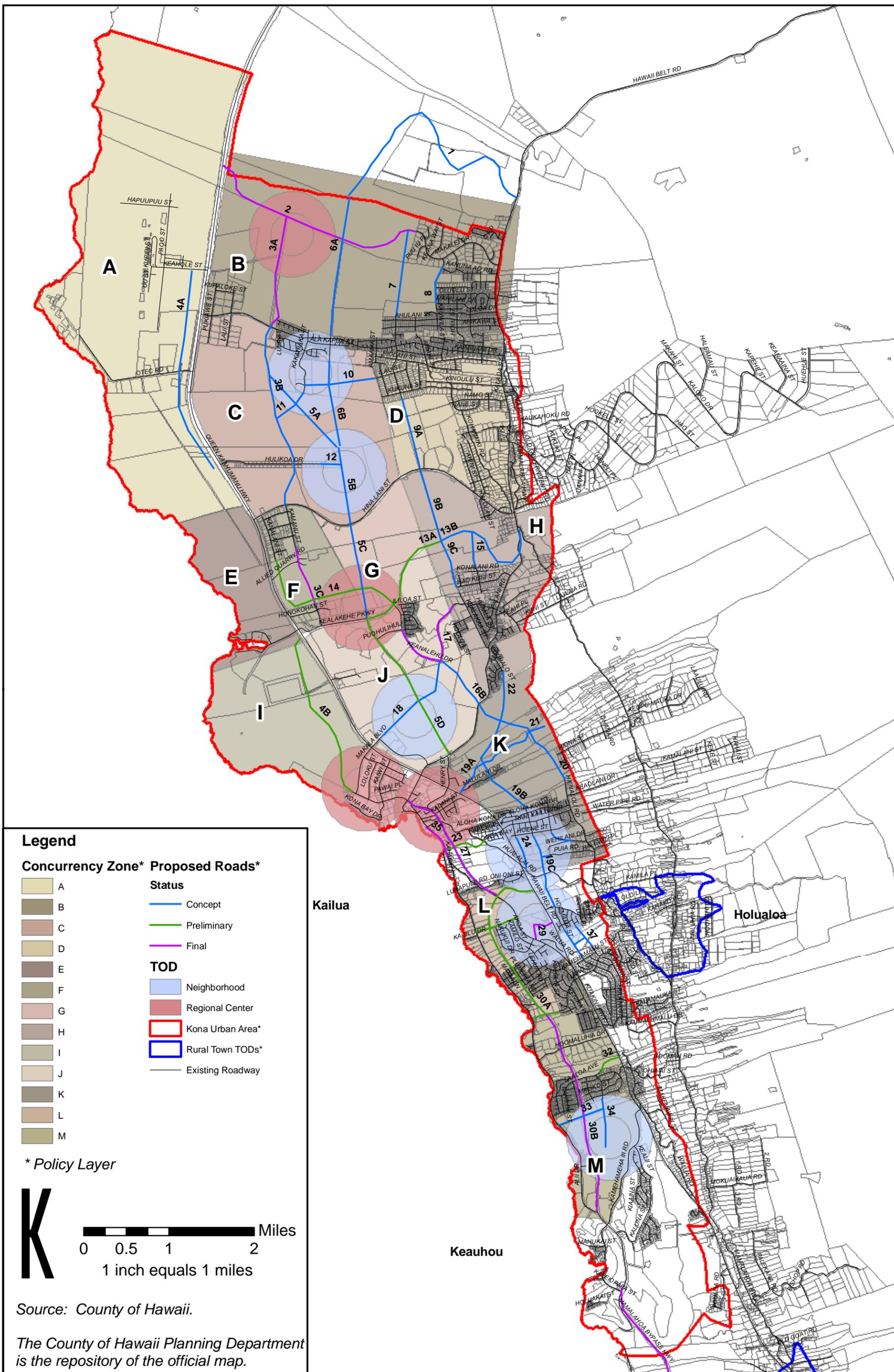
**Policy TRAN-6.2: Prioritized Road Improvements.** In order to rectify existing deficiencies and influence the pattern of future growth and new roads, the following are priorities:

- Kahului-Keauhou Parkway
- Māmalahoa Bypass
- Keanalehu Street-Manuwale'a Street
- Keohokālole Highway (Mid-Level Road), Phase I Palani to Kealakehe Parkway
- Kamanu Street Extension
- La'aloa Street Extension
- Lako Street Extension
- Keohokālole Highway (Mid-Level Road), Phase II, Kealakehe Parkway to Hina Lani Street
- Nani Kailua Street Extension
  - a. Makai section (Kuakini Highway to Ali'i Drive)
  - b. Mauka section (Hualālai Road to Kuakini Highway)
- Kealaka'a Street Extension
- Keohokālole Highway (Mid-Level Road), Phase III, Hina Lani Street to Ka'iminani Drive
- Hienaloli Street Extension
- University Drive

**Action T- 6.2a: Develop financing plan for streets according to the priorities listed in Policy TRAN-6.2 (PD, DPW, Fin., 1-2).**

<b>Table 4-1 Concurrency Table</b>	
<b>Concurrency Zone</b>	<b>Roadway and ID No.</b>
<b>A</b>	4A – Queen Ka’ahumanu Frontage Road and provide adequate access to Queen Ka’ahumanu Frontage Road. (Keāhole Road to Huliko’a Drive)
<b>B</b>	1 – University Drive Extension (Māmalahoa Highway to Keohokālole Highway, a.k.a Mid-Level Road) 2 – University Drive (Ma’alea Drive to Queen Ka’ahumanu Highway) 3A – Main Street (Ka’iminani Drive to University Drive) 6A – Keohokālole Highway, (University Drive to Ka’iminani Drive) 7 – Kealaka’a Street (Kukuna Street to north end) and/or provide adequate interconnectivity to surrounding area
<b>University Village</b>	2 – University Drive (Ma’alea Drive to Queen Ka’ahumanu Highway) 3A – Main Street (Ka’iminani Drive to University Drive)
<b>Kalaoa Village</b>	None (infill)
<b>C</b>	Connection between Kaiminani Drive and Hina Lani Street: 3B or 5B/5A or 5B/6B 3B – Main Street (Ka’iminani Drive to Hina Lani Street) 5A – Keohokālole Arterial 5B – Keohokālole Highway (Keohokālole Arterial to Hina Lani Street) 6B – Keohokālole Highway (Kapuahi Street to Keohokālole Arterial)
<b>D</b>	9A – Kealaka’a Street (Extend Holoholo Street to Hina Lani Street)
<b>Kaloko Makai Village</b>	5B – Keohokālole Highway (Keohokālole Arterial to Hina Lani Street) (portion within development project) 5C – Keohokālole Highway (Hina Lani Street to Kealakehe Parkway) 5D- Keohokālole Highway (Kealakehe Parkway to Palani Street)
<b>E</b>	None
<b>F</b>	3C - Kamanu Street Extension (to Kealakehe Parkway)
<b>Honkohau Village</b>	5D- Keohokālole Highway (Kealakehe Parkway to Palani Street)
continued on next page	

<b>Table 4-1 (continued) Concurrency Table</b>	
<b>Concurrency Zone</b>	<b>Roadway ID No. and Name</b>
<b>G</b>	5B – Keohokālole Highway (Keohokālole Arterial to Hina Lani Street) (portion within development project) 5C – Keohokālole Highway (Hina Lani Street to Kealakehe Parkway) 5D- Keohokālole Highway (Kealakehe Parkway to Palani Street)
<b>Keahuolu Village</b>	5D- Keohokālole Highway (Kealakehe Parkway to Palani Street) 18 – Makala Blvd. Extension (any development makai of 5D)
<b>H</b>	9B – Kealaka‘a Street (Hina Lani Street to Kealakehe Parkway) 9C – Kealaka‘a Street (Kealakehe Parkway to Hao Kuni Street)
<b>I</b>	4B- Kuakini Extension Collector (Kealakehe Parkway to Old Airport)
<b>Makaeo Village</b>	4B- Kuakini Extension Collector (Kealakehe Parkway to Old Airport)
<b>Kailua Village Redevelopment</b>	None (infill)
<b>Pua‘a-Wa‘iaha Village</b>	19C – Kakalina Street Extension (Nani Kailua Drive to Puapua‘anui Street)
<b>Kahului- Puapua‘a Village</b>	29 – Puapua‘anui Street Extension
<b>J</b>	5D- Keohokālole Highway (Kealakehe Parkway to Palani Street)
<b>K</b>	19A-Kakalina Street Extension (to Puapua‘anui Street) 19B-Kakalina Street Extension(E. Kakalina Street to 19A) (any development south of Malulani Drive) 20 – Hienaloli Street Extension (Palani Street to Keolani Drive) 21-Connector 4 (Hienaloli Street Ext. to Kakalina St. Ext.)
<b>L</b>	30A – Kahului-Keauhou Parkway (Lako Street to Kuakini Highway) 31 – Lako Street Extension
<b>M</b>	30B – Kahului-Keauhou Parkway (Lako Street to Kamehameha III Road) 31 – Lako Street Extension 32 – La‘aloa Street Extension
<b>Kahalu‘u Makai Village</b>	30B – Kahului-Keauhou Parkway (Lako Street to Kamehameha III Road) 33 – Connector 9 34 – Connector 10



This page intentionally left blank.

## 4.2 LAND USE

The Land Use section of the Kona CDP serves as policy guide for County decisions regarding physical development. It establishes a physical framework for future growth by identifying the County's major policies concerning the type and location of future development in order to meet the goals and objectives of the Kona CDP.

### 4.2.1 Existing Conditions

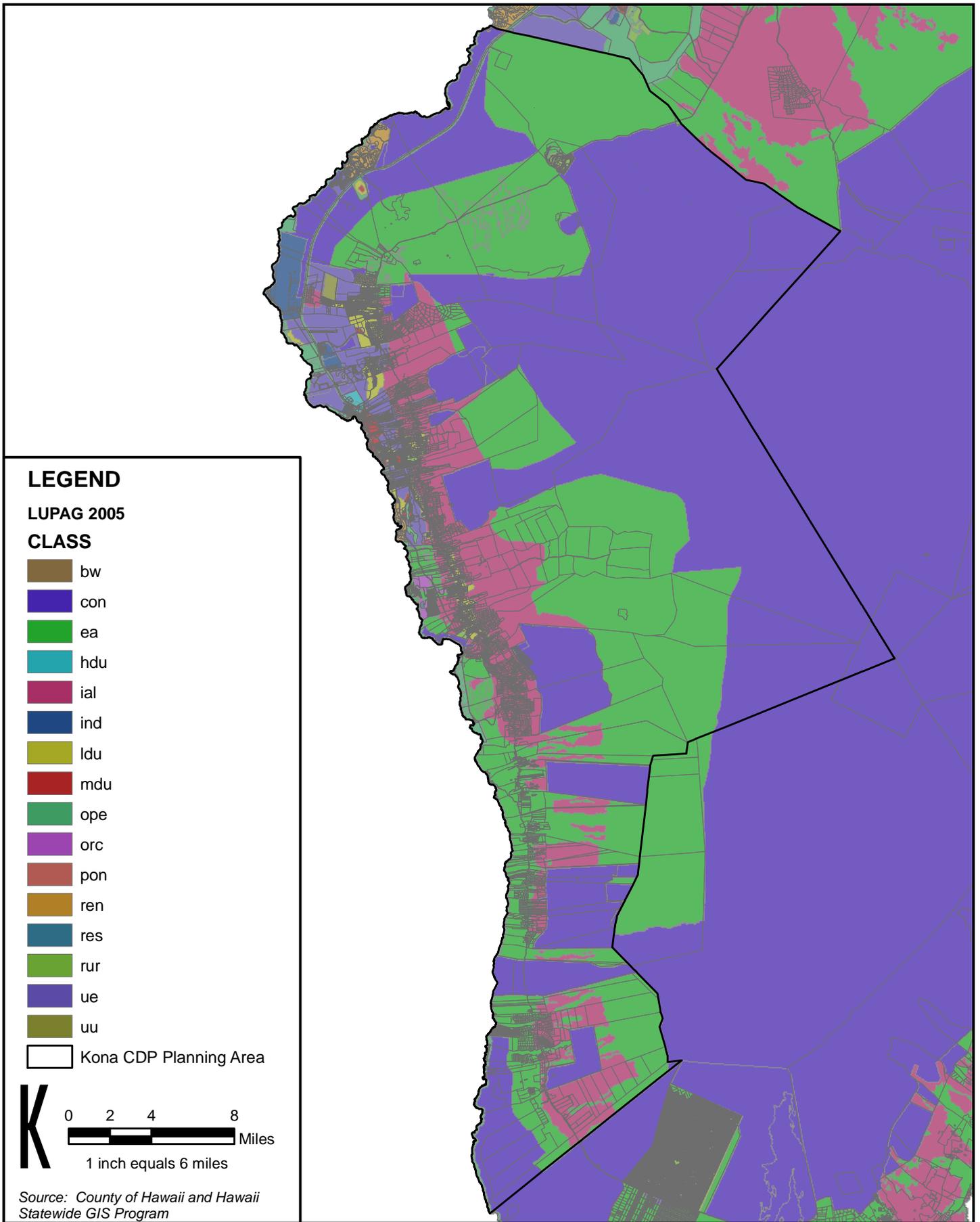
The County of Hawai'i General Plan Land Use Pattern Allocation Guide (LUPAG) controls long-term land use pattern in this County. Figure 4-4 shows the LUPAG designations for the Kona area. Figure 4-5 simplifies the LUPAG map to show the areas designated for urban development (High Density Urban, Medium Density Urban, Low Density Urban, Industrial, Resort Node, Resort, and University), urban expansion, rural, and open areas (Important Agricultural, Extensive Agricultural, Orchards, Conservation, and Open).

Guiding Principles	Land Use
1. Protect Kona's natural resources and culture.	✓
2. Provide connectivity and transportation choices.	✓
3. Provide housing choices.	✓
4. Provide recreation opportunities.	✓
5. Direct future growth patterns toward compact villages, preserving Kona's rural, diverse, and historical character.	✓
6. Provide infrastructure and essential facilities concurrent with growth.	✓
7. Encourage a diverse and vibrant economy emphasizing agriculture and sustainable economies.	
8. Promote effective governance.	✓

The zoning designation is a more detailed control of land use. The zoning and LUPAG should be consistent. For example, for the LUPAG High Density Urban designation, consistent zoning designations include commercial (CG-commercial general, CV-commercial village), multi-family residential (RM), or mixed-use (RCX). Figure 4-6 shows the areas zoned for urban development. The areas on the LUPAG that are designated for urban development or urban expansion (as shown in Figure 4-6), but not currently zoned for urban development, are potential areas for rezoning.

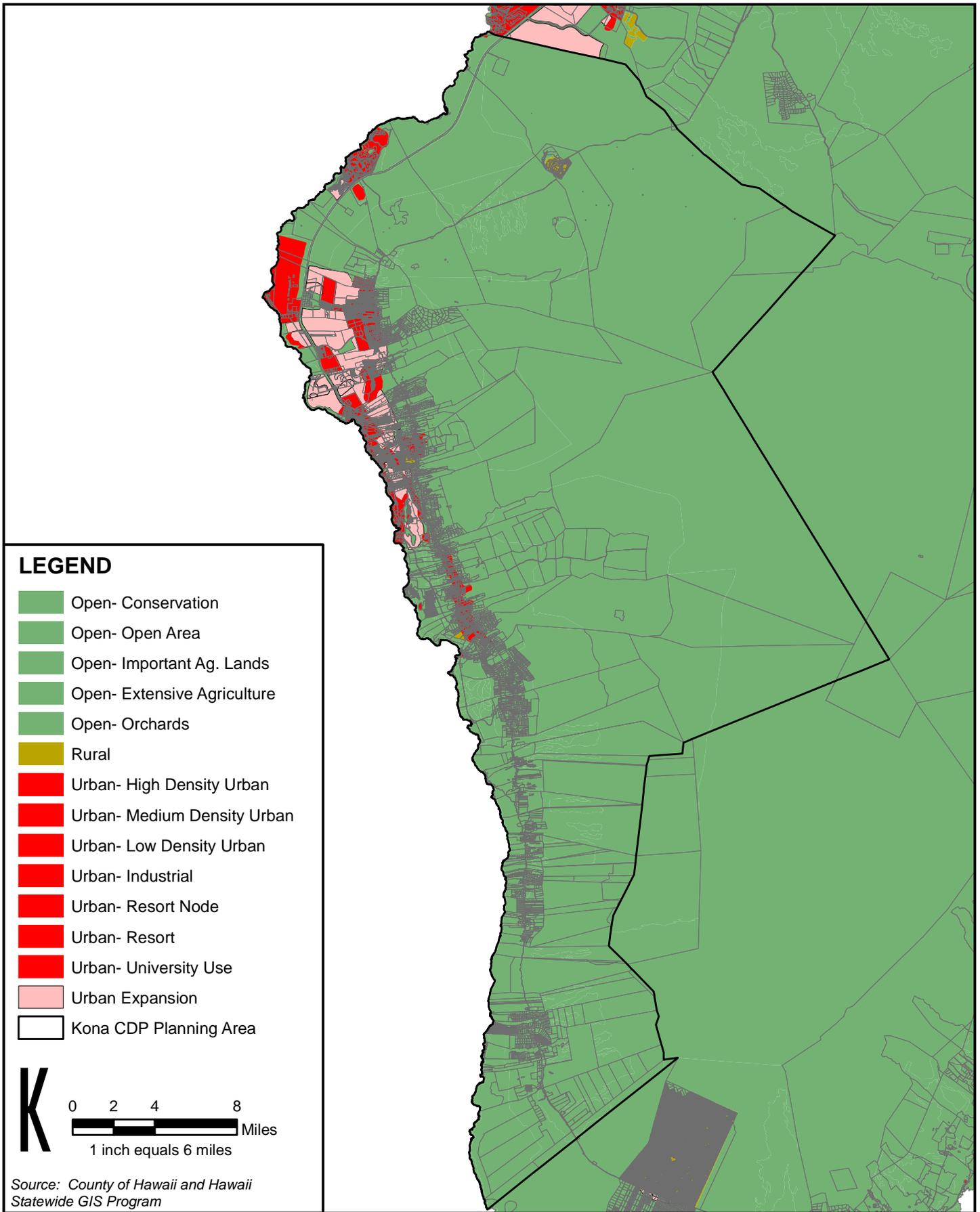
Comparing the LUPAG and zoning maps, the amount of potential land available for rezoning far exceeds the amount of land needed to accommodate future growth projections. This excess could encourage a low-density sprawling growth pattern. In fact, this has been the past trend. Kona experienced a significant increase in land development from the mid-1990's to the present. The rate of land consumption exceeded the rate of housing production. In the period between 1995 and 2005, the amount of developed land increased by 3,582 acres<sup>8</sup> at a rate of over 350 acres annually. Developed

<sup>8</sup> Developed Land: Environmental Simulation Center, (2006) Based on Parcel/TMK maps from the County of Hawaii (2005). Additional data provided by the County of Hawaii tax assessors office. Includes all parcels where the primary use is either "Residential", "Apartment", "Commercial", "Industrial", and "Hotel and Resort" (PITT codes of 100 – 400 and 700). "Conservation" areas (PITT code 600) are excluded unless they have secondary land use with another PITT code, in which case the secondary land use is used. "Agricultural and Rural" areas and "Unimproved Residential" (PITT code 500 and 800) are considered undeveloped, EXCEPT if the lot size is less than 5 acres AND the improvement values on the property exceed \$30,000 per acre.



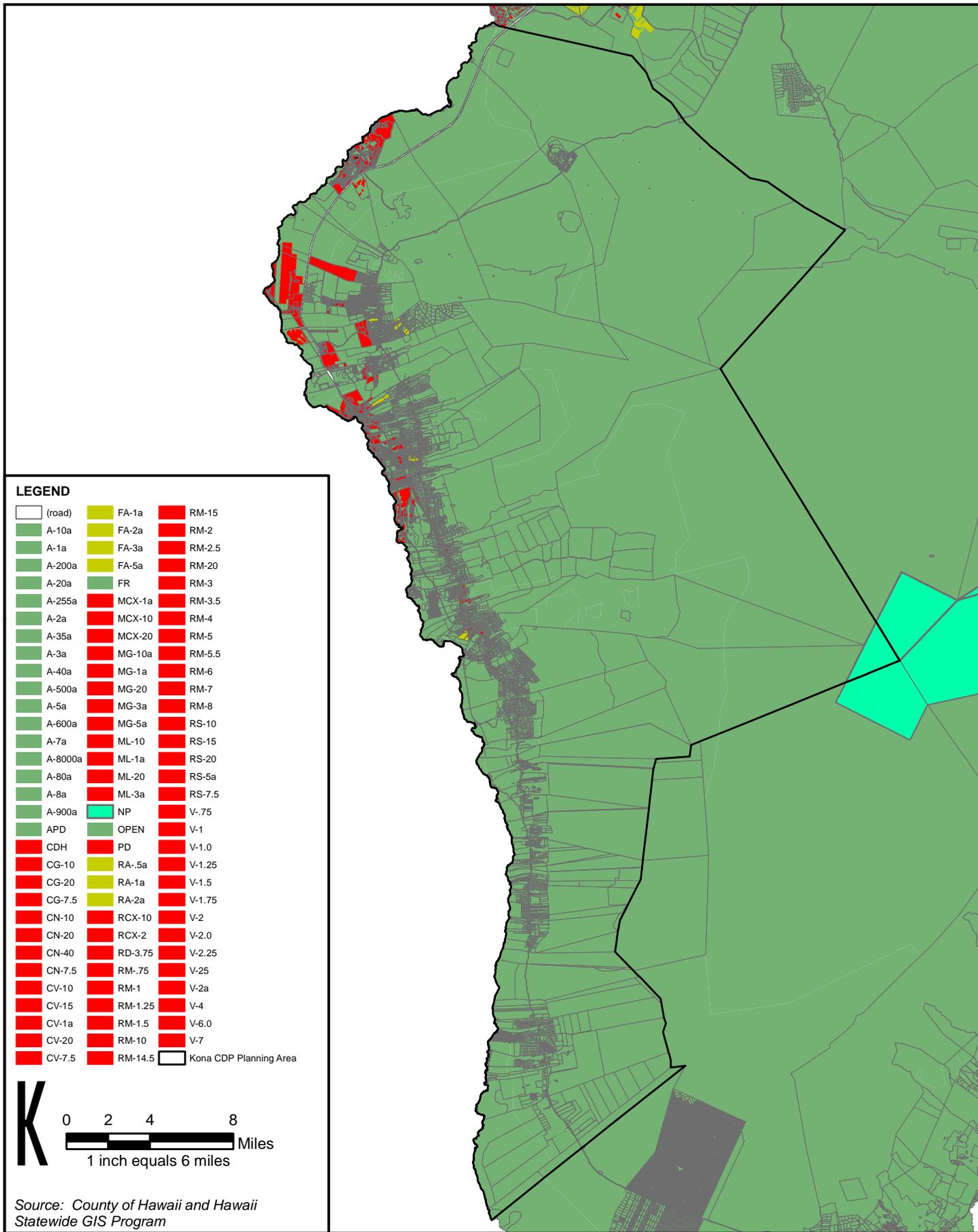
*Kona Community Development Plan*

*Figure 4-4  
Land Use Pattern Allocation Guide (LUPAG)*



*Kona Community Development Plan*

*Figure 4-5  
Generalized LUPAG*



*Kona Community Development Plan*

*Figure 4-6  
Generalized Zoning*

land increased at a rate of 9% annually, while population increased at a rate of 2.4% annually, and housing units increased at a rate of 5.5% annually. Land in Kona is being developed at a rate that is nearly 4 times population growth and almost 2 times housing unit growth.

These land use trends are helping to define Kona's land use policies and strategies:

- **Competing Values for Coastal Land.** As a limited and valuable resource in Kona, policies need to balance competing opportunities for environmental protection, economic development, and public open space.
- **Affordable Housing.** The quality of the neighborhoods, and housing stock within them, are key indicators of a high quality of life. The insufficient and aging housing stock, and increasing demands for alternative housing types, will continue to be important trends influencing policies.
- **Mixed-Use Developments.** There is a growing demand for development that is mixed-use, well-designed, walkable, and higher density. These developments are an important opportunity for redevelopment, infill, and new developments in strategic areas.
- **Public-Private Partnership.** The lack of public infrastructure, coupled with the desire to maintain healthy neighborhoods and business areas, support the need for the County to work with the private sector in the land development process. Growth and change in Kona will be the result of public and private partnerships.
- **Emphasis on Redevelopment.** To preserve open space, existing developments are expected to be infilled and redeveloped.
- **Emphasis on Rural Character and Agriculture.** There is a long-standing need to protect the rural lifestyle of Kona, which includes mauka Villages and surrounding agricultural lands and open space.

Related trends can also be found in the Section 4.5 Housing.

#### 4.2.2 Overall Strategy

The current application of State and County land use regulations is not necessarily an integrated approach. The preference to encourage future urban and rural growth to occur in the form of compact, village-style development was a very strong message from the public meetings. The Kona CDP provides an integration mechanism as a means to avoid the current trend toward sprawling lot-density developments, disconnected subdivisions and business centers, and a general decline in the quality of life that people believe reflects the "Kona Way of Life."

The overall land use strategy is to proactively implement public policy through a regional framework for growth. While respecting landowner entitlements, this framework provides additional direction so that individual planning decisions are made as part of a larger, integrated program for achieving an efficient growth pattern, optimizing investment in services and infrastructure, protecting the natural environment and cultural resources, and creating opportunities to enhance the quality of life for Kona's residents.

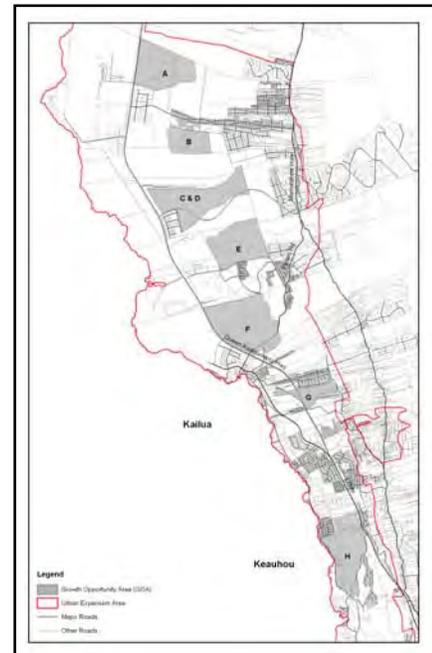
Such a framework provides greater certainty and predictability for the community, government, and private sector, allowing all three to participate in a synchronized move towards a mutually planned future.

The legally binding policies in this section, as defined in 4.0 Goals, Objectives, Policies and Actions, do not override or invalidate existing zoning. Such legally binding policies, however, shall be implemented with new changes of zone, time extensions on existing zoning requiring County Council action, state land use boundary amendments, and Special Management Area (SMA) permits, when applicable. Where such policies modify subdivision standards and requirements, they would only apply to subdivision applications received after the effective date of the ordinance enacting the Kona CDP. Variances to policies modifying subdivision standards and requirements may be applied for in accordance with the standards and procedures set forth in the Subdivision Code.

Establishment of priorities for the investment of public resources for new infrastructure and services will be linked to the regional land use framework.

The regional land use framework, restated from the Guiding Principles (Section 3.2) is as follows:

- **Urban Area.** Most of the future growth in Kona will be directed to an Urban Area (UA) defined in the Official Kona Land Use Map (Figure 4-7). Within this Kona Urban Area, growth would be directed to compact villages located along proposed transit routes or to infill areas within, or adjacent to, existing development. The general locations of these villages are within the Growth Opportunity Areas (GOAs) identified during the public meetings that evolved into the Transit-Oriented Developments (TODs).
- **Rural Area.** Outside of the Kona Urban Area, the character of the rural areas should prevail. This means that limited future growth should be directed to the existing rural towns and villages in a way that revitalizes and enhances the existing rural lifestyle and culture of those communities. Outside of these towns and villages, the protection of important agricultural land is a priority objective. Protecting these lands requires regulations and incentives that will keep these lands available for agricultural use. Any development outside of the rural towns and villages should be directed to suitable areas that are not important for agriculture, in clustered patterns that will optimize the preservation of rural open space.
- **Land Use Pattern Allocation Guide (LUPAG) Map.** Within and outside the Kona Urban Area, the LUPAG map designates areas for resort, high density urban, medium density urban,



Map identifying the Growth Opportunity Areas (GOAs).

low density urban, industrial, and university areas. The plan supports these existing designations. Any amendments to the LUPAG map not consistent with the Figure 4-7 Official Kona Land Use Map would be contrary to the land use framework envisioned by this plan.

- **Green Areas.** The areas where growth should not occur also determines the framework and pattern of growth. These areas are identified and discussed in Section 4.3 Environmental Resources.

The following “tools” are used to conform growth to the land use framework:

**1. To encourage growth towards the Transit-Oriented Developments (TODs):**

- a) **Design Flexibility.** To collaboratively learn and apply the best available practices, a Design Center (see Policy LU-4.1) will provide an inviting venue to brainstorm ideas among applicants, government officials, and community members. The Village Design Guidelines (Attachment B) provide the minimum standards for TODs/TNDs, but do not rigidly constrain creativity.
- b) **Streamlined Permit Processing.**
  - *Flexible approval.* The Official Kona Land Use Map (Figure 4-7) approximately locates the TODs, but it does not change the existing zoning until a rezoning with an approved master plan for the TOD defines the metes and bounds of this TOD. In other words, the TODs are “floating” zones that subsequently need to be anchored by rezoning to a specific area. However, as long as the proposed rezoning conforms with the Kona CDP in terms of general location and concept, the legislative rezoning approval should be expedited. Subsequent refinements in the master plan can then be done by administrative approval.
  - *Concurrent environmental review.* An Environmental Assessment (EA) or Environmental Impact Statement (EIS), usually triggered by use of public lands or public funds, will accompany the master plan and will be reviewed at the same time. By doing the environmental review at the master plan level, subsequent projects within the TOD will be relieved of this requirement.
  - *Concurrent State Land Use Boundary Amendment.* In cases where a State Land Use Boundary Amendment is necessary, the County will assist with the petition and processing.
  - *Permit coordination.* For those applicants who use the services of the Design Center, a County employee will be assigned to assist in identifying the various permit requirements, suggest a work plan to coordinate the permit requirements, and follow through with various agencies to avoid delays.
- c) **Increased Range of Permitted Uses and Densities.** As an incentive, the TODs substantially increase the permitted uses and densities over the existing zoning. In partial return for this additional density, the master plan will need to incorporate a minimum level of affordable housing (discussed further in the Section 4.5 Housing), provide a variety of open spaces within the TOD, and preserve open space around the TOD, in perpetuity.

- d) **Prioritized Essential Infrastructure.** Government capital improvements programs will give priority to servicing the TODs, particularly with regard to roads, water, and sewer (discussed further in Section 4.6 Public Facilities, Infrastructure and Services). Where regional drainage systems are appropriate, the County will coordinate such improvements.
  - e) **Public Financing of Infrastructure.** In recognition of the regional benefits of major roads and transit stations, these types of improvements within TODs shall be funded with general revenue funding sources.
  - f) **Concurrency Requirements.** The TOD Village Master Plan will control the provision of infrastructure relative to build out. Therefore, the countywide concurrency requirements will be met for projects within TODs.
  - g) **Vested Rights.** A TOD Village Master Plan, based on the Village Design Guidelines (Attachment B), will be built out over a number of years. Investors require certainty; in return, the community and government expect performance on promises. The reciprocal commitments set forth in the master plan would be secured by a development agreement that will include a Phasing Plan. The agreement will specify the developers commitment to provide certain public facilities. In return, government will provide a commitment to complete certain public infrastructure by a certain date.
  - h) **Redevelopment Authority.** In order to spur the redevelopment of Kailua Village as a TOD, redevelopment can be stimulated and coordinated by either an expanded business improvement district or the establishment of a redevelopment authority.
2. **To encourage village-style development outside of TODs within the Urban Area:**
- a) **Already Zoned.** For undeveloped areas already zoned residential, commercial, or industrial, the intent is to encourage a more creative mix of uses and density, by clustering to create open spaces and pedestrian-oriented streetscapes. The Kona CDP creates an overlay zone for these areas to allow an administrative review of a master plan consistent with Village Design Guidelines.
  - b) **Need Rezoning.** For areas zoned agricultural within the Kona Urban Area (UA), a new type of Project District (as defined in the Chapter 25 Zoning Code) is created called the Traditional Neighborhood Development (TND). Although rezoning through a legislative process is required, the advantages would be similar to a TOD: design flexibility, concurrent environmental reviews and State Land Use Boundary Amendments, Design Center services, increased range of permitted uses and density, concurrency waivers, development agreement options to negotiate public improvements commitments and other terms.

3. To encourage rural clustered subdivisions:

- a) **Streamlined Processing.** By following the Clustered Rural Subdivision Guidelines (Attachment C), many issues are pre-settled and therefore a shorter definite permit processing time period is justified. The master plan approval also serves as the tentative subdivision approval. By using the Design Center, the applicant also receives the benefit of a county employee assigned to assist with permit coordination.
- b) **Alternative Standards.** The Clustered Rural Subdivision guidelines provide options for alternate road and wastewater standards.

4.2.3 Goals, Objectives, Policies, and Actions

*Land Use Goal: Public policies set the foundation and framework within which the community and private sector work collaboratively towards a shared vision of concentrating growth within urban villages in North Kona, preserving rural character and agricultural lands, protecting significant natural and cultural resources, providing a range of housing opportunities, and a process to constructively, efficiently, and fairly achieve these ends with the best practices and quality.*

**Objective LU-1: Overall Growth Pattern.** To identify areas where higher intensity growth areas should occur and areas where the rural character and open space along the shoreline should be preserved.

**Policy LU-1.1: Official Kona Land Use Map.** The Official Kona Land Use Map (see Figure 4-7) shall define the Kona Urban Area (see Policy LU-1.2) and the general locations, spacing, and type of TOD Villages (see Policies TRAN-1.3 and LU-2.3).

**Action LU-1.1a: Adopts Official Kona Land Use Map (Enacted by plan).**

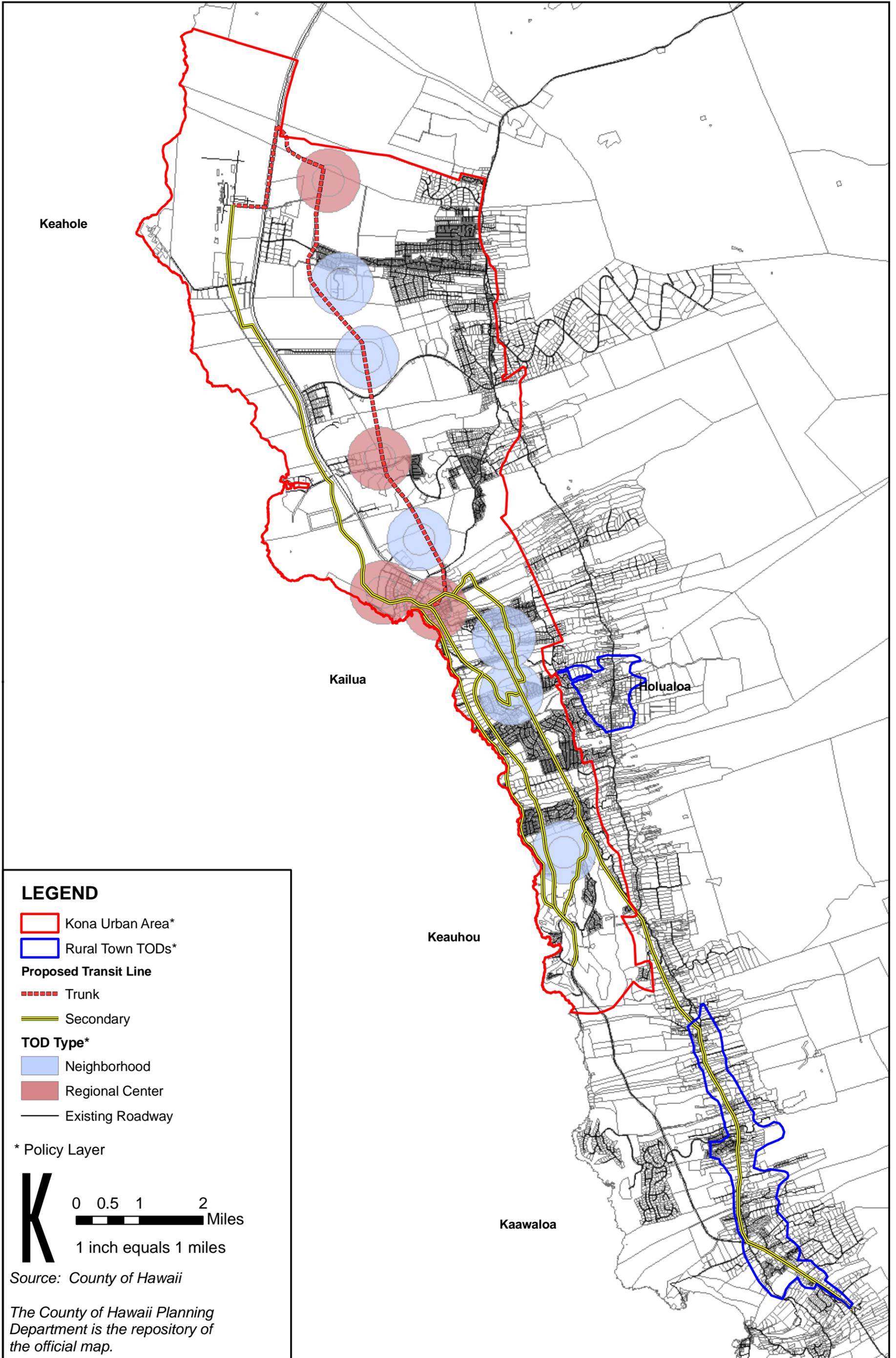
**Policy LU-1.2: Urban Area.** The majority of future growth in Kona shall be directed to the Kona Urban Area shown on the Official Kona Land Use Map (see Figure 4-7), which spans from the Kona International Airport to Keauhou subject to the policies set forth under Objective LU-2 Urban Area Growth Management.

**Action LU-1.2a: Defines Kona Urban Area (Enacted by plan).**

**Policy LU-1.3: Rural Area.** The rural area consists of the lands outside of the Kona Urban Area. Future growth in this area shall be concentrated within and around the existing LUPAG medium and low density areas, which correspond to the existing rural towns.

**Action LU-1.3a: County shall work with State to identify lands that may be appropriate to reclassify from Agriculture to Rural, consistent with Kona CDP Policies (PD, on-going).**

This page intentionally left blank.



This page intentionally left blank.

**Policy LU-1.4: Consistency with Land Use Pattern Allocation Guide (LUPAG).** The current LUPAG accommodates the vision and needs for the Kona CDP area planning horizon and should be amended only for compelling reasons. Any rezoning application shall be consistent with the LUPAG.

**Policy LU-1.5: Enhanced Shoreline Setback.** Beyond the 40 foot shoreline setback regulated by Hawai'i Revised Statutes (HRS) Sections 205A Part III, the County shall explore alternatives (e.g., density transfer based on gross density) for the applicant of a Special Management Area (SMA) Major Permit to dedicate to the government or land trust or encumber as open space for the purpose of realizing a shoreline linear park along as much of Kona's coastline as possible. Consistent with the Federal Coastal Zone Management Act (CZMA) and County of Hawai'i General Plan policy to retain open space and protect natural resources along with public access to and along the shoreline, it shall be a priority of the County to maintain a minimum of 1,000-foot open space no-build setback for undeveloped lands adjacent to the shoreline, on parcels which currently exceed 1,000 feet in depth, in discretionary land use approvals such as SMA major permits, rezonings, and state land use boundary amendments. Structures makai of this setback should be for public recreation and ocean-dependent facilities such as harbor improvements.

**Action LU-1.5a: Review rezoning and SMA applications pursuant to Policy LU-1.4 (PD, on-going).**

**Action LU-1.5 b: Identify priority shorelines for increased setback as part of Policy ENV-2.1 Open Space Network Program (PD, PR, 1-2).**

**Policy LU-1.6: 17-Mile Protected Coastline:** As part of any discretionary land use approvals such as SMA major permits, rezonings, and state land use boundary amendments, implement the vision of a 17 mile long protected stretch of open coastline from Makaeo north to Kikaua Pt. at the Kuki'o development. Most of this area is already publicly owned and much of it has already been set aside for park purposes. This incorporates the Kaloko-Honokōhau National Historical Park, the portion of Kohanaiki that will be deeded to the County under the terms of the existing SMA permit, the makai portion of O'oma 2, NELHA and state lands makai of the airport runway, to the extent that they can be used for public recreation consistent with the requirements of NELHA and the airport, the Kekaha Kai State Park, and Makalawena. (Enacted by plan)

**Objective LU-2: Urban Area Growth Management.** Recognizing that the LUPAG Urban Area is larger than needed in order to accommodate the projected growth within the planning horizon, future growth within the Urban Area shall be encouraged in a pattern of compact villages at densities that support public transit.

**Policy LU-2.1: Village Types Defined—Transit-Oriented Developments (TODs) vs. Traditional Neighborhood Developments (TNDs).** Both TODs and TNDs are compact mixed-use villages, characterized by a village center within a higher-density urban core,

roughly equivalent to a 5-minute walking radius (1/4 mile), surrounded by a secondary mixed-use, mixed-density area with an outer boundary roughly equivalent to a 10-minute walking radius from the village center (1/2 mile). The distinction between a TOD and TND is that the approximate location of a TOD is currently designated on the Official Kona Land Use Map (Figure 4-7) along the trunk or secondary transit route and contains a transit station, while TND locations have not been designated and may be located off of the trunk or secondary transit route at a location approved by a rezoning action.

**Action LU-2.1a: Amends Chapter 25 Zoning Code to define TODs and TNDs (Enacted by plan).**

**Action LU-2.1b: Conduct public workshop to educate community, including landowners, developers, and the public about TOD/TND Villages (PD, R&D, DC, 1-2).**

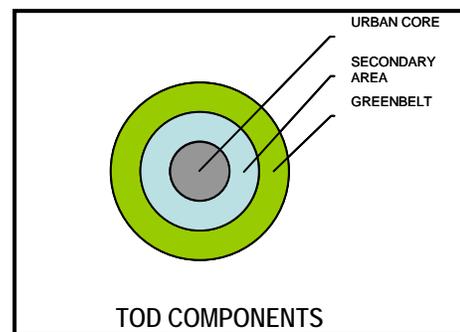
**Action LU-2.1c: Work with landowners, through the Design Center to encourage proposals consistent with Village Design Guidelines (PD, on-going).**

**Policy LU-2.2: TOD/TND Components.** The components of a TOD/TND include Urban Core, Secondary Core, and Greenbelt. A TOD/TND contains a higher density urban core surrounded by a lower density secondary area. A greenbelt will, in turn, surround and define the outer edge of the secondary area. (Enacted by plan)

1. **Urban Core:** To control the scale and intensity of development within the urban core of a TOD/TND, there shall be two types of urban cores:

a. **Regional Center.** Regional centers are intended for mixed use and higher-density residential, retail, commercial, employment, and/or regional one-of-a-kind facilities, such as major civic, medical, education, and entertainment facilities. Regional centers shall be designed around a Commercial Center, which is the focus for the Village and designed to encourage pedestrian activity.

b. **Neighborhood Village.** Neighborhood Village Core Areas are intended for predominately residential, public/civic uses, or small-scale neighborhood-oriented commercial uses. The Core's commercial uses are of a small scale and are intended to serve the needs of the Village residents. Neighborhood Village Core Areas shall be designed around a Neighborhood Center. Land uses include recreational space, small-scale public/civic uses, neighborhood oriented retail uses, and mixed-use.



2. **Secondary Area.** TODs/TNDs may be surrounded by more auto-oriented, lower-density areas called "Secondary Areas." The Secondary Areas are within a half-mile of the TOD/TND urban core. These Secondary Areas take advantage of the services within the Urban Core through an interconnected street system with easy access to transit by foot, bike or car. Secondary Areas will be primarily comprised of standard single-family and multi-family neighborhoods. These areas may also provide more land-extensive uses that serve TOD/TND residents, such as schools and community parks. Because of their proximity to the Urban Core, Secondary Areas are ideal for bicycle travel.
3. **Greenbelt.** The Greenbelt is an undeveloped area surrounding the Secondary Area. The Greenbelt is a strategic planning tool to prevent urban sprawl by keeping land permanently open. The purpose of the Greenbelt is to prevent urban sprawl of the TODs/TNDs, prevent neighboring towns from merging into one another, and to preserve the setting and the character of the TODs/TNDs. The Greenbelt may also serve multi-purpose uses, such as for drainage (e.g., flow ways or retention basins), sensitive resource preserves or wildfire protection buffers.

**Policy LU-2.3: TODs Identified.** To control the spacing of transit stations in support of Policy TRAN-1.2, TOD floating zones, identifying the general location of TOD, shall be limited to the following, as shown on the Official Kona Land Use Map (see Figure 4-7):

1. **University Village** (Regional Center). The goal is to use the university as a catalyst for complementary commercial opportunities surrounding the campus and to attract students, faculty, and staff to live on or near campus. The university would hopefully be a center for cultural and performing arts, life-long learning, innovation, and workforce development that would benefit the broader community.
2. **Kalaoa Village** (Neighborhood)
3. **Kaloko Makai Village** (Neighborhood)
4. **Honokōhau Village** (Regional Center). The County Civic Center shall be one part of a centralized government service center with surrounding complementary office and retail. The area would serve as an appropriate location for a regional park that would include active recreation facilities and a multi-purpose auditorium.
5. **Keahuolū Village** (Neighborhood)
6. **Makaeo Village** (Regional Center). A major retail center is planned near the Old Airport Park. As a mixed use village, the plan is to introduce residential uses into the mix, design a complementary relationship to the Old Airport Park, and to integrate a transit hub or major park and ride facility for commuters (primarily resort workers).
7. **Kailua Village Redevelopment** (Regional Center) In recognition of the importance of Kailua Village as the cultural, retail and visitor core of the Kona District, redevelopment

of the area shall be a high priority. The majority of Kona's urban affordable housing is located close to the Village Center, but much of this housing is in poor condition. The availability of infrastructure in the Village offers the opportunity to provide new, high density affordable housing for the resident workforce. Redevelopment plans shall consider the following: location of a transit hub, enhanced pedestrian-oriented improvements along Ali'i Drive, centralized public parking strategically located in relation to shuttle routes, and village design guidelines.

8. **Pua'a – Wai'aha Village** (Neighborhood)
9. **Kahului – Puapua'a Village** (Neighborhood)
10. **Kahalu'u Makai Village** (Neighborhood)

**Action LU-2.3a: Amends Chapter 25 Zoning Code to define TODs and TNDs (Enacted by plan).**

**Action LU-2.3b: Initiate redevelopment plan for Kailua Village. Consider the establishment of redevelopment authority, pursuant to HRS Chapter 53 (Urban Renewal). Partner with the Kailua Village Business Improvement District program in preparing the re-development plan (PD, KVDC, KVBID, 3-5).**

**Policy LU-2.4: Transit-Oriented Development (TOD) Floating Zones Established.** The TOD's extent and locations on the Official Kona Land Use Map (Figure 4-7) are approximate and become fixed pursuant to the Project District rezoning procedures as modified below:

- 1) **Minimum land area.** The minimum land area for a new community shall be 80 acres, which corresponds to the urban and secondary core, plus a density transfer area proposed in the master plan to set an urban boundary limit.
- 2) **Project District Rezoning Application.** In addition to the requirements specified for a Project District application, the application shall include the following:
  - a. **Master Plan.** To the extent practicable, the master plan shall conform with the Village Design Guidelines (Attachment B) and at a minimum address:
    - i. Mix of permitted uses and density;
    - ii. Transportation systems including street layout and standards, transit routes and facilities, and bike and pedestrian pathways;
    - iii. Village center public facilities and financing;
    - iv. Infrastructure requirements, financing, and timing;
    - v. Neighborhood park and public space standards;
    - vi. Phasing plan;
    - vii. Calculation and treatment of density transfer area;
    - viii. Planning process, including extent of consultation with the Design Center.

- b. An environmental report meeting the requirements of HRS Chapter 343.
- 3) Expedited Review. Within ninety (90) days after a project district application has been accepted by the Planning Director, the Director shall forward the application to the Planning Commission.
- 4) Environmental Review Concurrent Processing. The Planning Director shall enable and allow the applicant to concurrently process the environmental document according to the procedures of HRS Chapter 343.
- 5) State Land Use Boundary Amendment Concurrent Processing. If a State Land Use District Boundary Amendment is necessary, the Planning Director may accept the application, review the application to determine consistency with the decision criteria below, suspend the processing of the Project District until a decision is made by the State Land Use Commission, and express the County's support of the application before the State Land Use Commission as consistent with the Kona CDP and County of Hawai'i General Plan. The Project District process may then immediately resume upon favorable approval by the State Land Use Commission.
- 6) Development Agreement. A development agreement pursuant to Hawai'i County Code may be used to memorialize reciprocal agreements among the several parties responsible for implementing the plan, including the County, and thereby vest the rights as set forth in the Development Agreement.
- 7) Planning Commission Review. Within sixty (60) days after receipt of the application from the Planning Director, unless a longer period is agreed to by the applicant, the Planning Commission shall transmit the proposed project district ordinance together with its recommendation thereon through the Mayor to the County Council. The Planning Commission shall recommend approval in whole or in part, with or without modifications, or rejection of such proposal, based on the following criteria:
  - a. Extent to which the master plan meets the intent and objectives of the Village Design Guidelines;
  - b. Extent, inclusiveness, and mix of affordable housing;
  - c. Feasibility of the infrastructure financing plan;
  - d. Effectiveness of concurrency controls;
  - e. Compatible linkages and relationships to surrounding areas;
  - f. Effectiveness in optimizing and protecting open space within the density transfer area.
- 8) Rebuttable Presumption. The Planning Director, Planning Commission, and County Council shall review the TOD application with a rebuttable presumption that the project furthers the intent of Chapter 25 Zoning Code and is consistent with the goals, objectives, and policies of the County General Plan and Kona CDP, provided that the proposed location is generally consistent with the Official Kona Land Use Map and the master plan consistent with the Village Design Guidelines. This rebuttable presumption does not apply

to a TND application since the general location of a TND has not been determined by the Kona CDP

- 9) Amendments. Amendments to the master plan shall be processed administratively by approval of the Planning Director, unless the changes are significant as determined by the Planning Director.

**Action LU-2.4a: Amends Chapter 25 Zoning Code to establish TOD floating zone project district (Enacted by plan).**

**Policy LU-2.5: Village Design Guidelines.** The Village Design Guidelines in Attachment B apply to the development of master plans for TODs and TNDs, as well as subsequent projects implementing the master plans. The intent of the Village Design Guidelines are to do the following:

1. Promote transit-oriented and pedestrian-oriented development, to increase transit use, to manage traffic congestion,
2. Encourage mixed-use, compact development that is pedestrian in scale and sensitive to environmental characteristics of the land, and facilitates the efficient use of public services;
3. Have residences, shopping, employment, and recreational uses located within close proximity with each other and efficiently organized to provide for the daily needs of the residents;
4. Provide for a range of housing types and affordability within pedestrian-oriented, human-scale neighborhoods;
5. Incorporate natural features, open space, and cultural features;
6. Provide efficient circulation systems for pedestrians, non-motorized vehicles, and motorists that serve to functionally and physically integrate the various land use activities; and
7. Promote strong neighborhood identity and focus.

The Village Design Guidelines establish:

1. An acceptable mix of uses for regional centers, neighborhood core areas, and secondary areas;
2. Minimum as well as maximum residential densities;
3. Non-permitted uses in the urban core that are primarily automobile-dependent that detract from a walkable town center;
4. Pedestrian-oriented street standards, supplementing County of Hawai'i Street Standards;
5. Nomenclature of public facilities and siting criteria that serve as the town focus;
6. Density transfer calculation methodology; and
7. Transportation standards.

**Action LU-2.5a: Adoption of Village Design Guidelines (Attachment B) (Enacted by plan).**

**Action LU-2.5b: Continually improve and refine the Village Design Guidelines (PD, DC, on-going).**

**Policy LU-2.6: TOD/TND Public Infrastructure and Facilities.** To encourage the development of TODs and TNDs, public financing sources shall pay 100% for:

- Major proposed trunk transit route,
- A transit station (or transit station component if the transit station is part of a private mixed-use project) within the Urban Core ,
- A major park or plaza within the urban core.

In the preparation of the master plan, the applicant shall coordinate the input of appropriate agencies to identify sites and financing of appropriate public facilities such as schools, libraries, and post offices, with respective financial commitments between public and private sources documented in the master plan. The County water allocation and capital improvement policies in Section 4.6: Public Facilities, Infrastructure and Services, Policy PUB-4.1 shall further support the development of the TODs.

**Action LU-2.6a: Negotiate the respective cost-sharing of the appropriate public facilities (DC, applicants, on-going).**

**Action LU-2.6b: Program funding of major transit routes, transit stations, and major parks within urban core in coordination with proposed TOD build-out (PD, Fin., on-going).**

**Policy LU-2.7: Traditional Neighborhood Development (TND) Floating Zone Established.** Where as the locations of TODs are conceptually determined by the Official Kona Land Use Map, the locations of TNDs are proposed by applicants outside of the TODs within the Kona Urban Area (UA). Because of the need to review the specific suitability at the time of proposal, TND floating zones shall not have the rebuttable presumption of a TOD; otherwise, rezoning procedures shall be the same as a TOD Project District.

**Policy LU-2.8: Development Outside Transit-Oriented Developments (TODs), but within the Kona Urban Area.** Development outside the TODs, but within the Kona UA, may occur as follows:

**1. Existing Zoning**

- a. *TND Overlay.* Any project greater than 20 acres on land zoned Single-family residential (RS), Multiple residential (RM), Residential-Commercial Mixed Use (RCX), General Commercial (CG), Village Commercial (CV), or Neighborhood Commercial (CN), shall be permitted to develop as a neighborhood TND following the procedures for a PUD and the Village Design Guidelines.
- b. *Non-TND Projects.* Any project may be developed in accordance with the existing zoning, subject to the following requirements:
  - i. Parks (see Policy PUB-6.2.)
  - ii. Affordable Housing. Resale restrictions on affordable units built in compliance with HCC Chapter 11 (see Policy HSG-5.2).

- iii. Street Standards. Connectivity standards (see Policy TRAN-2.1), street standards (see Policy TRAN-3.1), and traffic calming standards (see Policy TRAN-3.7).
- iv. Wastewater. Priority sewer area (see Policy PUB-4.4).
- v. Concurrency. The requirements of Hawai'i County Code Section 25-2-46 and Policy TRAN-6.1.
- vi. Sensitive Resources. Survey of potential sensitive resources (see Policy ENV-1.5).

## 2. Rezoning

- a. *TND*. Any project greater than 20 acres within the Kona UA may apply for the TND Floating Zone.
- b. *Conventional Rezoning*. Rezoning to other than TND, is subject to the following guidelines:
  - i. *Consistency with LUPAG*. Refer to Policy LU-1.3.
  - ii. *Infill*. Rezonings that promote infill are encouraged. The concept of infill is to connect two or more pre-existing developments. Infill is usually associated with small scale developments of 20 acres or less that have been leapfrogged by the surrounding or adjacent developments. Infill rezonings should be conditioned to ensure connectivity to the surrounding developments and, where applicable, to provide mixed-use opportunities to make the area more walkable.
  - iii. *"Greenfields" Rezoning*. Rezoning anywhere within the Kona UA, whether within or outside a TOD area designated on Figure 4-7 Official Kona Land Use Map, that is not a TOD, TND, or infill shall require an amendment to the Kona CDP that triggers HRS Chapter 343 Environmental Review Process.
- c. *State Land Use*. Where a rezoning application meets the above criteria, the County shall support a State Land Use Urban Boundary amendment for lands within the County Urban Expansion Area.

**Action LU-2.8a:** Amends Chapter 25 Zoning Code to create a TND overlay zone for existing zoned lands within the specified residential and commercial zoning districts (Enacted by plan).

**Action LU-2.8b:** Review subdivision and plan approval applications pursuant to requirements for parks, housing, street standards, wastewater, and concurrency (PD, on-going).

**Action LU-2.8c:** Review conventional rezoning applications pursuant to Policy LU-2.8 (1)(b) (PD, on-going).

**Objective LU-3: Rural Area Growth Management.** To preserve the rural character of the existing rural towns, the agricultural lifestyle, and the open landscape.

**Policy LU-3.1: Redevelopment of Rural Towns as TODs/TNDs.** The rural towns along Māmalahoa Highway, consisting of Hōlualoa, Honalo, Kainaliu, Kealahou, and Captain Cook, are encouraged to be redeveloped as TODs/TNDs. The master plan for TOD/TND redevelopment shall: a) identify the site and appropriate design character of a transit stop or station, as applicable; b) identify other public facilities that would enhance the civic and economic vitality of these towns; c) encourage innovative opportunities to provide affordable housing and live/work opportunities; and d) improve pedestrian-friendliness of the streetscape. To the extent practicable, the TOD/TND master plan shall follow the Village Design Guidelines in Attachment B. The master plan shall be the basis for any comprehensive rezoning, capital improvement program, and/or business improvement district for facilities or services.

**Action LU-3.1a: Initiate community organization effort, including landowners, developers, and public, on the opportunities of TODs/TNDs for each of the rural towns (R&D, PD, on-going).**

**Action LU-3.1b: Prepare town master plan(s) (PD, MT, town entity, 5-10).**

**Policy LU-3.2: Revitalization of Other Existing Rural Villages.** Rural Villages such as Hōnaunau, Nāpo‘opo‘o, Keālia, and Miloli‘i are also encouraged to develop community-based revitalization master plans that would serve as the basis for any comprehensive rezoning, capital improvement program, and/or business improvement district for facilities or services.

**Action LU-3.2a: Initiate community organization effort, including landowners, developers, and public on the opportunities of TODs/TNDs for each of the rural villages (R&D, PD, 3-5).**

**Action LU-3.2b: Prepare village master plan(s) (PD, village entity, 5-10).**



Aloha Theatre in Kainaliu.



Kainaliu. Nancy Piscichio



Manago Hotel. Nancy Piscichio



"Miloli'i, last fishing village in Hawai'i nei".

**Policy LU-3.3: Clustered Rural Subdivision Project Unit Development (PUD).** Provided a PUD application for rural- or agriculturally-zoned land substantially meets the Clustered Rural Subdivision Guidelines in Attachment C, the Planning Director shall issue approval, with or without conditions within sixty (60) days after acceptance of the application, and the approval shall be considered a tentative subdivision approval. All other requirements and procedures of a PUD shall be as set forth in Article 6 of the Zoning Code.

**Action LU-3.3a: Amends Chapter 25 Zoning Code and Chapter 23 Subdivision Code to establish Clustered Rural Subdivision PUD (Enacted by plan)**

**Policy LU-3.4: Clustered Rural Subdivision Guidelines.** The Clustered Rural Subdivision Guidelines in Attachment C apply to proposed subdivisions outside of the Kona Urban Area (UA). The intent of the guidelines is to minimize grading, preserve the natural appearance of the land to the maximum extent possible, ensure agriculture use in the State Land Use Agricultural District, and create a rural setting for residences. Towards this end, the guidelines shall, at a minimum, specify:

1. Minimum lot sizes;
2. Natural and cultural resources meriting protection and associated buffer areas, as applicable;
3. Minimum standards for roads and wastewater disposal;
4. Legal tools for permanent protection, maintenance of open space, and/or agricultural lands;
5. Connections to the open spaces of surrounding areas.

**Action LU-3.4a: Adopts Clustered Rural Subdivision Guidelines (on-going).**

**Action LU-3.4b: Continually improve and refine the guidelines (PD, DC, on-going).**

**Action LU-3.4c: Work with State to allow individual home sites smaller than one acre on lands classified as Agricultural so as to increase the flexibility of the Clustered Rural Subdivision Program (PD, OSP, on-going).**

**Policy LU-3.5: Encourage Clustered Rural Subdivision for IAL Lands Less Than 5 Acres.** Any subdivision of important agricultural land (IAL) lands involving 30 acres or more currently zoned at densities between Ag-1a to Ag-5a and FA are encouraged to follow the Clustered Rural Subdivision Guidelines in order to prevent sprawling, large-scale residential subdivision of these lands.

**Action LU-3.5a: Review subdivision application for lands with existing zoning Ag-1a to Ag-5a and FA pursuant to Policy LU-3.5 (PD, on-going).**

**Action LU-3.5b: Work with landowners through the Design Center to encourage proposals consistent with Clustered Rural Subdivision Guidelines (PD, on-going).**

**Policy LU-3.6: Subdivision on Agriculturally-Zoned Land Served by a Private Water System.** When granting any subdivision water variance served by a private water system to allow a subdivision involving 30 acres or more, a condition of the variance should be to follow the Clustered Rural Subdivision Guidelines. (Enacted by Plan)

**Policy LU-3.7: Farmworker Housing.** Agricultural employee housing where the employee works a minimum of 20 hours a week on a farm is permitted on agriculturally zoned lands where the housing and the farm are not on the same parcel.

**Action LU-3.7a: Reviewing Agricultural Employee Housing proposals pursuant to Policy LU-3.7 (PD, on-going).**

**Policy LU-3.8: Rezoning Outside of Urban and Rural TODs and Outside of GP LUPAG Urban Area.** Rezoning of areas currently zoned agricultural, outside of the Urban and Rural TOD areas shown on Figure 4-7 Official Kona Land Use Map, and outside of urban designations on the General Plan LUPAG, shall not be allowed, except in the following limited circumstances: (1) the rezoning allows only a small number of additional lots, consistent in scale with the transfer of lots to family members, (2) the rezoning does not create a net increase in the potential number of agricultural lots (such as a rezoning that increases potential density in one area but also reduces density in another), or (3) the rezoning is to permit a subdivision consistent with the Clustered Rural Subdivision Guidelines, while preserving the majority of the property in non-residential use dedicated to agriculture, open space, or other conservation purposes, and does not have the primary effect of allowing subdivision into lots smaller than allowed by existing zoning. This policy is intended to prevent the rezoning of agricultural property to allow agricultural subdivisions where the primary objective of the lot owner will be to have a residential estate.

**Action LU-3.8a: Review rezoning applications with higher burden of justification pursuant to Policy LU-3.8 (PD, on-going).**

**Objective LU-4: Pro-active Design Review.** To foster a spirit of excellence, creativity and collaboration among the applicants, community, and County to meet the Kona CDP goals, objectives and policies.

**Policy LU-4.1: Design Center Establishment.** The County Planning Department shall establish a Design Center to accomplish the following objectives:

1. To support and expedite the translation and implementation of the Kona CDP goals, objectives, policies, actions, and design guidelines as applied to proposed development projects;
2. To be a catalyst for creative excellence and innovation;

3. To foster public-private partnerships;
4. To promote coordination and collaboration among the community, government agencies, applicants, landowners, professionals, and educational institutions;
5. To provide education on best design practices to applicants, government staff, community members, educators and students; and,
6. To award and recognize exemplary projects.

Although the Design Center will be administered by the Planning Department and staffed by County employees, the department may organize a technical committee of interdisciplinary volunteers.

**Action LU-4.1a:** As an option, consider budgeting and hiring independent contractor(s) to determine the structure of the Design Center and to establish a pilot program. During this interim period, the independent contractor will provide recommendations to the Planning Director for land use applications requiring Design Center review (PD, 1-2).

**Action LU-4.1b:** Create and fund positions to staff the Design Center (PD, 2-3).

**Policy LU-4.2: Mandatory Review.** The Design Center shall review and approve all master plans prepared for floating zones (TODs/TNDs, Affordable Housing, Eco-Industrial) and Clustered Rural Subdivision PUDs. Projects implementing these master plans, as well as any other project within the Kona CDP planning area, are encouraged, but not required, to be reviewed by the Design Center.

**Action LU-4.2a:** Amends Chapter 25 Zoning Code to require mandatory Design Center review (Enacted by plan).

**Policy LU-4.3: Expedited Permit Processing.** For projects reviewed by the Design Center, a staff member of the Design Center may be assigned to coordinate and expedite permit approvals for the proposed project.

**Action LU-4.3a:** Assign and train staff (PD, 1-2).

### 4.3 ENVIRONMENTAL RESOURCES

The Environmental Resources section of the Kona CDP identifies objectives, policies, and actions to guide the management and protection of Kona’s environmentally sensitive areas. It will become important to focus on creative solutions that protect the environment while allowing for growth, redevelopment, and increase densities in strategic areas.

#### 4.3.1 Existing Conditions

Mapping of various resources in the Kona region has been on-going for many years. With advancing computer technology, such Geographic Information System (GIS), much of the available information has been incorporated in computer databases. While the geographic detail made possible by such computer mapping gives the sense that such mapped information is comprehensive, accurate and reliable, it is not always the case. The actual level of accuracy and reliability varies widely. It is important to continually improve the state of knowledge and track changes by documenting the source and methodology of the data collection.

Guiding Principles	Environment
1. Protect Kona's natural resources and culture.	✓
2. Provide connectivity and transportation choices.	
3. Provide housing choices.	
4. Provide recreation opportunities.	✓
5. Direct future growth patterns toward compact villages, preserving Kona's rural, diverse, and historical character.	✓
6. Provide infrastructure and essential facilities concurrent with growth.	
7. Encourage a diverse and vibrant economy emphasizing agriculture and sustainable economies.	✓
8. Promote effective governance.	✓

The mapping data for the environmental resources collected for this plan come from the following sources:

1. Regulatory map with defined procedures to map and amend:
  - Flood Insurance Rate Map (regulated under the Floodplain Management Code, Hawai'i County Code Chapter 27)
2. Legally mandated inventories yet to be completed:
  - Trails—Under the Nā Ala Hele statewide trail and access program, the Department of Land and Natural Resources is required to “inventory all trails and accesses in the State, whether wholly or partly on public or private lands and whether or not under the jurisdiction of the department” (HRS Section 198D-3).
  - Historic sites—The State Historic Preservation Division is required to develop an inventory of historic properties (any structure or site over fifty years old) and burial sites (HRS Section 6E-3).
3. Voluntarily compiled databases that lack a comprehensive management system for verification and maintenance:
  - Critical Habitats: Although the U.S. Fish and Wildlife Service follows a formal procedure to designate a critical habitat, there is no formal procedure to provide a map to the County permit agencies;

- Coastal Resources and Water Quality Monitoring Stations: GIS data on coastal resources compiled by the University of Hawai'i at Hilo for the Planning Department; location of State Department of Health (DOH) water quality monitoring stations (Source: U.S. Environmental Protection Agency and DOH (State GIS Program))
- Anchialine Ponds: Data digitally representing occurrences of anchialine ponds that were recorded by Hawai'i Natural Heritage Program, between 1970 – 2000 (Source: National Oceanic and Atmospheric Administration, National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division (University of Hilo, Department of Geography and Environmental Studies))
- Native Habitats: The Hawai'i Natural Heritage Program (HNHP) collects information on the location and condition of Hawai'i's rare animals, plants, and natural communities (ecosystems) (Source: Hawai'i Natural Heritage Program (November 2005). Information in the database spans from the 1800's to present day. Data summarizes species current and historical ranges, decline or increase in the number of individuals, recorded habitat and observed threats. The HNHP database includes four categories: Natural Communities, Special Vertebrates, Special Invertebrates, and Special Plants. The HNHP database includes only rare occurrences. A natural community is considered rare and imperiled if it is known from 20 or fewer localities or if it covers less than 2,000 acres in the world. For plants and animals, the HNHP defines taxon as rare if records indicate that its current distribution or abundance is limited, i.e. it is known from 20 or fewer locations or fewer than 3,000 individuals have been observed in the wild.)

#### 4.3.2 Overall Strategy

People in Kona have a growing ecological awareness and respect for their diverse resources – one that must be translated into a commitment to protect and manage these resources. This commitment will only be implemented by policies that are based on knowledge about our diverse resources as well as on humility that we do not know the full consequences of all that we do and err on the side of caution (precautionary principle), and on the understanding that all of us must assume some responsibility to do our part.

The following strategy emerged from this attitude:

1. **Managing our Impacts.** The reasons to minimize human impacts on natural resources are many, while many are yet to be known. Ecosystem services upon which our survival depends (e.g., clean drinking water) must be maintained. This concept was honored by Hawai'i's earliest inhabitants, most clearly in the "mountain to sea" *ahupua`a* model of land use. This awareness and the larger reality of the intrinsic value and interconnectedness of all natural systems should be expanded upon and protected through education and intelligent land use policy. The Kona CDP's Land Use Policies are intended to limit both urban and rural sprawl and also serves to provide direct benefits toward managing our resources.
  - a. **Recognizing the Multi-Value Importance of the Mauka Lands.** Before human contact, a band of wet native forest thrived, extending from sea level to 6,000 feet in elevation (Atlas of

- Hawai'i, 3<sup>rd</sup> Edition). Beside being a habitat for native species, this forest “absorbed” much of the rain. This water that percolated into the ground and recharged the groundwater “reservoirs.” As forests were cleared for pasture or other purposes, much of the rainfall that would have been absorbed now runs off the land surface. Recognizing the value of these mauka lands for its habitat, groundwater recharge, and stormwater management values, the objectives are to encourage the preservation of the forest that remains, the restoration of forest lands, as well as the innovative restoration of some of the innate functions of the cleared lands (e.g., detention basins that mitigate surface flow and promote groundwater recharge).
- b. **Turning Stormwater Management Into An Asset.** If the mauka lands are able to mitigate some of the surface stormwater runoff, there is still a challenge in managing stormwater runoff because of Kona’s steep topography and undefined drainageways. The objective is to identify the drainageways where the major stormflows would be directed, provide a buffer to these drainageways to account for our imperfect knowledge, and to design these drainageways to function as recreational or open space amenities (e.g., linear parks).
  - c. **Not Exceeding the Limits of the Groundwater Resource.** Compared to the wet, windward side of the island, Kona’s basal groundwater resource is thin. The primary groundwater source is high-level groundwater; the extent of which as a resource is uncertain. The objectives are to conserve water, encourage alternative sources (e.g., reclaimed wastewater) for non-potable uses, and ensure adequate capacity of the County water system to serve the preferred growth areas set forth in the Land Use element (see Section 4.6 Public Facilities, Infrastructure, and Services for these policies that apply to the County’s water system).
  - d. **Integrating the Coastal Resources.** Kona is blessed with unique anchialine ponds, beautiful sandy beaches, abundant coral reefs, and clear nearshore waters. What we do on the land impacts these coastal resources. The objectives are to manage the activities that are the major source of pollutants that reach the coastal waters through groundwater seepage or surface runoff, and to monitor the water quality to know when corrective action is in order.
  - e. **Protecting Sensitive Resources.** Besides the mauka lands, there are other sensitive resources that need to be protected through regulations and/or incentives. The first step is to classify what resources are “sensitive”—i.e., unique, rare, fragile, providing an essential support service, or other values. The second step is to develop a reliable inventory of these resources. This second step is a considerable challenge given the varying stage of accuracy and completeness of the available information for each resource. Nevertheless, a central data gathering system needs to be developed that continually improves the state of knowledge.
2. **Managing Access as a Linked Network of Open Spaces.** Not all open spaces should have unrestricted public access (e.g., forest reserves, sacred sites). Where public access is permitted, whether unrestricted or managed, the objective is to create a network of “hubs” (e.g., parks) and “links” (e.g., trails, bikeways). While reaffirming the Guiding Principle for expanded recreation opportunities, the vision is also for residents and visitors to have the option to walk or bike to a beach or park, as well as drive on a scenic route.

### 3. Prioritizing Limited Financial Resources.

- a. **Establishing Acquisition Priorities.** The objective is to set clear priority criteria for land acquisition based on significance, extent of public use, or the extent of restrictions on other private use.

4. **Ensuring Maintenance.** Adequate funding shall be budgeted for proper maintenance, particularly for resources open to the public.

#### 4.3.3 Goals, Objectives, Policies, and Actions

*Environmental Resources Goal: The natural and cultural resources enhance Kona's character together with the built environment, developed in harmony with ecological principles, where residents and visitors enjoy and interact with nature through a networked system that promotes a healthy active lifestyle, and where the financial and moral commitment reflects the high level of caring that the Kona people have for the land.*

**Objective ENV-1: Managing Impacts.** In order to minimize impacts on the land, make use of best management planning practices for any land-based endeavor by balancing public and private rights, and taking advantage of an ever-improving knowledge of resource sensitivity and natural processes.

**Policy ENV-1.1: Central Environmental Resources Inventory.** The County should be a central repository of environmental resources GIS data (including the metadata documentation), assist in inventory creation where there are data gaps, and assist in maintenance where there are no assigned maintenance responsibilities.

**Action ENV-1.1a: Compile available GIS environmental data and make it available to the public (PD, DATA, on-going).**

**Policy ENV-1.2: Kona Mauka Watershed Management Program.** The Kona Mauka Watershed Management Program shall encompass the public and private lands mauka of Māmalahoa Highway (see Figure 4-8a). The purpose of this program is to synthesize the current knowledge of the mauka lands resources, develop a viable action plan to coordinate the various public agencies and private owners, and serve as the basis for establishing an ecosystem services incentives program. Such a program recognizes the ecosystem service value of our watershed and open space in our community to protect values such as aesthetics and scenic vistas; water catchment and infiltration; carbon sequestration; oxygen production; habitat enhancement and preservation; fire suppression and fuel load management; soil conservation; preservation of cultural values; and, potential for additional public access and recreational opportunities. The action plan shall be prepared by the Kona Mauka Watershed Partnership, whose membership shall include at a minimum the affected public agencies and private landowners, a community representative(s), and the County.

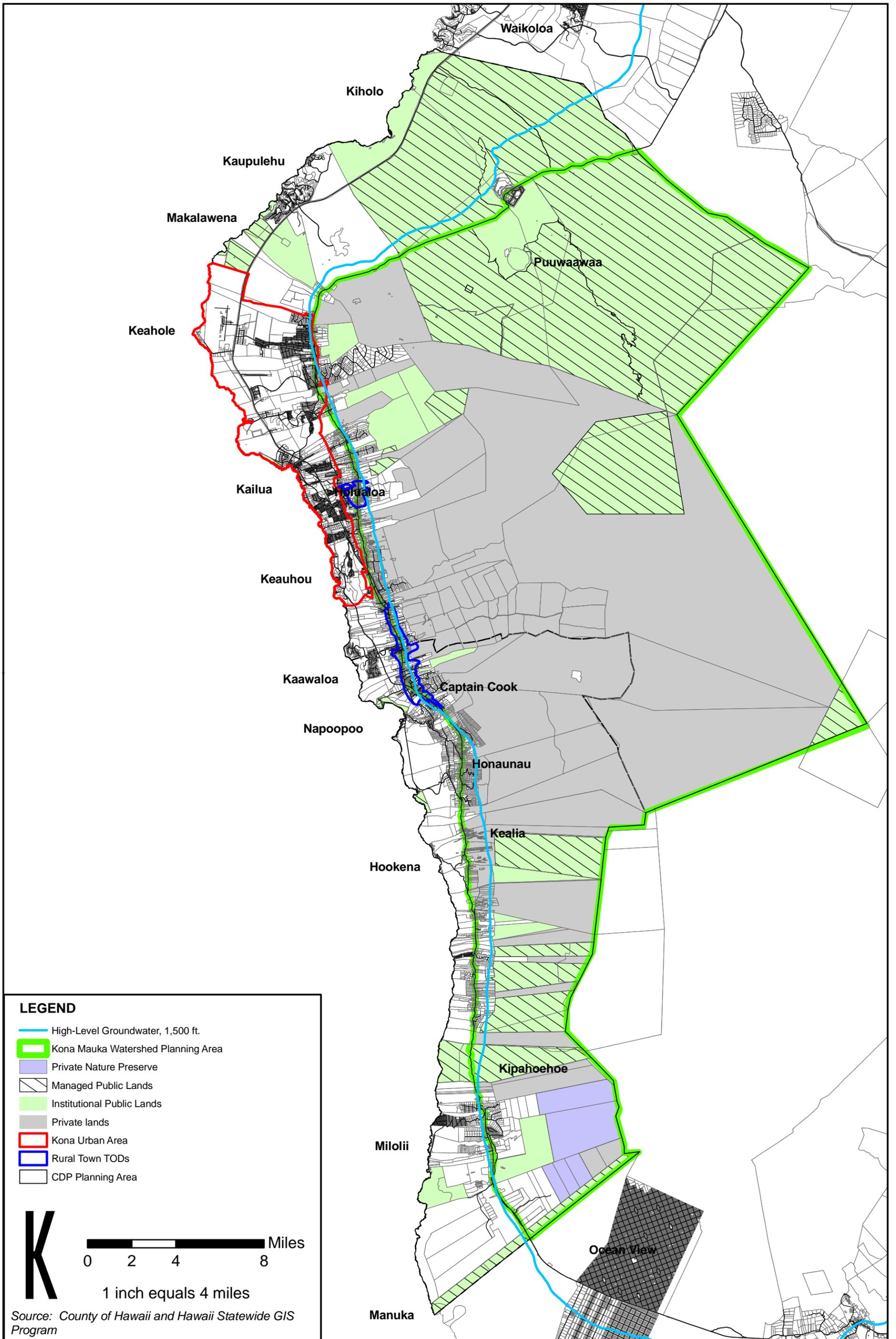


Figure 4-8a  
Environmental Resources Map - Kona Mauka Watershed Area

This page intentionally left blank.

The action plan shall be approved by the Kona CDP Implementation Committee (see Chapter 5). The action plan shall at a minimum address:

- Existing Conditions—physical characteristics, hydrology and water use, biological resources, land ownership, existing land use and zoning;
- Ahupua‘a Watershed Values—water resources, native habitat, cultural resources, public access and outdoor recreation;
- Threats—invasive species, feral ungulates, human activities, aquatic pollutants, wildfire, climate change;
- Management Program—cooperative private initiatives, government programs, designation of suitable sending and receiving areas for density transfer, models of appropriate development, certification system to determine eligible ecosystem services incentives, grant administration.

**Action ENV-1.2a: Organize the Kona Mauka Watershed Partnership (PD, 1-2).**

**Action ENV-1.2b: Budget and hire contractor to coordinate and prepare Kona Mauka Watershed Management Program (PD, 1-2).**

**Action ENV-1.2c: Implement Kona Mauka Watershed Management Program (PD, 3-5).**

**Policy ENV-1.3: Publicly-Owned Mauka Lands.** All public lands mauka of Māmalahoa Highway should be managed with a holistic, multi-purpose approach for habitat preservation, groundwater source protection, and stormwater management, as coordinated by a Kona Mauka Watershed Partnership, based on a Kona Mauka Watershed Management Program. The objective is to reevaluate the need to broaden and integrate the management of those lands currently under a more focused management program (referred to as the “Managed Public Lands”) and to initiate management program for those public lands not currently managed for environmental integrity (referred to as “Institutional Public Lands”).

**Action ENV-1.3a: Identify, inform, and educate affected public agencies to participate in the preparation of the Kona Mauka Watershed Management Program (PD, 1-2).**

**Policy ENV-1.4: Privately-Owned Mauka Lands.** All private lands mauka of Māmalahoa Highway are eligible for ecosystem services incentives as set forth in the Kona Mauka Watershed Management Program, provided the landowner actively participates in the Kona Mauka Watershed Partnership. Ecosystem services incentives include, without limitation:

1. Government funding. Payments from Federal, State, or County sources for a conservation easements;
2. Property tax credits for landowners. A new ecosystem services assessment class would result in minimum tax;

3. Grants. Grants administered by the Kona Mauka Watershed Partnership would be available to help fund various ecosystem management activities such as constructing detention basins, controlling invasive species, mitigating wildfire threats, restoring native forests, and other activities consistent with the Kona Mauka Watershed Management Program;
4. Government approval assistance. The Design Center staff shall be available to resolve any difficulties with obtaining approvals for ecosystem management activities, such as issues relating to the Conservation District, or in applying for various programs such as U.S. Forest Services' Forest Legacy Program.

**Action ENV-1.4a: Identify, inform, and educate affected private landowners to participate in the preparation of the Kona Mauka Watershed Management Program (PD, 1-2).**

**Action ENV-1.4b: Develop and establish ecosystems services incentives and a financing program, through the Kona Mauka Watershed Management Program (PD, 1-2).**

**Policy ENV-1.5: Sensitive Resources.** In the context of Kona's ecology and history, the following natural and cultural resources shall be considered sensitive and therefore shall be inventoried, as part of any permit application to the County Planning Department (see Figures 4-8a to 4-8d):

- Critical habitat areas as identified by the U.S. Fish & Wildlife or County General Plan;
- Predominantly native ecosystems, which may not be considered endangered but are valued because of their nearly pristine condition;
- Anchialine ponds subject to a management Program addressed in Policy ENV-1.10: Non-Degradation of Anchialine Ponds;
- High-level groundwater recharge area which shall initially be defined as all lands mauka of the 1,500 foot elevation and which may be refined by the Kona Mauka Watershed Management Program;
- Historic trails;
- Archaeological and historic sites subject to protection under HRS Chapter 6E ; and,
- Enhanced Shoreline Setback (see Policy LU-1.5).

Any permit application that encompasses any of the above resources shall strive to incorporate these resources as assets. If a proposed project will have significant, unavoidable, adverse impacts to any of the above resources, the presumption shall be denial of the application and the applicant will have the burden of explaining any overriding considerations. The presence of any of these resources shall qualify for density transfers based on potential gross density allowed by the prevailing zoning. The protection or restoration of any of these resources shall qualify for funding from the Kona Treasures Fund (see Policy ENV-3.3). (Enacted by plan)

**Policy ENV-1.6: Ecotourism and Other Mauka Lands Development.** On LUPAG Extensive Agricultural lands, a special permit for an ecotourism-related or other non-

agricultural use may be considered provided the proposed project is consistent with the Kona Mauka Watershed Management Program and reviewed by the Design Center. If the project involves residential lots, then the Clustered Rural Subdivision Guidelines (Attachment C) should apply. Density transfers may be permitted between sending and receiving areas identified in the Kona Mauka Watershed Management Program, including between non-contiguous parcels, as approved under the special permit or Clustered Rural Subdivision PUD process.

**Action ENV-1.6a: Enact appropriate mechanisms pursuant to Policy ENV-1.2 Kona Mauka Watershed Management Program (PD, 3-5).**

**Policy ENV-1.7: Flood Corridors.** The County's Central Environmental Resources Inventory (see Policy ENV-1.1) should include the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) 100-year floodplains, as well as planned natural flow ways identified by the Stormwater Management Program (see Policy PUB - 4.7), where excess runoff from existing and future development will be directed. Collectively, the FIRM floodplains and the planned flow ways may serve as open space amenities, such as linear parks and/or greenbelts between urbanized areas.



**Action ENV-1.7a: Develop priorities and financing strategies to improve accuracy and comprehensiveness of flood mapping (DPW, 2-3).**

**Action ENV-1.7b: Budget and hire contractor to study feasibility of regional stormwater management systems, such as flow ways (DPW, PD, 2-3).**

**Action ENV-1.7c: Identify corridors to be recommended for public open space pursuant to Policy ENV-2.2 Open Space Network Program (PD, DPW, 3-5)**

**Policy ENV-1.8: Multi-Purpose Flood Corridors.** If the flood corridor serves regional multiple benefits the County should consider ownership and/or maintenance responsibility for the flood corridor, upon request of the affected landowner. Owners may participate in an adopt-a-flood corridor program to enhance the landscaping of the flood corridor fronting their property, preferably with appropriate native Hawaiian plants.

**Action ENV-1.8a: Establish guidelines for Adopt-a-Corridor Program (DPW, 1-2).**

This page intentionally left blank.

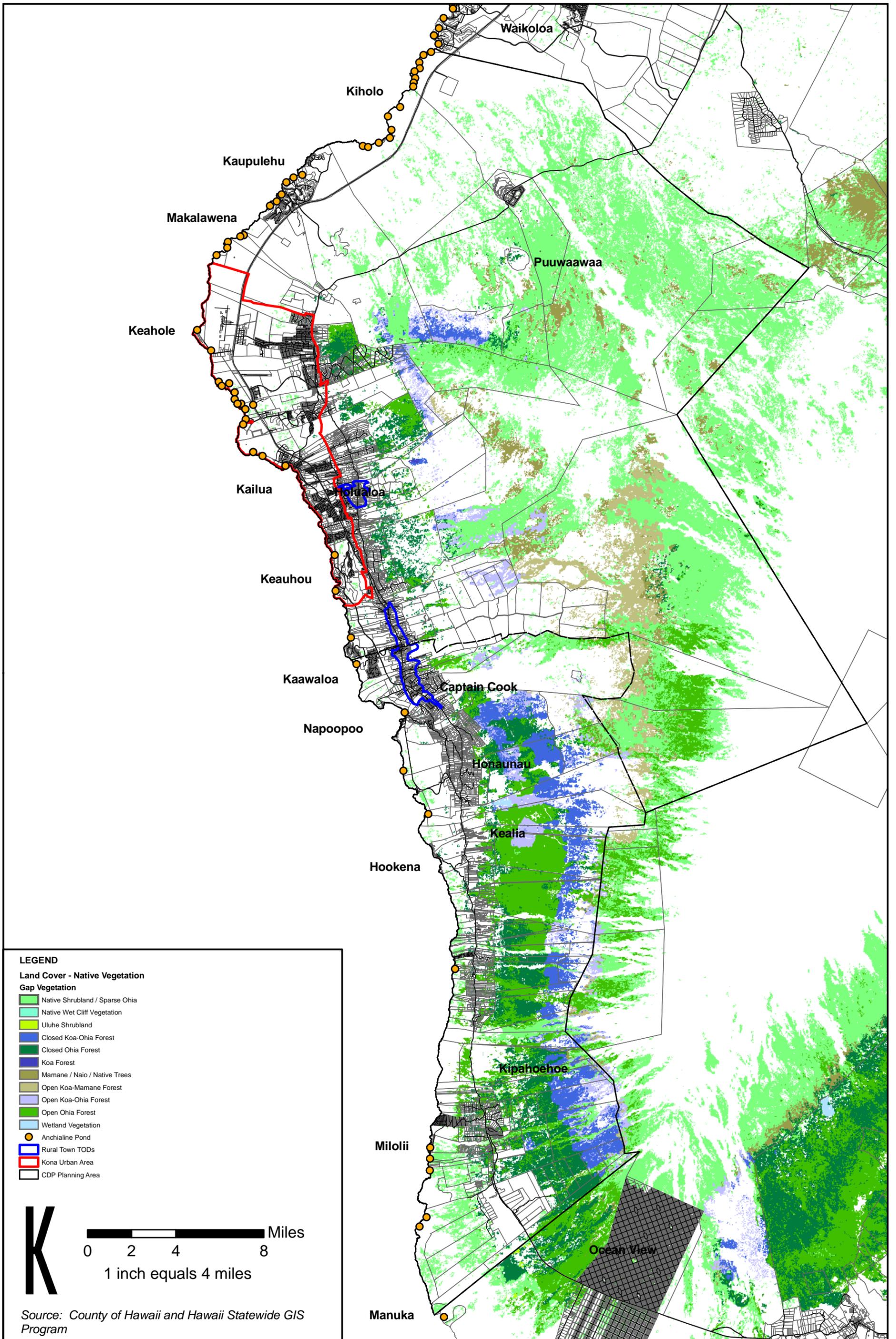


Figure 4-8b  
Environmental Resources Map - Native Vegetation

This page intentionally left blank.

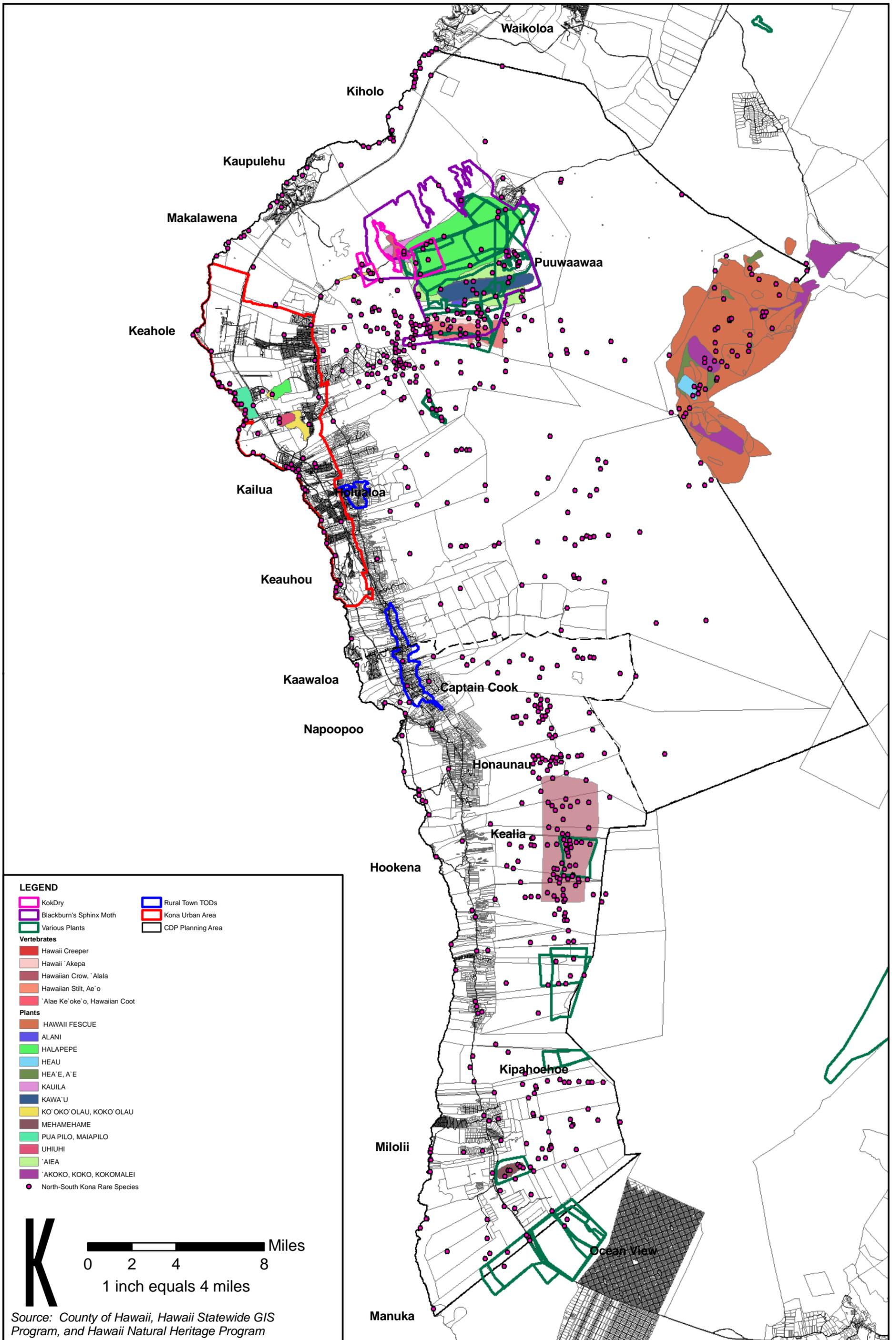
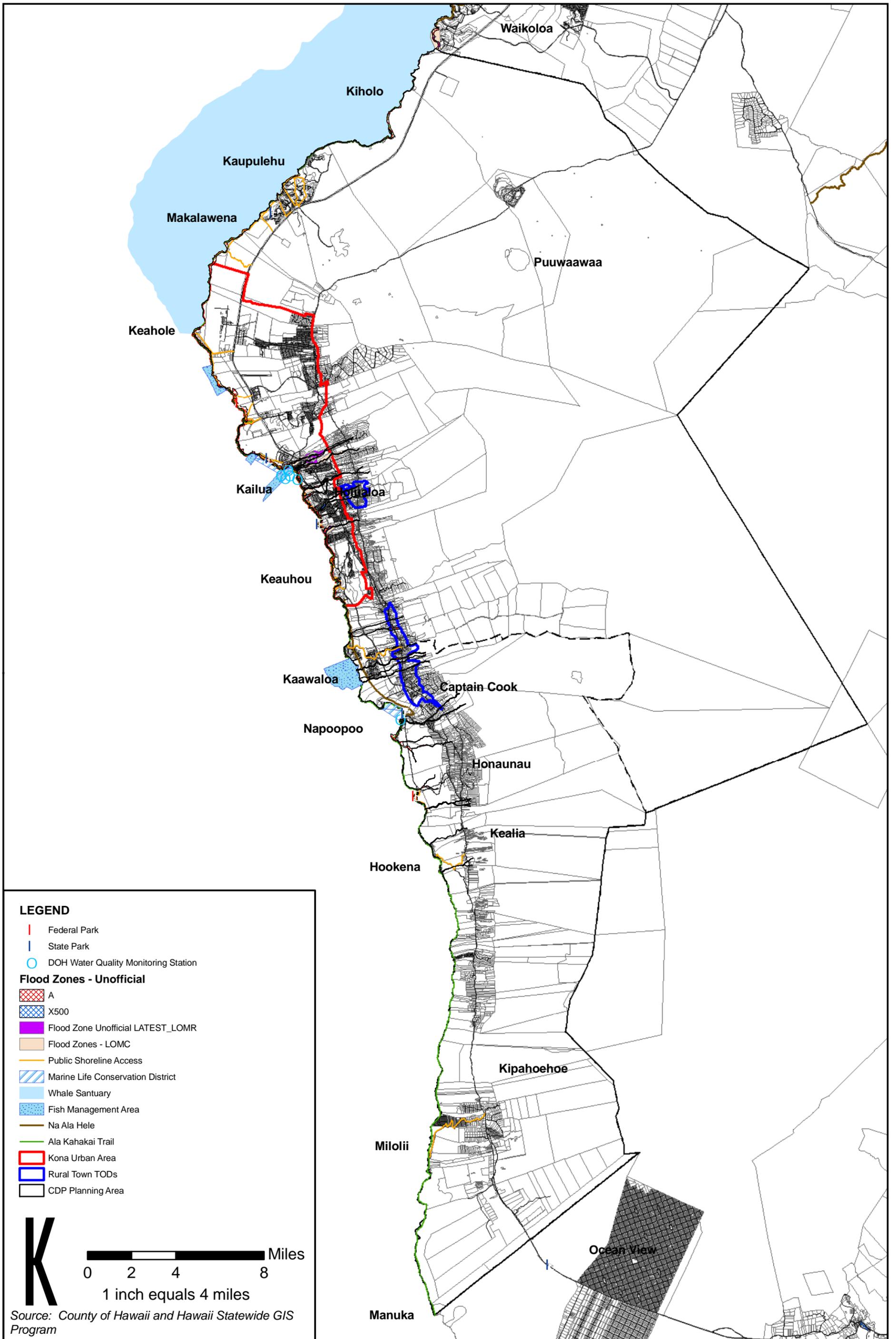


Figure 4-8c  
Environmental Resources Map - Native Plants & Animals

This page intentionally left blank.



This page intentionally left blank.

**Policy ENV-1.9: Setback Buffer from Flood Corridor.** To account for nature's unpredictability, any structure as defined in Chapter 27 Floodplain Management Code shall be in compliance with Section 27-18(d)(5) (Ordinance 07-169).

**Action ENV-1.9a: Supports Chapter 27 pursuant to Policy ENV-1.9 (on-going).**



**Policy ENV-1.10: Non-Degradation of Anchialine Ponds.** Within the United States, these unique habitats are only found in Hawai'i. Anchialine shall be eligible for the Kona Treasures Fund for restoration and maintenance, subject to the preparation of a maintenance and water quality monitoring plan. As wetlands, these resources merit heightened community vigilance for any violations of the federal law relating to the disturbance of wetlands. (Enacted by plan)

**Policy ENV-1.11: Anchialine Ponds Management Program.** The County shall adopt the following strategies:

1. Conduct an inventory of anchialine ponds in Kona.
2. Develop management policy:
  - a. Development projects must map anchialine ponds and monitor their physical, chemical, and biological status
  - b. Management of anchialine ponds on development project land should include assessment and removal of invasive species
  - c. No development project should be approved that impacts anchialine ponds
3. Develop education modules for anchialine ponds and signage for sites in Kona to educate the public about ponds and their "protected" status.
4. Identify public/private funding mechanisms for the maintenance of Kona's anchialine ponds.

**Action ENV-1.11a: Budget and hire contractor to verify and update anchialine inventory and prepare the Anchialine Ponds Management Program (PD, COE, 2-3).**

**Policy ENV-1.12: Water Quality Monitoring Program.** In recognition of Kona's exceptional nearshore coastal resource, a comprehensive system to monitor nearshore water quality shall be established for purposes of protecting public health as well as ecosystem health (particularly coral reefs) to supplement the State Department of Health's water quality monitoring program. At a minimum, water quality should be monitored at stations which

correspond to the popular water-contact recreational areas and the exceptional coral reef habitats. The Water Quality Monitoring Guidelines shall be referenced when requiring water quality monitoring as a condition of permit approval or in the establishment of a comprehensive Water Quality Monitoring Program.

**Action ENV-1.12a: Hire consultant to prepare Water Quality Monitoring Guidelines (PD, DPW, DOH, 2-3).**

**Action ENV-1.12b: Set up water quality monitoring station locations (PD, Community, UH Sea Grant, DOH, 2-3).**

**Action ENV-1.12c: Organize and train community base water quality team (PD, Community, UH Sea Grant, DOH, 2-3).**

**Policy ENV-1.13: Environmental Resource Management Education.** A diversity of tools shall be sought to provide increased education and awareness on the part of our residents and visitors regarding the preservation of Kona's environment.

**Action ENV-1.13a: Develop appropriate educational tools for residents and visitors and marketing plan to use them (R&D, 2-3).**

**Action ENV-1.13b: Conduct educational workshops (R&D, 2-3).**

**Objective ENV-2: Open Space Network.** To develop a networked system of appropriate access to all significant open space resources that enhances opportunities for residents and visitors for recreational, educational, subsistence, or gathering purposes.

**Policy ENV-2.1: Open Space Network Program.** The purpose of the Open Space Network Program is to enhance opportunities for residents and visitors to access Kona's Environmental Resources for recreational, educational, subsistence, or gathering purposes. The Program will identify the following:

- i. **Hubs and Links.** Map the existing and planned "hubs" and "links" that comprise the open space network. "Hubs" include, without limitation, parks, cultural sites open to the public, and natural beauty vantage points and views. The "links" include, without limitation, bikeways, trails, scenic/heritage corridors, public accessways, flow ways, and linear parks.
- ii. **Public Access Management.** Address any special needs to manage access, such as ownership, maintenance, and/or sensitivity of the resource.



How about Community Volunteer Deputies? A community-based volunteer "deputy" program to work with government authorities expands the number of "eyes" to inhibit violations, provides an opportunity for individuals to become involved while ensuring that these individuals are knowledgeable and trained, and serves as an educational program as these deputies share their knowledge with the broader community.

- iii. Public Areas. Identify areas that have high traffic which shall then receive special attention for funding, maintenance, safety and educational signage.

**Action ENV-2.1a:** Budget and hire consultant to prepare Open Space Network Program (PD, PR, OSP, DLNR, TNC, NPS, 1-2).

**Action ENV-2.1b:** Coordinate with the National Park Service's (NPS) Ala Kahakai Trail Program as follows (PD, DLNR-PR, NPS, on-going):

1. Continue to enforce county and state laws requiring public access to and along the shoreline as a condition of land use approvals. These trails may become official components of the Trail.
2. Require that applicants conduct metes and bounds surveys of any historic trails and routes that will be required as part of the land use permitting process to be preserved and that may become part of the Trail.
3. Encourage private landowners who have public access requirements as conditions of a land use approval to execute an agreement with the NPS to include these areas in the Trail, where appropriate.
4. Work with the NPS to identify public access easements with potential incorporation into the Trail.
5. Work with the NPS to identify trail segments through county parks for incorporation into the Trail.
6. Collaborate on the design and specific signage that identifies the route of the Trail, particularly where it traverses County Beach Parks.
7. Include the Ala Kahakai National Historic Trail (NHT) administrative office on the mailing list for the Planning Commission.

**Objective ENV-3: Fiscal Commitments to Open Space.** To affirm the commitment that expenditures for open space management are just as important as investment in hard infrastructure (e.g., water, sewer, and roads).

**Policy ENV-3.1: Acquisition Priorities.** To supplement the activities of the County Open Space Commission, the Open Space Network Program shall identify high priority areas in Kona for public acquisition, based on the following criteria:

- a. Significant value;
- b. Extensive public use;
- c. Imminent threat by private development; and
- d. Lack of alternative means of protection.

**Action ENV-3.1a:** Identify high priority areas for acquisition pursuant to Policy ENV-2.1 Open Space Network Program (PD, PR, OSC, DLNR, 1-2).

**Policy ENV-3.2: Maintenance Commitment.** A variety of funding sources shall be pursued to supplement, as necessary, existing government operational budgets to ensure a high standard of maintenance of all “hubs” and “links” identified in the Open Space Network Program.

**Action ENV-3.2a:** Develop a financing strategy as part of Public Facilities Financing Program (PD, 1-2).

**Policy ENV-3.3: Public/Private Partnership.** To foster a public and private partnership of stewardship, a Kona Treasures Fund shall be established and administered by a non-profit entity to implement the environmental policies set forth in this plan by supplementing any governmental funding. The non-profit entity would enable individuals and/or businesses to contribute time and/or money for environmental causes without sacrificing the resources to commercial use.

**Action ENV-3.3a:** Establish Kona Treasures Fund as tax deductible organization (PD, KCC, 2-3).

**Action ENV-3.3b:** Provide funding and staff support as well as public marketing campaign (PD, KCC, 2-3).



## 4.4 CULTURAL RESOURCES

In the Hawaiian language and culture, Kona is a traditional Hawaiian *moku* (district) on the leeward side of the island. To *kama'āina*, however, it is more than just a region or place; it is part of our being. In tradition and custom, Kona's great beauty and many resources have been entrusted to the people by *Akua* (our Creator), and inherent in this trust comes *kuleana* (responsibility/obligation) to *mālama* (care for) all that gives *ke ola* (life), so that it may *ho'omau* (be perpetuated). Today, this means to honor what has gone before, be responsible for the present, and plan for the future.

### Ahupua'a and Malama 'Āina

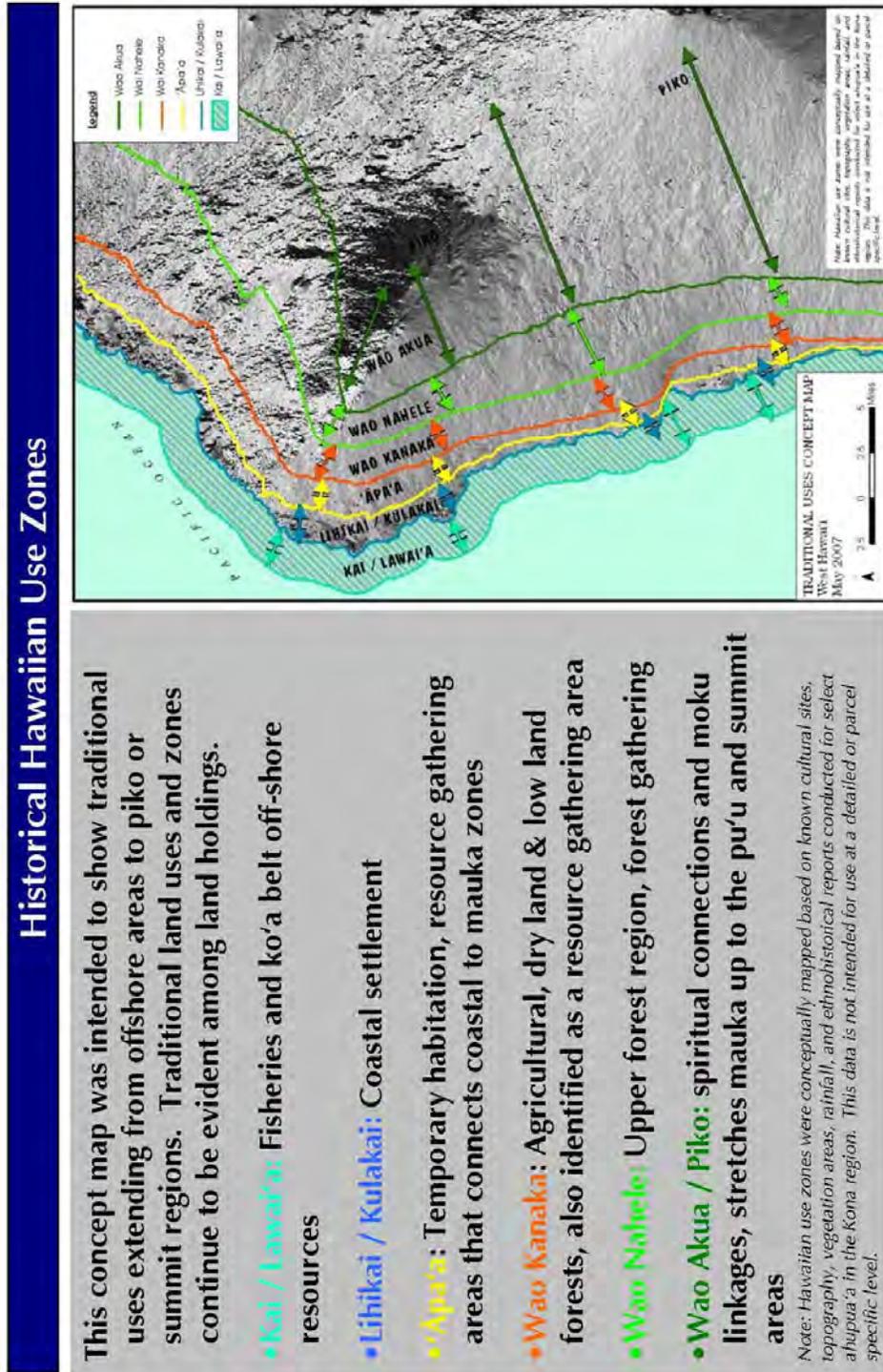
In honoring the past, it is important to recognize the valuable lessons learned. One of these is the *ahupua'a* land use model of sustainability, whereby the land was divided into pie-shaped wedges -- broad at the shoreline and narrowing in the uplands -- providing a good diversity of natural resources for its inhabitants. Another is that of *mālama 'āina* that calls for the responsible and respectful use of the land and sea, including all the natural resources in and on it, in a manner that promotes their conservation and perpetuation, so the present, as well as the future generation, may be able to enjoy them alike. Prior to 1778, Hawaiians lived and practiced these principles in a truly self-sufficient manner. Understanding and practicing these important principles of resource management are vital to understanding the Hawaiian cultural landscape and our place on it, especially when decisions are made which will impact that landscape and the long-term future of Kona. The very essence of this principle is embodied in the Hawai'i State motto "*Ua mau ke ea o ka 'āina i ka pono*", that the very life of the land is perpetuated in the proper relationship of humans with nature.

Guiding Principles	Cultural
1. Protect Kona's natural resources and culture.	✓
2. Provide connectivity and transportation choices.	✓
3. Provide housing choices.	
4. Provide recreation opportunities.	✓
5. Direct future growth patterns toward compact villages, preserving Kona's rural, diverse, and historical character.	✓
6. Provide infrastructure and essential facilities concurrent with growth.	
7. Encourage a diverse and vibrant economy emphasizing agriculture and sustainable economies.	✓
8. Promote effective governance.	✓

### Historical Perspective

The districts of North and South Kona have been very significant in the history of Hawai'i. Because of the mild climate, fertile mauka lands and abundant marine resources, from the time of the great chief, 'Umi a Liloa, Kona has been favored as a place of residence by various ruling chiefs and their extended families. This resulted in a large population of inhabitants who settled in villages mainly along the coast (*kulakai*), particularly around bays and fishponds. Additional land uses occurred in the middle zone (*apa'a*), which supported temporary habitation and resource gathering between the *makai* (coastal) and *mauka* (upland) areas; and, the upland zones (*wao kanaka*), which supported larger-scale agriculture and dryland and lowland forests. Figure 4-9 depicts the traditional lands uses and zones extending from offshore areas to the *piko* or summit regions.

Figure 4-9: Traditional Uses Concept Map



Graphic provided by Hilarie Keehne, Kamehameha Schools.

To support these populations and settlements, an elaborate system of *nā ala hele* (foot trails) was established between *makai* and *mauka* areas, and these intersected with the more lateral *ala loa* (long trails) that ran between the *moku*. Many of these trails still exist and can be found today, although some portions may have been altered, damaged or simply remain overgrown.

Collectively, the settlements in Kona were probably some of the most densely populated in the Hawaiian Islands (U.S. National Park Service, September 1993) and, as a result, complex religious, social, and political systems and structures had developed around them. Many cultural practices, such as the Makahiki festival and other rituals for invoking rain and fertility, centered in Kona. Moreover, many ancient traditions and mythological personages were associated with Kona, such as the god Lono, who is credited with introducing primary plant foods such as taro, sweet potato, yams, sugarcane, and bananas to the Hawaiians.

Kona played a very significant role during the Kamehameha dynasty, and several defining moments in Hawai'i's history took place here.

According to Kamakau (1961), when Kamehameha the Great was in his final years at Kamakahonu, the coastal lands were part of a large royal center supporting the mō'ī and his royal court, such that "at night the sparkle of lights reflected in the sea like diamonds, from the homes of the chiefs from Kahelo to Lanihau. The number of chiefs and lesser chiefs reached into the thousands."

Following the death of Kamehameha I at Kamakahonu in 1819, his son Liholiho, succeeded him and, with the urging of the kuhina nui Ka'ahumanu and the Queen mother, Keopulani, he broke the traditional *'ai kapu* (eating prohibition) at Kamakahonu. A short while later, Liholiho was challenged by Kekuaokalani, the keeper of the war god Kuka'ilimoku, who wanted no part of this change. A fierce battle ensued along the shore at Kuamo'o, and the hundreds that were killed in the battle, the last fight in Kona, were laid to rest at Lekeleke. Those burial grounds can be seen today at the end of Ali'i Drive, just south of Keauhou Bay. After the defeat of Kekuaokalani, the ancient *kapu* system was largely abolished, although some practices continued long after that.

The following year and just a few months after the kapu system had been broken, the first Christian missionaries arrived at Kamakahonu, and, in 1823, Mokuaikaua, Hawai'i's first Christian church was erected in Kailua. Additional churches were then established throughout the district, a number of which still remain in active service today.

After the death of Liholiho in 1825, Kūikeyaouli became King Kamehameha III. His reign, which continued until 1854, was the longest in the history of Hawaiian Monarchy.

The town of Kailua is one of the most historically significant areas in Hawai'i, since it was the residence of Hawaiian chiefs, including being the primary home of King Kamehameha I. This area has been described by visitors in great detail. In 1823, when the English missionary, William Ellis, visited the area between Kailua and Keauhou, he reported passing through many villages where the houses "are generally built on the sea-shore" and mentioned seeing numerous *heiau* and burial grounds (Ellis 1963). In 1929-30, when Reinecke surveyed the coastal areas of Kona, he made detailed notes on the large numbers of cultural resources still remaining in those areas (Reinecke 1930).

Today, even 185 years after Ellis' visit, the remains of these villages and the cultural resources associated with them are known and continue to be uncovered throughout Kona, especially in the lower elevations and coastal areas – a clear testament to the importance of Kona throughout Hawai'i's long history.

Hawaiian ranching history precedes, and is distinct from, the ranch history of America's mainland West. When Captain George Vancouver gave the gift of a few cattle to King Kamehameha I in 1793, he had little idea how this single act would affect the history of Kona. Ten years later, an American gave a mare and a stallion to Kamehameha I. The ranching history of Kona began with these two small introductions. After bringing more cattle in 1794, Vancouver asked Kamehameha I to place a *kapu* on slaughtering them to allow the herd to grow. Kamehameha I placed a *kapu* and also constructed a huge stonewall, the "*pā nui*" to contain and protect them (Kona Historical Society, undated).

The mid-1870's mark the beginning of the development of Kona's coffee industry. In the early years, Hawaiians and Chinese were hired to work on large coffee plantations. Later, Portuguese, Filipino, Japanese, and others, who had either fulfilled or broken their contracts with Hawai'i's sugar plantations, came to Kona to work the lands.

Descendants of these workers remained in Kona and wove their lives together with the Hawaiian community, unified by the region's powerful natural environment, thus providing the foundation for Kona's incredible cultural landscape. Their mutual inter-dependence based on self-sufficiency, stewardship, and sustainability provides us with a model for the future.

#### 4.4.1 Existing Conditions

##### **Kona's Cultural Landscape**

The cultural landscape of Kona is multi-faceted and pervasive, and, in today's modern society, sometimes not well understood. Nevertheless, it is this landscape that is at the heart and very nature of the Hawaiian culture; it is also that which is so vulnerable to the impacts of Western civilization.

In order to understand the concept of cultural landscape, it is important to have some knowledge of the long-standing and valued cultural traditions and practices of the Hawaiian people, their relationship with nature, and the importance of these to the sustainability of the culture for over one thousand years.

According to cultural historian, Kepā Maly (2001), "in any culturally sensitive discussion on land use in Hawai'i, one must understand that Hawaiian culture evolved in close partnership with its natural environment. Thus, Hawaiian culture does not have a clear dividing line of where culture ends and nature begins. In a traditional Hawaiian context, nature and culture are one and the same. There is no division between the two". So, in the Hawaiian mind, all aspects of the land – all natural and cultural resources – are interrelated and culturally significant.

##### **Cultural Resource Identification, Determination, and Action**

Kona has long been valued and known for its year-around mild climate, magnificent natural beauty, island lifestyle, friendly people and ethnic diversity. Over the last 50 years, the Kanaka Maoli

(Hawaiian) culture has undergone a true renaissance and interest in learning the traditions and customs of the host culture has grown significantly.

To take responsibility for the present, the identity, scope and significance of valued cultural, historical and natural resources which remain on and a part of the Kona lands today, and the extent to which traditional and customary native Hawaiian rights, practices and beliefs are exercised and need to be determined. Such a determination will provide direct information about the Hawaiian culture and convey a tangible and unique sense of place and values, all of which are important to the present and future generations of Kona residents and visitors alike. This, in turn, allows proper recognition and incorporation of the cultural landscape into modern land use planning. By doing so, it values native Hawaiian traditional and customary rights protected by the State constitution and further enables Hawaiian culture to thrive and perpetuate, as envisioned by the Hawai'i 2050 Sustainability Plan (January 2008).

### Present Conditions:

Kona's physical and cultural landscape has undergone tremendous change since Statehood, and with the ever increasing influx of new residents and visitors, the pace of this change has been more rapid, especially with new coastal and upland development taking place. Despite these changes, many areas of Kona still contain undisturbed historical and cultural resources which are significant and valued, not only by the Hawaiian people, but the Kona community, as well. While some sites are well known, most sites are not apparent and are only found during archaeological surveys. There is a need to enhance the contribution that these sites can provide to the day to day lives of people in Kona, rather than merely creating database inventories. At the same time, there is the issue of not disclosing the locations of sites for fear of looting or damage by the curious public.

*"When considering this relationship in the context of the present time, the historic preservation and cultural value of archaeological sites is more than just their excavation or information potential, and archaeologists should recognize that Hawaiian sites are cultural resources with spiritual and heritage values."*

*Buddy E. Neller, 1998  
Former SHPD Archaeologist  
(Ruby McDonald, 2008)*

The extensive Kona Field System from Hu'ehu'e to Hōnaunau and beyond, are the lands that were intensively cultivated and yielded significant agricultural production. Portions of this field system have been recorded and can still be seen throughout Kona today. Kona contains approximately 40 sites listed on the National and State Historic Register. Most of these sites are of traditional Hawaiian origin and can yield information vital to reconstructing Hawai'i's early history. Equally, and perhaps more significantly, however, are the thousands of recorded historical and cultural sites and resources from the pre-contact Hawaiian period which are not listed on the "Register". Among these are numerous *heiau* along the Kona coast, particularly between Kailua and Hōnaunau, including the more well-known structures at Kaloko-Honokōhau National Historic Park, Ahu'ena at Kamakahonu, Kauakaikaola in Puapua'a, the large complexes of Keolonāhihi and Keakealaniwahine in Hōlualoa, those in the royal



centers at Kahalu'u and Keauhou, Hikiau at Napo'opo'o, and, at Pu'uuhonua o Hōnaunau National Historic Park, where Hale o Keawe was the ancestral mausoleum for many of Hawai'i's ruling chiefs before they were relocated to O'ahu.

#### 4.4.2 Overall Strategy

For the purposes of this plan, the Historic Sites Element of the County General Plan has been expanded to: "Kona's Cultural Resources." The perspective of cultural resources much more fully captures the breath of Kona's cultural landscape, past, present, and future.

The future well-being of Kona's cultural landscape can only be meaningfully addressed by policies in this plan by recognizing:

1. The fundamental relationship between cultural resources and the natural environment, and
2. The urgent need to ensure their protection very early in the land use planning process. Necessarily, this must involve commitments by citizens who have knowledge of these resources and by government representatives who have a direct role in the land use planning process itself, including those who are charged with proper implementation and enforcement of laws designed to protect these resources. Protection of resources will be aided by incorporating the values and philosophy of the *ahupua'a* resource management system into land use planning and decision-making).

In addition, there is a need to recognize the significant cultural and historic resources that are part of our built environment within the District of Kona. The "built environment" includes historic buildings, our villages, and our agriculture lands, such as the Kona Coffee belt.

Throughout this plan, there are policies that will provide tools to better celebrate and protect Kona's cultural landscape including:

- Long-term protection and management of watersheds
- Long-term protection and management of coastal resources
- Protection and re-establishment of public trails
- Preservation of rural, small town, country character/atmosphere
- Retention of open space and prevention of urban sprawl

*"Preserving Hawaii's historic buildings, landscapes and communities is more than a feel good exercise, more than an economic development strategy and more than a marketing approach for the tourism industry. It is central to who we are as a society and the value that we place on the people, places and events that shaped our present communities."*

*Linda Delaney, 1990  
OHA Land and Native Rights Dept.  
(Ruby McDonald, 2008)*

The County General Plan's Historic Sites Element, adopted in 2005, includes a number of goals, policies and standards that fall outside of the State Historic Preservation Division's (SHPD) jurisdiction. SHPD also lacks the regional insight needed to build upon the cultural foundation for Kona. While there is a sense of the value of all ethnic groups who have come to Kona, information on the pre-contact and early-contact eras remain largely undocumented and are in danger of being lost due to a lack of comprehensive planning through a common, local knowledge base. Therefore, the time has come for the County of Hawai'i to take a proactive role in the compilation of information on and

management of our cultural resources, not just in the Kona district, but throughout Hawai'i County. In doing so, the County will be able to supplement State policies in the following areas:

- Pursue community education initiatives about cultural traditions and resources
- Establish/update inventory of cultural resources
- Increase community interaction with cultural resources
- Encourage the use and protection of *mea kanu* (native plants)
- Promote the accurate and proper use of the Hawaiian language and traditional Hawaiian place names
- Revise, implement and enforce county policies/laws to protect resources
- Uphold constitutionally protected rights
- Establish funding sources directed toward Cultural Resource protection

The following Goals, Objectives, Policies, Actions will greatly enhance our ability to implement the goals adopted within the General Plan's Historic Sites Element.

#### 4.4.3 Goals, Objectives, Policies, and Actions

***Cultural Resources Goal: The multi-ethnic cultures of Kona are preserved, protected, and restored in a manner that perpetuates those cultures and all aspects of the Aloha Spirit.***

**Objective CR-1: Community-Based Program.** Develop a community-based program to evaluate and to protect Kona's cultural resources. Kona is rich with historic and cultural resources, but organized, proactive processes to provide stewardship for these resources are lacking.

**Policy CR-1.1: Kona Cultural Resources Committee (KCRC).** The County of Hawai'i shall create the Kona Cultural Resource Committee. The KCRC shall assist in the implementation of the Kona CDP's goals, policies, and actions for Kona, along with the General Plan. This Committee will be made up of residents of Kona. Some of the duties of this KCRC shall include the following items:

1. Review and supplement the State's inventory of historic sites, trails, and buildings
2. Recommend that cultural resources, including trails and historic sites appropriate for public access be included as part of the Kona CDP Open Space Network Program. Provide recommendations for the County to purchase appropriate buffers surrounding these sites, and providing appropriate tools for interpretation.
3. Recommend which cultural resources may not be appropriate for public access.
4. Assist in the identification, preservation and restoration of historic buildings.
5. Prepare a report on Kona's cultural landscape that would form the basis for:
  - a. Assisting in the development of a joint program with the State and private property owners to protect and/or restore sites on public or private lands.
  - b. Aiding in the development of a public education program regarding Kona's cultural landscape and resources.
  - c. Identifying funding sources, such as the Kona Treasures Fund and the County Open Space Fund, to undertake actions designated in this plan.

- d. Promoting the accurate and proper use of the Hawaiian language and traditional Hawaiian place names.
- e. Assisting in promoting public awareness, education, and the appropriate use of native plants in public and private landscaping.

**Action CR-1.1.a:** Establish the KCRC. The Kona Cultural Resources Committee will include seven members. County Council Members from District 6, 7, and 8 will each nominate two (2) individuals, and the Mayor will nominate one member. All shall be kama'aina, or long-term residents of Kona and knowledgeable in Hawaiian history and/or cultural practice and tradition. Each shall be confirmed by the County Council. (PD, 1-2)

**Action CR-1.1.b:** Identify by GPS coordinates all existing historic trail alignments that (a) have been recommended for preservation by SHPD, (b) appear on historic maps and/or are known by oral tradition, and incorporate these into the County GIS database (PD, KCRC, SHPD, NPS, 1-2)



**Action CR-1.1.c:** On a continuing basis, identify by GPS coordinates, all cultural resource sites recommended for preservation by SHPD and KCRC, and incorporate in County's GIS database (PD, KCRC, SHPD, 1-2)

**Action CR-1.1.d:** Budget sufficient County funding to provide for administrative and technical support for KCRC to complete its duties listed in Policy CR-1.1 (PD, KCRC, 1-2)

**Action CR-1.1.e:** Establish a work plan to accomplish the duties in Policy CR – 1.1 (KCRC, PD, 1)

**Action CR – 1.1f:** Prepare Cultural Landscape Report. (KCRC, PD, 1-2)

**Objective CR-2: Funding of Kona Historic Resources Programs.** In addition to budgeting general fund revenues, the County of Hawai'i shall seek and participate in programs that can provide resources serving to protect and enhance Kona's historic resources.

The federal government offers one source of preservation grant funds to local government agencies that is administered and distributed through the State Division of Historic Preservation. Known as Certified Local Government (CLG) funds, these monies are provided to the state by the federal government with the express purpose that they be distributed to support preservation projects engaged in by local governments. Typically, CLG funds help pay for historic site surveys and other studies and

planning projects. If Hawai'i County becomes qualified as a CLG, it will become eligible to apply for funding to complete studies of the historic resources in Kona and throughout the County.



Recently restored Hāpaialii Heiau in the foreground and Ke'eku Heiau in the background undergoing restoration. Kamehameha Investment Corporation.

**Policy CR-2.1: Certified Local Government.** The County shall seek the CLG status as Part of the National Historic Preservation Program, by establishing a Hawai'i County Cultural Resources Commission (HCCRC) which shall be comprised of a representative from each CDP.

**Action CR-2.1a:** The County shall apply for certification as a CLG under the National Historic Preservation CLG Program in order to be eligible to apply for and receive preservation funding administered by SHPD (KCRC, PD, 1-2).

**Policy CR-2.2: Regulatory System.** The County shall examine interrelated responsibilities, identify weaknesses in the current programs, and make recommendations for improving programs regulating and protecting cultural resources and historic sites. This may result in recommendations for changes in policy County-wide or specifically to the Kona CDP.

**Action CR-2.2a:** The County shall convene a workshop(s) that would include government agency representatives, cultural representatives and other stakeholders to review and make recommendations on the current programs intended to protect cultural resources and other historic sites (HCCRC, 3-5)

**Action CR-2.2b:** The County shall recommend amendments to appropriate ordinances to incorporate the stewardship and protection of historic sites, buildings and artifacts (Grubbing and Grading, Subdivision Code) (HCCRC, 3-5)

**Action CR-2.2c:** The County shall recommend amendments to appropriate ordinances to incorporate the appropriate use of native plants in the landscaping of public facilities such as schools, government buildings, and parks. (HCCRC, 3-5)

**Objective CR-3: Preservation of Kanaka Maoli Culture and Island Values.** Ensure that our Kanaka Maoli and island values and cultures are preserved and perpetuated.

The following is from the Strategic Actions, Kanaka Maoli and Island Values, Hawai'i 2050 Sustainability Plan.

**Policy CR-3.1: Honor Kanaka Maoli culture and heritage.** The Kanaka Maoli culture is the foundation of Hawai'i's living culture. We must ensure that the Kanaka Maoli people are supported and that this part of our culture is perpetuated. The success of this endeavor will ensure that the way of the Kanaka Maoli will guide our actions and behaviors in the years ahead.



**Action CR-3.1a:** Ensure the existence of and support for public and private entities that further the betterment of Kanaka Maoli (public and private agencies, on-going).

**Action CR-3.1b:** Increase fluency in Kanaka Maoli language. It is one of the official languages of Hawai'i (community, DOE, UH, on-going).

**Action CR-3.1c:** Sponsor cross-sector dialogue on Kanaka Maoli culture and island values (public and private agencies, on-going).

**Action CR-3.1d:** Protect Kanaka Maoli intellectual property and related traditional knowledge (public and private agencies, community, SHPD, on-going).

**Action CR-3.1e:** Provide Kanaka Maoli cultural education for residents, visitors and the general public (public and private agencies, community, on-going)

**Policy CR-3.2: Preserve and perpetuate our Hawaiian and island cultural values by celebrating our cultural diversity and island way of life.** Our diversity likewise defines us. Ensuring that our cultural practices flourish through language, dance, song, and art is crucial to sustaining who we are as a people. We must protect and nurture all aspects of our diverse history, traditions and cultures.

**Action CR-3.2a:** Increase the number of educators who teach cultural and historic education (public and private agencies, community, on-going).

**Policy CR-3.3: Enable Kanaka Maoli and others to pursue traditional Kanaka Maoli lifestyles and practices.** We must provide opportunities to those who want to pursue and perpetuate the way of the Kanaka Maoli.

**Action CR-3.3a:** Provide Kanaka Maoli mentors with opportunities to pass on Hawaiian culture and knowledge to the next generation of Kanaka Maoli and others. The power of wisdom comes from communication (public and private agencies, community, on-going).

**Action CR-3.3b:** Perpetuate Kanaka Maoli food production associated with land and ocean traditions and practices (public and private agencies, community, on-going).

**Policy CR-3.4:** Provide support for subsistence-based businesses and economies. We must create opportunities for the Kanaka Maoli practice of subsistence-based businesses and economies, and remove the hurdles to their start-ups and development. Such traditional cultural practices are an economic alternative to Western forms of trade and commerce. Subsistence fishing, gathering, hunting and farming are examples of subsistence-based economies that are viable.

**Policy CR-3.5: Ahupua‘a Resource and Management.** Integrate the values and principles of the traditional ahupua‘a resource and management systems as a basis for a sustainable Hawai‘i.

**Action CR-3.5a:** Apply the ahupua‘a concept in action plan for the Kona Mauka Watershed Management Program (Policy ENV-1.2).

## 4.5 HOUSING

The Housing section of the Kona CDP identifies objectives, policies and actions to guide the development of affordable housing in Kona. Over the past decade, housing availability, including affordable housing, has been a growing issue within the County of Hawai‘i. Rapid population growth in Kona has not been accompanied by parallel growth in affordable housing construction. The cost of housing construction; the price of land, and the second home market all contribute to the lack of affordable housing opportunities.

The availability of safe and decent housing for all segments of our community is at the center of what it takes to sustain a healthy community. Access to a range of available housing affords the opportunity for our community to be ethnically, professionally and age diverse. It is the core of a strong, vibrant community. A continuum of housing options shall exist, including housing for homeless and disabled,

Guiding Principles	Housing
1. Protect Kona's natural resources and culture.	
2. Provide connectivity and transportation choices.	✓
3. Provide housing choices.	✓
4. Provide recreation opportunities.	
5. Direct future growth patterns toward compact villages, preserving Kona's rural, diverse, and historical character.	✓
6. Provide infrastructure and essential facilities concurrent with growth.	
7. Encourage a diverse and vibrant economy emphasizing agriculture and sustainable economies.	
8. Promote effective governance.	✓

housing for the elderly, affordable rental housing, and affordable home ownership. Housing types should be located to create a mix of housing opportunities for individuals and families.

### 4.5.1 Existing Conditions

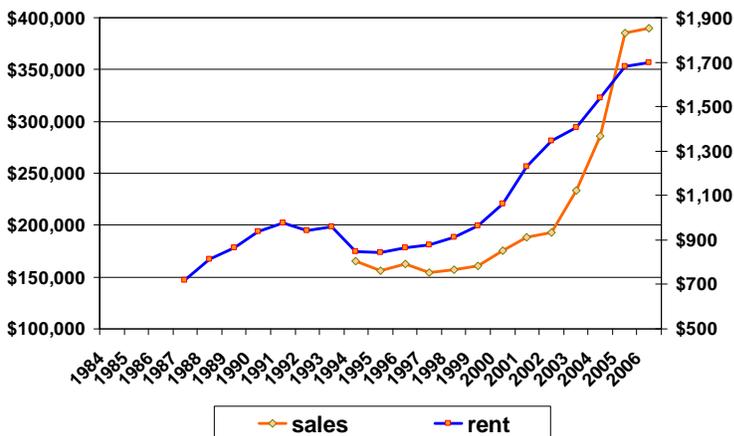
In 2006, SMS Research & Marketing Services, in cooperation with the Hawai'i Housing Finance and Development Corporation (HHFDC) and the various Counties' housing agencies, prepared the Hawai'i Housing Policy Study, 2006 (February 2007) that reviewed various housing issues throughout the State of Hawai'i. This study provides current data but is primarily county-wide and not district-specific.

As the population increases, new households are formed and the need for housing increases. If the rate of housing production keeps up with population increase, then housing availability will be sufficient to handle the need generated by new households. Between 2003 and 2006, the County of Hawai'i had an annual increase of 4.3% in total housing units, while having a 2.7% annual population increase during the same period (see Table 4-2) (SMS Research & Marketing Services, Inc., 2006).

1990	1992	1997	1999	2000	2003	2004	2005	2006
48,253	49,394	59,098	61,108	62,674	67,878	70,927	71,984	77,577
% Change 1990-2000 = 2.5%								
% Change 2000-2003 = 2.6%								
% Change 2003-2006 = 4.3%								
Source: 2006 Housing Policy Study, SMS Research & Marketing Services, Inc., February 2007								

Although home construction has outpaced population growth, ironically, this County, and particularly Kona, has a housing crisis. The production of new homes has been skewed to the upper income. As the real estate prices on the West Coast have surpassed those in Hawai'i, the out-of-state demand has increased and has pushed home prices to record highs. In this County, nearly 10% of the single-family homes and 16% of the condominium units were owned by persons from outside the State (SMS Research & Marketing Services, Inc., February 2007).

### Where We Have Been Housing Prices and Rents, 1985-2006



Between 1990 and 2006, the housing stock Statewide occupied by Hawai'i households has dropped from 92% to 86.8%, reflecting the recent trends for increased resort development, increased out-of-state real estate purchases, increased number of second homes, and the conversion of residential units for visitor use (SMS Research & Marketing Services, Inc., February 2007).

Housing prices and rents in 2006 have been at historic highs. The

chart to the left shows that the Countywide rate of increase in median price for sales prices and rents from 2003 to 2006 has been unprecedented (SMS Research & Marketing Services, Inc., February 2007).

An enormous impact of rapid price run-ups and lower affordability is an increase in the number of households with inadequate housing. Inadequate housing can be defined as including households affected by pent-up demand<sup>9</sup>, doubling up<sup>10</sup>, and homelessness<sup>11</sup>. Other impacts of the lack of affordability include an increase in the number of young families moving out of the County, shortage of workers, and workers forced to commute from more affordable areas such, as Hawai'i Ocean View Estates (HOVE) in Ka'u, who commute to their jobs in north Kona and Kohala. Kona not only has a shortage of housing for families below the median income of the area, but also has a shortage of housing for many moderate-income households that affects the ability to recruit and retain essential community personnel, such as police officers, fire fighters, teachers, medical support, and civil servants.

The County of Hawai'i defines an affordable unit as a for-sale or rental unit affordable to a household earning up to 140% of the County's median income, where the housing costs (e.g., rent or mortgage and utilities) would not exceed 30% of the household income.<sup>12</sup> The qualifying household income depends on household size (see Table 4-3 for the 2006 Affordable Housing Income Guidelines). Based on 30% housing costs at an assumed interest rate, Table 4-4 shows the 2007 affordable sales price and rents.

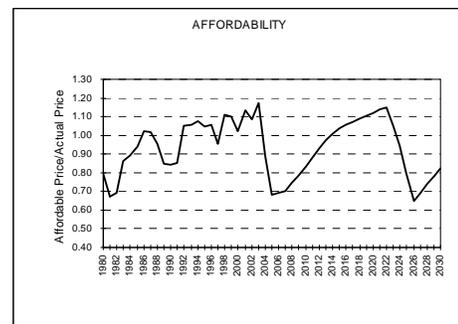
The affordability ratio is the ratio of the affordable housing price to the median home price. A ratio of 1.0 means the median market price is at a level affordable to the median income household, less than 1.0 means the median market price exceeds the affordable price, and greater than 1.0 means the median market price is lower than the

Dilemma of Workforce Housing: Case example of a 2-income household of a starting police officer and an elementary school teacher

Even for a two-income family of a starting police officer and an elementary school, to purchase a new home at the median price of \$500,000 would require paying 50% of their household income for mortgage, property taxes, property insurance, and utilities.

Median sales price 3-bdrm SFD	\$500,000.00
80% Mortgage	\$400,000.00
Monthly payment @ 6.5% interest, 30 yrs	\$2,528.27
Property tax	\$333.33
Insurance	\$416.67
Utilities	\$300.00
Subtotal: Shelter costs	\$3,578.27
Starting Police salary + starting teacher salary per month	\$7,166.67
2006 County median	\$4,250.00
Police + Teacher % median	169%
Shelter:Income %	50%

### Affordability Hawaii County Affordable Price/Actual Price



<sup>9</sup> Pent up demand: Households with the desire to move to a new unit but unable to do so. The number of households who will be moving out of State to find affordable housing, and those who cannot buy because of soaring housing costs.

<sup>10</sup> Doubling up: Multi-generational families or families living with unrelated individuals in one unit who would rather split up.

<sup>11</sup> The number of homeless persons and families has not been measured since 2003.

<sup>12</sup> Hawai'i County Code chapter 11.

affordable price. The chart to the right shows that for Hawai'i County, the affordability ratio dropped from affordable (over 1.10) in 2002 to very unaffordable (about 0.70) in 2006 (SMS Research & Marketing Services, Inc., February 2007). The Housing Study projects that the median price has peaked and the affordability ratio should start to improve to about 0.80 by 2010.

#### 4.5.2 Overall Strategy

The market forces and cost of infrastructure in Kona has driven the price of homes skyward. Without intervention, the market will deliver affordably priced homes further and further away from employment job centers, resulting in long commutes for the workforce. Affordable housing within the urban core is essential to maintain and enhance an economical and viably diverse community. The market also does not adequately meet special housing needs. Intervention strategies are long overdue and need to be coordinated with existing island-wide initiatives.

Existing island-wide initiatives include:

- **Affordable rental property tax incentives.** Property tax incentives are in place to encourage landlords to offer affordable rents (HCC Sections 19-2 and 19-53);
- **Density bonus.** The inclusionary zoning requirements in HCC Chapter 11 provide a density bonus where a developer who is required to meet the 20% affordable housing requirement is entitled to a 10% density bonus and 10% reduction in lot size from what is permitted under the existing zoning (HCC Section 11-8).
- **Extending the Hawai'i County Code (HCC) Chapter 11 requirements to existing zoned property.** A bill, now being drafted, proposes to amend HCC Chapter 11 to apply the affordable housing requirements to subdivision applications for existing zoned property.
- **Homebuyer education program.** The County Office of Housing and Community Development (OHCD) has contracted with the Hawai'i Home Ownership Center to provide an island-wide homebuyer education program that includes the following: financial literacy (setting financial goals, preparing budget plans, saving for homeownership, understanding credit), shopping for a home (identifying needs, tenancies and tenure, referrals to lenders and realtors), and post-purchase counseling (basic maintenance and repair, predatory lending, mortgage delinquency counseling).
- **Hawai'i Island Housing Trust (HIHT).** The County established this 501(c)(3) non-profit corporation to develop housing projects and provide technical or financial assistance to other non-profits.

The overall strategy builds on these on-going initiatives and structures a partnership where all sectors are asked to contribute towards finding solutions to the very complex problem of affordable housing—for landlords to consider affordable rentals, for private developers especially to help meet the needs of our workforce population, for the public sector and non-profits to share the burden of providing housing for the lower income, and for the community to support these efforts with donations, time, and awareness.

The primary target groups for housing assistance includes three sectors:

1. **Low-income households (<80% median income):** Since this group will find it very difficult to support a market rate mortgage to buy a home, the focus is to expand self-help housing program opportunities, build more new rental units (primary responsibility of government and non-profits), encourage affordable rentals of existing units through property tax incentives, and provide supplemental assistance for the Section 8 rental subsidy;
2. **Moderate-income households (80 to 180% median income):** To enhance homeownership opportunities, the focus is to provide incentives for non-profit housing entities and private developers, to optimize the use of suitable government land for affordable housing projects, to enhance the first-time buyer's capacity through homebuyer education and counseling programs, and to keep these affordable units affordable upon subsequent sales through deed restrictions; and
  - **Elderly and disabled:** To encourage private developers to build more units appropriate for the elderly or disabled, bonus incentives are provided; to assist the elderly and disabled evaluate housing choices in relation to their special needs, a one-stop information and counseling center is proposed.

As a framework to focus the efforts, the strategy involves the following plans:

1. **Build Units.**
  - **Provide Zoning Incentives for Kona.** As an incentive to the private sector, an affordable housing floating zone would expedite rezoning for property less than 15 acres within the Kona Urban Area.
  - **Encourage Innovative Redevelopment within Existing Villages.** Existing building codes may pose obstacles to rehabilitation of existing buildings or innovative new construction. A central point in government (the Design Center) would assist in identifying and resolving case-specific problems and opportunities.
  - **Identify and Facilitate the Use of Suitable Public Lands.** The use of public lands for affordable housing significantly reduces the land cost of developing such housing.
  - **Promote Accessory Units.** Accessory units (also known as 'ohana units) increase the affordable rentals inventory, and also could enhance a buyer's marginal capacity to buy a home by factoring the supplemental rent income. Together with the County's new tax break for affordable rentals, this would be an incentive for more homeowners to consider creating affordable accessory units.
  - **Offer Pre-Approved Affordable Designs.** Small landowners or contractors could be encouraged to build affordable units if pre-approved plans for starter homes, accessory units, or other housing types were available at nominal or no cost.

## AFFORDABLE HOUSING GUIDELINES FOR THE COUNTY OF HAWAII

### FOR-SALE UNITS GUIDELINES (Effective 05/01/07)

This information is based on 2006 median income established by the U.S. Department of Housing and Urban Development (HUD) for various family sizes. Adjustments to the very low- (50%) and low-income (80%) limits are made by HUD for areas with unusually high or low family income or housing costs. Most income limits are proportionately based on very low-income limits. Thus, the four-person (60%) income limit is 120% (60/50ths) of the four-person very low-income limit.

The figures considers (1) a 30-year conventional fixed mortgage; (2) a fixed interest rate of 6.50%; (3) housing expenses equal to 28% of gross annual income; and (4) a down payment equal to 5% of the sales price. \*The interest rate used is the annual average interest rate for a 30-year conventional fixed mortgage, for the twelve months ending in the previous year, as published by the Federal Home Loan Mortgage Corp (www.freddiemac.com/news/factbook). The rate is rounded up to the nearest half percent.

% of Median	50%	60%	70%	80%	90%	100%	110%	120%	130%	140%
<b>FAMILY SIZE: 1</b>										
Income	\$ 21,800	\$ 26,160	\$ 30,520	\$ 34,900	\$ 39,240	\$ 40,740	\$ 44,810	\$ 48,890	\$ 52,960	\$ 57,040
Sales price	\$ 84,700	\$ 101,700	\$ 118,600	\$ 135,600	\$ 152,500	\$ 158,300	\$ 174,100	\$ 190,000	\$ 205,800	\$ 221,700
<b>FAMILY SIZE: 2</b>										
Income	\$ 24,900	\$ 29,880	\$ 34,860	\$ 39,900	\$ 44,820	\$ 46,560	\$ 51,220	\$ 55,870	\$ 60,530	\$ 65,180
Sales price	\$ 96,800	\$ 116,100	\$ 135,500	\$ 155,000	\$ 174,200	\$ 180,900	\$ 199,000	\$ 217,100	\$ 235,200	\$ 253,300
<b>FAMILY SIZE: 3</b>										
Income	\$ 28,050	\$ 33,660	\$ 39,270	\$ 44,850	\$ 50,490	\$ 52,350	\$ 57,620	\$ 62,860	\$ 68,090	\$ 73,330
Sales price	\$ 109,000	\$ 130,800	\$ 152,600	\$ 174,300	\$ 196,200	\$ 203,500	\$ 223,900	\$ 244,300	\$ 264,600	\$ 285,000
<b>FAMILY SIZE: 4</b>										
Income	\$ 31,150	\$ 37,380	\$ 43,610	\$ 49,850	\$ 56,070	\$ 58,200	\$ 64,020	\$ 69,840	\$ 75,660	\$ 81,480
Sales price	\$ 121,000	\$ 145,300	\$ 169,500	\$ 193,700	\$ 217,900	\$ 226,200	\$ 248,800	\$ 271,400	\$ 294,000	\$ 316,600
<b>FAMILY SIZE: 5</b>										
Income	\$ 33,650	\$ 40,380	\$ 47,110	\$ 53,850	\$ 60,570	\$ 62,860	\$ 69,140	\$ 75,430	\$ 81,710	\$ 88,000
Sales price	\$ 130,800	\$ 156,900	\$ 183,100	\$ 209,300	\$ 235,400	\$ 244,300	\$ 268,700	\$ 293,100	\$ 317,500	\$ 342,000
<b>FAMILY SIZE: 6</b>										
Income	\$ 36,150	\$ 43,380	\$ 50,610	\$ 57,850	\$ 65,070	\$ 67,510	\$ 74,260	\$ 81,010	\$ 87,770	\$ 94,520
Sales price	\$ 140,500	\$ 168,600	\$ 196,700	\$ 224,800	\$ 252,900	\$ 262,300	\$ 288,600	\$ 314,800	\$ 341,100	\$ 367,300

### FOR-SALE FINISHED LOTS GUIDELINES (Effective 06/19/07)

This information is based on the affordable sales price for a completed unit for a household, earning one hundred percent of the median income in the County of Hawaii, less the cost to build a single-family home of 1,100 square feet. \*\$130 per square foot cost is based on estimates by The County of Hawaii, Department of Public Works, Building Division.

% of Median Income	Affordable Home Price	Cost/Unit	Affordable Lot Price
80%	\$ 193,700	\$ 143,000	= \$ 50,700
100%	\$ 226,200	\$ 143,000	= \$ 83,200

### FOR-RENT GUIDELINES (Effective 05/01/07)

Affordable rents are based on 30% of gross monthly income, including utilities (water, sanitary sewage service, electricity and/or gas). Please refer to form HUD-52667(Allowances for Tenant-Furnished Utilities and Other Services) for utilities for either single- and/or multi-family units.

Bedroom Size	Studio	One	Two	Three	Four
30%	\$ 327	\$ 350	\$ 420	\$ 486	\$ 542
50%	\$ 545	\$ 583	\$ 701	\$ 810	\$ 903
60%	\$ 654	\$ 700	\$ 841	\$ 972	\$ 1,084
80%	\$ 872	\$ 935	\$ 1,121	\$ 1,296	\$ 1,446
100%	\$ 1,018	\$ 1,091	\$ 1,309	\$ 1,513	\$ 1,687
120%	\$ 1,222	\$ 1,309	\$ 1,571	\$ 1,815	\$ 2,025
140%	\$ 1,426	\$ 1,527	\$ 1,833	\$ 2,118	\$ 2,363

# INCOME SCHEDULE BY FAMILY SIZE

HAWAII

THE FOLLOWING TABLE PRESENTS INCOME LIMITS BY FAMILY SIZE AND BY PERCENTAGES OF THE MEDIAN INCOME ESTABLISHED BY HUD. THESE INCOME LIMITS SERVE AS GUIDELINES TO ESTABLISH SALES/RENTAL PREFERENCE. THE COUNTY OF MAUI ESTABLISHES INCOME LIMITS FOR LANAI AND EAST AND WEST MOLOKAI.

\$55,300

THE 2006 HUD MEDIAN INCOME IS:

	INCOME							
	1 PERSON	2 PERSON	3 PERSON	LIMITS BY FAMILY SIZE				8 PERSON
% OF MEDIAN	0.7000	0.8000	0.9000	1.0000	1.0800	1.1600	1.2400	1.3200
Adjustments for family size				Base				
10%	4,190	4,790	5,390	5,990	6,470	6,950	7,430	7,910
20%	8,380	9,580	10,780	11,980	12,940	13,900	14,860	15,820
30%	12,550	14,350	16,150	17,950	19,400	20,800	22,250	23,700
40%	16,760	19,160	21,560	23,960	25,880	27,800	29,720	31,640
50%	20,950	23,950	26,950	29,950	32,350	34,750	37,150	39,550
60%	25,140	28,740	32,340	35,940	38,820	41,700	44,580	47,460
70%	29,330	33,530	37,730	41,930	45,290	48,650	52,010	55,370
80%	33,550	38,300	43,100	47,900	51,750	55,550	59,400	63,250
90%	37,710	43,110	48,510	53,910	58,230	62,550	66,870	71,190
100%	38,710	44,240	49,770	55,300	59,720	64,150	68,570	73,000
110%	42,580	48,660	54,750	60,830	65,700	70,560	75,430	80,300
120%	46,450	53,090	59,720	66,360	71,670	76,980	82,290	87,600
130%	50,320	57,510	64,700	71,890	77,640	83,390	89,140	94,890
140%	54,190	61,940	69,680	77,420	83,610	89,810	96,000	102,190

HUD determines the median, very low (50%), and low (80%) income limits. Adjustments are made by HUD for areas with unusually high or low family income or housing cost to income relationships. Pursuant to rules for the Low Income Housing Tax Credit Program, the 60% income limit is calculated as 120% (60/50) of the very low income limit for each family size. The income limits for other income groups of less than 80% are calculated in the same way. The remaining income limits are calculated as a percentage of the median income for a family of four (the base) with adjustments for family size (e.g., income for a 3-person family is 90% of the base, income for a 2-person family is 80% of the base, etc.).

**2. Maintain the Affordable Inventory.**

- **Keep Some Units Perpetually Affordable.** In a down market, the homes with restrictions are hardest to sell. But unless restrictions are imposed, as soon as the market turns, the prices will quickly escalate beyond the affordable range. Even in an up market, restricted homes that offer better quality for the price as a result of subsidies and/or the reduction of the land cost through a lease arrangement may be able to compete with unrestricted market homes. Government or non-profits should take the lead to develop and administer the perpetually-affordable inventory.
- **Replace the Displaced.** For redevelopment projects, if there are any existing affordable units within the project area, the redevelopment project shall provide units comparable in number and affordability.
- **Renovate Under-Used Existing Rental Housing.** Encourage repair, renovate, or redevelop existing public housing or multi-family private units.

**3. Increase Buying and Renting Capacity.**

- **Address Workforce Gap Group Needs.** A segment of the population earns too much to qualify for affordable housing programs, yet too little to buy or rent decent housing close to their place of employment. These are your teachers, police officers, fire fighters, mechanics, and other moderate income households. In an area such as Kona, where ordinary homes are significantly more expensive than other parts of the island, the County's definition of "affordable" needs to be expanded to include this group to qualify for appropriate assistance.
- **Enhance Buying Capacity.** There are various means to help a prospective buyer to qualify for a mortgage, such as no-down-payment loan or low-interest loan for the down payment; location-efficient mortgages that give credit for reduced transportation costs when locating closer to work; and energy-efficient mortgages that give credit for energy-saving designs that reduce monthly utility costs.
- **Enhance Renting Capacity.** Kona's rents often are too high to qualify for Section 8 assistance. A supplemental subsidy source could reduce the number of returned Section 8 vouchers.
- **Provide Education and Counseling.** To become a homeowner requires financial knowledge and good credit. An effective education and credit counseling program is essential in qualifying buyers and assuring that they are responsible homeowners.
- **Raise the Workforce Earning Power.** Community involvement is necessary in order to create and sustain a quality educational system. Only by increasing the learning capabilities and practical skills through our educational system can we shift upward the percentage of Kona residents who earn enough to buy a home. For this reason, the policies and actions related to workforce development (see Policy ECON-1.4) are pertinent to housing.

4. **Address Special Needs.**

- **Elderly and Disabled.** Even for those who are able to afford long-term care, choices are lacking. To stimulate the supply, developers would be allowed to receive additional credit for assisted living and other types of special housing which apply to the specific needs of the elderly and disabled, respectively. A one-stop center to provide information on housing choices is direly needed (see Section 4.6 Public Facilities, Infrastructure and Services).
- **Single-resident Occupancy Units (SRO's).** Single-resident occupancy units, which are dormitory-like structures, are particularly suitable to single farm workers and commuting resort workers who need a place to stay during the work week. Because of the predominance of these types of workers in Kona, developers are expected to meet their needs.
- **Farm workers.** To encourage more farm worker housing, a policy interpretation of the zoning code will allow farm workers to live on a different farm than where they work.
- **Homeless.** The Kona Housing Trust Fund, discussed in Policy HSG-1.2, will provide an additional source of funding to meet emergency needs to abate homelessness and to increase the supply of homeless shelters.

5. **Create a Funding Source and Housing Advocate.**

- **Turn the Second-Home Market into an Ally.** Recognize the rippling effects of Kona's booming second-home market on the construction costs and sales prices of homes, ensure that resort residential development either build affordable units (onsite or offsite) or pay in-lieu fees.
- **Establish a Non-Profit Corporation and Trust Fund.** Establish a Kona Housing Trust Fund to be administered by a Kona-based board of directors. This fund could be a repository for HCC Chapter 11 in-lieu fees, shared appreciation proceeds, and other designated sources. The fund would be used to finance or provide a match to subsidize land acquisition, water commitment fees, predevelopment activities, infrastructure improvements, and other related activities. The Trust could also facilitate matching developers who hold affordable housing credits with those who need credits to satisfy their HCC Chapter 11 affordable housing requirements.

6. **Monitor Market Conditions and Need.** Kona's housing needs, which are unique to the rest of the County, justify the need for regional-specific data to nimbly respond to changing needs and market conditions. The Kona Housing Trust Fund is the funding source for data collection spearheaded by the Kona Housing Non-Profit.

### 4.5.3 Goal, Objectives, Policies, and Actions

**Housing Goal:** *Diversity of housing choices for all segments of the population close to places of employment and/or daily needs.*

**Objective HSG-1: Create Local Funding Source.** To establish a non-profit entity and funding source to address Kona's affordable housing needs, which are particularly acute relative to the other areas of the County.

**Policy HSG-1.1: Kona Housing Non-Profit.** The Kona CDP Implementation Committee (see Section 5.2.1 Organizational Structure and Membership) shall designate an existing non-profit corporation, or create a new non-profit corporation, to carry out the Housing policies. The board of directors for this Kona Housing Non-Profit shall be Kona-based. Besides administering the Kona Housing Trust Fund, this non-profit shall carry out other responsibilities specified in this plan.

**Policy HSG-1.2: Kona Housing Trust Fund.** The Kona Housing Non-Profit shall establish a Kona Housing Trust Fund. The potential funding sources to be coordinated with the County include linkage fees, which are funds contributed by companies requiring large numbers of employees, in-lieu fees, shared appreciation proceeds, charitable contributions, and others. The fund would be used as authorized by the Kona Housing Non-Profit, including without limitation, down payment assistance to first-time homebuyers, supplemental Section 8 subsidy, supplemental homebuyer education and counseling, homeless shelters, emergency rent, and data gathering.

**Objective HSG-2: Monitoring Housing Conditions.** To gather Kona-specific data in order to adjust to changing needs and market conditions.

**Policy HSG-2.1: Data Gathering.** The Kona Housing Trust Fund may be used to finance annual gathering of relevant data, as determined by the Kona Housing Non-Profit, including, without limitation, the following:

1. To evaluate whether adjustments of target groups are necessary:
  - a. Median income for North and South Kona residents;
  - b. Median home sales price for North and South Kona;
  - c. Median rental for North and South Kona;
  - d. % own vs. % rent.
2. To evaluate current need for affordable units:
  - a. Number of affordable rental units and vacancy rates (Section 8 rent units or receiving property tax break);
  - b. Number of returned Section 8 vouchers;
  - c. Number of perpetually affordable (controlled appreciation or leased) units and vacancy rates;

- d. Number of affordable units sold at market price (due to lack of demand for restricted affordable unit);
- e. Number on waiting list for government housing.

**Objective HSG-3: Increase Buying and Renting Capacity of Target Groups.** To assist the lower income groups in obtaining decent housing and to enhance the opportunities of first-time homebuyers.

**Policy HSG-3.1: Homebuyer Education and Counseling.** The Kona Housing Non-Profit will have the authority to supplement the County's homebuyer education and counseling program, ensuring appropriate and meaningful outreach to educate prospective first-time Kona homebuyers on strategies to save money, finance mortgages (including the potential rental income of an accessory unit), rehabilitate credit, and other pertinent subjects.

**Policy HSG-3.2: First-Time Homebuyers.** The Kona Housing Non-Profit (see Policy HSG-3.4 below) will have the authority to finance programs to assist first-time Kona homebuyers, thus supplementing available county, state, or federal programs.

**Policy HSG-3.3: Low-Income Renters.** The Kona Housing Non-Profit will have the authority to finance a program to supplement the Section 8 subsidy to pay security deposits, or provide other assistance, in order to minimize the number of returned vouchers.

**Policy HSG-3.4: Employer-Assisted Rental.** The Kona Housing Non-Profit will have the authority to assist employers who provide rental assistance to their employees for onsite housing or housing within five (5) miles of the place of work by locating rental units and expanding recruitment advertisements.

**Objective HSG-4: Build More Units.** To build more units that offer a variety of housing types, tenures, and affordability.

**Policy HSG-4.1: Public Sector and Non-profits Primarily Responsible to Meet Needs of Lower-Income and Middle-Income Renters.** Because affordable rents cannot usually fully pay for the actual costs to develop a rental project<sup>13</sup>, the private market cannot be relied upon to deliver these types of projects. Therefore, public housing projects and projects using public lands or financing shall devote a significant percentage of the residential units to meeting the needs of middle-income renters (50 to 100% of median income) and lower-income households (less than 50% of median).

**Policy HSG-4.2: Workforce Housing.** Because of the higher market sales prices in Kona, relative to the other parts of the island, even the workforce group (up to 180% of median income) has difficulty finding housing close to work. Therefore, a developer of a housing project in Kona may earn an affordable housing credit of 0.25 for every completed for-sale dwelling unit affordable for qualified households earning 120-180% of median, provided that

---

<sup>13</sup> See David Paul Rosen & Associates, Kona Affordable Housing Economic Analysis, p. ES-2, -6, -8.

this provision shall be superseded by any subsequent amendment to Chapter 11 relating to Countywide standards for workforce housing.

**Policy HSG -4.3: Affordable Housing Floating Zone.** In recognition of the critical affordable housing needs in Kona, a project that meets the following criteria shall qualify as an affordable housing floating zone:

- The project is located in the Kona Urban Area;
- The project area requiring rezoning totals less than 15 acres;
- The project is served, will provide, or has commitments to provide all necessary infrastructure in a timely manner;
- The project consists predominantly of residential uses and at least 80% of the residential units will be priced to be affordable;
- The application includes a form of a declaration of covenants that requires 80% of all residential units built on the subject property to be affordable under the definition of HCC Chapter 11 Housing (including workforce), in which the declaration shall incorporate by reference the Affordable Housing Agreement referenced below and recorded upon rezoning approval;
- The application includes a draft Affordable Housing Agreement setting forth the terms of sale or rent, resale restrictions, and other terms, which Agreement shall be finalized and executed between the applicant and the County Office of Housing and Community Development prior to enactment of the rezoning ordinance.

A project meeting the above criteria entitles the applicant to the following:

- The application shall be reviewed with a rebuttable presumption that the project furthers the intent of the zoning code and is consistent with the goals, objectives, policies, and action of the General Plan and the Kona CDP;
- The application for State Land Use reclassification, as appropriate, shall be processed concurrently with the rezoning application;
- The time period for the Director's review and the Planning Commission's review shall be 60 days, respectively;
- The project shall be exempt from fair share (or impact fees) conditions;
- If 100% affordable, the project in concurrence with the Design Center may preempt planning standards pursuant to HRS Section 46-15;
- The project may qualify for any available subsidies from the County, Kona Housing Trust Fund, or other sources to pay, in whole, or in part the water commitment fees.

**Policy HSG-4.4: Housing Variety.** The housing in TODs and TNDs shall be designed to mix the types, tenures, and affordability at the block level, to the extent practicable. An additional credit of 0.5 (beyond the credits specified in HCC Section 11-5) shall be recognized for senior or disability housing units (e.g., assisted living) and affordable live-work units (see Table 4-5).

	Percentage of median household income	Affordable housing credit per HCC Section 11-5	Elderly, Disabled, or Live-Work Unit Credits
Dwelling Unit	120-180% (proposed)	0.25	0.75
	120-140%	0.5	1.0
	100-120%	1.0	1.5
	80-100%	1.5	2.0
	80%	2.0	2.5
Rental Unit	80-100	1.0	1.5
	60-80%	1.5	2.0
	60%	2.0	2.5

**Policy HSG 4.5: Innovation Encouraged for Redevelopment Projects.** In Kailua Village, or the Rural Towns and Villages, landowners or developers who wish to develop affordable housing by rehabilitating or adapting an existing building, building a new infill building, or providing such housing above a commercial establishment may bring their proposal to the Design Center. The Design Center shall assist with any building code, zoning code, or other permitting issues to facilitate and enable the construction of such units. The level of assistance, such as permit coordination or subsidy financing, may increase proportionate to the number of committed affordable units.

**Policy HSG-4.6: Accessory Units.** Accessory (‘ohana dwelling) units are encouraged in order to increase the supply of rentals. For TODs and TNDs, any provisions in the Project District rezoning ordinance relating to accessory units may preempt the zoning code ohana dwelling provisions (HCC Chapter 25, Article 6, Division 3). For existing residences in conventional zoning districts that want to add an accessory unit, the ‘ohana dwelling requirements of the zoning code apply.

**Policy HSG-4.7: Pre-Approved Affordable Housing Designs.** The Kona Housing Non-Profit (see Policy HSG-1.2) shall pay for the design of standard accessory units, starter homes, and other appropriate housing types. The County will consider expeditiously issue building permits for pre-approved designs. These designs shall be available to interested individuals or professional builders at nominal or no cost.

**Policy HSG-4.8: Density Bonus for Affordable Housing.** The developer shall be granted a 1:1 density bonus over and beyond the 10% density bonus in HCC Section 11-8 for each affordable housing unit that exceeds the affordable housing requirements, up to a maximum 30% density bonus.

**Objective HSG -5: Maintain Affordable Housing Stock.** To maintain an inventory of affordable units to meet present and future needs, while providing some opportunity for homeowners to upgrade their housing condition through equity appreciation.

**Policy HSG-5.1: Perpetually Affordable Units.** Public agencies and non-profits that develop or own affordable housing units shall utilize methods, such as leasing or controlled appreciation, to ensure that sales prices of these units remain perpetually affordable.

**Policy HSG-5.2: Privately-Constructed Affordable Units.** For private projects subject to affordable housing requirements, the Kona Housing Non-Profit or other non-profit shall have a first right of refusal to 10% of the required affordable units. All affordable units shall remain affordable for 40 years. No restrictions may apply after 40 years based on the rationale that newer homes will replace these older homes in the affordable housing stock. During the resale-restricted period, the level of restriction shall meet the following minimum requirements:

- **1<sup>st</sup> 20 years:** The affordable units shall have a minimum 20-year controlled appreciation restriction (cost of improvements plus appreciation based on the Honolulu Consumer Price Index;
- **After 20 years:** The owner may sell the property at market value with a shared appreciation with the County or Kona Housing Non-Profit at 50%;
- **Right of First Refusal:** After 20-years, the Kona Housing Non-Profit shall have the right of first refusal to purchase the unit;
- **Owner-occupancy:** During the resale-restricted period, affordable units must remain owner-occupied or rented out by the owner at an affordable rate as certified by the County real property tax division pursuant to the affordable rent provisions in HCC Chapter 19.

**Policy HSG-5.3: Redevelopment Shall Not Displace Affordable Units.** Where there are concentrations of existing affordable units, redevelopment plans or projects shall ensure that units comparable in number and affordability to the existing units are provided in the new project, with priority given to displaced residents to purchase or rent.

**Policy HSG-5.4: Renovate Under-Used Existing Rental Housing.** For public housing, the County shall explore privatization or other options with the responsible public agency if the responsible agency is financially unable to properly maintain the affordable units. For Kona, a developer may earn affordable housing credits under HCC Chapter 11 Housing to rehabilitate public housing rental units or units within a multi-family rental complex owned by a non-profit, with the number of credits earned comparable to the costs the developer would have incurred for construction of new rental units.

**Objective HSG-6. Address Special Needs.** To address the needs of special groups who are not normally provided for in the free market system.

**Policy HSG-6.1: Elderly and Disabled.** Information services on housing choices to the specific needs of the elderly and disabled (including caregivers) as well as potential providers, shall be provided by a one-stop information center coordinated through the Office of Aging (see Policy PUB-3.2).

**Policy HSG-6.2: Homeless and Emergency Rent.** The Kona Housing Trust Fund may finance the construction or operation of homeless shelters, and supplement or create an emergency rent program to provide short-term (no more than six months) assistance to low-income households who face potential homelessness as a result of unemployment, medical payments, or other unforeseeable causes.

**Policy HSG-6.3: Single-Resident Occupancy (SRO) Units.** Recognizing that commuting resort workers often prefer an affordable place to stay overnight during workdays and return home on the off-days, that immigrant farm workers are often single, and that SRO's often are the last resort before homelessness, developers and government housing agencies are encouraged to provide such units in their mix of affordable housing units.

**Policy HSG-6.4: Farm Worker Housing.** To support Kona's agricultural industry and its desire to strive for greater food sustainability, farm worker housing shall be a permitted use on agricultural lands where the tenant farm worker does not have to work on the same parcel where the farm worker housing is located.

### **Actions**

Because the same actions in the Housing section crossover several policies, the actions are grouped together. Acknowledging the island-wide programs, the following actions implement the Housing policies to increase housing choices specifically for Kona:

**Action HSG-a:** Establish the Kona Housing Non-Profit. The Kona CDP Implementation Committee, with assistance from OHCD, needs to designate or establish a non-profit entity (Policy HSG-1.2). The legal form of this entity needs to be appropriated to receive community donations, receive funds from the County Housing Trust Fund for specific projects, enter into agreements with developers (who would sell the units encumbered with covenants) for shared appreciation on certain HCC Chapter 11 housing units, and possibly buy certain units from developers to lease (as rentals or leased land) (OHCD, 1-2).

**Action HSG-b:** Operate the Kona Housing Non-Profit. Once established, the Kona Housing Non-Profit will set up an account (Policy HSG-1.3) to fund various initiatives set forth in the policies including the following:

1. Sponsor a design contest and retain the winner to prepare pre-approved plans for starter homes, accessory units, or other appropriate housing types (Policy HSG-4.7); (Kona Housing Non-Profit, 2-3)
2. Draft standard first right of refusal provision to be included in the Affordable Housing Agreements executed between the developer and OHCD and incorporated as deed covenants (Policy HSG-5.2); (Kona Housing Non-Profit, 1-2)
3. Exercise rights of first refusal and purchase Chapter 11 units from developers to rent or lease to income-qualified households (Policy HSG-5.2); (Kona Housing Non-Profit, on-going)
4. Establish programs in coordination and to supplement island-wide programs to do the following: (Kona Housing Non-Profit, 2-3)

- i. Assist first-time homebuyers with down payments or other assistance (Policy HSG-3.2);
- ii. Work with landlords to negotiate affordable rents that qualify for property tax breaks and/or Section 8 (Policy HSG-3.3);
- iii. Work with employers to locate affordable for-sale or rentals in the vicinity of the workplace (Policy HSG-3.4);
- iv. Supplement the island-wide homebuyer education program to expand the outreach in the Kona area (Policies HSG-3.1 and HSG-3.4);
- v. Coordinate with other related programs to establish an emergency rent program (Policy HSG-6.2);
- vi. Coordinate with OHCD and other appropriate programs to establish a Kona-specific data gathering and market-monitoring initiative (Policy HSG-2.1);
- vii. As a result of continually monitoring the needs of the Kona community, advocate or take action to meet existing or emerging deficiencies for special needs groups (e.g., elderly, disabled, homeless, farmworkers) (Policies HSG-6.1, HSG-6.2, HSG-6.3, and HSG-6.4).

**Action HSG–c:** For government and non-profits to produce the units at subsidy levels to meet the needs of the lower income groups, the following actions need to be taken:

1. The County and the community (e.g., the Kona Housing Non-Profit) should encourage the State agencies currently developing affordable projects (e.g., DHHL at Laiopua, HHFDC at Keahuolu) to review their projects for consistency with the policies to provide affordable rentals (Policy HSG-4.1), mix of housing types (Policy HSG-4.4), and perpetual affordability strategies (Policy HSG-5.1); (OHCD, Kona Housing Non-Profit, DHHL, HHFDC, on-going)
2. The Kona Housing Non-Profit should coordinate with the pertinent State and County agencies to inventory potential public lands that are suitable for housing development and initiate project planning or ensure land-banking for affordable housing purposes; (Kona Housing Non-Profit, DLNR, 1-2)
3. The County or Kona Housing Non-Profit should explore privatization options with the State housing agency. (OHCD, Kona Housing Non-Profit, 1-2)

**Action HSG–d:** To gain the assistance of the private sector, several existing laws have been amended by enactment of this plan:

1. TOD/TND mixed affordable housing requirement, TOD/TND preemption of ‘ohana dwelling, Project Description Affordable Housing Floating Zone (enacted by plan).
2. Additional Chapter 11 Housing credits for workforce housing,; disabled , elderly, live/work units; 1:1 density bonus; resale restrictions (enacted by plan).

**Action HSG–e:** New private developments are encouraged to creatively provide low cost/affordable housing and meet certain needs especially critical to Kona. The Design Center should help to increase awareness of these policies and stimulate creativity to meet these needs. Developers, with assistance from the Design Center, are instrumental in carrying out the following: (PD/DC, on-going)

1. Take advantage of the higher densities permitted in TODs and TNDs to financially support building at least 25% affordable units , in a creative manner that results in a mix of housing types, tenures, and affordability (see Policies HSG-4.1 to HSG-4.8);
2. Take advantage of the Affordable Housing Floating Zone;
3. Take advantage of the credits recognized to provide affordable disabled, elderly projects and live-work units (Policy HSG-4.4), and rehabilitation of public housing units;
4. Although no additional credits are offered, strive to provide accessory (Policy HSG-4.6) and SRO (Policy HSG-6.3) units;
5. Encourage redevelopment infill projects within existing developed areas such as Kailua Village and the Rural Towns (Policy HSG-4.5), while considering potential displacement of any existing affordable housing (Policy HSG-5.3);
6. Take advantage of the County's interpretation of Hawai'i Revised Statutes (HRS) 205 relating to farm worker housing as well as the Clustered Rural Subdivision Guidelines to provide clustered farm worker housing in rural areas (Policy HSG-6.4)



## 4.6 PUBLIC FACILITIES, INFRASTRUCTURE, AND SERVICES

The Public Facilities, Infrastructure, and Services section of the Kona CDP identifies objectives, policies, and actions that tie-in with and support other sections of the Kona CDP, especially Land Use, Transportation, Housing and Environmental Resources. An important concept promoted by this section is the public-private partnership required to assure that all communities are adequately served.

### 4.6.1 Existing Conditions

County public facilities, infrastructure, and services are those service systems that are provided, staffed, and maintained by government or quasi-public entity to directly serve the residents including: the systems of parks, fire stations, police stations, refuse disposal, drinking water, health, and energy. Transportation-related infrastructure is covered in the Transportation section of this plan. The County also provides services to the elderly, as well as supplements funding for a number of social programs.

Guiding Principles	Pub. Fac., Inf., & Ser.
1. Protect Kona's natural resources and culture.	✓
2. Provide connectivity and transportation choices.	✓
3. Provide housing choices.	✓
4. Provide recreation opportunities.	✓
5. Direct future growth patterns toward compact villages, preserving Kona's rural, diverse, and historical character.	✓
6. Provide infrastructure and essential facilities concurrent with growth.	✓
7. Encourage a diverse and vibrant economy emphasizing agriculture and sustainable economies.	✓
8. Promote effective governance.	✓

### 4.6.2 Overall Strategy

Acknowledging the limited government resources for which Kona competes with other districts, the policies in this section set forth the expectations and priorities of the Kona community to enable the community and government to optimize the type, timing, location, financing, quality, and maintenance of public infrastructure, facilities, and services. Although sensitive to jurisdiction, the policies and actions attempt to set a framework to integrate the various providers-- whether County, State, Federal, quasi-public (e.g., HELCO), or private (e.g., private hospitals or schools).

The community's expectations and priorities are guided by the following principles:

1. **Public safety**—the policies set a minimum level of service for essential public safety services including police protection, fire protection, emergency response, disaster response, and highway safety, and promote a community-based approach to crime prevention;
2. **Healthcare**—the policies recognize the limited role of the County and community in the healthcare system, but frame the desired outcome to foster coordination and partnerships for this critical basic need;
3. **Growth management and environmental quality**—the policies use public infrastructure to influence the location and timing of growth such as prioritizing the infrastructure that service TODs as an incentive to develop within TODs, as well as ensuring that this infrastructure supports this growth in a manner that reduces waste and pollution, conserves water, and generally minimizes environmental impacts;

4. **Sense of community and quality of life**—the policies recognize that the types and quality of public facilities and services can enhance the sense of community by encouraging gathering and interaction, by providing lifelong learning opportunities, by building appreciation and respect for nature through trails and parks and other interactive opportunities, by nurturing the soul through art, and cultural activities;
5. **Economic catalyst**—the related policies in Section 4.8 Economic Development section identify specific public facilities that have the potential to stimulate desirable economic balance;
6. **Standard of excellence**—the policies set a standard of excellence in the construction, operation, and maintenance of all public facilities and the supportive role of the community to promote civic pride.

#### 4.6.3 Goals, Objectives, Policies, and Actions

*Public Facilities, Infrastructure, and Services Goal: A community where the public infrastructure and facilities are sustainably built and maintained with innovation and pride, promote sense of community, and support a quality of life where visitors and residents feel safe, healthy, and inspired.*

**Objective PUB-1:** To coordinate planning and budgeting for public facilities, the Official Public Facilities and Services Map shall identify existing and proposed public facilities.

**Policy PUB.1.1: Official Public Facilities and Services Map.** The Official Public Facilities and Services Map shall identify existing and proposed public facilities. Proposed facilities shall distinguish whether the mapped site is committed or requires further planning. On the premise that the mapped proposed facilities are priority, only those proposed facilities shown on the map shall be eligible for funding (see Figures 4-10a to 4-10c). (Enacted by plan)

#### PUBLIC SAFETY

**Objective PUB-2: Public Safety.** To establish a minimum level of service for public safety resources in order to identify deficiencies and plan for future growth, and to recognize that how we design our communities can help to prevent crime.

**Policy PUB-2.1: Law Enforcement Level of Service.** To enable timely response over a geographic area spanning approximately 60 miles long, there should be, at a minimum, a police station for North Kona and another police station for South Kona. The North Kona police station should have an adequately-sized holding jail and should be located near the court for efficient operations. Until superseded by a county-wide standard, the number of police officers for each district should be planned and budgeted at 4 officers/1000 persons in order to cover three shifts with a minimum of three officers per shift (Personal Communication, Chief Lawrence Mahuna, December 19, 2007).

**Action PUB-2.1a:** Plan a new North Kona police station to be located within the Honokohau Village TOD and program for design and construction funding (Police, 5-10).

This page intentionally left blank.

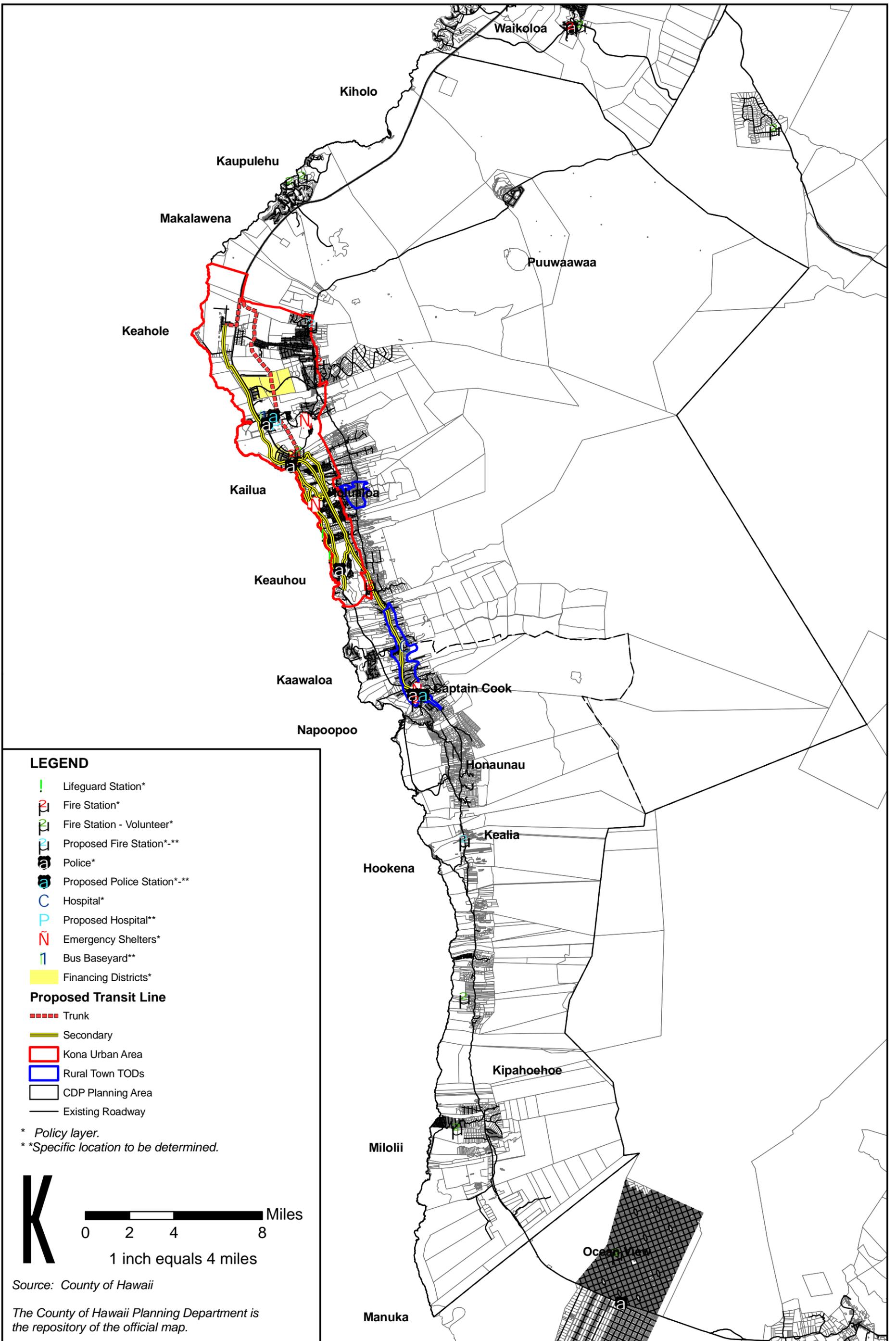
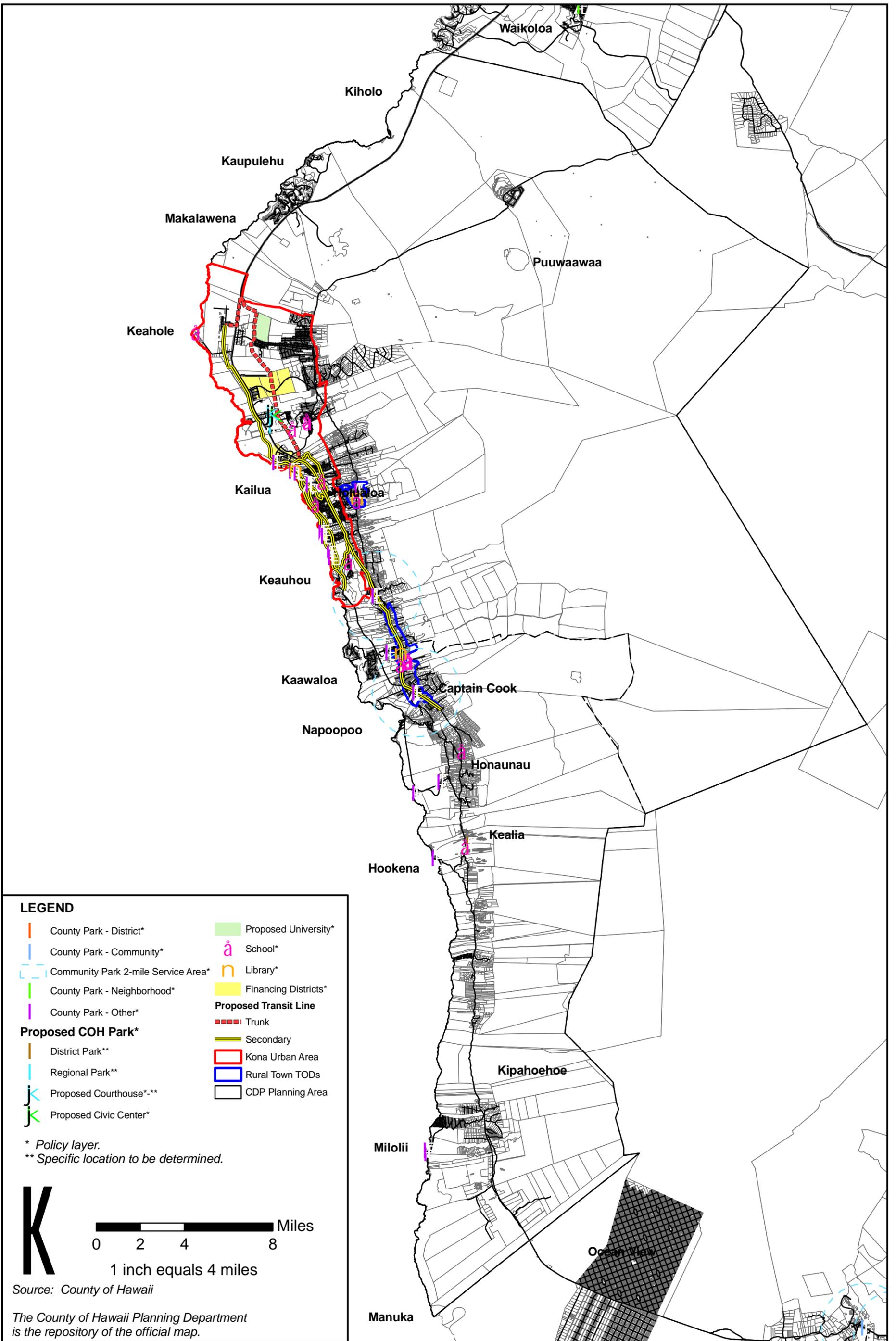
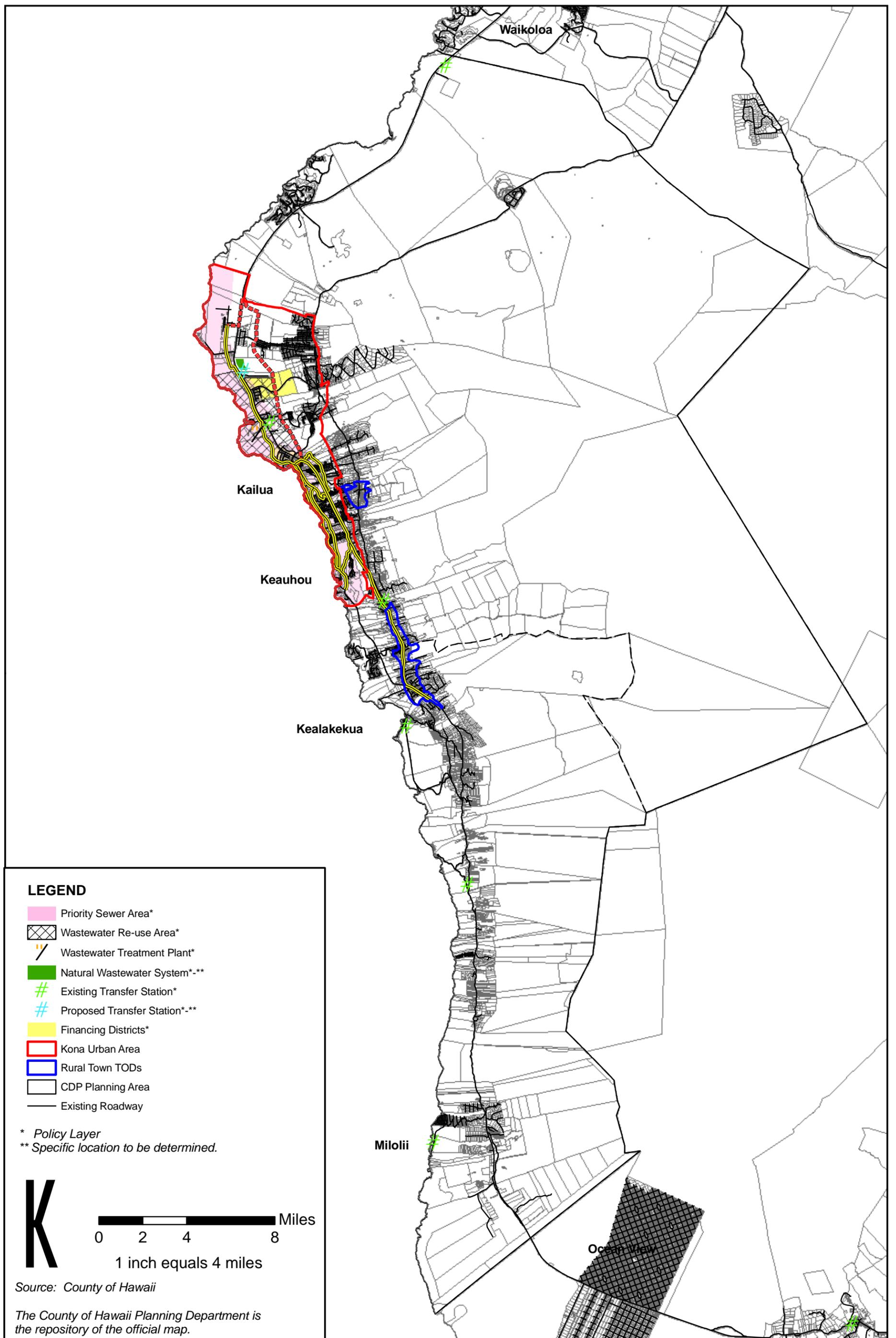


Figure 4-10a  
 Official Public Facilities and Services Map - Public Safety

This page intentionally left blank.



This page intentionally left blank.



This page intentionally left blank.

**Action PUB-2.1b:** Coordinate with the State to relocate the circuit and district courts to the Honokohau Village TOD (State Judiciary, PD, 5-10).

**Action PUB-2.1c:** Design and construct the relocated South Kona police station. The County is in the process of acquiring a site (TMK: 8-2-001:072 and 084) (Police, 2-3).

**Action PUB-2.1d:** Support the addition of manpower for policing efforts (Police, on-going).

**Policy PUB-2.2: Crime Prevention Emphasis.** The community policing program with its emphasis on building relationships and partnerships with the community plays a vital role in creating a safe Kona. But, beyond community organization and education programs, such as the Neighborhood Watch Program, the presence of these police officers on foot or on bicycles in villages instills a sense of public safety. The design of new or renovated buildings or public facilities shall consider environmental design principles that prevent crime.

**Action PUB-2.2a:** Support for the community policing program should continue (Police, on-going).

**Action PUB-2.2b:** In Villages (e.g., Kailua Village, TODs, rural towns), consider reinstating the bicycle patrols (Police, 3-5).

**Action PUB-2.2c:** Through a Business Improvement District or other organization, partner with downtown businesses to enhance security and orderliness (KVID, 1-2).

**Action PUB-2.2d:** Develop a public safety audit checklist and conduct neighborhood and downtown safety walks to identify potential crime spots or unsafe areas (Police, KVID, COMM, 2-3).

**Action PUB-2.2e:** Incorporate in the Village Design Guidelines crime prevention through environmental design principles (PD, 3-5).

**Policy PUB-2.3: Fire Protection, EMS, Rescue, HazMat Level of Service.** Until superseded by a county-wide standard, fire station locations should be planned to provide a response time of 8 minutes in the Urban Area (10 mile radius with 5 mile overlap) and 12 minutes in the rural areas (15 mile radius with 5 mile overlap). All fire stations should provide fire protection and EMS services. Rescue services should be provided by ground and sea by at least one station in each district, and by helicopter to service the North Kona and South Kona districts. One station should have HazMat capability to service the North Kona and South Kona districts.



Captain Cook Fire Station.

**Crime Prevention Through Environmental Design (CPTED)**

Adapted from: Zelinka, A. and D. Brennan, *Safescape: Creating Safer, More Livable Communities Through Planning and Design*. Chicago: Planners Press, American Planning Association, 2001.

Fear of crime impairs quality of life and sense of community. Certain features of the physical environment contribute to fear. People fear signs of deterioration, such as broken windows, graffiti, trash, as a signal that a place is no longer maintained or controlled by those who live or work there, thus, becoming attractive targets for potential criminals. Other physical features such as bushes, low lighting, and dark tunnels limit the ability to see into a place where someone may be hiding, or limit the ability to escape (e.g., deadends). The CPTED approach to crime prevention is a shift in the discipline of criminology from a paradigm of examining the individual criminal to one which studies the crime event, i.e., the physical and social environments that make the opportunity for a crime to be committed exceed the risk of apprehension.

The three tenets of CPTED are as follows:

- **Natural access control:** the physical guidance of people coming and going from a space by the judicious placement of entrances, exits, signs, fencing, landscaping, lighting, and wayfinding assistance such as kiosks. People should have information to know where to go and avoid feeling lost and confused. Criminals should have not only a difficult time entering a space without being observed, but also should be provided with no opportunities to justify or rationalize their presence trespassing into private or semiprivate spaces.
- **Natural surveillance:** the organization of physical features, activities, and people in such a way as to maximize visibility (i.e., users would feel they will be seen if they do something illegitimate). The placement of windows, doors, and common areas; the alignment of sidewalks and paths; the locations and levels of lighting; and the proper design and size of open spaces can contribute to natural surveillance opportunities. The built environment that supports socialization and interaction with others reduces fear of others and enhances public safety because we are more apt to look out for those with whom we are familiar.
- **Territorial reinforcement:** the use of physical attributes that express ownership, such as fences, pavement treatments, art, signage, and landscaping to clearly design a hierarchy of spaces: public (intended for all to use); semiprivate (intended for specific users or uses); and private (intended for private use by businesses and homeowners). A sense of ownership and stewardship ensures continued management and maintenance to avoid deterioration.

Physical design should not be the exclusive focus. Social structures such as community police, community organizations, and events complement the physical design strategy.

**Action PUB-2.3a: Existing and proposed fire stations meet the level of service for the Urban Area. A new fire station is needed in South Kona in the vicinity of Ho'okena (Fire, 5-10).**

**Policy PUB-2.4: Beach Safety Level of Service.** Lifeguard stations should be located at County and State beach parks, in accordance with the "Needs Assessment Study" prepared by the County Fire Department as shown on Figure 4-10a Public Facilities and Services Map-Public Safety.

**Action 2.4a: Identify proposed lifeguard stations on the Official Public Facilities Map (Fire, PD, on-going).**

**Policy PUB-2.5: Highway Safety Level of Service.** In order to reduce the number of motor vehicle traffic accidents, high-risk locations or hot spots should be identified in order to improve roadway safety.

**Action PUB-2.5a:** Identify motor vehicle related fatalities and injuries (Police, DOT, DOH, traffic safety organizations, on-going).

**Action PUB-2.5b:** Improve data collection, assessment, and dissemination of information (Police, DOT, DOH, traffic safety organizations, on-going).

**Action PUB-2.5c:** Encourage an integrated planning and design process for improvements in roads, emergency medical services, and public transportation (Police, DOT, DOH, traffic safety organizations, on-going).

**Policy PUB-2.6: Disaster Shelters and Critical Facilities.** There shall be adequate hurricane-proof shelters concurrent with the growing population. Where designated on Figure 4-10a Official Public Facilities and Services Map-Public Safety, new public buildings shall be evaluated by the Civil Defense regarding whether or not the design should include specifications to be hardened to serve as a hurricane shelter. Any new fire station or hospital shall be appropriately designed to withstand all hazards.

**Action PUB-2.6a:** Identify additional disaster shelters and critical facilities where deficient (State and County CD, 3-5).

## HEALTHCARE

**Objective PUB-3: Healthcare.** To ensure access to healthcare and promote a healthy lifestyle.

**Policy PUB-3.1: Medical Care.** The community shall support a viable medical clinic to ensure a safety net for those without health insurance or those unable to access the mainstream medical system.

**Action PUB-3.1a:** Coordinate with the County of Hawai'i Healthcare Crisis Plan (Mayor's Office, 3-5).

See Related Policy ECON-1.1 Hospital as Stimulus for Healthcare Industry.

**Policy PUB-3.2: Long-Term Care.** An information center/activity center shall serve as a clearinghouse for the community-based and institutional long-term care choices available. This resource center may be co-located with a senior recreational center in Kailua.

**Action PUB-3.2a:** Plan, design, and construct an information center/activity center for the disabled and elderly (OA, 5-10).

**Policy PUB-3.3: Preventive Health through Walkable Communities.** Through the Village Design Guidelines' pedestrian-friendly street standards, Kona shall be known as an avid walking and biking community conducive to all ages. Also refer to Policy LU-2.2 TOD/TND Components.

**Policy PUB-3.4: Universal Access.** As its expression of compassion and caring, the Kona community shall take pride in having all public facilities accessible to the disabled and respectful of the accessible parking stalls.

**Action PUB-3.4a:** Continue to work with the police department to assist in accessible parking enforcement (Police, on-going).

**Action PUB-3.4b:** Offer educational programs to sensitize residents to the challenges of the blind, deaf, or wheel-chair bound person (One Stop Community Resource Center, R&D, 2-3).

**Action PUB-3.4c:** Continue to implement curb ramp program for streets and sidewalks and parks and recreation program facilities (PR, DPW, on-going).

## GROWTH MANAGEMENT AND ENVIRONMENTAL QUALITY

**Objective PUB-4: Growth Management.** To prioritize and locate growth-supporting infrastructure (water, sewer, drainage) to support the TODs and infill development and to minimize the environmental impacts of such growth.

**Policy PUB-4.1: Water for TODs.** To encourage and direct development to the TODs, a priority shall be to provide an appropriately sized water transmission line within the Keohokālole Highway Corridor, and to flexibly enable water allocation policies to support the Kona CDP land use policy to concentrate growth within the TODs, in lieu of sprawl.

**Action PUB-4.1a:** Update, as necessary, DWS's master plan for Kona to support future growth in the TODs (DWS, 2-3).

**Action PUB-4.1b:** Amend DWS's Rules, as necessary, to support the Kona CDP land use policies (DWS, 3-5).

**Policy PUB-4.2: South Kona Water System.** In recognition that the extension of the County water system south beyond its existing limit at Ho'okena would increase the growth pressures to convert agricultural land to urban uses, the South Kona County water system shall not be extended further south. (Enacted by plan)

**Policy PUB-4.3: Agricultural Water.** Recognizing the importance of agriculture as part of the rural character of Kona, the pervasiveness of small farms, and the critical need for irrigation in Kona's relatively dry climate, DWS shall develop a policy to implement best efforts to serve the agricultural water needs of the Kona area. This policy is not intended to subsidize the



farmers. Instead, the intent is to explore cost-effective systems to provide water for irrigation purposes, set water rates that encourage the small farms, and to ensure that these agricultural customers are committed to agriculture and use the water responsibly. Towards this end, the policies may consider agricultural dedication for property tax purposes (to evidence a commitment to agriculture) and the use of best practices irrigation (to evidence responsible water use) as a condition to receive DWS agricultural water rates.

**Action PUB-4.3a:** Develop policies and plans to provide water for agricultural use, and amend DWS's Rules accordingly (DWS, 3-5).

**Action PUB-4.3b:** Develop an irrigation best practices certification program (SWCD, 2-3).

**Action PUB-4.3c:** Develop an application form to facilitate verification of the agricultural dedication and irrigation best practices certification (DWS, 2-3).

**Action PUB-4.3d:** Update Kona water system master plan to incorporate agricultural water component (DWS, 3-5).

**Policy PUB-4.4: Sewer Priorities.** In order to protect the nearshore water quality, the requirement to hookup to the County sewer system (HCC Section 21-5) shall be strictly enforced. The highest priority in expanding the sewer system within the Kona Urban Area shall be to service any shoreline properties that do not have access to a public sewer system and then to service lots within approximately 1 mile of the shoreline. Any new subdivision within 1 mile of shoreline within the Kona Urban Area shall either hookup to the public sewer system, or provide a private treatment system, and/or install dry sewers (see Figure 4-10c Official Public Facilities and Services Map-Waste Management). Private wastewater collection systems within the 1 mile zone shall be designed and constructed to County standards to enable potential connection to County sewer system. The County shall ensure that TODs can be served by the public sewer system in a timely manner.

**Action PUB-4.4a:** Identify the violators and enforce the sewer hookup requirements (DEM, 1-2).

**Action PUB-4.4b:** Develop a sewer plan to service the Kaha'u area (DEM, 3-5).

**Action PUB-4.4c:** Update the sewerage master plan to service the entire Kona Urban Area with priority to the TODs and the areas within approximately 1 mile of the shoreline (DEM, 3-5).

**Policy PUB-4.5: Wastewater Treatment and Effluent Reuse.** The Kealakehe Wastewater Treatment Plant shall be expanded to accommodate the projected sewage volume from the Urban Area extending south of Hina Lani Street to the Keauhou Wastewater Treatment Plant service area. A new County wastewater treatment plant shall be located in the vicinity shown on Figure 4-10c Official Public Facilities and Services Map-Waste Management and designed

to the extent feasible to utilize a natural treatment system that can double as an open space feature.

**Action PUB-4.5a: Master plan the expansion of the Kealakehe Wastewater Treatment Plant (DEM, 1-2).**

**Action PUB-4.5b: Master plan the development of a new wastewater treatment plant servicing north of Hina Lani Street that considers the feasibility of natural treatment systems (DEM, 2-3).**

**Action PUB-4.5c: Master plan a comprehensive wastewater reclamation system to maximize reuse (DEM, 2-3).**

*Recycled Water – treated wastewater that by design is intended or used for beneficial purpose.*

*R-1 Water – recycled water that is at all times oxidized, then filtered, and then exposed, after the filtration process (Significant reduction in viral and bacterial pathogens).*

*R-2 Water – recycled water that has been oxidized, and disinfected (Disinfected secondary recycled water).*

*R-3 Water – oxidized wastewater (Undisinfected secondary recycled water).*

**Policy PUB-4.6 Wastewater Reuse Area:** Recognizing the limited drinking water supply in the Kona area, every effort should be taken to develop a feasible wastewater reclamation system for non-potable uses. Also refer to Policy TRAN-3.3. The wastewater reuse area should be, at a minimum, located mauka of the shoreline up to Keohokālole Highway (Mid-Level Road), north of Palani Road and south of Huliko‘a Drive (see Figure 4-10c Official Public Facilities and Services Map-Waste Management).

**Action PUB-4.6a: Future wastewater reuse areas shall be identified on Figure 4-10c Official Public Facilities and Services Map-Waste Management (DPW, PD, on-going).**

**Policy PUB-4.7: Urban Stormwater Management.** In recognition that stormwater runoff transports sediment and contaminants, thereby threatening the degradation of Kona’s coastal water quality, and that Kona’s undefined drainageways and susceptibility to intense rainfall cause flash flooding that threatens life and property, innovative solutions are necessary to address Kona’s unique conditions and to guide future development and flood management projects. Acknowledging the complexity of managing stormwater, a stormwater management program tailored to Kona shall evolve through a public education and training phase, voluntary incentives, and the ultimate development of Stormwater Management Guidelines that will regulate development and establish standards for public projects. The evolution of this program shall consider the following:

- (a) a connected hierarchical overflow system where overflows from 10-year storm facilities (e.g., drywells) are directed to higher-capacity flood management systems, so that the total system can safely accommodate a 100-year storm;
- (b) use of natural drainageways and retention areas to the extent possible to maximize infiltration (groundwater recharge), filtration, and settling;

- (c) multi-purpose use of the higher-capacity (e.g., 25-year, 50-year, 100-year) flood management facilities for recreation or other uses since these areas will flood infrequently;
- (d) engineered “natural” flow ways to direct the sheetflow runoff into more defined drainageways;
- (e) onsite retention measures, such as rainwater harvesting methods;
- (f) street standards that minimize runoff and transport of sediment and contaminants;
- (g) watershed management system perspective;
- (h) Based on the Stormwater Management Program, existing and proposed stormwater management flow ways and facilities shall be shown on the Official Public Facilities and Services Map, especially those maintained by the County.

**Action PUB-4.7a:** Hire a consultant to develop Stormwater Management Program and Guidelines, incentives, and Education/Training Program, such as Low Impact Development (LID). (DPW, 2-3).

**Action PUB-4.7b:** Implement the education and training program; adopt and publicize the incentives; adopt and enforce the Stormwater Management Guidelines (DPW, 2-3).

## **SUSTAINABLE SOLID WASTE MANAGEMENT**

**Objective PUB- 5: Zero Waste.** To maximize recycling, reuse, and reduction.

**Policy PUB-5.1: Integrated Waste Disposal.** To the extent feasible, Kona’s proposed natural system wastewater treatment facility shall be co-located with a non-edible crop, such as a biofuel crop, to use the R-1 wastewater effluent, and also co-located with Kona’s green waste composting site to compost the sludge from the wastewater treatment facility for use on biofuel crop.

**Action PUB-5.1a:** Find entrepreneur(s) for biofuel crop (R&D, 3-5).

**Action PUB-5.1b:** Master plan concept and financing for new natural system wastewater treatment facility and relocated transfer station/recycling center; obtain DLNR approval to use State land (DEM, 5-10).

**Policy PUB-5.2: Solid Waste.** Within the Kona Urban Area, to increase the capture of recyclable materials and also to decrease the number of automobile trips, the County shall explore feasible alternatives for residential curbside collection, including source-separated recyclables.

## SENSE OF COMMUNITY AND QUALITY OF LIFE

**Objective PUB-6. Quality of Life.** To foster a sense of community and health through the public realm such as gathering places, parks, pedestrian networks, and open spaces.

**Policy PUB-6.1: Gathering Places.** TODs shall include appropriate public gathering areas, such as plazas, in accordance with the Village Design Guidelines. The planning and design of such public spaces shall address any maintenance requirements. (Enacted by plan)

**Policy PUB-6.2: Active Recreation Opportunities.** A range of recreational opportunities shall be provided to encourage physical activity and interaction among toddlers, youth, teens, adults, and seniors, including, without limitation the following:

- (a) Regional park (minimum 50 acres)—New regional park at Kealakehe as shown on the Public Facilities Plan to include playfields, multi-purpose building (e.g., gymnasium)
- (b) Kona Civic Auditorium or Performing Arts Center. Facility to provide a venue for major entertainment, social, cultural, and performing arts opportunities.
- (c) District park (10-30 acres)—Upgrade the Old Airport Park to enhance the playfields, swimming pool, multi-purpose building, courts (basketball, tennis, volleyball), tot lots, fitness area, pet area, and skateboard area; locate a district park to service South Kona to include playfields, multi-purpose use building (e.g., community/senior center, gym), and a tot lot
- (d) Community parks (4-8 acres)—A community park should be located 2 miles apart within the Urban Area to include, at a minimum, playfields and a restroom, as designated in the Public Facilities Plan to provide adequate playfields for youth leagues; multi-purpose use of school playgrounds should be candidates for these types of parks.
- (e) Neighborhood parks (up to 4 acres) – Subdividers shall provide neighborhood parks (including community gardens, community centers, pocket parks, and pet parks) ½ mile apart for area residents and provide for private maintenance or pay a fee pursuant to HCC Chapter 8.



Pedestrians along Ali'i Drive.



Soccer game at William Charles Lunalilo Playground.

**Action PUB-6.2a: Identify deficiencies to the park system described in Policy PUB-6.2. Include consideration of the following (PD, DPR, on-going):**

- skateboard areas
- network of walking paths and historic trails to be integrated into and between future development projects in both rural and urban areas
- pet-friendly parks and leashed dog walking areas with appropriate facilities

**Action PUB-6.2b:** Establish a Master Plan for expansion and improvement of the Old Airport as a district park (PR, PD, 1-2).

**Action PUB-6.2c:** Begin the process to find a location and funding for the Kona Civic Auditorium. Invite public input regarding design requirements and preferences (PR, PD, 2-3).

**Action PUB-6.2d:** Prepare Master Plan for Kealakehe Regional Park (PR, PD, 3-5).

**Action PUB-6.2e.** Begin the process to find location, acquire site, prepare Master Plan, and fund a South Kona District Park (including integrated community services center) (PD, PR, 3-5).

**Policy PUB-6.3:** Optimize recreational facilities in the rural areas.

**Action PUB-6.3a:** Establish, in cooperation with the State Department of Education, joint use of school facilities for recreational and community use (e.g. Konawaena, Hōnaunau, and Ho‘okena Schools) (PR, DOE, PD, on-going).

**Policy PUB-6.4: Environment as a Public Realm and Classroom.** For Kona, nature is the most culturally significant public realm as the setting for interaction, stewardship, and learning. The Open Space Network is the primary access point to nature and culture. The purpose of this policy is to emphasize the educational value of the Open Space Network (see Policy ENV-2.1 Open Space Network Program), to accordingly design this Network with interpretive opportunities, to encourage teachers to incorporate the Network into their activities, for the visitor industry to sensitively share learning opportunities of the Network with visitors, for residents to use the Network opportunities to interact with nature whether for leisure or subsistence purposes, and to develop deeper respect for people and places through cultural learning opportunities accessed through the Network.

**Action PUB- 6.4c:** See Actions ENV-2.1a CR-1.1e.

**Policy PUB-6.5: Public Art.** In recognition of Kona’s embrace of cultural traditions, opportunities should be sought to creatively incorporate public art into public areas or facilities, to create a sense of place.

**Action PUB-6.5a:** Consider 1% of public facilities construction budget to be allocated for public art at new County facilities (Kona CDP Implementation Committee, on-going).

**Policy PUB-6.6: Important Role of Schools in Creating a Sense of Community.** The quality of its schools defines the quality of the Kona community. Quality schools show the caring of the community for its children. Quality schools are an investment in the quality of the future, which create outstanding citizens who acquire market-competitive survival skills.



- Encourage the placement of an elementary school campus in every Neighborhood TOD/TND.
- Link intermediate schools to the public transportation line.
- Encourage schools to be utilized as community hubs for family-centered recreation and learning.
- Encourage local governance of public schools.
- Where DOE plans do not provide for development of planned school sites, charter or private school alternatives should be sought.
- To provide life-long learning opportunities and to draw the community into the schools, the schools and the community are encouraged to develop community-based, after-school programs open to all ages.

## **STANDARD OF EXCELLENCE**

**Objective PUB-7. Standard of Excellence.** To set a standard of excellence in design, operation, and maintenance for public workers in Kona to strive toward and for the community to encourage such efforts through partnerships.

**Policy PUB-7.1: Excellence in Design.** Design of County facilities shall be evaluated on a life cycle cost basis, accept a higher level of risk for innovation where government has the opportunity to lead by example, and a reasonable premium to incorporate aesthetics or character.

**Action PUB-7.1a:** Use charrettes to the extent practicable in the design process of County facilities to involve the community, broaden the design input with multi-disciplinary expertise, and stimulate creativity (DPW, PD, on-going).

**Action PUB-7.1b:** Update the community at milestones in the design process such as at the end of the schematic, design development, and pre-bid construction documents phases (DPW, PD, on-going).

**Policy PUB-7.2: Excellence in Maintenance.** If the community and responsible public workers cannot stand next to the public facility with pride, then that is a call to action for both the community and the responsible public agency.

**Action PUB-7.2a:** Develop a maintenance level of service for parks and streetscapes to establish a baseline expectation (PR, DPW, 2-3).

**Action PUB-7.2b:** Encourage adopt-a-park and adopt-a-street civic participation to meet the level of service expectations (PR, COMM., on-going).

**Action PUB-7.2c:** Provide for upgrading and maintenance to the public facilities in critical need of attention (PR, DPW, on-going):

- i. Develop a strategic management plan for upgrading facilities at Kahaľu'u Beach Park, La'aloa Bay Beach Park, Hale Hālāwai, Higashihara Park, Yano Hall.
- ii. Maintain parks and public facilities in remote areas, such as Miloli'i.

**Action PUB-7.2d:** Increase lighting at public restrooms (PR, DPW, 2-3).

**Action PUB-7.2e:** Open existing public restrooms that are currently closed (e.g. Kainaliu), and provide for more public restrooms in strategic locations (e.g. Hale Hālāwai, pier in Kailua) (PR, DPW, 1-2).

**Action PUB-7.2f:** Initiate a process to establish a monthly, scheduled maintenance review of public facilities in Kona (PR, DPW, 1-2).

**Policy PUB-7.3: Recruitment Incentives.** Since government's ability to achieve excellence depends on its ability to fill positions with qualified workers, and since affordable housing close to work is one of the primary obstacles to recruitment, housing projects where government provides land or other substantial resources shall give a high priority to government workers purchasing or renting units within the project.

## **PUBLIC SERVICES AND SOCIAL PROGRAMS**

**Objective PUB- 8:** To promote the cooperation between government, citizens and organizations, and to facilitate the development of programs to strengthen families and communities.

**Policy PUB-8.1: One-Stop Community Resource Center.** The County shall serve as point of community access for information and referral for health, education and social services.

This is not to duplicate services or provide direct services provided by private service organizations, but to foster maximum utilization of all available resources.

**Action PUB-8.1a:** The County shall work with community to establish One-Stop Community Resource Center (R&D, COMM., 3-5).

1. The County shall provide a community resource staff member at a central location.
2. Staff will be knowledgeable about community resources for families and individuals.
3. Staff will assist community members navigating public systems and understand eligibility criteria for public and privately offered programs.
4. The resource center will be able to identify gaps in services for families and individuals and advocate for improved access to and availability of services.

**Action PUB-8.1b:** Increase funding for the Healing Our Island Program (R&D, 3-5).

**Action PUB-8.1c:** Increase transportation options, especially small vans, in order to reduce rural isolation and increase access to programs, jobs, and activities (R&D, MT, 2-3).

**Action PUB-8.1d:** Increase demand-response transportation through the use of small vans in order to increase accessibility to drug and alcohol treatment and programs (R&D, MT, 3-5).

**Action PUB-8.1e:** Increase the number of therapeutic living programs and facilities (R&D, MT, OA, 3-5).

**Action PUB- 8.1f:** Develop a de-tox program in Kona (COMM., non-profit, 1).

**Action PUB-8.1g:** Establish a youth intake center to provide more immediate intervention for youth in Kona (COMM., non-profit, 1-2).

**Action PUB-8.1h:** Expand partnerships among substance abuse treatment providers and improve coordination and integration of services (COMM, non-profit, on-going).

**Policy PUB-8.2:** The County shall serve as an advocate for programs serving the elderly, disabled, and homeless persons.

**Action PUB–8.2a:** Provide demand-response transportation (e.g. small vans) for the elderly, youth, and disabled (R&D, MT, 3-5).

**Action PUB–8.2b:** Expand partnerships among providers and improve coordination and integration of services for residents with disabilities or special needs (COMM., non-profit, OA, on-going).

**Action PUB–8.2c:** The County shall provide a new homeless shelter and an opportunity for transitional living to low income rental housing (OA, 3-5).

## 4.7 ENERGY

The Energy section of the Kona CDP identifies that objectives, policies, and actions that will guide Kona toward energy sustainability. Energy is a key component for achieving a sustainable community, which is a guiding principle of the Kona CDP. In that regard, it supports other sections of the Kona CDP, particularly Housing; Transportation; Land Use; and, Public Facilities, Infrastructure and Services.

### 4.7.1 Existing Conditions

The Island of Hawai'i, including the Kona Districts, depends almost entirely on foreign sources of fuel for its energy needs. Over 70% of electricity generation and virtually all transportation fuel currently use imported petroleum products. High crude oil prices are linked with this island's high electricity prices, which are more than three times the national average. Gasoline prices are among the highest in the nation.

Guiding Principles	Energy
1. Protect Kona's natural resources and culture.	✓
2. Provide connectivity and transportation choices.	✓
3. Provide housing choices.	
4. Provide recreation opportunities.	
5. Direct future growth patterns toward compact villages, preserving Kona's rural, diverse, and historical character.	✓
6. Provide infrastructure and essential facilities concurrent with growth.	
7. Encourage a diverse and vibrant economy emphasizing agriculture and sustainable economies.	✓
8. Promote effective governance.	✓

Kona has one power plant, the Keāhole Power Plant, that currently uses imported petroleum diesel.

Energy policies have a pervasive influence on other related policies:

- *Housing.* Energy policies can lower residents' energy costs for housing and commuting, thereby providing more funds for home financing or renting;
- *Transportation and Land Use.* Transportation and Land use policies that reduce dependence on the automobile through compact, walkable, mixed use, villages and expansion of the transit system also reduce fuel consumption;
- *Environment.*
  - Global warming. Energy policies that support energy conservation and replacement of fossil fuels with renewable energy sources reduce greenhouse gas emissions ;

- Open space. Energy policies provide further justification to preserve forests and other natural open spaces that lower air temperature and remove (“sequester”) carbon dioxide;
- *Economy.* Energy policies can stimulate new local business opportunities (e.g., solar water heater installers, 3<sup>rd</sup> party distributed energy providers). Additionally, savings from energy conservation measures translate into more disposable income for individuals and working capital for businesses. The dollars from new local businesses, disposable income spending, and working capital re-circulate in the local economy, thus creating more economic benefit than importing from foreign sources.

#### 4.7.2 Overall Strategy

Most energy policies need to apply equally to the entire county, and should not be limited to a particular community plan. The overall strategy for the energy policies in this section, therefore, are intended to inspire individuals as well as private and public organizations to embrace these broader initiatives. There are also certain policies that are highlighted as unique to the conditions of Kona.

The overall strategy for the energy policies is to reduce per capita demand and move toward renewable energy sources through the following:

- Energy efficiency in transportation (County transit, automobile fleet purchasers). Transportation fuels account for over 75% of the energy demand on Hawai‘i Island.<sup>7</sup> Most of the transportation fuel is consumed for ground transportation, with aviation accounting for 23%. The related policies in Transportation and Land Use reduce transportation fuel usage by expanding the mass transit system and creating more compact, mixed-use walkable villages.
- Energy efficiency in homes and buildings (builders, designers, homeowners). Residential use accounts for the largest share of electrical demand on the island and drives the peak period demand. Large homes are a recent phenomenon in Kona that consume large amounts of energy, particularly for air conditioning. Residential structures in the County are currently exempt from complying with the Model Energy Code. The policy is to encourage the removal of this exemption for the new larger residences.
- Conservation and energy efficiency of the water system (DWS). The DWS is the largest single user of electricity on the island. Since it uses most of this electricity to pump water, the policies encourage DWS to reduce the amount of water it needs to pump by controlling leaks and promoting water conserving appurtenances (essential for Kona’s dry climate). Moreover, by adding power-generating pressure reducing valves (taking advantage of Kona’s sloping topography), some of the power can be recovered.
- Renewable energy sources (HELCO, private providers). The policies encourage LEED and other sustainable building standards to be used, beginning with the County, which would lead the charge by example.

---

<sup>7</sup> Johnson, J., et al, Hawai‘i County Baseline Energy Analysis, prepared for the Kohala Center and County of Hawai‘i, May 2006.

### 4.7.3 Goal, Objectives, Policies, and Actions

**Energy Goal: Establish Kona as a model for sustainability and energy self sufficiency.**

**Objective ENGY-1.** To provide a multi-prong framework, including standards, innovations, incentives, and education, to reduce the dependency on imported fossil fuels through energy efficiency and renewable energy generation.

**Policy ENGY-1.1: Energy Building Standards for New Residences.** Recognizing that residential housing is the largest consumer of electricity (38%) and that air conditioning as a significant driver of residential demand is a relatively recent phenomenon in West Hawai'i due to the numerous larger homes, this Kona CDP supports the mandatory application of the Model Energy Code to residential structures with gross living floor area of 6,000 square feet (s.f.) and over (Davies, M. et al, October 3, 2007). For residences less than 6,000 s.f., this CDP supports expedited permit processing by the County for builders who voluntarily employ energy efficient measures certified under the Hawai'i BuiltGreen,<sup>8</sup> EnergyStar,<sup>9</sup> or LEED programs.<sup>10</sup>

**Action ENGY-1.1a:** Provide a standard logo label to stick onto the title page of building plans to alert the Kona permitting agencies to expedite processing (DPW-BD, PD, -2).

**Policy ENGY-1.2: Energy Saving Renovation for Existing Residences.** For existing home retrofits, investigate establishing a Home Performance with EnergyStar (HpwES) program, as modified and implemented in the State of Oregon.<sup>11</sup> Trained and certified contractors work with homeowners to assess the energy performance of a residence, list recommended improvements, and analyze the approximate payback period (identifying and factoring eligible tax credits). (Kona Housing Non-Profit, 2-3)

**Policy ENGY-1.3. Mortgage Incentives.** Advocate for a mortgage program that provides combined benefits for energy efficiency (to increase marketability of certified homes) and location efficiency (to increase marketability of homes in the walkable transit-oriented villages).

---

<sup>8</sup> Hawai'i BuiltGreen is a self-certification program administered by the Building Industry Association of Hawai'i, which is a professional trade organization affiliated with the National Association of Home Builders. This is a local initiative based on homegrown knowledge of professionals familiar with the unique conditions of Hawaii. See [www.HawaiiBuiltGreen.com](http://www.HawaiiBuiltGreen.com) for more information.

<sup>9</sup> EnergyStar, a joint program of the U.S. EPA and U.S. Dept of Energy, is a rigorous certification of energy efficiency. There is an EnergyStar certification for products and a separate certification for homes. Builders of EnergyStar homes can qualify for the Energy Efficient Home Tax Credit for Builders for federal income taxes. See [www.energystar.gov](http://www.energystar.gov) for more information.

<sup>10</sup> Hawai'i Revised Statutes section 46-19.6 requires all county agencies to place a "priority on processing of permit applications for construction projects incorporating energy and environmental design building standards."

<sup>11</sup> The Oregon program is described in Davies, M., et al, page 108. For details, see <http://www.energytrust.org/residential/index.html>.

**Action ENGY-1.3a:** Work with lenders to publicize available mortgage programs. Currently, there are conventional, FHA, and VA Energy-Efficient Mortgages, but Location-Efficient Mortgages are currently available only in select metropolitan areas (Chicago, Seattle, San Francisco, LA). There is no mortgage program at this time that is a composite of the two (Credit Unions and other lenders, 3-5).

**Policy ENGY-1.4: Energy-Related Water System Technology and Practices.** As the largest single consumer of electricity in Hawai'i County, water conservation programs by the DWS translate into energy conservation programs. Aggressive efforts to fix water leaks and conserve water (e.g., dual-flush toilets, drip landscape irrigation systems, and low-flow shower heads) save energy by reducing the need to pump water. To take advantage of Kona's sloping terrain, consider installation of power generating-pressure reducing valves, which are turbines placed on existing water lines that produce electricity while relieving water pressure for domestic use at lower elevations.

**Action ENGY-1.4a:** Finance a leak detection program for the County Kona water systems (DWS, 3-5).

**Action ENGY-1.4b:** Install photovoltaic systems to power deep well pumps for the County Kona wells (DWS, 3-5).

**Action ENGY-1.4c:** Pilot installations of power generating-pressure reducing valves in Kona are in progress (DWS, on-going).

**Policy ENGY-1.5: Distributed Energy and Other Innovative Technology Support.** Photovoltaic systems are typically used as distributed generation when connected to the electrical grid where they have the potential to sell excess energy back to the grid. This is an emerging technology with challenges for the utility to incorporate such systems into the grid. This policy is aspirational and expresses general support in whatever way possible (e.g., permit coordination, grants) to encourage further development in this endeavor.



**Policy ENGY-1.6: Alternative Fuel for Keāhole Power Plant.** Consider biofuel to replace fossil fuel at the Keāhole Power Plant.

**Policy ENGY-1.7: County Lead by Example.** For projects and offices in Kona, the County shall lead by example in the following areas:

- a. New buildings—certified by LEED, EnergyStar, or Hawai'i GreenBuilt
- b. Existing buildings—certified by LEED for major renovations or operations and maintenance
- c. Street lights—use energy-efficient or solar-powered lights
- d. Rain water and gray water harvesting—for new buildings, evaluate the possibility of installing rain water harvesting techniques such as tanks that collect roof drainage, roof-top tanks for toilet flushing, piping stormwater to lawns and gardens, permeable pavements for parking lots with collection system
- e. Pesticide substitution—explore nontoxic alternatives for maintaining landscaping in public rights-of-way, parks, and at County facilities
- f. Purchasing—purchase EnergyStar and products made from recycled materials; purchase energy-efficient vehicles (and pioneer electric vehicle purchases when they become available).

## 4.8 ECONOMIC DEVELOPMENT

The Economic Development section of the Kona CDP identifies objectives, policies, and actions that focus on supporting important foundations of Kona's economy as well as key opportunities for economic development for which Kona is strategically positioned. Maintaining a vibrant economy in Kona is essential for achieving the visions of the Kona CDP.

### 4.8.1 Existing Conditions

According to Hawai'i Business Directory, Kailua had 2,652 business listings in 2005 and increased by 10.8 percent in 2-years with 2,939 business listings in 2007 (Hawai'i Business Directory, 2006).

In 2006, four industry sectors dominated Hawai'i Island's total employment: 1) leisure and hospitality, which includes accommodation and food services; 2) trade, transportation and utilities of which retail is a major contributor; 3) government, where most of the employment is at the state level; and, 4) education and health services, which includes health care and social assistance. Together, these four industries accounted for 73.3 percent of the total employment in Hawai'i County.

The major economic sectors for Kona include:

1. **Tourism.** Tourism (and visitor-related activities) is the major industry on the Island of Hawai'i. In 2005, there were 11,351 visitor accommodation units on the Island, located mainly in Hilo, Kona and South Kohala, an increase of 13 percent over the previous year. These breakdown

Guiding Principles	Econ. Devl.
1. Protect Kona's natural resources and culture.	✓
2. Provide connectivity and transportation choices.	✓
3. Provide housing choices.	
4. Provide recreation opportunities.	
5. Direct future growth patterns toward compact villages, preserving Kona's rural, diverse, and historical character.	✓
6. Provide infrastructure and essential facilities concurrent with growth.	✓
7. Encourage a diverse and vibrant economy emphasizing agriculture and sustainable economies.	✓
8. Promote effective governance.	✓

by unit type as: 1) hotel- 6,977; 2) timeshare -, 1,592; 3) condo/hotel – 1,462; 4) individual vacation- 756; 5) bed & breakfast - 353; 6) other- 189; 7) hostel- 21; and 8) apartment/hotel - 1. As Kona and South Kohala are the major destination areas, most of the units (approximately 8,000) are located in those two areas (County of Hawai'i, 2005).

An increasingly significant part of the tourism industry on the Island is the cruise ship industry. The County has experienced the largest impact from the cruise ship industry, with its relatively small tourist base. Hawai'i cruise ship visitor arrivals were 312,812 in 2005, and grew by 27 percent to 397,318 in 2006 (County of Hawai'i, 2005).

In 2005, about 66 percent of all visitors Island stayed in hotels, 7.7 percent stayed in condominiums, 9.7 percent stayed with friends and relatives, 8.9 percent stayed in timeshare properties and 11.6 percent stayed on cruise ships. Hotel occupancy rates in Kona averaged 75.8 percent in the five year period from 2000 to 2005 (County of Hawai'i, 2005).

2. **Diversified agriculture.** Diversified agriculture, as referred in this plan, includes all agricultural commodities, except sugar and canned pineapple. According to figures supplied by the State Department of Agriculture, the revenue generated by diversified agriculture has continued to demonstrate gains every year since 1986. The majority of the fresh vegetables and fruits consumed in the State is imported. In many instances produce can be grown locally and with equal or better quality than imports.



Farmer's Market. Kamehameha Investment Corporation.

However, for local produce replace a corresponding import, it must be grown and marketed year-round in sufficient quantity to meet local market demand. Without a commitment to use local produce, it is difficult for local growers to compete effectively with imported produce.

Another opportunity for diversified agriculture expansion is the cruise line industry. A number of cruise lines are now sailing to Hawai'i. Recently, there was an agricultural trade show hosting Norwegian Cruise Line purchasing officials. It was reported that these ships need fresh produce and fruit to supply the equivalent of 10 restaurants per ship and serve up to 2,000 passengers daily. (County of Hawai'i, 2005).

Still another potentially profitable market for locally grown produce is the new and largely untapped niche, of the seasonal overseas market. Some farmers have already successfully entered this niche market.

The increase in direct sales of agricultural products at farmers' markets demonstrate an increasing interest among the public to purchase fresh, locally produced agriculture products. In October of 2007, the Hawai'i Food Summit held in Kona was attended by about four

hundred people interested in supporting the concept on increased food sustainability. Other events, such as The Taste of the Range, also indicate the growing support for local agriculture.

Hawai'i Island's climate and year-round growing season is conducive to agricultural production. Agriculture contributes substantially to the County's economy and produces a variety of goods for export and local consumption. The major industries in Kona are: aquaculture; cattle; coffee; forestry and macadamia nuts.

- 3. Forest and Ranching.** Forestry in Kona includes a wide range of climate- and zone-specific forests, from the smaller, naturally occurring dry forests of Kapulehu to larger forests containing high value plantation species that are harvested commercially in areas such as the Hōnaunau forest in South Kona (Allen, William, *Bioscience*, "Restoring Hawai'i's Dry Forests" Dec. 200, Vol 50. No.12) and (CTHAR, *Economic Issues*, "Characteristics of Hawai'i's Retail Forest Industry in 2001," Feb 2006). Increasing interest lies in promoting ecologically sound methods of forestry, such as biodiverse agroforestry, in contrast to older methods of farm forestry like alley farming, as well as in reforesting former pastureland and the conservation and management of forests unique to Hawai'i (Leakey, Roger, "Agroforestry: Tree-based Polycultures, [www.agroforestry.net/events/afwkshp2006/virtualwkshps.html#Anchor-Agenda-11481](http://www.agroforestry.net/events/afwkshp2006/virtualwkshps.html#Anchor-Agenda-11481)).

The most recent 2001 survey estimated Hawai'i's forestry industry valued at \$30.7 million, which includes a retail sector valued at \$23.9 million (CTHAR, *Economic Issues*, "Characteristics of Hawai'i's Retail Forest Industry in 2001," Feb 2006). Within the islands of Hawai'i and Kauai alone, there are more than 40,000 acres of standing, harvestable timber, along with over 20,000 acres in various stages of planting, planning or natural regeneration (Leone, *Honolulu Star Bulletin*, "Native Bat Forces Review of Timber Harvesting," Dec. 12, 2002).



The livestock industry on the island of Hawai'i includes approximately 450 beef cattle and dairy ranching operations, located primarily in the North Kohala, Kona, and Kā'u districts, which generates over \$20 million per year for the island. The island's beef cattle industry provides over half of the state's beef supply on approximately 650,000 acres of grazing land; however, most calves are now exported to the mainland U.S. Over 2,000 dairy cows, primarily Holstein-Friesians, stock the four major dairies on the island, providing almost all of the fresh fluid milk supply. The dairy industry generates over \$7.5 million in farm gate revenues ("County of Hawai'i Agriculture: Livestock" [www.hawaii-county.com/bigislandag/livestock.html](http://www.hawaii-county.com/bigislandag/livestock.html). 1997). Significant amounts of pastureland on the island are currently being withdrawn from use due to sale and other factors, and, in line with more biodiverse farming trends, Kona is currently seeing some efforts toward reclamation of pastureland for agroforestry, in certain areas (Kelley, Jack. "Shifting Paradigms for West

Hawai'i *Hawai'i Island Journal*, Dec. 4, 2004  
[www.hawaiislandjournal.com/2004/12b04b.html](http://www.hawaiislandjournal.com/2004/12b04b.html)).

- 4. Redevelopment Needs.** A high priority is the need to invest in Kailua Village as the commercial, cultural, and visitor center for Kona. Capital reinvestment in Kailua properties has been below needed thresholds for years. Faced with a continuing decline, some tenants have departed as their leases have expired, and prospective tenants and owners have elected to locate their operations outside of the Village center.

On the other hand, increasingly, travelers are choosing to stay in time-share units, condominiums, on cruise ships or with friends and family. This provides the Village with new opportunities to become economically and culturally strong. Also, the new owners of the King Kamehameha Beach Hotel will soon begin a \$25 million upgrade to the facility. But without substantial improvements, Kailua Village's current businesses will likely be drawn away by the new commercial center on Queen Lili'uokalani Trust lands, mauka of the Old Airport. This will further decrease the economic viability of the Kailua Village. One proactive response to this threat has been the creation of the Kailua Village Business Improvement District (KVBID). Business Improvement Districts are a concept that swept through North America in the 1990s. They generally involve a legal mechanism to create a sustainable funding base for enhancing the management of a business district. The KVBID is a collaborative effort between business, government and area residents to develop and implement creative solutions to improve the cleanliness, attractiveness and economic vibrancy of Kailua Village. District landowners, lessees of land, commercial tenants and residents are assessed according to property tax valuations and these assessments return directly to the District to fund programs and improvements.

- 5. Housing Needs.** The current shortage of all types of affordable and workforce housing is making it difficult for many residents to make a living as well as creating a major obstacle for companies to attract and retain employees in Kona.



#### 4.8.2 Overall Strategy

Economic vulnerability increases with excessive dependence on imports (e.g., susceptible to shipping strikes) and lack of diversity (e.g., susceptible to global recessions that reduce visitor travel). Therefore, the overall strategy for Kona's economic development is to support Kona's current strengths in agriculture and tourism, and to diversify with new opportunities that reduce dependence on imports, complement other objectives such as recycling and alternative energy, and provide job opportunities that raise the skill levels of the workforce. Pertinent initiatives include the following:

- (a) Energy industry.** With NELHA as a catalyst, the policies encourage the development of renewable and distributed energy endeavors.

- (b) **Health industry.** With a new Kona hospital as a catalyst, the policies encourage the development of health-related endeavors where Kona adds its own stamp to the island's reputation as the healing island.
- (c) **Resource recovery network.** The policies envision the development of interdependent industries in Kona that exchange and make use of each other's byproducts.
- (d) **Food industry.** Kona has a name brand specialty export crop in the Kona coffee. The policies support the health of that agricultural sector. Additionally, the policies recognize the benefits of increasing locally produced food for the local market by reducing the current 85% dependence on imported food to the island. The suggested means is through the expansion of the underutilized Keāhole Agricultural Park, and support for farmer's markets, NELHA's aquaculture incubation, community gardens, and opportunities to share cooking and food traditions. The inspiration is the Kona Field System, a vast, intensively cultivated area in the Kona uplands, which once supported a native Hawaiian population comparable in size to Kona's population today. According to figures supplied by the State Department of Agriculture, the revenue generated by diversified agriculture has continued to demonstrate gains every year since 1986. Diversified agriculture includes all agricultural commodities except sugar and canned pineapple. In order to move beyond the development of specialty niche market products and actually replace imports, locally-grown products must be supplied in sufficient quantities, year around, to meet the local market demand. Without the ability to make this commitment, it is difficult for local growers to compete effectively with imported products. Besides increasing our food sustainability, the development of a strong agricultural industry in Kona serves as an incentive to protect agricultural lands for agriculture.

The primary strategies for the enhancement of our Agricultural Industry in Kona focus on the following.

1. **Protection of Agricultural Lands.** The maintenance of the current overall density of agriculturally- zoned lands outside of the Kona Urban Area (UA) will discourage unplanned sprawl as well as protect agricultural lands for agricultural uses. See Policy LU-3.8
2. **Rural Clusters.** The adoption of the new program will encourage clustering of development on agricultural lands in exchange for the perpetual protection of contiguous blocks of lands for crop production. The program will also provide an opportunity to create affordable housing in rural areas. See Policy LU-3.3
3. **Availability of Water.** The Plan supports the need to identify irrigation water sources for the agricultural industry. See Policy PUB-4.3
4. **Agricultural Tourism.** The County shall adopt a program to define the legal development of our agricultural tourism industry. See Policy ECON. 2.1
5. **Buy Local.** The development of a "Local Grown" marketing program for agricultural products will promote Kona's agricultural industry which, in turn, encourages the protection of agricultural lands. See Policy ECON. 2.1

6. **Urban Community Gardens.** Land provided for use as community parks can be used for the development of community gardens within urban areas. See Policy PUB-6.2
- (e) **Ecosystem Services.** The concept of ecosystem services attempts to make conservation a viable business option. The policies encourage the further exploration and development of this concept.
- (f) **Workforce Development and Innovation.** The new West Hawai'i University or community college would synergize with NELHA, the hospital, and the Design Center to provide training opportunities for Kona's upcoming generation and, thereby, also attract new businesses. With partnerships established among other universities with expertise in emerging technology, engineering, and science, the university can stimulate innovative applications in the business arena.
- (g) **Redevelopment.** For our existing communities to thrive and for new opportunities to expand, we must invest in and maintain our basic infrastructure. The formation of a redevelopment District in Kailua is necessary in order to maintain and enhance Kailua Village as the commercial, cultural, and visitor center for the Kona District. As part of the proposed Kailua redevelopment project, it will be very important to provide new workforce housing and live-work units in the Village area to serve the needs of local business. Redevelopment priorities for our Mauka Towns also need to be established.



#### 4.8.3 Goal, Objectives, Policies, and Actions

*Economic Development Goal: To foster economic diversification, reduce import dependence, and increase employment opportunities that pay living wages.*

**Objective ECON-1. Strategic Public Facilities and Business Opportunities as Economic Stimuli.** To optimize the potential of certain public facilities and policies to stimulate ancillary economic growth that is desirable because they are environmentally clean, diversify the economy (i.e., not visitor-dependent), pay decent wages, and demand skills and intellect that challenge Kona's existing and upcoming workforce.

**Policy ECON-1.1: Hospital as Stimulus for Healthcare Industry.** Kona needs a new hospital to replace its existing outdated and out-of-place facility. The new hospital should be located on Keohokālole Highway (Mid-Level Road) for optimum accessibility by automobile or transit. To encourage the private sector to negotiate a site for the hospital, the TOD in which

the hospital decides to locate within shall be automatically designated a Regional Center TOD if the Official Kona Land Use Map (see Figure 4-7) has designated it as a Neighborhood TOD. As a Regional Center TOD, there would be incentives for medical offices and other hospital-related businesses to develop in the vicinity.

**Action ECON-1.1a:** Develop Request for Proposal (RFP) for new hospital, negotiate with candidates, and select new site (DOH, PD, private, 1-2).

**Action ECON-1.1b:** Develop medical center TOD master plan and rezone as a Regional Center TOD (DOH, PD, private, 1-2).

**Policy ECON-1.2: Civic Center as Stimulus for Office and Retail Development.** The proposed civic center should be master planned within the context of an overall TOD master plan in order to have the civic center function as an inviting and attractive town center, and to properly capture the potential secondary business demands generated by the numerous County employees working at the civic center as well as the residents drawn to the civic center to conduct business.

**Action ECON-1.2a:** Develop TOD master plan with the civic center as the heart of the town center and rezone as a Commercial TOD (DPW, PD, 2-3).

**Policy ECON-1.3: NELHA as Stimulus for Energy and Research Industry.** NELHA has paradoxical missions: is it a research institution that requires State subsidy or a self-sustaining commercial operation. Are the diverse uses of the cold, pristine, deep ocean water its focus or is the innovative energy research that may use the deep ocean water or other ocean resources as well as non-ocean energy research its focus. The Kona CDP encourages the State and NELHA's board of directors to balance NELHA's complex mission in order to make it a world-class renewable energy research center with close ties to the proposed West Hawai'i University. To offset research subsidies, the plan supports commercial development of the mauka NELHA area by businesses incubated at the NELHA's research area. The proposed frontage road would provide convenient access by residents and visitors to this proposed commercial area.

**Action ECON-1.3a:** Encourage DBEDT and NELHA Board of Directors (BoD) to reevaluate and publicly articulate NELHA's short- and long-term business plan (DBEDT, NELHA, 1-2).

**Action ECON-1.3b:** Develop a master plan for the commercial development of the mauka area of NELHA and obtain entitlements (DBEDT, NELHA, 1-2).

**Action ECON-1.3c:** Design and construct the frontage road to complement and implement the commercial master plan (NELHA, private, DPW, PD, 5-10).

**Policy ECON-1.4: University as Workforce Development.** The synergistic relationship of a university or community college at West Hawai'i with the hospital, NELHA, and Design Center

will provide opportunities for the West Hawai'i residents to obtain the necessary education and training to fill jobs in the emerging skill areas of healthcare, energy, agriculture and urban design.

**Action ECON-1.4a:** Work with the State, University system, and the community to finalize decisions regarding the mission and size of the new university at West Hawai'i (UH, PRIV, on-going).



**Action ECON-1.4b:** Develop a master plan and program funds for the design and construction of the campus (UH, private, 3-5).

**Action ECON-1.4c:** Develop the TOD master plan for the surrounding areas of the University in coordination with the adjoining Pāalamanui project (UH, private, 3-5).

**Action ECON-1.4d:** Formalize the relationships between the Hawai'i Community College and the Design Center, NELHA, and the healthcare industry (UH, NELHA, DC, on-going).

**Policy ECON-1.5: Food industry catalysts.** Support the expansion of the Keāhole Agricultural Park to provide affordable farm lots that emphasize local food production. The proximity of the Park to the new university (for research and technical support), the airport (for exporting), and the urban villages (for direct marketing such as farmers' markets) makes this area a unique opportunity.

**Policy ECON-1.6: Conservation as a viable business option.** Support the evolving refinement of the concept of ecosystem services to encourage private owners to manage or restore their lands in their natural state (see Policies ENV-1.3 and ENV-1.4).

**Policy ECON-1.7: Redevelopment as Economic Stimuli.** The County shall work with the Kailua Village Improvement District, the Chamber of Commerce and other Stakeholders to develop the Kailua Village Redevelopment District Plan and the Rural Towns' redevelopment plans (see Policy LU – 2.4). The plans shall address:

- Infrastructure improvements and public safety
- Infill and Brownfield Development
- Multi modal transportation
- Mixed-use development opportunities
- Affordable and workforce housing
- Public Parking

**Policy ECON-1.8: Eco-Industrial Park.**

To encourage the feasibility testing of the concept of an eco-industrial park, which is a community of firms that exchange and make use of each other's byproducts, there shall be a floating Project District called the Eco-Industrial Park that shall be available to areas within the Urban Area zoned MG, ML, or MCX. The County would assist by funding experts to work with the developer to create a master plan and marketing scheme, to expedite permit approvals, and to coordinate with the



County's Solid Waste Division and other interested parties. On a smaller scale, a community program shall recognize efforts by individual businesses to modify their practices to reduce waste and/or substitute with recoverable materials.

**Action ECON-1.8a:** Establish a pool of expertise and information on the eco-industrial park concept (R&D, 3-5).

**Action ECON-1.8b:** Establish a reuse center to refurbish and sell used appliances and materials (In progress by OHCD and Catholic Social Ministries).

**Action ECON-1.8c:** Establish a community recognition program for green businesses (Being done by Chamber of Commerce).

**Objective ECON-2. Strengthen and Encourage New Agricultural-Related Endeavors.** To enhance existing and encourage new agriculturally-related endeavors.

**Policy ECON-2.1:** Explore and provide opportunities to support, promote, or enhance Kona's agricultural industry.

**Action ECON-2.1a:** The County will work with Kona's Agricultural Community to make recommendations for priorities such as (R&D, DOA, COMM., on-going):

1. Market research for potential export crops in North and South Kona.
2. Language assistance to enable non-English speaking farmers to market their crops.
3. Agricultural industry training for current and new farmers.
4. Establishment of processing facilities in order for farmers to increase opportunities to develop value-added products.
5. Encouragement local institutions (e.g., school cafeterias) to purchase locally produced food.

6. New “crop incubator” projects.
7. Centralized data center to serve as a clearinghouse for information on available Kona agricultural products, services, and markets.
8. Establishment of a commercial kitchen and drying facility to encourage increased diversity in value-added products.
9. Expand the County’s “green waste” nutrients recycling program and purchase a tub grinder for the Kona Green Waste Processing Facility.
10. Programs and events to support and promote agriculture in Kona.

**Action ECON-2.1b:** Create and adopt a county Agricultural Tourism program/policy (R&D, DOA, COMM., 2-3).

**Action ECON-2.1c:** In partnership with the agriculture community in Kona, the County will establish a “Local Grown” program for agriculture products (R&D, DOA, COMM., UH, 1-2).



## 5. ACTION PLAN

With the growth of the population around the Island, it has been increasingly clear that regional approaches are necessary to effectively implement many of the broad Objectives identified within the County General Plan's Elements. The County General Plan, approved in 2005, marked a new era in government for the County of Hawai'i because it established the program serving to develop Community Development Plans around the Island.

The Kona CDP is not expected to provide all the solutions. What the drafting and adoption of the Kona CDP, or any of the Island's CDPs, does is provide a major step in the increased regionalization of the Island's planning so that we may become more effective in addressing both the character of the region as well as the needs of the local residents. The Kona CDP contains Goals, Objectives, Policies, and Actions that are targeted to be implemented within Kona. Some of the Actions will be enacted by the adoption of the Kona CDP by the Hawai'i County Council. Others will require subsequent activities, appropriation of funding, community-based program development, participation by private business and/or other government agencies.

Due to the Kona-specific nature of this Kona CDP as a County legal policy document, it will be very important over the planning horizon of the Kona CDP to monitor, assess, and facilitate progress being made toward the implementation of all the Policies and Actions. The structure and staffing of the Planning Department will need to evolve to provide for the long-range planning oversight that will be necessary to implement and administer the Kona CDP. In addition, due to the focus of the County Planning Commission as a regulatory body, as well as the enormous task that oversight Kona-specific policies will require, there is the need for creating of a regional Implementation Committee (IC) dedicated specifically to monitoring and facilitating Kona CDP Policy implementation.

### 5.1 FINANCING PLAN

There shall be a financing plan to identify alternative funding sources for infrastructure, public facilities and services, and other initiatives identified in the Kona CDP. Upon completion of the financing plan, the Implementation Committee shall recommend appropriate actions.

#### 5.1.1 Scope of the Financing Plan

The financing plan shall address, at a minimum, the following:

1. **Financing Policies.** Articulate the financing policies, such as when special assessments or taxes are appropriate compared with general obligation bonds, who would merit special treatment under certain funding mechanisms (e.g., affordable housing units), and the acceptable maximum tax burden.
2. **Build-out Rate.** Use the latest available information to project the build-out of the planning area, which the County will provide upon discussions with landowners and developers.

3. **Funding Needs.** Provide cost estimates for the infrastructure, facilities, and services listed in the following section. Develop a phasing plan based on the build-out rate and financial feasibility analysis. To ensure concurrency, critical infrastructure (i.e., roads, sewer, and water) shall be in place at the time of projected occupancy.
4. **Alternative Funding Sources.** Consider at a minimum the appropriateness of following funding sources:
  - a. General fund current revenues;
  - b. General obligation bonds;
  - c. Revenue bonds (including redevelopment authority bonds);
  - d. Land-secured financing (improvement districts, community facilities districts);
  - e. Business improvement districts (services and facilities);
  - f. Development fees (e.g., DWS facilities charges);
  - g. User fees;
  - h. Impact fees (examine the potential uses of this source if an impact fee ordinance has not been adopted);
  - i. Tax-increment financing, and/or other means to earmark portions of property tax revenues generated from the planning area for specific improvements or services;
  - j. Grants and donations;
  - k. Reimbursement programs (formal mechanisms to reimburse initial developers or public agencies for upfront funding).

### 5.1.2 Funding List

The following funding list is compiled from Chapter 4 and not ordered in priority.

#### 1. Programs

- a. Design Center setup (see Policy LU-4.1)
- b. Civic Center TOD master planning program (see Policy ECON-1.2)
- c. Kailua Village Redevelopment Planning Program (see Policy LU-2.3)
- d. Rural Towns Redevelopment Planning Program (see Policy LU-3.1)
- e. Open Space Network program (see Policy ENV-2.1)
- f. Kona Mauka Watershed Management Program (see Policy ENV-1.2)
- g. Anchialine Ponds and Nearshore Water Quality Management and Monitoring Program (see Policies ENV-1.11 and ENV-1.12)
- h. Urban Stormwater management Program (see Policy PUB-4.7)
- i. Cultural Resources Inventory (see Policy CR-1.1)
- j. Kona Cultural Resources Committee and Cultural Landscape Report support (see Policy CR-1.1)

## 2. Capital improvements and equipment

### a. *Transportation*

- i. Roads (see Policies TRAN-1.2, TRAN-1.5, TRAN-6.2, and Figure 4-3 Official Transportation Map)
  1. Kahului-Keauhou Parkway
  2. Māmalahoa Bypass
  3. Keanalehu Street –Manawale’a Street
  4. Keohokālole Highway (Mid-Level Road)
    - a. Phase I: Palani Road to Kealakehe Parkway
    - b. Phase II: Kealakehe Parkway to Hina Lani Street
    - c. Phase III: Hina Lani Street to Kaiminani Drive
  5. Kamanu Street Extension
  6. La’aloa Street Extension
  7. Lako Street Extension
  8. Nani Kailua Street Extension
    - a. Makai section (Kuakini Highway to Ali’i Drive)
    - b. Mauka section (Hualālai Road to Kuakini Highway)
  9. Kealaka’a Street Extension
  10. Hienaloli Street Extension
  11. University Drive
  12. Frontage Road
  13. Kuakini Highway Extension
  14. Kakalina Street Extension
  15. Queen Ka’ahumanu Highway, Phase II (Kealakehe Parkway to Airport)
  16. Kealakehe Parkway Extension to Kealaka’a Street
- ii. Buses—add new buses to improve existing service and for new routes as proposed roads are completed. (see Policy TRAN-1.4)
- iii. Rural paratransit (see Policy TRAN-5.1)
- iv. Park & Ride Facilities (see Policy TRAN-3.8)
  1. Makaeo Village
  2. Captain Cook
- v. Transit Stations (see Policies TRAN-1.6 and TRAN-3.8)
  1. Kailua or Makaeo Village hub
  2. TODs
- vi. New bus maintenance facility (Ssee Policy TRAN-1.4)

- vii. County parking lots/structures (see Policy TRAN-4.3)
  - 1. Kailua Village
  - 2. TODs
- viii. Safe Routes to School improvements (see Policy TRAN-3.5)
- ix. Trails and bikeways—to be determined by Open Space Network Plan (see Policies TRAN-3.6 and ENV 2.1)
- b. *Water (see Policy PUB-4.1)***
  - i. Source
  - ii. Storage
  - iii. Transmission
- c. *Wastewater (see Policies PUB-4.4, PUB-4.5, and PUB-4.6)***
  - i. Kealakehe WWTP Expansion
  - ii. New natural system WWTP
  - iii. Sewer system expansion
  - iv. Kahalu'u sewer extension
  - v. Wastewater reclamation system
- d. *Drainage (see Policy PUB-4.7)***
  - i. Flood mapping
  - ii. Drainageways-- to be determined by Urban Stormwater Management Program
- e. *Housing(see Policy HSG-1.1)***
  - i. Setup costs for Kona Housing Non-Profit
  - ii. Kona Housing Trust Fund Financing program
- f. *Parks (see Policy PUB-6.2)***
  - i. Regional park—new Kealakehe park
  - ii. District park—upgraded Old Airport Park and new district park in S. Kona
  - iii. Community parks—located approximately every two miles in the Kona UA
  - iv. Neighborhood parks—financing to be determined by TOD/TND master plans
  - v. Performing arts center/auditorium (if not part of regional park)
- g. *One-Stop Community Resource Center w/ senior recreational center (see Policies PUB-3-2 and PUB-8.1)***
- h. *Open Space acquisitions (see Policies ENV-3.1, ENV-3.2, and ENV-3.3)***
  - i. Setup costs for Kona Treasures Fund
  - ii. Candidate acquisition properties to be identified in Open Space Network Map
- i. *Civic Center (see Policy ECON-1.2)***

- j. Fire (see Policies PUB-2.3 and PUB-2.4)*
  - i. New Makalei fire station, plus equipment and additional operational cost
  - ii. New South Kona fire station, plus equipment and additional operational cost
  - iii. Captain Cook expansion (currently in design phase)
  - iv. New lifeguard stations, plus additional operational cost
- k. Police (see Policies PUB-2.1 and PUB-2.2)*
  - i. New South Kona police station (County is in the process of acquiring land)
  - ii. Relocation of North Kona police station
  - iii. Helicopter
- l. Courthouse—relocate courthouse to Civic Center (see Policy PUB-2.1)*
- m. Solid Waste-- Relocate transfer station*
- n. Schools—financing of new schools within the TODs and TNDs to be determined by the TOD/TND master plans (see Policy PUB-6.6)*
- o. University (see Policy ECON-1.4)*
- p. Medical Center (see Policy ECON-1.1)*

### 3. Services

- a. Maintenance of drainageways (see Policy ENV-1.8)
- b. Right-of-way landscape maintenance (see Policy TRAN-3.3)
- c. Pathways maintenance (see Policy ENV-2.1)
- d. Repaving upgrades for bike and pedestrian improvements (see Policy TRAN-3.4)
- e. 4 police officers/1000 residents (see Policy PUB-2.1)
- f. Parks maintenance (see Policy PUB-7.2)

#### 5.1.3 Financing Districts Map

In order to track the creation of financing districts such as community facilities districts, improvement districts, tax increment financing districts, business improvement districts, and redevelopment districts, such districts shall be included on the Official Public Facilities and Services Map (see Figures 4-10a to 4-10c) upon formation by ordinance.

## 5.2 IMPLEMENTATION

Empowerment at the community level increases local access to decision making, thereby stimulating civic engagement. Broader civic engagement increases the overall knowledge and skill capacity of the community and this increasing capacity provides effective input and creates energy to enable the plan to evolve and adapt to the changing community needs.

Therefore, this chapter sets forth a recommended community-based structure created to ensure the implementation of the Kona CDP. This requires several things:

- There is a community-based entity serving as the steward of the CDP, the “keeper of the flame”, in terms of the plan;
- This entity is composed of representatives from the CDP planning area; and
- This entity keeps itself apprised of local land use issues.

### 5.2.1 Organizational Structure and Membership

The recommended structure is to establish an appointed committee to be administered and staffed by the Planning Department. This Implementation Committee (IC) would consist of nine members with at least three members being residents of South Kona. In addition to the nine members, one representative each from the Design Center, the Kona Housing Non-Profit, the Kona Treasures Fund, and the Kona Cultural Resources Committee shall serve as ex-officio members of the Implementation Committee.

The selection of the members shall be guided by the following criteria:

- “Can do” attitude with optimism moderated by realism
- Open-minded when considering whether the old ways may no longer work
- Willing and able to work with and collaborate with people who may have different points of view
- Respect and appreciate other cultures besides their own
- Willing to work with government by collaborating and building partnerships
- Ability to see the “big picture” – consider and include more than one’s own agendas. Cultural competence in Hawaii’s multi-cultural society.
- Knowledge of the challenges of living and working in the distinctly different parts of Kona (North and South Kona Districts)
- Connected with the community and know the people in the community.

Although guided primarily by the above criteria, the selection shall also strive to balance representation of the following interests:

- Environment
- Housing
- Hawaiian Heritage
- Cultural Resources or Activities
- Landowners/Developers
- Business or Financing
- Public Safety or Health
- Education
- General, including elderly, youth, or other interests

### 5.2.2 Duties

The Implementation Committee (IC) shall serve as the official advocate for the Kona CDP. In addition to partnering with County government, the IC shall strive to stimulate and provide guidance for community-based participation in the implementation of the Kona CDP goals, objectives, policies and

actions. The timeline specified in the Implementation Matrix shall guide the establishment of the IC's priorities. The IC shall adopt rules of procedure.

**A. Plan implementation duties**

- i. Receive periodic updates from County Departments at least once per year regarding Kona CDP implementation based on the Implementation Matrix;
- ii. Make recommendations on Kona CDP official map amendments;
- iii. Respond to public questions on the Kona CDP or forward questions to the proper agencies for response;
- iv. Initiate and coordinate actions for which the community has assumed responsibility;
- v. Advocate for action if implementation stalls;
- vi. Annually evaluate progress on Kona CDP actions and assess the need to update/amend policies;
- vii. Review and revise the indicators on an annual basis, or as otherwise necessary;
- viii. Hold annual "town" meetings to discuss implementation issues, progress, and need for changes;
- ix. Assist in the education of government and the community regarding the Kona CDP-specific policies adopted for the planning area.

**B. Budgetary duties**

- i. For any "block" CIP appropriations to the CDP planning area, establish priorities and monitor progress based on the Kona CDP;
- ii. For the annual County-wide CIP Budget, provide a list of priorities to the Planning Department as input in the preparation of the Budget;
- iii. For the annual County-wide Operational Budget, provide recommendations to the relevant departments as input in the preparation of the Budget.
- iv. Assist the County in implementing the funding plan

**C. Regulatory Updates**

- i. The Planning Commission(s) has the responsibility for regulatory decision-making, which is very time-consuming. The role of the IC should be to focus on proactive implementation of the Kona CDP, and not to be consumed by reacting to every permit application. Nevertheless, it is important for the IC to be aware of pending and approved applications. For this purpose, the Planning Department should provide a report to the IC at intervals desired by the IC of all pending and approved permits processed by the Planning Department located within the Kona CDP planning area.

**5.2.3 Annual and Comprehensive Review**

With support from the Planning Department, the IC shall prepare an annual report to the community outlining the progress and obstacles in implementing the Kona CDP. The Report shall cover, at a minimum, the following:

- A. Summary report card based on the Kona CDP Implementation Matrix and the Indicators identified in Chapters 5 and 6;
- B. Accomplishments, for the year and cumulative;

- C. Major issues or challenges, for the year and cumulative;
- D. Recommended amendments to the plan with a determination on whether an amending ordinance should be processed immediately or should be accumulated with other pending recommendations to be addressed in the next comprehensive update.

### 5.3 IMPLEMENTATION MATRIX

The Implementation Matrix provides a list of the actions needed to implement the Kona CDP, by element. The matrix indicates the type of actions that will be required to implement the policies, and the completion time of the actions to be initiated. The IC shall have the authority to approve updates to the matrix on an annual basis, or as otherwise necessary, to keep the responsibilities and actions current and effective.

County implementation of the actions will be dependent upon available funding.

#### Acronyms/Abbreviations

App.	Applicant
BUS.	Businesses
CD	Civil Defense
COE	US Army Corps of Engineers
COMM	Community-based Organization
DATA	County Data Systems
DBEDT	State Department of Business, Economic Development, and Tourism
DEM	County Department of Environmental Management
DC	Design Center
DOA	State Department of Agriculture
DOE	State Department of Education
DOH	Department of Health
DOT	State Department of Transportation
DHHL	State Department of Hawaiian Home Lands
DLNR	State Department of Land & Natural Resources
DPW	County Department of Public Works
DWS	County Department of Water Supply
Fin.	County Finance Department
HCCRC	Hawai'i County Cultural Resources Commission
HELCO	Hawai'i Electric and Light Company
HHFDC	Hawai'i Housing Finance and Development Corporation
KCC	Kona Chamber of Commerce
KCRC	Kona Cultural Resources Committee
KVBID	Kailua Village Business Improvement District
KVDC	Kailua Village Design Commission
Mayor's	County Mayor's Office
MT	County Mass Transit Agency
NELHA	Natural Energy Laboratory of Hawai'i
NPS	National Park Service

Acronyms/Abbreviations (continued)

OA	County Office of Aging
OHCD	County Office of Housing and Community Development
OSC	County Open Space Commission
OSP	Office of State Planning
PATH	People's Advocacy for Trails Hawai'i
PC	County Planning Commission
PD	County Planning Department
PR	County Department of Parks & Recreation
QLT	Queen Lili'uokalani Trust
R&D	County Research & Development
SHPD	State Historic Preservation Division
State	State agency
SWCD	Soil Water Conservation District
TNC	The Nature Conservancy
UH	University of Hawai'i

This page intentionally left blank.

ACTION	COMPLETION TIMELINE						IMPLEMENTOR(S)
	Enacted by Plan	On-going	1 - 2 years	2 - 3 years	3 - 5 years	5 - 10 years	
<b>SECTION 4.1 TRANSPORTATION</b>							
<b>PROJECTS</b>							
TRAN-1.2a: Design and construct the Keohokalole Highway in functional sections							
Phase I: Palani Road to Kealakehe Parkway							
a) Design Ready			✓				PD
b) Construction Ready				✓			DPW
c) Construct					✓		DOT, DPW
Phase II - Kealakehe Parkway to Hina Lani Street							
a) Design Ready			✓				PD
b) Construction Ready				✓			DPW
c) Construct					✓		DPW
Phase III - Hina Lani Street to Kaiminani Drive							
a) Design Ready						✓	PD
b) Construction Ready						✓	DPW
c) Construct						✓	DPW
Phase IV - Kaiminani Drive to University Drive							
a) Design Ready			✓				Private
b) Construction Ready					✓		Private
c) Construct					✓		Private
TRAN-1.4a: Establish bus routes on existing streets along the designated Secondary Transit Route							
	✓						MT
TRAN-1.4b: Establish bus routes on proposed streets as they are built along the designated Secondary Transit Route							
	✓						MT
TRAN-1.4c: Provide bus maintenance facility in the Kona Urban Area (UA) to support the expanded bus service							
						✓	MT
TRAN-1.5a: Design and construct Frontage Road							
Phase I - Airport to Hulikoā							
a) Coordinate design and intersections with the DOT's Queen Kaahumanu Highway widening			✓				PD, DOT
b) Coordinate financing with public and private owners			✓				PD, Fin.
c) Obtain permit approvals				✓			PD
Phase II - National Park Service section							
a) Determine alignment within 300-foot ROW or NPS property					✓		PD, NPS
Phase III - Connect to Kuakini Highway extension							
a) Coordinate financing and construction with DLNR/DHHL and QLT					✓		PD, DPW, DLNR, DHHL, QLT
TRAN-1.6a: Determine the location, design, and function of major transit hub							
			✓				MT, PD
TRAN-1.6b: Determine funding and construction schedule							
				✓			MT, PD
TRAN-1.6c: Identify Kailua urban transit routes, including phasing and transfer points							
				✓			MT
TRAN-1.7a: Establish a route to Kailua or Makaeo Village with enhanced frequency and in coordination with rural paratransit service							
			✓				MT
TRAN-1.7b: Master plan transits station in coordination with Rural Town redevelopment							
					✓		MT, PD
TRAN-3.4a: Identify high priority retrofits and coordinate with County Department of Public Works							
				✓			PD, DPW
TRAN-3.4b: Obtain County Department of Public Work's repaving and repair project schedule and coordinate retrofits in conjunction with those projects							
				✓			PD, DPW
TRAN-3.8a: Master plan, design, and construct park and ride facilities							
			✓				MT
TRAN-3.8b: Coordinate inter-modal connection with Kona International Airport Master Plan							
	✓						MT, PD, DOT
TRAN-3.8c: Investigate beach service options							
			✓				MT
TRAN-4.3a: Identify centralized public parking as part of the TOD Village Master Plans							
	✓						PD, developer
TRAN-4.3b: Identify centralized public parking as part of the Kailua Redevelopment Plan							
	✓						PD, KVBID
TRAN-5.1b: Commence shuttle service using mini-vans and small buses (i.e. Handi-Van)							
			✓				MT
TRAN-6.2a: Develop financing plan for streets according to the priorities listed in PolicyTRAN-6.2							
			✓				PD, DPW, Fin.
<b>PROGRAMS</b>							
TRAN-3.2a: Determine staffing and equipment requirements for landscaping maintenance program							
			✓				DPW, PD
TRAN-3.2b: Identify financing tools for maintenance programs through public financing plan							
				✓			DPW, PD, Fin.
TRAN-3.2c: Implement financing plan for maintenance programs							
				✓			DPW, PD, Fin.
TRAN-3.5a: Identify high priority routes in coordination with State Department of Education, State Department of Transportation, and County Department of Public Works							
					✓		DPW, DOE, DOT
TRAN-3.6: Designate multi-modal paths (pedestrians, bicycle)							
	✓						DPW, PD

ACTION	COMPLETION TIMELINE						IMPLEMENTOR(S)
	Enacted by Plan	On-going	1 - 2 years	2 - 3 years	3 - 5 years	5 - 10 years	
TRAN-4.1a: Implement Rideshare Program for County employees				✓			MT, Mayor's Office
TRAN-4.1b: Identify major employers to initiate TDM programs				✓			MT
TRAN-4.2a: Evaluate work shifts of major employers in relation to existing bus schedules and routes			✓				MT
TRAN-4.2b: Request major employers to contribute toward subsidizing commuter transit service			✓				Businesses
TRAN-4.3c: Investigate appropriate parking fees			✓				PD
TRAN-5.1a: Establish fares for seniors, disabled, students, and general public.			✓				MT
TRAN-5.1c: Modify shared ride taxi program to use coupons for the first nine miles and to allow starting the meter after nine miles			✓				MT
<b>STANDARDS AND REGULATIONS</b>							
TRAN-1.1a: Adopts Official Transportation Network Map	✓						
TRAN-1.3a: General locations of TODs have been determined by the Official Land Use Map	✓						
TRAN-2.1a: Amends Chapter 23 Subdivision Code to incorporate connectivity standards	✓						Supplements or supersedes sections in HCC Chap. 23, Div. 4 (street design)
TRAN-2.2a: Update the Official Transportation Network Maps with intersection locations as they are determined through preliminary engineering reports or other plans and/or studies		✓					PD
TRAN-3.1: Complete on-going effort to revise County of Hawaii Street Standards			✓				PD
TRAN-3.3a: Designates the reclaimed wastewater zone on Figure 4-10c Official Public Facilities and Services Map	✓						
TRAN-3.3b: Establish list of recommended vegetation, in consultation with Kona Outdoor Circle, as an amendment to the County of Hawaii Street Standards				✓			PD, DPW
TRAN-3.7a: Develop criteria for selecting and determining appropriate traffic calming tools as part of the on-going revision of the COH Street Standards				✓			DPW, PD
TRAN-6.1a: Adopts Concurrency Map	✓						Supplements HCC sec. 25-2-46
<b>SECTION 4.2 LAND USE</b>							
<b>PROJECTS</b>							
LU-2.3b: Initiate redevelopment plan for Kailua Village. Consider the establishment of redevelopment authority, pursuant to HRS Chapter 53 (Urban Renewal), Partner with the Kailua Village Business Improvement District program in preparing their redevelopment plan					✓		PD, KVDC, KVBID
LU-2.6a: Negotiate the respective cost-sharing of the appropriate public facilities		✓					DC, Applicants
LU-2.6b: Program funding of major transit routes, transit stations, and major parks within urban core in coordination with proposed TOD build out		✓					PD, Fin.
LU-3.1b: Prepare town master plan(s)						✓	PD, MT, Town Entity
LU-3.2b: Prepare village master plan(s)						✓	PD, MT, Village Entity
<b>PROGRAMS</b>							
LU-2.1b: Conduct public workshop to educate the community, including land owners, developers, and the public about TOD/TND Villages			✓				PD, R&D, DC
LU-3.1a: Initiate community organization effort, including landowners, developers, and public, on the opportunities of TODs/TNDs for each of the rural towns		✓					R&D, PD
LU-3.2a: Initiate community organization effort, including landowners, developers, and public, on the opportunities of TODs/TNDs for each of the rural villages					✓		R&D, PD
LU-4.1a: As an option, consider budgeting and hiring independent contractor(s) to determine the structure of the Design Center and to establish a pilot program. During this interim period the independent contractor will provide recommendations to the Planning Director for land use applications requiring Design Center review			✓				PD
LU-4.1b: Create and fund positions to staff the Design Center				✓			PD
LU-4.3a: Assign and train staff			✓				PD
<b>STANDARDS AND REGULATIONS</b>							
LU-1.1a: Adopts Official Kona Land Use Map	✓						
LU-1.2: Defines Kona Urban Area	✓						
LU-1.3a: County shall work with State to identify lands that may be appropriate to reclassify from Agriculture to Rural, consistent with the Kona CDP Policies		✓					State, PD
LU-1.5a: Review rezoning and SMA applications pursuant to Policy LU-1.4		✓					Supplements criteria for State Land Use, rezoning, and SMA
LU-1.5b: Identify priority shorelines for increased setback as part of Policy ENV-2.1 Open Space Network Program			✓				PD, PR

ACTION	COMPLETION TIMELINE						IMPLEMENTOR(S)
	Enacted by Plan	On-going	1 - 2 years	2 - 3 years	3 - 5 years	5 - 10 years	
Policy LU-1.6: 17-mile protected coastline	✓						Supplements criteria for State Land Use, rezoning, and SMA
Policy LU-2.1a: Amends Chapter 25 Zoning Code to define TODs and TNDs	✓						Supplements HCC Chap. 25, Art. 6, Div. 4 (Project Districts)
LU-2.1c: Work with landowners, through the Design Center to encourage proposals consistent with Village Design Guidelines		✓					PD
Policy LU-2.2: TOD/TND Components	✓						Supplements HCC Chap. 25, Art. 6, Div. 4 (Project Districts)
LU-2.3a: Official Land Use Map shows general locations of TODs	✓						2.1a & 2.3a duplicative
LU-2.4a: Amends Chapter 25 Zoning Code to establish TOD floating zone project district	✓						Supplements HCC Chap. 25, Art. 6, Div. 4 (Project Districts)
LU-2.5a: Adoption of Village Design Guidelines	✓						
LU-2.5b: Continually improve and refine the Village Design Guidelines		✓					PD, DC/PD
Policy LU-2.7: Traditional Neighborhood Development (TND) Floating Zone Established	✓						Supplements HCC Chap. 25, Art. 6, Div. 4 (Project Districts)
LU-2.8a: Amends Chapter 25 Zoning Code to create a TND overlay zone for existing zoned lands within the specified residential and commercial zoning districts	✓						Supplements HCC Chap. 25, Art. 6, Div. 1 (Planned Unit Development)
LU-2.8b: Review subdivision and plan approval applications pursuant to requirements for parks, housing, street standards, wastewater, and concurrency		✓					PD
LU-2.8c: Review conventional rezoning applications pursuant to Policy LU-2.8 (1)(b)		✓					PD
LU-3.3a: Amends Chapter 25 Zoning Code and Chapter 23 Subdivision Code to establish Clustered Rural Subdivision PUD	✓						Supplements HCC Chap. 25, Art. 6, Div. 1 (Planned Unit Development)
LU-3.4a: Adopts Clustered Rural Subdivision Guidelines		✓					
LU-3.4b: Continually improve and refine the guidelines		✓					PD, DC/PD
LU-3.4c: Work with the State to allow individual home sites smaller than one acre on lands classified as Agricultural so as to increase the flexibility of the Clustered Rural Subdivision Program		✓					PD, OSP
LU-3.5a: Review subdivision application for lands with existing zoning Ag-1 to Ag-5a and FA pursuant to Policy LU-3.5		✓					PD
LU-3.5b: Work with landowners through the Design Center to encourage proposals consistent with Clustered Rural Subdivision Guidelines		✓					PD
Policy LU-3.6: Subdivision on Agriculturally-Zoned Land Served by a Private Water System	✓						Supplements Png Dept Rule 22 (Water Variances)
LU-3.7a: Reviewing Agricultural Employee Housing proposals pursuant to Policy LU-3.7		✓					Guides interpretation of Png Dept Rule 13 (Farm Dwellings)
LU-3.8a: Review rezoning applications with higher burden of justification pursuant to Policy LU-3.8		✓					Supplements amendment criteria in HCC sec. 25-2-40
LU-4.2: Amends Chapter 25 Zoning Code to require mandatory Design Center review	✓						
<b>SECTION 4.3 ENVIRONMENTAL RESOURCES</b>							
<b>PROGRAMS</b>							
ENV-1.1a: Compile available GIS environmental data and make it available to the public		✓					PD, DATA
ENV-1.2a: Organize the Kona Mauka Watershed Partnership			✓				PD
ENV-1.2b: Budget and hire contractor to coordinate and prepare Kona Mauka Watershed Management Program			✓				PD
ENV-1.2c: Implement Kona Mauka Watershed Management Program					✓		PD
ENV-1.3a: Identify, inform, educate affected public agencies to participate in the preparation of the Kona Mauka Watershed Management Program			✓				PD
ENV-1.4a: Identify, inform, educate affected private landowners to participate in the preparation of the Kona Mauka Watershed Management Program			✓				PD
ENV-1.4b: Develop and establish ecosystems services incentives and a financing program, through the Kona Mauka Watershed Management Program			✓				PD
ENV-1.6a: Enact appropriate mechanisms pursuant to Policy ENV-1.2 Kona Mauka Watershed Management Program					✓		PD

ACTION	COMPLETION TIMELINE						IMPLEMENTOR(S)
	Enacted by Plan	On-going	1 - 2 years	2 - 3 years	3 - 5 years	5 - 10 years	
ENV-1.7a: Develop priorities and financing strategies to improve accuracy and comprehensiveness of flood mapping				✓			DPW
ENV-1.7b: Budget and hire contractor to study feasibility of regional stormwater management systems, such as flow ways				✓			DPW, PD
ENV-1.7c: Identify corridors to be recommended for public open space pursuant to Policy ENV-2.2 Open Space Network Program					✓		PD, DPW
ENV-1.8a: Establish guidelines for Adopt-a-Corridor Program			✓				DPW
ENV-1.11a: Budget and hire contractor to verify and update the anchialine inventory and prepare anchialine pond management program				✓			PD, USACE
ENV-1.12a: Hire consultant to prepare Water Quality Monitoring Guidelines				✓			PD, DPW, DOH
ENV-1.12b: Set up water quality monitoring station locations				✓			PD, Community Organization, UH Sea Grant, DOH
ENV-1.12c: Organize and train community base water quality team				✓			PD, Community Organizations, UH Sea Grant, DOH
ENV-1.13a: Develop appropriate educational tools for residents and visitors and marketing plan to use them				✓			R&D
ENV-1.13b: Conduct educational workshops				✓			R&D
ENV-2.1a: Budget and hire consultant to prepare Open Space Network Program			✓				PD, PR, OSP, DLNR, TNC, NPS
ENV-2.1b: Coordinate with the National Park Service's Ala Kahakai Trail Program		✓					PD, PR, OSP, DLNR, TNC, NPS
ENV-3.1a: Identify high priority areas for acquisition pursuant to Policy ENV-2.1 Open Space Network Program			✓				PD, PR, OSC, DLNR
ENV-3.2a: Develop a financing strategy as part of the Public Facilities Financing Program			✓				PD
ENV-3.3a: Establish Kona Treasures Fund as tax deductible organization				✓			PD, KCC
ENV-3.3b: Provide funding and staff support as well as public marketing campaign				✓			PD, KCC
<b>STANDARDS AND REGULATIONS</b>							
Policy ENV-1.5: Sensitive Resources	✓						Supplements requirements for all permit applications to the Plng Dept
ENV-1.9a: Supports Chapter 27 pursuant to Policy ENV-1.9		✓					
Policy ENV-1.10: Non-Degradation of Anchialine Ponds	✓						Supplements SMA and shoreline setback criteria
<b>SECTION 4.4 CULTURAL RESOURCES</b>							
<b>PROGRAMS</b>							
CR-1.1a: Establish the Kona Cultural Resources Committee			✓				PD
CR-1.1b: Identify by GPS Coordinates all existing historic trail alignments that (a) have been recommended for preservation by SHPD, (b) appear on historic maps and/or are known by oral tradition, and incorporate these into the County GIS database			✓				PD, KCRC, SHPD, NPS
CR-1.1c: On a continuing basis, identify by GPS coordinates, all cultural resource sites - recommended for preservation by SHPD and KCRC and incorporate in County's GIS database			✓				PD, KCRC, SHPD
CR-1.1d: Budget sufficient County funding to provide for administrative and technical support to KCRC to complete its duties listed in Policy CR-1.1			✓				PD, KCRC
CR-1.1e: Establish a work plan to accomplish the duties in Policy CR-1.1			✓				KCRC, PD
CR-1.1f: Prepare Cultural Landscape Report			✓				KCRC, PD
CR-2.1a: The County shall apply for certification as a Certified Local Government (CLG) under the National Historic Preservation CLG Program in order to be eligible to apply for and receive preservation funding administered through SHPD			✓				KCRC, PD
CR-2.2a: The County shall convene a workshop(s) that would include government agency representatives, cultural representatives and other stakeholders to review and make recommendations on the current programs intended to protect cultural resources and other historic sites					✓		HCCRC
CR-2.2b: The County shall recommend amendments to appropriate ordinances to incorporate the stewardship and protection of historic sites, buildings and artifacts (Grubbing and Grading, Subdivision Code)					✓		HCCRC
CR-2.2c: The County shall recommend amendments to appropriate ordinances to incorporate the appropriate use and implementation of native plants in the landscaping of public facilities such as schools, government buildings, and parks					✓		HCCRC
CR-3.1a: Ensure the existence of and support for public and private entities that further the betterment of Kanaka Maoli		✓					public and private agencies, community

ACTION	COMPLETION TIMELINE						IMPLEMENTOR(S)
	Enacted by Plan	On-going	1 - 2 years	2 - 3 years	3 - 5 years	5 - 10 years	
CR-3.1b: Increase fluency in Kanaka Maoli language		✓					public and private agencies, community
CR-3.1c: Sponsor cross-sector dialogue on Kanaka Maoli culture and island values		✓					public and private agencies, community
CR-3.1d: Protect Kanaka Maoli intellectual property and related traditional knowledge		✓					public and private agencies, community
CR-3.1e: Provide Kanaka Maoli cultural education for residents, visitors and the general public		✓					public and private agencies, community
CR-3.2a: Increase the number of educators who teach cultural and historic education		✓					public and private agencies, community
CR-3.3a: Provide Kanaka Maoli mentors with opportunities to pass on Hawaiian culture and knowledge to the next generation of Kanaka Maoli and others		✓					public and private agencies, community
CR-3.3b: Perpetuate Kanaka Maoli food production associated with land and ocean traditions and practices		✓					public and private agencies, community
Policy CR-3.4: Provide support for subsistence-based businesses and economies		✓					public and private agencies, community
CR-3.5a: Apply the ahupuaa concept in action plan for the Kona Mauka Watershed Management Program		✓					public and private agencies, community
<b>SECTION 4.5 HOUSING</b>							
<b>PROGRAMS</b>							
HSG - a: Establish the Kona Non-Profit			✓				OHCD
HSG - b.1: Sponsor a design contest and retain the winner to prepare pre-approved plans for starter homes, accessory units, or other appropriate housing types				✓			Kona Non-Profit
HSG - b.2: Draft standard first right of refusal provision to be included in the Affordable Housing Agreements executed between the developer and OHCD and incorporated as deed covenants			✓				Kona Non-Profit
HSG - b.3: Exercise rights of first refusal and purchase Chapter 11 units from developers to rent or lease to income-qualified households		✓					Kona Non-Profit
HSG - b.4: Establish programs in coordination and to supplement island-wide programs				✓			Kona Non-Profit
HSG - c.1: The County and the community should encourage State agencies currently developing affordable projects to review their projects for consistency with the policies to provide affordable rentals, mix of housing types, and perpetual affordability strategies		✓					OHCD, Kona Non-Profit, DHHL, HHFDC
HSG - c.2: The Kona Non-Profit should coordinate with the pertinent State and County agencies to inventory potential public lands that are suitable for housing development and initiate project planning or ensure land-banking for affordable housing purpose				✓			Kona Non-Profit, DLNR
HSG-c.3: The County or Kona Housing Non-Profit should explore privatization options with the State housing agency				✓			OHCD, Kona Non-Profit
<b>STANDARDS AND REGULATIONS</b>							
HSG - d.1: TOD/TND mixed affordable housing requirement, TOD/TND preemption of ohana dwelling, Project District Affordable Housing Floating Zone	✓						Supersedes HCC Chap. 25, Art. 6, Div. 3 (ohana dwellings); supplements Div. 4 (Project Districts)
HSG - d.2: Additional Chapter 11 credits for workforce housing; disabled, elderly, live/work units; 1:1 density bonus; resale restrictions	✓						Supplements HCC sec. 11-5(c) (credits), -8 (density bonus), -14 (resale restrictions)
HSG - e: New private developments are encouraged to creatively provide low cost/affordable housing and meet certain needs especially critical to Kona. The Design Center should help to increase awareness of these policies and stimulate creativity to meet these needs		✓					DC/PD
<b>SECTION 4.6 PUBLIC FACILITIES, INFRASTRUCTURE &amp; SERVICES</b>							
<b>PROJECTS</b>							
PUB - 2.1a: Plan a new North Kona Police Station to be located within the Honokohau Village TOD and program for design and construction funding						✓	Police
PUB - 2.1b: Coordinate with the State to relocate the circuit and district courts to the Honokohau Village TOD						✓	State Judiciary, PD
PUB - 2.1c: Design and construct the relocated South Kona Police Station. The County is in the process of acquiring a site				✓			Police
PUB - 2.3a: Existing and proposed fire stations meet the level of service for the Urban Area. A new fire station is needed in South Kona in the vicinity of the Hookena						✓	Fire
PUB - 2.4a: Identify proposed lifeguard stations on the Official Public Facilities and Services Map		✓					Fire, PD
PUB - 2.6a: Identify additional disaster shelters and critical facilities where defecient					✓		State and County CD
PUB - 3.2a: Plan, design, and construct information center/activity center for the disabled and elderly						✓	OA

ACTION	COMPLETION TIMELINE						IMPLEMENTOR(S)
	Enacted by Plan	On-going	1 - 2 years	2 - 3 years	3 - 5 years	5 - 10 years	
PUB - 3.4c: Continue to implement curb ramp program for streets and sidewalks and parks and recreation program facilities		✓					DPW, PR
PUB - 4.1a: Update, as necessary, DWS's master plan for Kona to support future growth in the TODs				✓			DWS
Policy - 4.2: South Kona Water System	✓						
PUB - 4.3d: Update the Kona water system master plan to incorporate agricultural water component					✓		DWS
PUB - 4.4b: Develop a sewer plan to service the Kahaluu area					✓		DEM
PUB - 4.4c: Update the sewerage master plan to service the entire Kona Urban Area with priority to the TODs and the areas within approximately 1 mile of the shoreline					✓		DEM
PUB - 4.5a: Master plan the expansion of the Kealahou Wastewater Treatment Plant			✓				DEM
PUB - 4.5b: Master plan the development of a new wastewater treatment plant servicing north of Hina Lani Street that considers the feasibility of natural treatment systems				✓			DEM
PUB - 4.5c: Master plan a comprehensive wastewater reclamation system to maximize reuse				✓			DEM
PUB-4.6a: Future wastewater reuse areas shall be identified on Figure 4-10c Official Public Facilities and Services Map-Waste Management		✓					DEM, PD
Pub - 5.1b: Master plan concept and financing for new natural system wastewater treatment facility and relocated transfer station/recycling center: obtain DLNR approval to use State land						✓	DEM
PUB - 6.2a: Identify deficiencies to the park system described in Policy PUB-6.2		✓					PR, PD
PUB - 6.2b: Establish a master plan for expansion and improvement of the Old Airport as a district park			✓				PR, PD
PUB - 6.2c: Begin the process to find a location and funding for the Kona Civic Auditorium. Invite public input regarding design requirements and preferences				✓			PR, PD
PUB - 6.2d: Prepare master plan for Kealahou Regional Park					✓		PR, PD
PUB - 6.2e: Begin the process to find location, acquire site, prepare master plan and fund a South Kona District Park (including integrated community services center)					✓		PR, PD
PUB-7.1a: Use charrettes to the extent practicable in the design process of County facilities to involve the community, broaden the design input with multi-disciplinary expertise, and stimulate creativity		✓					DPW, PD
PUB - 7.1b: Update the community at milestones in the design process such as the end of the schematic, design development, and pre-bid construction documents phases		✓					DPW, PD
<b>PROGRAMS</b>							
PUB-2.1d: Support the addition of manpower for policing efforts		✓					Police
PUB - 2.2a: Support for the community policing program should continue		✓					Police
PUB - 2.2b: In villages, consider reinstating the bicycle patrols					✓		Police
PUB - 2.2c: Through a Business Improvement District or other organization, partner with downtown businesses to enhance security and orderliness			✓				KVID
PUB - 2.2d: Develop a public safety audit checklist and conduct neighborhood and downtown safety walks to identify potential crime spots or unsafe areas				✓			Police, KVBD, Neighborhood Watch Organization
PUB-2.5a: Identify motor vehicle related fatalities and injuries		✓					Police, DOT, DOH, traffic safety organizations
PUB-2.5b: Improve data collection, assessment, and dissemination of information		✓					Police, DOT, DOH, traffic safety organizations
PUB-2.5c: Encourage an integrated planning and design process for improvements in roads, emergency medical services, and public transportation		✓					Police, DOT, DOH, traffic safety organizations
PUB - 3.1a: Coordinate with the County of Hawaii Healthcare Crisis Plan					✓		Mayor's Office
PUB - 3.4a: Continue to work with the police department to assist in accessible parking enforcement		✓					Police
PUB - 3.4b: Offer educational programs to sensitize residents to the challenges of the blind, deaf, or wheelchair bound persons				✓			One stop center
PUB - 4.3a: Develop policies and plans to provide water for agricultural use, and amend DWS's Rules accordingly					✓		DWS
PUB - 4.3b: Develop an irrigation best practices certification program				✓			SWCD
PUB - 4.3c: Develop an application form to facilitate verification of the agricultural dedication and irrigation best practices certification				✓			DWS
PUB - 4.4a: Identify the violators and enforce the sewer hookup requirements			✓				DEM
PUB - 4.7a: Hire a consultant to develop Stormwater Management Program and Guidelines, incentives, and education/training program, such as LID				✓			DPW
PUB- 4.7b: Implement the education and training program; adopt and publicize the incentives; adopt and enforce the Stormwater Management Guidelines				✓			DPW
PUB - 5.1a: Find entrepreneur(s) for biofuel crop					✓		R&D
PUB - 6.3a: Establish in cooperation with the State DOE, joint use of school facilities for recreational and community use		✓					PR, DOE, PD

ACTION	COMPLETION TIMELINE					IMPLEMENTOR(S)
	Enacted by Plan	On-going	1 - 2 years	2 - 3 years	3 - 5 years	
Policy PUB - 6.4 Environment as Public Realm and Classroom. See Actions ENV - 2.1 and CR - 1.1e						
PUB - 6.5a: Consider 1% of public facilities construction budget to be allocated for public art at new County facilities		✓				IC
Policy PUB - 6.6: Important Role of Schools in Creating a Sense of Community		✓				PR, DOE, PD
PUB - 7.2a: Develop a maintenance level of service for parks and streetscapes to establish a baseline expectation				✓		PR, DPW
PUB - 7.2b: Encourage adopt-a-park and adopt-a-street civic participation to meet the level of service expectations		✓				PR, community/neighborhood associations
PUB-7.2c: Provide for upgrading and maintenance to the public facilities in critical need of attention		✓				PR, DPW
PUB - 7.2d: Increase outside lighting at public restrooms				✓		PR, DPW
PUB - 7.2e: Open existing public restrooms that are currently closed, and provide for more public restrooms in strategic locations			✓			PR, DPW
PUB - 7.2f: Initiate a process to establish a monthly, scheduled maintenance review of public restrooms in Kona			✓			PR, DPW
Policy PUB-7.3: Recruitment Incentives		✓				
PUB - 8.1a: The County shall work with the community to establish One-Stop Community Resource Center					✓	R&D, community
PUB - 8.1b: Increase funding for the Healing Our Island Program					✓	R&D
PUB - 8.1c: Increase transportation options, especially small vans, in order to reduce rural isolation and increase access to programs, jobs and activities				✓		R&D, MT
PUB - 8.1d: Increase demand-response transportation through the use of small vans in order to increase accessibility to drug and alcohol treatment and programs					✓	R&D, MT
PUB - 8.1e: Increase the number of therapeutic living programs and facilities					✓	R&D, MT, OA
PUB - 8.1f: Develop a de-tox program in Kona			✓			community/non-profit
PUB - 8.1g: Establish a youth intake center to provide more immediate intervention for youth in Kona			✓			community/non-profit
PUB - 8.1h: Expand partnerships among substance abuse treatment providers and improve coordination and integration of services		✓				community/non-profit
PUB - 8.2a: Provide demand-response transportation (e.g. small vans) for the elderly, youth, and disabled					✓	R&D, MT
PUB - 8.2b: Expand partnerships among providers and improve coordination and integration of services for residents with disabilities or special needs		✓				community/non-profit, OA
PUB - 8.2c: The County shall provide a new homeless shelter and an opportunity for transitional living to low income rental housing					✓	OA
<b>STANDARDS AND REGULATIONS</b>						
Policy PUB 1-1: Official Public Facilities and Services Map	✓					
PUB - 2.2e: Incorporate in the Village Design Guidelines crime prevention through environmental design principles					✓	PD
Policy PUB-3.3: Preventive Health through Walkable Communities	✓					Incorporated in Village Design Guidelines
PUB - 4.1b: Amend DWS Rules as necessary to support the Kona CDP land use policies					✓	DWS
Policy PUB-6.1: Gathering Places	✓					Incorporated in Village Design Guidelines
Policy PUB-6.2: Neighborhood park dedication requirements	✓					Supersedes HCC Chap. 8 (Park Dedication)
<b>SECTION 4.7 ENERGY</b>						
<b>PROJECTS</b>						
ENGY-1.4b: Install photovoltaic systems to power deepwell pumps for the County Kona wells					✓	DWS
ENGY-1.4c: Pilot installations of power generating-pressure reducing valves in Kona are in progress		✓				DWS
Policy ENGY-1.7: County Lead by Example		✓				County Departments
<b>PROGRAMS</b>						
ENGY-1.1a: Provide a standard logo label to stick onto the title page of building plans to alert the Kona permitting agencies to expedite processing			✓			PD, DPW-BD
Policy ENGY-1.2: Energy Saving Renovation for Existing Residences				✓		Kona non-profit
ENGY-1.3a: Work with lenders to publicize available mortgage programs					✓	Credit Unions and other lenders
ENGY-1.4a: Finance a leak detection program for the County Kona water systems					✓	DWS
Policy ENGY-1.5: Distributed energy and Other Innovative Technology Support		✓				HELCO
Policy ENGY-1.6: Alternative Fuel for Keahole Power Plant		✓				HELCO
<b>SECTION 4.8 ECONOMIC DEVELOPMENT</b>						

ACTION	COMPLETION TIMELINE						IMPLEMENTOR(S)
	Enacted by Plan	On-going	1 - 2 years	2 - 3 years	3 - 5 years	5 - 10 years	
<b>PROGRAMS</b>							
ECON-1.1a: Develop RFP for new hospital, negotiate with candidates, and select new site			✓				DOH, PD, private
ECON-1.1b: Develop medical center TOD master plan and rezone as Regional Center TOD			✓				DOH, PD, private
ECON-1.2a: Develop TOD master plan with the civic center as the heart of the town center and rezone as Commercial TOD				✓			DPW, PD
ECON-1.3a: Encourage DBEDT and NELHA BoD to reevaluate and publicly articulate NELHA's short- and long-term business plan			✓				DBEDT, NELHA
ECON-1.3b: Develop a master plan for the commercial development of the mauka area of NELHA and obtain entitlements			✓				DBEDT, NELHA
ECON-1.3c: Design and construct the frontage road to complement and implement the commercial master plan						✓	NELHA, private, DPW
ECON-1.4a: Work with the State, University System, and the community to finalize decisions regarding the mission and size of the new university at West Hawaii		✓					UH, private
ECON-1.4b: Develop a master plan and program funds for the design and constructions of the campus					✓		UH, private
ECON-1.4c: Develop the TOD master plan for the surrounding areas of the university in coordination with the adjoining Palamanui Project					✓		UH, private
ECON-1.4d: Formalize the relationship between the Hawaii Community College and the Design Center, NELHA, and the healthcare industry		✓					UH, NELHA, DC
Policy ECON-1.5: Food Industry Catalysts		✓					DOA, UH, PD, community
Policy ECON-1.6: Conservation as a viable business option		✓					private, government
Policy ECON-1.7: Redevelopment as economic stimuli		✓					PD, KVID
ECON - 1.8a: Establish a pool of expertise and information on the eco-industrial park concept					✓		R&D
ECON - 1.8b: Establish a reuse center to refurbish and sell used appliances and materials		✓					OHCD, Catholic Social Ministries
ECON - 1.8c: Establish a community recognition program for green businesses		✓					COC
ECON - 2.1a: The County will work with Kona's Agricultural Community to make recommendations for priorities		✓					R&D, DOA, community
ECON-2.1b: Create and adopt a County Agricultural Tourism program/policy				✓			R&D, DOA, community
ECON-2.1c: In partnership with the agricultural community in Kona, the County will establish a "Local Grown" program for agricultural products			✓				R&D, DOA, community, UH
<b>STANDARDS AND REGULATIONS</b>							
Policy ECON-1.1: Establishes Medical Center Floating Zone	✓						Supplements HCC Chap. 25, Art. 6, Div. 4 (Project Districts)
Policy ECON-1.8: Establishes Eco-Industrial Park Floating Zone	✓						Supplements HCC Chap. 25, Art. 6, Div. 4 (Project Districts)

## 6. MONITORING EFFECTIVENESS AND PROGRESS

An “indicator” is something that helps you understand where you are, which way you are going, and how far you are from where you want to be. The Kona CDP Community Indicators will serve as an annual information resource to provide a snapshot of current community conditions and trends based on selected quantitative data gathered from a variety of sources.

The indicators were selected based on the following factors:

- *They are relevant.* They tell us something basic and fundamental to the long term cultural, environmental, economic or social health of our community.
- *They reflect community values.* The crucial role of an indicator is to reflect the community's values that resonate with the citizens of Kona.
- *They are attractive to local media.* The press publicizes them and uses them to analyze community trends and the implementation plan.
- *They are statistically measurable.* Data exist or can be developed that is relevant to our geographic area.
- *They are reliable.* You must be able to trust what the indicator shows and preferably indicators can be measured over time so that you have comparable data and can track trends.

The report card will be published annually based on trends:

- + Good trend or progress
- √ No change or holding steady
- Bad trend or no action

### General Demographic Indicators a “Snapshot” of who we are.

The first are general trend indicators which will give us a demographic snapshot of our community.

1. **Indicator:** Population growth trend for North Kona, South Kona, and relative to the County
  - Data source: U.S. Census Bureau
2. **Indicator:** Ratio of full time residents to part time residents
  - Data source: State Department of Taxation
3. **Indicator:** Ethnic diversity
  - Data source: U.S. Census Bureau and County Research & Development.
4. **Indicator:** Median household income
  - Data source: U.S. Census Bureau and County Research & Development

The following indicators are organized to reflect the eight (8) Guiding Principles identified by the citizens of Kona throughout the planning process.

### Guiding Principle 1. Protect Kona's natural resources and culture.

#### Natural Resources Indicators:

##### *Areas of natural and cultural significance protected.*

1. **Indicator:** Number of acres of federal, state, county, and privately-owned open space that are permanently protected for conservation.
  - Data source: State Department of Land & Natural Resources Land Division and Land Use Commission, State Department of Business, Economic Development, & Tourism, and County Planning Department
2. **Indicator:** 80% of Kona's residents have access to public Open Space within walking distance from their homes.
  - Data source: County Open Space Network Program

##### *Water quality monitoring guidelines are met or exceeded for Kona's nearshore waters.*

1. **Indicator:** Measurement of nearshore water quality for fecal coliform, nutrients and coral reef health
  - Data source: County Water Quality Monitoring Program, Department of Health Clean Water Branch
2. **Indicator:** Number of anchialine ponds inventoried and protected.
  - Data source: County Planning Department, U.S. Army Corp of Engineers

##### *Agricultural lands are maintained.*

1. **Indicator:** Acreage of Kona land zoned farmland.
  - Data source: Initiate GIS layer for ag use based on property tax and inventory system for permanent open space. State Department of Land & Natural Resources Land Division, State Department of Business, Economic Development, & Tourism, and County Planning Department, County Real Property Tax & Assessment Office
2. **Indicator:** Number of Kona farmers markets and average number of agricultural vendors.
  - Data source: Kona Farm Bureau

##### *New building is energy efficient.*

1. **Indicator:** Annual number of EnergyStar, LEED or Hawaii BuiltGreen certified buildings.
  - Data source: Hawaii Electric and Light Company, U.S. Environmental Protection Agency, U.S. Department of Energy, Building Industry Association of Hawaii (Hawaii BuiltGreen), State Department of Business, Economic Development & Tourism
2. **Indicator:** Number of existing homes retrofitted with solar heating.
  - Data source: Hawaii Electric and Light Company

***Recycling is maximized and solid waste is decreased.***

1. **Indicator:** Measurement of solid waste generation per capita
  - Data source: County Department of Environmental Management
2. **Indicator:** Measurement of pounds recycled per capita
  - . Data source: County Department of Environmental Management

**Cultural Resources Indicators:**

***Cultural resources and historic trails are mapped and protected.***

1. **Indicator:** Number of archeological sites and number of linear miles of historic trails mapped and protected.
  - Data source: State Historic Preservation Division, County Kona Cultural Resources Committee
2. **Indicator:** Number of cultural resources, including sites and trails protected by management plans/easements or other tools.
  - Data source: County Open Space Network, County Planning Department, State Historic Preservation Division, and County Kona Cultural Resources Committee
3. **Indicator:** Number of people enrolled in Hawaiian language classes
  - Data source: DOE & Kamehameha Schools

**Guiding Principle 2. Provide connectivity and transportation choices.**

***Traffic congestion is decreased on major thoroughfares due to the creation of alternative routes and methods of transportation.***

1. **Indicator:** Number of linear miles of new roadways.
  - Data source: County Planning Department and Data Management, Required Concurrency Roads (Table 4-1 and Figure 4-3) or Kona CDP Implementation Committee, State Department of Transportation
2. **Indicator:** Number of shared-use paths and bike routes.
  - Data source: County Planning Department and Data Management, Required Concurrency Roads (Table 4-1 and Figure 4-3) or Kona CDP Implementation Committee, State Department of Transportation
3. **Indicator:** Number of people riding the bus per day.
  - Data source: County Mass Transit Agency
4. **Indicator:** Number of Public Transit "Stations" and sheltered stops.
  - Data source: County Mass Transit Agency

**Guiding Principle 3. Provide housing choices.**

*There are a range of housing options available for Kona residents.*

1. **Indicator:** Residents live within 30 minutes drive time from employment.
  - Data source: U.S. Census Bureau, County Research & Development
2. **Indicator:** Housing costs are no more than 30% of annual household income.
  - Data source: U.S. Census Bureau, County Research & Development
3. **Indicator:** Number of new affordable housing units built.
  - Data source: County Housing and Community Development, Public Housing Authority, Hawaii Housing Finance and Development Corporation

*Housing assistance is provided to our most vulnerable citizens; the elderly, disabled and homeless.*

1. **Indicator:** Number of units directed to homeless, senior and disabled residents.
  - Data source: County Housing and Community Development, Hawaii Public Housing Authority, Hawaii Housing Finance and Development Corporation

**Guiding Principle 4. Provide recreation opportunities.**

*A range of recreational opportunities are available to residents of Kona to foster a healthy lifestyle.*

1. **Indicator:** The Number of regional, district, community and neighborhood parks established as outlined in the plan.
  - Data source: County Department of Parks & Recreation, County Department of Public Works, State Department of Land & Natural Resources State Parks Division, State Department of Land & Natural Resources Forestry & Wildlife Division, National Park Service
2. **Indicator:** Number of cultural and environmental festivals, programs, and community-based, volunteer projects.
  - Data source: County Department of Research & Development, State Department of Business, Economic Development, & Tourism, State Department of Agriculture, and Kona Farm Bureau
3. **Indicator:** Number of Hales or “gathering places” available for public use.
  - Data source: County Department of Parks & Recreation
4. **Indicator:** Number of cultural sites open to the public.
  - Data source: County Department of Parks & Recreation, County Open Space Network Program, State Department of Land & Natural Resources, National Park Service

**Guiding Principle 5. Direct future growth patterns.**

*Growth is directed to mixed-use compact villages.*

1. **Indicator:** Number of land-use proposals that meet Village Project District Standards.
  - Data source: County Planning Department (Design Center)
2. **Indicator:** Number of new development projects that voluntarily adopt the plan guidelines.
  - Data source: County Planning Department (Design Center)
3. **Indicator:** Number of land use approvals that meet Clustered Rural Subdivision Guidelines.
  - Data source: County Planning Department (Design Center)
4. **Indicator:** Number of approvals of “infill developments” connected to existing communities.
  - Data source: County Planning Department (Design Center)

**Guiding Principle 6. Provide infrastructure and essential facilities concurrent with growth.**

1. **Indicator:** Number of sites selected for new public facilities.
  - Data source: County Department of Public Works, County Department of Parks & Recreation, County Department of Planning
2. **Indicator:** Recommended minimum standards for public services, fire and police are met.
  - Data source: County Mayor’s Office, County Fire Department, County Police Department

**Guiding Principle 7. Encourage a diverse and vibrant economy.**

*The agricultural character of Kona is maintained.*

1. **Indicator:** GE Taxes paid on local agriculture production.
  - Data source: State Department of Agriculture

**Sustainable Industries Indicators**

1. **Indicator:** Number of local businesses able to pay a living wage (FTE median income)
  - Data source: State Department of Business, Economic Development & Tourism, County Research and Development
2. **Indicator:** Number of locally owned and operated businesses.
  - Data source: State Department of Business, Economic Development & Tourism

**Guiding Principle 8. Promote effective governance**

*Kona has the local authority to guide implementation of the plan and its components (i.e. Design Center, Kona Cultural Resources Committee, Kona Housing Non-Profit, Kona Housing Trust Fund, etc.).*

1. **Indicator:** Implementation of Policies and Actions included in the Kona CDP Implementation Matrix on schedule.
  - Data source: County Planning Department and Kona CDP Implementation Committee

## 7. GLOSSARY

**Action** – A specific requirement or recommendation, such as the creation of a project or program, intended to implement a policy or achieve an objective.

**Brownfield** – Land previously used for industrial purposes or certain commercial uses that may be contaminated by low concentrations of hazardous waste or pollution and has the potential to be reused once it is cleaned up.

**Commercial Village** – A village intended for mixed use, higher density residential, retail, commercial, employment, and/or regional one-of-a-kind facilities such as major civic, medical, education, and entertainment facilities.

**Density** – The ratio of the dwelling units to the gross land area in which they are located.

**Density Transfer** – The transfer of allowable dwelling units from one parcel of land to another, in exchange for open space.

**Development Agreement** – A written agreement for specified periods of time between the County, any governmental entity or agency made a party thereto, and any person having a legal or equitable interest in real property for the purpose of vesting the right to develop such property in accordance with laws, ordinances, resolutions, rules, and policies of any governmental entity or agency made party to the agreement in effect at the time such agreement is executed, and for the purpose of delineating development requirements that may include, but are not limited to, affordable housing, design standards, water allocations, dedications of real or personal property, on-site and off-site infrastructure and other development related improvements and government services, which shall be approved by resolution of the County Council and executed by the Mayor on behalf of the County.

**Environmental Assessment (EA) and Environmental Impact Statement (EIS)** – An informational document prepared in compliance with Chapter 343, Hawaii Revised Statutes, that discloses the environmental and social impacts of a proposed action on the community and state, measures proposed to minimize adverse effects, and provides alternatives to the action.

**Extensive Agriculture** – LUPAG designation for lands not classified as Important Agricultural Land. Includes lands that are not capable of producing sustained, high agricultural yields without the intensive application of modern farming methods and technologies due to certain physical constraints such as soil composition, slope, machine tillability and climate. Other, less intensive, agricultural uses such as grazing and pasture may be included in the Extensive Agriculture category.

**Flood Corridors** – Includes FEMA's Flood Insurance Rate Map (FIRM) 100-year floodplains and planned flow ways.

**Flow Way** – Proposed man-made drainage or designated channels.

**Goal** – A goal is a desired outcome expressed in simple terms. It should describe the desired end state.

**Greenbelt or Greenway** – Areas of largely undeveloped, wild, agricultural land surrounding or neighboring urban areas.

**Greenfield** – An area that is undeveloped or used for agriculture. Refers only to undeveloped open space within the Kona Urban Area between TODs, TNDs and infill.

**Important Agricultural Lands** – LUPAG designation for lands with better potential for sustained high agricultural yields because of soil type, climate, topography, or other factors. Important agricultural lands were determined by including the following lands:

- Lands identified as “Intensive Agriculture” on the 1989 General Plan Land Use Pattern Allocation Guide Maps.
- Lands identified in the Agricultural Lands of Importance to the State of Hawaii (ALISH) classification system as “Prime” or “Unique.”
- Lands classified by the Land Study Bureau’s Soil Survey Report as Class B “Good” soils. There are no Class A lands on the Island of Hawaii.
- Lands classified as at least “fair” for two or more crops, on an irrigated basis, by the U.S.D.A. Natural Resource Conservation Service’s study for suitability for various crops.
- In North and South Kona, the “coffee belt,” a continuous band defined by elevation, according to input from farmers.
- State agricultural parks.

**Infill** – Land development within the general boundaries of existing urban/suburban areas that were previously left undeveloped.

**Land Use Pattern Allocation Guide (LUPAG)** – The County of Hawaii General Plan LUPAG Map indicates the general location of various land uses in relation to each other.

**Makai** – towards the sea.

**Mauka** – inland, upland, towards the mountain.

**Mixed Use** – A land use pattern that integrates compatible residential, commercial, industrial, office, institutional, or other land uses.

**Neighborhood Village** – A village intended for residential, public/civic uses, or small scale neighborhood oriented commercial uses. The commercial uses are of a small scale and are intended to serve the needs of the village residents.

**Objective** – An objective is a desired endpoint that leads toward accomplishing a goal.

**Open Space** – Undeveloped land or water body which is free of structures and equipment, except for those incidental to the land's open space uses. Open space may include the following: flood protection, creating a sense of special separation from incompatible land uses, areas for agricultural operations, passive recreation, active recreation, conservation uses, or historical site preservation.

**Pedestrian Way** – A public right-of-way through a block between lots for pedestrian traffic, which may also be used as a utility easement, and which has a maximum width of twenty feet.

**Policy** – A deliberate plan of action to guide decisions and achieve rational outcomes.

**Public Access, Open Space, and Natural Resources Preservation Commission** – The Commission will be made up of nine members who are appointed by the Mayor and confirmed by the Council. The purpose of the Commission is to develop an island-wide prioritized list of qualifying lands worthy of preservation. The Commission will explore methods of funding land acquisition and make recommendations and will emphasize land acquisitions where the County's contribution can be leveraged to obtain State, Federal and/or private funds.

**Rural Area** – Areas outside of the Kona Urban Area.

**Secondary Area** – The area extending approximately ¼ mile from the outer edge of the village core of the TOD. Lower density housing and other auto-oriented uses are located here. The secondary areas take advantage of the services within the core area through an interconnected street system with easy access to transit by foot, bike, or car. Secondary areas will be primarily comprised of standard single-family and multi-family neighborhoods.

**Traditional Neighborhood District Floating Zone (TND)** – A new type of Project District for areas zoned agriculture within the Kona Urban Area.

**Transit Oriented Development Floating Zone (TOD)** – Mixed use developments located at strategic points along a regional transit system. TODs consist of moderate and high density housing, along with complementing public uses, jobs, retail and services.

**Urban Area** – The Kona Urban Area spans from the Kona International Airport to Keauhou. The majority of future growth shall be directed within this area.

**Village Core** – A concentration of development within a neighborhood that includes identified residential, retail, office, public spaces, and public/civic uses. The village core includes the ¼ mile area from a transit station.

This page intentionally left blank.

## 8. REFERENCES

ACP-Visioning & Planning Ltd. and The Environmental Simulation Center. *Public Involvement Summary: Process and Results*. November 23, 2006

Allen, William. "Restoring Hawaii's Dry Forests." *Bioscience*, Dec. 2000, Volume 50. Number. 12.

American Association of State Highway and Transportation Officials. *A Policy on Geometric Design of Highways and Streets*. Fifth Edition, 2004.

Bauer, Glenn. *A Study of the Ground-Water Conditions in North and South Kona and South Kohala Districts 1991-2002*. September 2003.

County of Hawai'i. *2006 County of Hawai'i Databook*. 2007.

County of Hawai'i Planning Department. *County of Hawai'i General Plan*. February 2005.

County of Hawai'i Planning Department. *Keahole to Honaunau Regional Circulation Plan: County Action Plan*. August 14, 2006.

County of Hawai'i Agriculture: Livestock" [www.hawaii-county.com/bigislandag/livestock.html](http://www.hawaii-county.com/bigislandag/livestock.html). 1997.

Davies, Michael, Claire Gagne, Zenke Hausfather and Dawn Lippert. *Analysis and Recommendations for the Hawai'i County Energy Sustainability Plan*. Prepared for the Hawai'i County Council. October 3, 2007.

Ellis, William. *Journal of William Ellis*. Advertiser Publishing Co., Ltd, Honolulu, Hawai'i. 1963.

Green, Linda Wedel. *A Cultural History of Three Traditional Hawaiian Sites on the West Coast of Hawai'i Island*. U.S. Department of the Interior National Park Service Denver Service Center. September 1993. [http://www.nps.gov/history/history/online\\_books/kona/history.htm](http://www.nps.gov/history/history/online_books/kona/history.htm)

Hawaii Business Directory 2006, Directories USA, Omaha, NE.

James, Sarah and Torbjrn Lahti. *The Natural Step for Communities: How Cities and Towns Can Change to Sustainable Practices*. 2004.

Johnson, Jeremiah, Dan Leistra, Jules Opton-Himmel, and Masom Smith. *Hawai'i County Baseline Energy Analysis*. May 10, 2006.

Kamakau, Samuel M. *Ruling Chiefs of Hawai'i (Revised Edition)*. The Kamehameha Schools Press, Honolulu, Hawai'i. 1961.

- Kelley, Jack. "Shifting Paradigms for West Hawai'i" *Hawai'i Island Journal*, Dec. 4, 2004  
[www.hawaiisalandjournal.com/2004/12b04b.html](http://www.hawaiisalandjournal.com/2004/12b04b.html)
- Kona Historical Society's Kona Historic Ranch and Store. *Kona (Hawai'i) Historical Society – Kona Historic Ranch and Greenwell Store*. Undated.
- Leakey, Roger, "Agroforestry: Tree-based Polycultures,"  
[www.agroforestry.net/events/afwkshp2006/virtualwkshps.html#Anchor-Agenda-11481](http://www.agroforestry.net/events/afwkshp2006/virtualwkshps.html#Anchor-Agenda-11481))
- Leone, Diana. "Native Bat Forces Review of Timber Harvesting," *Honolulu Star Bulletin*, Dec. 12, 2002
- Maly, Kepā. *Mālama Pono I Ka 'Āina – An Overview of the Hawaiian Cultural Landscape*. 2001.
- Oki, Delywn. *Geohydrology and numerical simulation of the ground-water flow system of Kona, Island of Hawaii*. U.S. Geological Survey Water-Resources Investigations Report 99-4073. U.S. Geological Survey, Honolulu, HI. 1999.
- Personal Communication. Chief Lawrence Mahuna, County Police Department, December 17, 2007.
- Personal Communication. Ruby McDonald, State Office of Hawaiian Affairs. April 28, 2008.
- Reinecke, J.E. *Survey of Sites on West Hawai'i*. File Manuscript, Department of Anthropology, Bishop Museum, Honolulu, Hawaii. 1930.
- Smart Growth Network. *Getting to Smart Growth: 100 Policies for Implementation*,  
<http://smartgrowth.org>.
- State of Hawai'i, Department of Business, Economic Development, and Tourism, Office of Planning. *Hawai'i Statewide GIS Program*. <http://hawaii.gov/dbedt/gis/>
- State of Hawai'i, Department of Health. *Guidelines for the Treatment and Use of Recycle Water*. May 15, 2002.
- State of Hawai'i, Hawai'i 2050 Sustainability Task Force. *Hawai'i 2050 Sustainability Plan*. January 2008.
- University of Hawai'i College of Tropical Agriculture and Human Resources (CTHAR). "Characteristics of Hawaii's Retail Forest Industry in 2001," *Economic Issues*, Feb 2006.
- University of Hawai'i, Department of Geography. *Atlas of Hawai'i*. The University Press of Hawai'i, Honolulu. Third Edition 1998.
- U.S. Census Bureau, Hawai'i Census 2000. <http://www.census.gov>

Zelinka, A. and D. Brennan, *Safescape: Creating Safer, More Livable Communities Through Planning and Design*. Chicago: Planners Press, American Planning Association, 2001.

This page intentionally left blank.

## **ATTACHMENT A**

---

### **Official Map Metadata**

## Metadata for Official Maps Kona CDP

Some of the GIS layers appear on several of the Official Maps. Usually, a layer is “official” on only one of the Official Maps, and informational on other maps. To distinguish its status, the following table indicates on which map the layer is a “Policy Layer” (i.e., official) and which map the layer is just informational.

- **Policy Layer:** Official information on the map that require an amendment to the plan to add, delete, or relocate records. Changes that improve the accuracy of the information are considered “updates” rather than amendments.
- **Information Layer:** Background information that automatically update with any changes to the Policy Layers, or otherwise do not need a plan amendment to change the information.

Layer	Official Maps			
	Transportation Network	Concurrency	Land Use	Public Facilities and Services
Proposed Roads	Policy	Policy	Information	
Major Transit Line	Policy		Information	Information
Transit Stops/Stations/Hub	Policy			Information
Pedestrian-Bike Paths	Policy			
Urban Area, Rural Town TODs	Information	Information	Policy	Information
TOD Type	Information	Information	Policy	
Concurrency Zone		Policy		
Public Facilities (separate layers by facility)				Policy
Financing Districts				Policy
Existing Roads (Street Centerline)	Information	Information	Information	Information
Parcels	Information	Information	Information	Information

### Layer Name: Proposed Roads

**Description:** This layer is a Policy Layer on the Kona CDP Official Transportation Network Map and the Kona CDP Official Concurrency Map. This layer identifies major future roads proposed in the General Plan or Kona CDP process. Major roads include arterials, major collectors, minor collectors, and other important connectors. The purposes to identify these future corridors are: 1) to preserve the corridor by incorporating the right-of-way in applicable permit approvals; 2) to provide notice to potentially affected owners; and 3) to plan these improvements, as appropriate,

in the capital improvements program. This layer is specific to the Kona CDP and not Countywide.

File Name: Proposed Roads

Layer Type: Polyline

Source: The General Plan polylines were copied from the County of Hawaii Planning Department's General Plan roads shapefile. The polylines for the Kona CDP roads were generally drawn connecting two points following background information (e.g., proposed developer's site plans) where available.

Attributes:	FID	Internal software number
	Name	Name of the road
	Source	Whether the road is proposed from the General Plan (GP) or Kona Community Development Plan (CDP)
	Concurrency Area	Identifies the concurrency zone in which the road is located for the Official Concurrency Map
	ID_1	Roadway segment identification number
	Class	Roadway classification: Arterial Collector, major Collector, minor Connector, unclassified
	Status	Status of the proposed roadway: A – Conceptual: The alignment is conceptual, just connecting two endpoints. For planning purposes, a study corridor of at least four times the right-of-way width is recommended within which to locate the actual alignment. B – Preliminary: Preliminary engineering and environmental surveys have been conducted (or are in process) to more definitively set the alignment. For planning purposes, a study corridor of at least two times the right-of-way width is recommended within which to locate the actual alignment. C – Final: Construction plans have been completed (or are in process) and the right-of-way has been subdivided or legally defined by metes and bounds (or is in the process of subdivision approval).

Responsible agency to update: County of Hawaii Planning Department. Modifications after the adoption of the Kona CDP will be tracked in the following table.

Update vs. Amendment	Date	Description of Modification
Created	April 2008	

**Layer Name: Transit Line**

**Description:** This layer is a Policy Layer on the Kona CDP Official Transportation Network Map. This layer identifies major transit (bus) routes, proposed or existing. Major transit routes include trunk routes (the highest headways in the region) and secondary routes (connects major destinations but the headways may not be as high as trunk routes). The layer does not include feeder or commuter routes, although in the future all routes could be added. The purposes to identify these major transit routes are: 1) to integrate transportation and land use planning; 2) to factor transit service in prioritizing future roads; and 3) to plan and budget for the capital and operational resources to expand the transit system. This layer is specific to the Kona CDP and not Countywide, although it could be the basis for a Countywide transit routes database.

**File Name:** Proposed Transit Lines

**Layer Type:** Polylines

**Source:** The polylines for the designated transit routes were either "traced" from the County of Hawaii street centerline shapefile (for existing roads) or the Proposed Roads shapefile. As changes are made to the alignments of the Proposed Roads, the transit routes should be updated to "trace" the modified alignment.

**Attributes:** FID Internal software number  
Type Trunk or Secondary

**Responsible agency to update:** County of Hawaii Planning Department, County of Hawaii Mass Transit Agency. Modifications after the adoption of the Kona CDP will be tracked in the following table.

Update vs. Amendment	Date	Description of Modification
Created	April 2008	

**Layer Name: Transit Stops/Stations/Hub**

**Description:** This layer is a Policy Layer on the Kona CDP Official Transportation Network Map. This layer identifies major transit stops (pullout with shelter), stations (building), or hub (station that serves as central transfer point among routes that intersect at the hub). The layer only identifies those stations/stops/hub along the trunk or

secondary routes; it does not include stops along feeder or commuter routes, although in the future all stops could be added. The purposes to identify these major transit stops/stations/hub are: 1) to integrate transportation and land use planning, especially in the planning of walkable villages that center the pedshed on a transit stop/station; and 2) to plan and budget for the capital and operational resources to build and maintain these facilities. This layer is specific to the Kona CDP and not Countywide, although it could be the basis for a Countywide transit routes database.

File Name: Transit Stops\_Stations\_Hubs

Layer Type: Point

Source: The location of the points were based on the approximate locations of the TOD villages. These points will need to be updated as the actual type and locations of these transit facilities are determined.

Attributes: FID Internal software number  
 Type Hub, Station, or Stop; Baseyard  
 Location TOD or other descriptive location  
 Route Trunk or Secondary  
 Status Existing, Proposed-A (location confirmed), Proposed-B (location in vicinity)

Responsible agency to update: County of Hawaii Planning Department, County of Hawaii Mass Transit Agency. Modifications after the adoption of the Kona CDP will be tracked in the following table.

Update vs. Amendment	Date	Description of Modification
Created	April 2008	

**Layer Name: Pedestrian-Bike Paths**

Description: This layer is a Policy Layer on the Kona CDP Official Transportation Network Map. This layer identifies the bike and pedestrian network. It is intended to be updated as part of the Kona Open Space Network Program that will create a comprehensive hubs (destination areas) and links system. The purposes to identify these bike and pedestrian facilities as part of the overall transportation network system are: 1) to ensure the planning of new roads incorporate the appropriate type of bike and pedestrian facilities; 2) to facilitate the retrofitting of existing roads when the roads are repaved or otherwise improved; and 3) to plan these improvements, as appropriate, in the capital improvements program in terms

of a network system rather than piecemeal. This layer is designed to serve as the Countywide database for bike and pedestrian facilities.

File Name: Pedestrian\_Bike Paths

Layer Type: Polyline

Source: Kona CDP: The planning data was primarily based on input from PATH which modified the Bike Plan Hawaii (State of Hawaii, September 2003). Lines were digitized by the County of Hawaii Planning Department by using the "tracing" or "copy parallel lines" on the COH centerline feature or the Na Ala Hele trails feature. Where centerlines or trails features were absent, lines followed background USGS or flood hazard features. The location of the lines are conceptual. For example, some of the lines may fall outside of the right-of-way where, in fact, the actual facility is meant to be constructed within the right-of-way. The width between the lines were set arbitrarily at 30' from either side of the centerline.

Attributes:	FID	Internal software number
	Name	Name of the street or trail. If no name, the default is "Connector".
	Type	Shoulder: Open section streets where stabilized shoulder is designed for non-exclusive use by bicycles and legal mopeds. Intersections have dedicated bicycle space marked. Shared: Streets shared by vehicles and bicycles (no bike lane striping) where lane is wide enough or route is signed. Lane: Bike lane for exclusive use of bicycles and legal mopeds. No motor scooters or motorcycles. No parking. Path: Multi-use path for pedestrians and bicyclists. Special path for steep topography labeled as Path-s (switchback). Ped-x: Routes for exclusive use by pedestrians. "x"= SW (sidewalk) or T (trail)
	Jurisdiction	Ownership and maintenance by (S)tate, (C)ounty, (O)ther, or (U)ndetermined
	Cost Class	Bike Plan Hawaii classification to distinguish magnitude orders of funding required.
	Cost Estimate	Cost estimate
	Priority Level	Priority established by Bike Plan Hawaii or to be determined by the Kona Open Space Network Program or other CDP process
	Status	Existing: Existing conditions are adequate. For trails, needs to be open to the public. If a trail physically exists but access rights or improvements needed, then considered "Proposed".

Existing-repave: Street exists but shoulder stabilization and/or striping improvements need to be coordinated with future repaving.

Existing-redevelopment: Street exists but substantial improvements needed (e.g., add sidewalk and curb).

Existing-sign: Existing conditions adequate; just need signage.

Proposed: Needs to be constructed or opened to the public.

Underway: Under construction.

Proposed in Bike Plan Hawaii, but may be duplicative, outdated, or otherwise unnecessary and should be evaluated through the Kona Open Space Network Program or other CDP process.

Route No.

Route identification number

Length

Miles

CDP

Name of CDP, if referenced in the CDP

Source

Hawaii Bike Plan (BP)

PATH

PATH>BP: PATH modified Bike Plan Hawaii

NAH: Included in Na Ala Hele inventory

Notes

Miscellaneous comments

ID

Identification Number

Official

Yes (included as part of an Official Map); No (no official status)

Responsible agency to update:

County of Hawaii Planning Department. Modifications after the adoption of the Kona CDP will be tracked in the following table.

Update vs. Amendment	Date	Description of Modification
Created	April 2008	

**Layer Name: Urban Area and Rural Towns**

Description: This layer is a Policy Layer on the Kona CDP Official Land Use Map. This layer defines the geographical extent of the Urban Area and Rural Town TODs, as defined in the Kona CDP. This layer is specific to the Kona CDP and not Countywide.

File Name: Urban\_Rural Boundary

Layer Type: Polygon

Source: The Urban Area polygon “traces” the LUPAG boundaries for an area spanning from Kona International Airport to Keauhou, makai of Mamalahoa Highway, designated urban expansion, high density, medium density, low density, resort node, resort area, and industrial area. It excludes the area designated resort node in Kaupulehu and the medium and low density area in Holualoa. The Rural Town TODs polygon traces the LUPAG boundaries for medium and low density areas from Honalo to Captain Cook.

Attributes: FID Internal software number  
 Type Urban Area or Rural Town TODs

Responsible agency to update: County of Hawaii Planning Department. Modifications after the adoption of the Kona CDP will be tracked in the following table.

Update vs. Amendment	Date	Description of Modification
Created	April 2008	

**1. Layer Name: TOD Type**

Description: This layer is a Policy Layer on the Kona CDP Official Land Use Map. This layer approximately locates the TODs, as defined in the Kona CDP.

File Name: TOD Type

Layer Type: Polygon

Source: The TOD polygons were created by “buffering” the Transit Hub/Station/Stop points at a radius distance of 0.5 mile at 0.25 mile intervals. This layer should be updated as each TOD is defined by metes and bounds through Project District rezoning approval.

Attributes: FID Internal software number  
 TOD\_Name Name of the TOD Village  
 Type Type of TOD: Regional Center or Neighborhood

Responsible agency to update: County of Hawaii Planning Department. Modifications after the adoption of the Kona CDP will be tracked in the following table.

Update vs. Amendment	Date	Description of Modification
Created	April 2008	

**Layer Name: Concurrency Zone**

Description: This layer is a Policy Layer on the Kona CDP Official Concurrency Map. This layer identifies the concurrency zones and works together with labeled road segments from the Proposed Roads layer that are subject to the concurrency requirements. An accompanying table relates the specific concurrency zones to the labeled road segments. Although concurrency requirements apply Countywide through the zoning code, this layer applies only to the Kona CDP planning area.

File Name: Concurrency Zone

Layer Type: Polygon

Source: The extent of the polygons were developed through the CDP process based on judgements on the development area that would be served by particular road segments. The boundaries of the polygons "trace", where applicable, parcel boundaries or street centerlines.

Attributes: FID Internal software number  
Concurrency Zone Concurrency Zone

Responsible agency to update: County of Hawaii Planning Department. Modifications after the adoption of the Kona CDP will be tracked in the following table.

Update vs. Amendment	Date	Description of Modification
Created	April 2008	

**Layer Name: Lifeguard Station**

Description: This layer is a Policy Layer on the Kona CDP Official Public Facilities and Services Map. The primary purpose of this layer is to serve as a tool for capital improvements programming. This layer is intended to be maintained as a Countywide database.

File Name: Lifeguard Stations

Layer Type: Point

Source: The Department of Parks and Recreation provided the initial data for existing lifeguard stations. The Fire Department, who took over the lifeguards from the

Department of Parks and Recreation, will assess the need for lifeguard stations. This layer should be updated when the results of that study are available.

Attributes: FID Internal software number  
 Facility\_N Name of the facility  
 District Judicial district  
 TMK Tax Map Key Location  
 Status Existing, Proposed

Responsible agency to update: County of Hawaii Planning Department with the Fire Department. Modifications after the adoption of the Kona CDP will be tracked in the following table.

Update vs. Amendment	Date	Description of Modification
Created	April 2008	

**Layer Name: Fire Station**

Description: This layer is a Policy Layer on the Kona CDP Official Public Facilities and Services Map. It is also one of the Facilities Map in the General Plan. The primary purpose of this layer is to serve as a tool for capital improvements programming. This layer is intended to be maintained as a Countywide database.

File Name: Fire Station

Layer Type: Point

Source: County of Hawaii Planning Department, General Plan Facilities Maps.

Attributes: FID Internal software number  
 Station\_Na Name of the facility  
 District Judicial district  
 TMK Tax Map Key Location  
 No\_of\_Emp Number of employees  
 Fire\_Oper\_ Fire operations  
 EMS\_Oper Emergency Medical Service Operations  
 HAZMAT\_Op Hazardous Material Operations  
 Rescue\_Ope Rescue operations  
 Aero\_Med\_ Aero Medical Operations  
 Twenty\_four 24-Hours  
 Type Full-Time or Volunteer Facility  
 No\_of\_vol Number of Volunteers  
 Status Existing, Proposed-A (location confirmed), Proposed-B (location in vicinity)

Responsible agency to update: County of Hawaii Planning Department with the Fire Department. Modifications after the adoption of the Kona CDP will be tracked in the following table.

Update vs. Amendment	Date	Description of Modification
Created	April 2008	

**Layer Name: Police Station**

Description: This layer is a Policy Layer on the Kona CDP Official Public Facilities and Services Map. It is also one of the Facilities Map in the General Plan. The primary purpose of this layer is to serve as a tool for capital improvements programming. This layer is intended to be maintained as a Countywide database.

File Name: Police Station

Layer Type: Point

Source: County of Hawaii Planning Department, General Plan Facilities Map

Attributes:

FID	Internal software number
Station_Na	Name of the facility
District	Judicial district
TMK	Tax Map Key Location
No_of_Man	Number of Manpower
Comments	Miscellaneous comments
Status	Existing, Proposed-A (location confirmed), Proposed-B (location in vicinity)
Type	Station or Sub-Station

Responsible agency to update: County of Hawaii Planning Department with the Police Department. Modifications after the adoption of the Kona CDP will be tracked in the following table.

Update vs. Amendment	Date	Description of Modification
Created	April 2008	

**1. Layer Name: Hospital**

Description: This layer is a Policy Layer on the Kona CDP Official Public Facilities and Services Map. It is also one of the Facilities Map in the General Plan. The primary purpose

of this layer is to serve as a tool for healthcare planning and also land use planning since a hospital has the potential to serve as a catalyst for health-related businesses. This layer is intended to be maintained as a Countywide database.

File Name: Hospital

Layer Type: Point

Source: County of Hawaii Planning Department

Attributes:

FID	Internal software number
Facility_Na	Name of the facility
District	Judicial district
TMK	Tax Map Key Location
Acute_beds	----
Long_term_	Long Term Care
Total_beds	Total number of rooms
Medical_SU	Medical/Surgical
Critical_C	Critical Care
Obstetric	Obstetrician Care
Pediatric	Pediatrician
Neonatal_I	----
Psych	Psychiatric Care
Skilled_Nu	Skilled Nursing
Intermed_	Intermediate Care
Snf_icf	-----
Acute_snf	-----
Status	Existing, Proposed-A (location confirmed), Proposed-B (location in vicinity)

Responsible agency to update: County of Hawaii Planning Department. Modifications after the adoption of the Kona CDP will be tracked in the following table.

Update vs. Amendment	Date	Description of Modification
Created	April 2008	

**2. Layer Name: Emergency Shelters**

Description: This layer is a Policy Layer on the Kona CDP Official Public Facilities and Services Map. The primary purpose of this layer is to serve as a tool for emergency response planning. This layer is intended to be maintained as a Countywide database.

File Name: Emergency Shelters

Layer Type: Point

Source: County of Hawaii Civil Defense, Multi-Hazard Mitigation Plan

Attributes: FID Internal software number  
ID Arc Internal Number (for Arc/Info use)  
Facility Name of the facility  
District Judicial district  
Location Street Address  
TMK Tax Map Key Location

Responsible agency to update: County of Hawaii Planning Department with the Civil Defense Agency. Modifications after the adoption of the Kona CDP will be tracked in the following table.

Update vs. Amendment	Date	Description of Modification
Created	April 2008	

### 3. Layer Name: Financing District

Description: This layer is a Policy Layer on the Kona CDP Official Public Facilities and Services Map. The primary purpose of this layer is to track the various types of financing districts as they are created by ordinance. This layer is intended to be maintained as a Countywide database.

File Name: Financing District

Layer Type: Polygon

Source: County of Hawaii Planning Department

Attributes: FID Internal software number  
ID Unique record number  
DistNo Official District Number assigned by ordinance  
Date Formed Effective date of ordinance forming the district  
OrdEst Ordinance Number for ordinance establishing the district  
OrdEnd Ordinance Number for ordinance terminating the district  
Purpose Types of improvements and/or services authorized to be funded  
Status Active (still collecting assessments or taxes), Closed (paid up), Default  
Name Name of the district or subdivision

Type ID (improvement district), CFD (community facilities district), BID (business improvement district), TIF (tax increment financing district), RD (redevelopment district)

Responsible agency to update: County of Hawaii Planning Department with the Financing Department. Modifications after the adoption of the Kona CDP will be tracked in the following table.

Update vs. Amendment	Date	Description of Modification
Created	April 2008	

**Layer Name: County Park**

Description: This layer is a Policy Layer on the Kona CDP Official Public Facilities and Services Map. It is also one of the Facilities Map in the General Plan. The primary purpose of this layer is to serve as a tool for capital improvements programming. This layer is intended to be maintained as a Countywide database.

File Name: County Park

Layer Type: Point

Source: County of Hawaii Planning Department, General Plan Facilities Map

Attributes:

FID	Internal software number
Facility_N	Name of the facility
District	Judicial district
TMK	Tax Map Key Location
Total_Area	Total Area
Developed	Developed Area
Facility_T	Facility Type (Camping Site, Beach Park, Ballfields, Gym, Playground, Community Center, Courts)
Classification	Regional, District, Community, Neighborhood, Beach, Facility (e.g., swimming pool), Passive
Status	Existing, Proposed-A (location confirmed), Proposed-B (location in vicinity)

Responsible agency to update: County of Hawaii Planning Department with Department of Parks and Recreation. Modifications after the adoption of the Kona CDP will be tracked in the following table.

Update vs. Amendment	Date	Description of Modification
Created	April 2008	

**Layer Name: Courthouse**

Description: This layer is a Policy Layer on the Kona CDP Official Public Facilities and Services Map. It is also one of the Facilities Map in the General Plan. The primary purpose of this layer is to coordinate services with the State. This layer is intended to be maintained as a Countywide database.

File Name: Courthouse

Layer Type: Point

Source: County of Hawaii Planning Department

Attributes: FID Internal software number  
 ID Arc Internal Number (for Arc/Info use)  
 Name Name of the facility  
 District Judicial district  
 Status Existing, Proposed-A (location confirmed), Proposed-B (location in vicinity)

Responsible agency to update: County of Hawaii Planning Department. Modifications after the adoption of the Kona CDP will be tracked in the following table.

Update vs. Amendment	Date	Description of Modification
Created	April 2008	

**Layer Name: Civic Center**

Description: This layer is a Policy Layer on the Kona CDP Official Public Facilities and Services Map. The primary purpose of this layer is to serve as a tool for capital improvements programming. This layer is intended to be maintained as a Countywide database.

File Name: Civic Center

Layer Type: Point

Source: County of Hawaii Planning Department

Attributes: FID Internal software number  
ID Arc Internal Number (for Arc/Info use)  
Name Name of the facility  
District Judicial district  
Status Existing, Proposed-A (location confirmed), Proposed-B (location in vicinity)

Responsible agency to update: County of Hawaii Planning Department. Modifications after the adoption of the Kona CDP will be tracked in the following table.

Update vs. Amendment	Date	Description of Modification
Created	April 2008	

**Layer Name: School**

Description: This layer is a Policy Layer on the Kona CDP Official Public Facilities and Services Map. It is also one of the Facilities Map in the General Plan. The primary purpose of this layer is to serve as a tool to coordinate land use planning with the State, especially since schools are a primary community asset and affect transportation planning. This layer includes public, private, charter, and university. This layer is intended to be maintained as a Countywide database.

File Name: School

Layer Type: Point

Source: County of Hawaii Planning Department

Attributes: FID Internal software number  
School\_Nam Name of the facility  
District Judicial district  
University University  
Design\_Enr Design Enrollment  
Grade\_Level Grade levels  
SY\_98\_99\_E School Year Enrollment  
TMK Tax Map Key Location  
Comments Miscellaneous Comments  
Enrollment Enrollment Count  
FTE\_Enroll Full-Time Equivalent Enrollment  
Type Public, Private, Charter

Status Existing, Proposed-A (location confirmed), Proposed-B (location in vicinity)

Responsible agency to update: County of Hawaii Planning Department. Modifications after the adoption of the Kona CDP will be tracked in the following table.

Update vs. Amendment	Date	Description of Modification
Created	April 2008	

**Layer Name: Library**

Description: This layer is a Policy Layer on the Kona CDP Official Public Facilities and Services Map. It is also one of the Facilities Map in the General Plan. The primary purpose of this layer is to coordinate services with the State. This layer is intended to be maintained as a Countywide database.

File Name: Library

Layer Type: Point

Source: County of Hawaii Planning Department, General Plan Facilities Maps

Attributes:

FID	Internal software number
Area	Arc Internal Number (for Arc/Info use)
Perimeter	Arc Internal Number (for Arc/Info use)
Library_	Arc ID (for Arc/Info use)
Library_ID	Arc Internal Number (for Arc/Info use)
ID	Arc Internal Number (for Arc/Info use)
Facility_Nam	Name of the facility
District	Judicial district
TMK	Tax Map Key Location
Population	Population Served
Registered	Registered Borrowers
Size_of_Ma	Size of Material Collection
Circula	Circulation
Intra-Libr	Intra Library Loans
Library_PR	Library Programs/Attendance
Reserves_	Reserves/Holds
Public_S	--
Comments	Miscellaneous Comments
Mobilecnt	Size of Material Collection - Bookmobile
Mobilecirc	Circulation_Bookmobile
Illtoother	----

Illfrmother  
Avwkuse  
Avwkrefqst

----  
Usings During an Average Week  
Reference Questions in Average Week

Responsible agency to update: County of Hawaii Planning Department. Modifications after the adoption of the Kona CDP will be tracked in the following table.

Update vs. Amendment	Date	Description of Modification
Created	April 2008	

**Layer Name: Priority Sewer Area**

Description: This layer is a Policy Layer on the Kona CDP Official Public Facilities and Services Map. The primary purpose of this layer is to guide regulatory permit conditions as well as serve as a tool for capital improvements programming. This layer is intended to be specific to Kona.

File Name: Priority Sewer Area

Layer Type: Polygon

Source: One mile zone from the shoreline determined by "buffering" using the shoreline of the County Planning Department's "Coastline" shapefile.

Attributes: FID Internal software number  
ID Arc Internal Number (for Arc/Info use)  
Buff-Dist One-mile priority area

Responsible agency to update: County of Hawaii Planning Department with the Department of Environmental Management. Modifications after the adoption of the Kona CDP will be tracked in the following table.

Update vs. Amendment	Date	Description of Modification
Created	April 2008	

**Layer Name: Wastewater Re-use Area**

Description: This layer is a Policy Layer on the Kona CDP Official Public Facilities and Services Map. The primary purpose of this layer is to coordinate streetscape and other

landscaping planning as well as serve as a tool for capital improvements programming. This layer is intended to be specific to Kona.

File Name: Wastewater Re-use Area

Layer Type: Polygon

Source: Polygon created by "tracing" the Mid-Level Road (Proposed Roads layer), Palani Road (street centerline layer), and parcel layer boundaries.

Attributes: FID Internal software number  
ID Arc Internal Number (for Arc/Info use)

Responsible agency to update: County of Hawaii Planning Department. Modifications after the adoption of the Kona CDP will be tracked in the following table.

Update vs. Amendment	Date	Description of Modification
Created	April 2008	

**Layer Name: Wastewater Treatment Plants**

Description: This layer is a Policy Layer on the Kona CDP Official Public Facilities and Services Map. It is also one of the Facilities Map in the General Plan. The primary purpose of this layer is to serve as a tool for capital improvements programming. This layer is intended to be maintained as a Countywide database.

File Name: WWTP

Layer Type: Point

Source: County of Hawaii Planning Department, General Plan Facilities Maps

Attributes: FID Internal software number  
ID Arc Internal Number (for Arc/Info use)  
Treatment Level Advanced Primary, Secondary, Tertiary  
Type Lagoon, Mechanical  
Effluent Disposal Outfall, Injection Wells, Reuse  
Design Capacity in mgd  
Status Existing-A (adequate capacity), Existing-B (need expansion or replacement in next 10 yrs), Proposed-A (location confirmed), Proposed-B (location in vicinity)

Responsible agency to update: County of Hawaii Planning Department with Department of Environmental Management. Modifications after the adoption of the Kona CDP will be tracked in the following table.

Update vs. Amendment	Date	Description of Modification
Created	April 2008	

**Layer Name: Solid Waste Disposal Facilities**

Description: This layer is a Policy Layer on the Kona CDP Official Public Facilities and Services Map. It is also one of the Facilities Map in the General Plan. The primary purpose of this layer is to serve as a tool for capital improvements programming. This layer is intended to be maintained as a Countywide database.

File Name: Solid Waste

Layer Type: Point

Source: County of Hawaii Planning Department, General Plan Facilities Maps

Attributes:

FID	Internal software number
Facility_Nam	Name of the facility
District	Judicial district
TMK	Tax Map Key Location
Comments:	Miscellaneous Comments
Parcel_Siz	Parcel Size in acres
No_of_Ch	Number of chutes
Distance_T	Distance to landfill
Type	Landfill, Transfer Station, Composting Facility, Sort Station
Status	Existing, Proposed-A (location confirmed), Proposed-B (location in vicinity)

Responsible agency to update: County of Hawaii Planning Department with Department of Environmental Management. Modifications after the adoption of the Kona CDP will be tracked in the following table.

Update vs. Amendment	Date	Description of Modification
Created	April 2008	

## **ATTACHMENT B**

---

### **Village Design Guidelines**

**ATTACHMENT B**  
**VILLAGE DESIGN GUIDELINES**

<b>ARTICLE 1. GENERAL .....</b>	<b>2</b>
1.1. AUTHORITY .....	2
1.2. INTERPRETATION .....	2
1.3. INTENT.....	2
1.4. WARRANTS AND VARIANCES .....	4
<b>ARTICLE 2. PROCESS .....</b>	<b>4</b>
2.1. APPLICABILITY.....	4
2.2. ORGANIZATION OF THE CODE .....	5
<b>ARTICLE 3. VILLAGE SCALE PLANS—NEW VILLAGES.....</b>	<b>9</b>
3.1. INSTRUCTIONS.....	9
3.2. VILLAGE UNIT TYPES.....	10
3.3. TRANSECT ZONES .....	11
3.4. CIVIC ZONES.....	11
3.5. SPECIAL DISTRICTS.....	12
3.6. TRANSPORTATION CORRIDOR STANDARDS .....	12
3.7. DENSITY CALCULATIONS.....	14
3.8. MANDATORY AND SPECIAL REQUIREMENTS .....	15
<b>ARTICLE 4. VILLAGE SCALE PLANS-- INFILL.....</b>	<b>17</b>
4.1. MINIMUM AREA REQUIREMENTS .....	17
4.2. VILLAGE UNIT TYPES.....	17
4.3. TRANSECT ZONES .....	17
4.4. CIVIC ZONES.....	18
4.5. SPECIAL DISTRICTS.....	18
4.6. MANDATORY AND SPECIAL REQUIREMENTS .....	18
4.7. SPECIAL REQUIREMENTS RELATED TO REDEVELOPMENT PLANS (PRE-EXISTING CONDITIONS).....	19
<b>ARTICLE 5. BUILDING SCALE PLANS .....</b>	<b>20</b>
5.1. INSTRUCTIONS.....	20
5.2. BUILDING DISPOSITION.....	21
5.3. BUILDING CONFIGURATION.....	21
5.4. BUILDING CONFIGURATION.....	22
5.5. BUILDING FUNCTION .....	23
5.6. PARKING AND DENSITY CALCULATIONS .....	24
5.7. PARKING LOCATION STANDARDS .....	25
5.8. LANDSCAPE STANDARDS.....	26
<b>ARTICLE 6. STANDARDS AND TABLES .....</b>	<b>26</b>
<b>ARTICLE 7. DEFINITIONS .....</b>	<b>27</b>

## ARTICLE 1. GENERAL

### 1.1. AUTHORITY

- 1.1.1. These guidelines were adopted as one of the instruments of implementation of the Kona Community Development Plan (KCDP) to provide standards of development for Traditional Neighborhood Design (TND) and Transit-Oriented Design (TOD) villages. This is a form-based code, meaning it envisions and encourages a certain physical outcome at the community, BLOCK, or building level. This form is compact, walkable, and mixed-use, and is meant to be comfortable, safe, and ecologically sustainable.
- 1.1.2. The basis of these guidelines is the SmartCode version 9.0 published by the New Urban Publications Inc. It has been "calibrated" to fit with the Kona CDP. The SmartCode embodies the state of knowledge of regulating design to result in compact walkable villages, and the intent is to take advantage of the collective knowledge of other jurisdictions who use the SmartCode as well as future updates by the authors of the SmartCode.
- 1.1.3. The Planning Director may amend these guidelines with approval by the Kona Implementation Committee to improve calibration of these guidelines to the local conditions and update with advances in the state of knowledge.

### 1.2. INTERPRETATION

- 1.2.1. Provisions of this Code are activated by "shall" when required; "should" when recommended; and "may" when optional.
- 1.2.2. Capitalized and underline terms used throughout this Code are defined in Article 7 Definitions of Terms. Those terms not defined in Article 7 shall be accorded their commonly accepted meanings.

### 1.3. INTENT

The intent and purpose of these guidelines are to enable, encourage, and qualify the implementation of the following policies:

- 1.3.1. THE REGION
  - a. That the region retain its natural and visual character derived from topography, coastlines, and other natural features.
  - b. That growth strategies encourage infill and redevelopment in parity with new communities.
  - c. That development contiguous to urban areas be structured in the pattern of infill TND and be integrated with the existing urban pattern.
  - d. That development non-contiguous to urban areas be organized in the pattern of TND or RCD.
  - e. That AFFORDABLE HOUSING should be distributed throughout the region to match job opportunities and to avoid concentrations of poverty.

- f. That transportation corridors be planned and reserved in coordination with land use.
- g. That green corridors be used to define and connect the urbanized areas.
- h. That the region include a framework of transit, pedestrian, and bicycle systems that provide alternatives to the automobile.

### 1.3.2. THE VILLAGE

- a. That Villages and REGIONAL CENTERS be compact, pedestrian-oriented and MIXED USE.
- b. That ordinary activities of daily living occur within walking distance of most dwellings, allowing independence to those who do not drive.
- c. That interconnected networks of transportation corridors be designed to disperse traffic and reduce the length of automobile trips.
- d. That within neighborhoods, a range of housing types and price levels be provided to accommodate diverse ages and incomes.
- e. That appropriate building DENSITIES and land uses be provided within walking distance of transit stops.
- f. That CIVIC, institutional, and COMMERCIAL activity impart a focused town center and gathering place.
- g. That schools could be sized and located to enable children to walk or bicycle to them.
- h. That a range of OPEN SPACE including parks, squares, and playgrounds should be distributed within neighborhoods and villages.
- i. That the growth of the village stays within a defined edge and thereby helps to establish a compact sense of place.

### 1.3.3. THE BLOCK AND THE BUILDING

- a. That buildings and landscaping contribute to the physical definition of transportation corridors as CIVIC places.
- b. That development adequately accommodate automobiles while respecting the pedestrian and the spatial form of public areas.
- c. That the design of streets and buildings reinforce safe environments, but not at the expense of accessibility.
- d. That architecture and landscape design grow from local climate, topography, building practice and fit with Kona's history and lifestyle.
- e. That buildings provide their inhabitants with a clear sense of geography and climate through energy efficient methods.
- f. That CIVIC BUILDINGS and public gathering places be provided as locations that reinforce community identity and support self-government.
- g. That CIVIC BUILDINGS be distinctive and appropriate to a role more important than the other buildings that constitute the fabric of the village.
- h. That the preservation and renewal of historic buildings be facilitated, to affirm the continuity and evolution of society.
- i. That the harmonious and orderly evolution of urban areas should be secured through form-based guidelines or codes.

## 1.4. WARRANTS AND VARIANCES

- 1.4.1. There shall be two types of deviation from the requirements of these guidelines: Warrants and Variances. Whether a deviation requires a WARRANT or VARIANCE shall be determined by the Planning Director.
- 1.4.2. A WARRANT is a ruling that would permit a practice that is not consistent with a specific provision of these guidelines but is justified by the provisions of Section 1.3 Intent. The Planning Director shall have the authority to approve or disapprove administratively a request for a WARRANT.
- 1.4.3. A VARIANCE is any ruling on a deviation other than a WARRANT. VARIANCES shall be granted only in accordance with the procedures for zoning code variances.
- 1.4.4. The request for a VARIANCE shall not subject the entire application to public notice, but only that portion necessary to rule on the specific issue requiring the relief.
- 1.4.5. The following standards and requirements shall not be available for WARRANTS or VARIANCES because they tend to seriously subvert the desired outcome of compact, walkable and diverse communities:
  - a. The maximum dimensions of traffic lanes. (See Table 2A.)
  - b. The required provision of REAR ALLEYS and REAR LANES.
  - c. The minimum BASE RESIDENTIAL DENSITIES. (See Table 11b.)
  - d. The permission to build ACCESSORY BUILDINGS.
  - e. The minimum requirements for parking. (See Table 7.)

## ARTICLE 2. PROCESS

### 2.1. APPLICABILITY

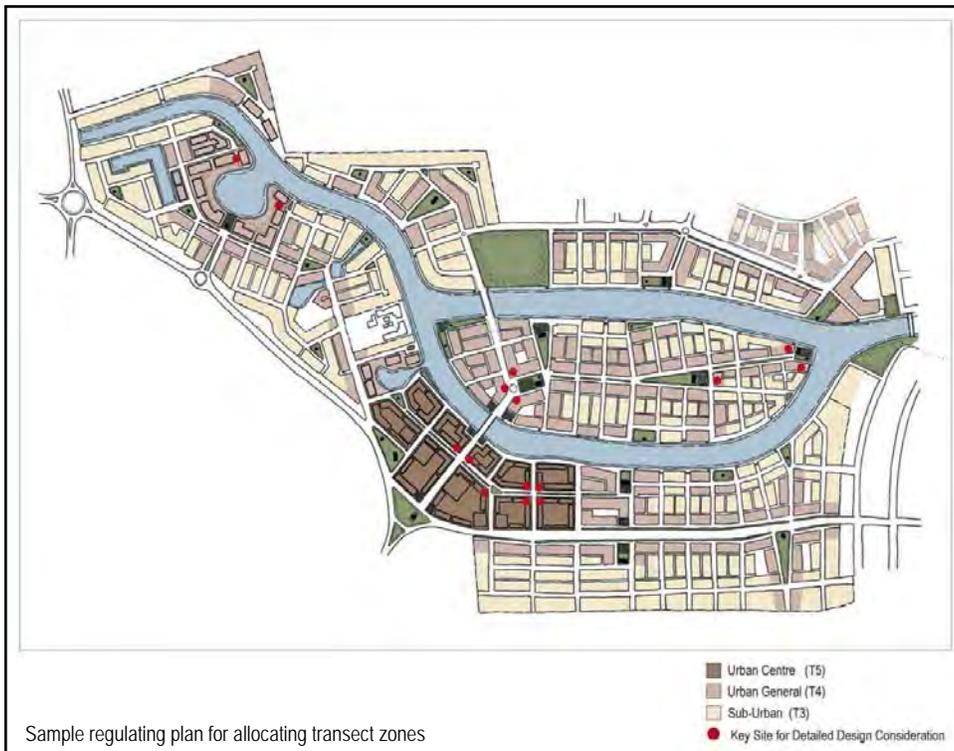
- 2.1.1. Types of Applications. These guidelines apply to two levels of scale: a village plan for a Project District rezoning application for the entire TND/TOD meeting the requirements of Article 3; and a site plan for a subdivision or building permit approval within an approved TND/TOD meeting the requirements of Article 5 and Hawaii County Code section 25-6-46 (review and approval of Project District site plans).
- 2.1.2. Pre-Application. An applicant may discuss informally the intent of the proposed plan with the Design Center. No fees shall be collected for Pre-Application Conference, its purpose being to familiarize the Planning Department with the proposed Plan and the applicant with the development procedures in the KCDP planning area. The applicant should share sketch plans and data showing existing site conditions and the proposed layout and development of the plan. The purpose and intent of the Pre-Application Conference allows both parties to identify potential challenges, opportunities and items that need to be addressed.

- 2.1.3. Charette. Where desired or required to have multi-disciplinary input from various agencies and/or the public to formulate the community or building scale site plan, the Design Center may assist the applicant to organize this meeting(s).

## 2.2. ORGANIZATION OF THE CODE

- 2.2.1. Determine Scale of the Plan. For an applicant preparing a rezoning application for a Project District, go to Article 3 for guidelines to prepare a village scale plan. For an applicant desiring to build within an approved TOD or TND Project District, go to Article 5 to prepare a building scale plan to submit for subdivision or site plan approval.
- 2.2.2. Steps to Prepare a Village Scale Plan. The village scale plan is adopted by ordinance as part of the Project District rezoning, and thereby becomes a Regulating Plan. The Planning Director may administratively approve minor adjustments to the plan. Major changes must be adopted legislatively as an amendment to the rezoning ordinance.
  - a. Determine the VILLAGE UNIT Types. There are two village unit types: a TND and a RCD. Either type may qualify as a TOD. A TOD has a transit station at its center and allows for a higher density. The Kona CDP Land Use Map determines the VILLAGE UNIT type as follows:
    - i. Intended Growth Areas. Future growth is directed to the TOD villages along the main and secondary transit routes. The Land Use Map identifies TODs that are intended as neighborhood villages (TND/TOD) and regional centers (RCD/TOD). For guidelines relating to the TODs, go to Article 3.
    - ii. Infill Growth Areas. Most of the TODs are New Communities. However, the Land Use Map also identifies existing communities intended to be redeveloped—the Kailua Village Redevelopment TOD and the Rural Towns TODs. Additionally, smaller projects adjacent to existing development are encouraged—these types of New Communities are called Infill TNDs. For guidelines relating to INFILL Redevelopment or Infill New Communities, go to Article 4.
    - iii. Controlled Growth Areas. Areas outside of the TODs identified on the Land Use Map but within the designated Urban Area may also be developed as TNDs. If this area is already urban-zoned (RS, RM, RD, CG, CV, CN, MCX), the applicant follows the PUD procedure to have the village scale plan approved. If the area requires rezoning, then the applicant follows the procedures for a Project District rezoning as set forth in the Kona CDP. If the project qualifies as an INFILL TND, then go to Article 4; otherwise, go to Article 3.
    - iv. Open Areas. Village scale plans should identify open spaces when applicable. There are two types of open spaces:

- 1) Preserved Open Space. The Preserved Open Space consists of the Sensitive Resources identified on the Environmental Resources Map that are to be protected from development in perpetuity.
  - 2) Reserved Open Space. The Reserved Open Space consists of the Greenbelt area surrounding TODs and TNDs established by transferring density (TDR).
- b. Allocate Transect Zones. TRANSECT ZONES (T-ZONES) organize the density, complexity, and intensity of the land use within the TND or RCD village. The operating principle is that there is an urban core with a main center focus such as a transit station and plaza. This urban core area, which is spatially defined based on walkable distances called PEDESTRIAN SHEDS, has the highest density, complexity, and intensity of uses. The land uses transition to less dense uses moving away from the center. Table 1 describes the TRANSECT ZONES. The TRANSECT ZONES that correspond to the urban core, secondary area, and greenbelt referred to in the Kona CDP are as follows:
- i. Urban Core
    - 1) T-5 Urban Center
    - 2) T-4 General Urban
  - ii. Secondary Area: T-3 Suburban
  - iii. Greenbelt: GB Greenbelt



- 2.2.3. Steps to Prepare a Building Scale Plan. An applicant would submit a preliminary plan, have that reviewed, then a final plan. The final plan would add landscaping details.
- a. Determine the Building Disposition (i.e., lot configuration and building placement relative to setbacks). Note that setbacks (Table 11g and Table 11h) are provided as ranges. They thus act as build-to lines, but with a degree of flexibility. In general, they become shallower as the TRANSECT ZONES become more urban. A zero lot line streetwall is often desirable in the most urban conditions, because it strongly defines the street space. However, these guidelines specify a 6-foot minimum front setback in T4 so that private frontage can accommodate stoops, porches, private planters and gardens, sidewalk signs, outdoor seating, cafe tables, and other ENCROACHMENTS. The side setbacks in T4 and T5 are zero minimum to allow ROWHOUSES and TOWNHOUSES.
  - b. Determine the Building CONFIGURATION (i.e., building form). The form of a building is determined by its height and type of PRIVATE FRONTAGE. The PRIVATE FRONTAGE occupies the front setback area or encroaches into the SIDEWALK area within the right-of-way. The range of depth of a LOT within which certain elements are permitted is called a LAYER (see Table 14). The design principle is to bring the buildings closer to the streets to create an inviting streetscape and put “eyes on the streets” to create a safer ambience. The maximum height of buildings should be proportional to the street width to avoid an enclosed “canyon” effect.
  - c. Determine the Building Function. The permitted uses are flexible to encourage a mixing of uses horizontally (among buildings, lots, BLOCKS and vertically (within buildings). The range of uses become increasingly flexible from the T-3 to the T-5 Zones. The uses are grouped into the following categories: RESIDENTIAL, LODGING, OFFICE, RETAIL, CIVIC, and Other. The Other category includes certain types of uses that are discouraged within the TNDs or RCDs, such as automobile-dependent uses (e.g., automobile service, drive-through facilities, shopping centers), industrial uses, and agricultural uses.
  - d. Calculate the Parking Requirements and Density Rights. The Buildable DENSITY is determined by the actual parking requirements. The parking requirements are determined by the Building FUNCTIONS and allows for shared parking among mixed Building FUNCTIONS. The provision for T5 that retail spaces under 1500 square feet are exempt from parking requirements is included as it encourages the kind of smaller independent shops that contribute to urban vitality. It also helps keep existing small-lot Main Street downtowns legal for rebuilding without the need for conjoining lots. And it maintains commercial sidewalks free of curb cuts for off-street parking. Once the parking requirements are calculated, then the density by Building FUNCTION can be determined. The EFFECTIVE PARKING may be

increased in TODs to effectively increase the permitted density. ACCESSORY UNITS are not included in the density calculation to encourage this residential use.

- e. Develop the Landscaping Plan. The landscaping standards regulate the extent of paving, lawns, and trees. Note the requirement that in T4, trees in the private frontage are required to match trees in the public frontage (see Table 4 PUBLIC FRONTAGES). While this may seem like an unnecessary effort to control private choice, consider that trees in the private frontage are actually a major part of the viewshed of the public frontage, and contribute to the shade of the public realm. Many trees in older neighborhoods that contribute to their distinctive character are actually growing on the private frontage. While it may seem odd that lawn is permitted BY RIGHT in T4 but not in T3 where lawns have reigned in the past, the rationale is that a lawn is not a natural type of planting, and is not considered environmentally sustainable in large areas. (It requires fertilizers that run off into streams or the aquifer.) Therefore it is allowed in the more urban (less natural) Transect Zone where lots are smaller and yards more intensely used, which is where lawn outperforms other species.

		Articles 3 & 4: Community Scale Plans		Article 5: Building Scale Plans
	GROWTH POLICY	COMMUNITY TYPE	TRANSECT ZONES	STANDARDS
OPEN SPACE	Open Space, Preserved (Sensitive Resources)		GB- Greenbelt	
	Open Space, Reserved (Greenbelt)			
NEW COMMUNITIES (Article 3)	TOD	TND- Neighborhood Village	T3- Suburban Zone	Building Disposition
			T4- General Urban Zone	
			T5- Urban Center Zone	Building Configuration
	Outside TOD	TND- Neighborhood Village	T3- Suburban Zone	
			T4- General Urban Zone	Building Function
			T5- Urban Center Zone	
EXISTING COMMUNITIES (Article 4)	TOD- Redevelopment	RCD- Regional Center	T4- General Urban Zone	Parking Standards
			T5- Urban Center Zone	Architectural Standards
	TND-Infill	TND- Neighborhood Village	T4- General Urban Zone	Environmental Standards
T3- Suburban Zone				
T5- Urban Center Zone			Landscape Standards	

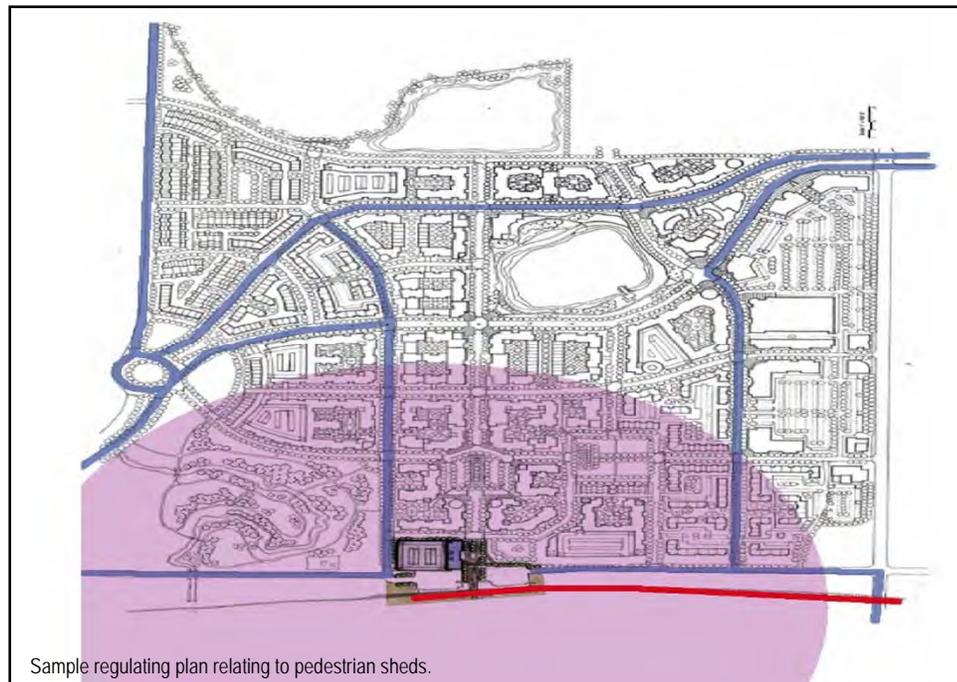
## ARTICLE 3. VILLAGE SCALE PLANS—NEW VILLAGES

### 3.1. INSTRUCTIONS

- 3.1.1. Structure the site using one or several PEDESTRIAN SHEDS, which should be located according to existing conditions, such as traffic intersections, adjacent developments, and natural features. The site or any New VILLAGE UNIT (TND, RCD/TOD) within it may be smaller or larger than its PEDESTRIAN SHED.

Note: In Section 3, New Communities refer to stand-alone development, as compared to “Infill” connected to existing development, so no, don’t replace with Villages.

- 3.1.2. Adjust the PEDESTRIAN SHEDS as necessary to include land falling between or outside them, but the extent of each shall not exceed the acreage limit specified in Section 3.3 for the applicable Village Unit type. An ADJUSTED PEDESTRIAN SHED becomes the boundary of a VILLAGE UNIT.
- 3.1.3. Allocate the areas of TRANSECT ZONES (T-Zones) (Section 3.4) within the boundaries of each VILLAGE UNIT as appropriate to its type. TND may vary in size. If the site is larger than a STANDARD PEDESTRIAN SHED, one TND may be adjoined by another. RCD may also vary greatly in size. This provision gives the planner leeway to structure any site up to 640 acres as either one large RCD or as a smaller RCD adjoined by one or more TNDs. Even though the entire planning area would be within the LONG PEDESTRIAN SHED of the transit stop, the market would dictate whether TND, with its lower density and T-3 housing types, would be more suitable to fill out the parcel than the higher density T-zones of the RCD pattern. See Sections 3.3 and 3.4 and Table 11a.



- 3.1.4. Assign CIVIC ZONES shall according to Section 3.5.
- 3.1.5. Assign SPECIAL DISTRICTS, if any, according to Section 3.6.
- 3.1.6. Layout the THOROUGHFARE network according to Section 3.7.
- 3.1.7. Calculate DENSITY and determine the greenbelt area according to Section 3.8.
- 3.1.8. Remnants of the site outside the ADJUSTED PEDESTRIAN SHED(s) shall be assigned to TRANSECT ZONES or CIVIC SPACE by WARRANT or SPECIAL DISTRICT by VARIANCE.

### 3.2. VILLAGE UNIT TYPES

- 3.2.1. TRADITIONAL NEIGHBORHOOD DEVELOPMENT (TND)
  - a. A TRADITIONAL NEIGHBORHOOD DEVELOPMENT (TND) shall be permitted within the TOD neighborhood, existing urban zoned areas, infill areas, or other remaining areas within the Urban Area.
  - b. A TND shall be structured by one Standard or LINEAR PEDESTRIAN SHED and shall be no fewer than 80 acres and no more than 160 acres.
  - c. A TND shall include TRANSECT ZONES as allocated on Table 11a.
  - d. Larger sites shall be designed and developed as multiple Communities, each subject to the individual TRANSECT ZONE requirements for its type as allocated on Table 11a. The simultaneous planning of adjacent parcels is encouraged.
  - e. In the T-4 General Urban Zone, a minimum Residential mix of three Building Disposition types (none less than 20%) shall be required, selected from Table 6.
- 3.2.2. REGIONAL CENTER DEVELOPMENT (RCD)
  - a. A REGIONAL CENTER DEVELOPMENT (RCD) shall be permitted within the TOD regional center.
  - b. An RCD shall be structured by one LONG PEDESTRIAN SHED or LINEAR PEDESTRIAN SHED and shall consist of no fewer than 80 acres and no more than 640 acres.
  - c. An RCD shall include TRANSECT ZONES as allocated on Table 11a.
  - d. For larger sites, an RCD may be adjoined without buffer by one or more TNDs, each subject to the individual TRANSECT ZONE requirements for TND as allocated on Table 11a. The simultaneous planning of adjacent parcels is encouraged.
- 3.2.3. TRANSIT ORIENTED DEVELOPMENT (TOD)
  - a. Any TND or RCD designated as TOD are permitted the higher DENSITY represented by the EFFECTIVE PARKING allowance in Section 5.9.2d.

### 3.3. TRANSECT ZONES

- 3.3.1. TRANSECT ZONES shall be assigned and mapped on each New Village Plan according to the percentages allocated on Tables 2 and 14a.
- 3.3.2. A Transect Zone may include any of the elements indicated for its T-zone number throughout this Code, in accordance with Intent described in Table 1 and the metric standards summarized in Table 11.

### 3.4. CIVIC ZONES

#### 3.4.1. GENERAL

- a. CIVIC ZONES dedicated for public use shall be required for each VILLAGE UNIT and designated on the New Village Plan as CIVIC SPACE (CS) and CIVIC BUILDING (CB).
- b. CIVIC SPACE Zones are public sites permanently dedicated to Open Space.
- c. CIVIC BUILDING Zones are sites dedicated for buildings generally operated by not-for-profit organizations dedicated to culture, education, religion, government, transit and municipal parking, or for a use approved by the Legislative body.
- d. A CIVIC ZONE may be permitted by WARRANT if it does not occupy more than 20% of a PEDESTRIAN SHED, otherwise it is subject to the creation of a SPECIAL DISTRICT. See Section 3.6.
- e. Parking for CIVIC ZONES shall be determined by WARRANT. CIVIC parking lots may remain unpaved if graded, compacted and landscaped.

#### 3.4.2. CIVIC SPACE (CS)

- a. Each PEDESTRIAN SHED shall assign at least 5% of its URBANIZED area to CIVIC SPACE.
- b. CIVIC SPACES shall be designed as generally described in Table 10, approved by WARRANT, and distributed throughout TRANSECT ZONES as described in Table 11e.
- c. Those portions of the GB Greenbelt that occur within a development parcel shall be part of the CIVIC SPACE allocation and should conform to the CIVIC SPACE types specified in Table 10a or 13b.
- d. Each PEDESTRIAN SHED shall contain at least one MAIN CIVIC SPACE. The MAIN CIVIC SPACE shall be within 800 feet of the geographic center of each PEDESTRIAN SHED, unless topographic conditions, pre-existing THOROUGHFARE alignments or other circumstances prevent such location. A MAIN CIVIC SPACE shall conform to one of the types specified in Table 10b, 13c, or 13d.
- e. Within 800 feet of every LOT in RESIDENTIAL use, a CIVIC SPACE designed and equipped as a playground shall be provided. A playground shall conform to Table 10e.
- f. Each CIVIC SPACE shall have a minimum of 50% of its perimeter fronting a THOROUGHFARE, except for playgrounds.

- g. CIVIC SPACES may be permitted within SPECIAL DISTRICTS by WARRANT.
- h. Parks may be permitted in TRANSECT ZONES T4 and T5 by WARRANT.

#### 3.4.3. CIVIC BUILDINGS (CB)

- a. The owner shall covenant to construct a MEETING HALL or a Third Place in proximity to the MAIN CIVIC SPACE of each PEDESTRIAN SHED. Its corresponding PUBLIC FRONTAGE shall be equipped with a shelter and bench for a transit stop.
- b. One CIVIC BUILDING LOT shall be reserved for an elementary school. Its area shall be one (1) acre for each increment of 100 dwelling units provided by the Village.
- c. Plan, with a minimum of three (3) acres. The school site may be within any TRANSECT ZONE. Any playing fields should be outside the PEDESTRIAN SHED.
- d. One CIVIC BUILDING LOT suitable for a childcare building shall be reserved within each Pedestrian Shed. The owner or a homeowners' association or other community council may organize, fund and construct an appropriate building as the need arises.
- e. CIVIC BUILDING sites shall not occupy more than 20% of the area of each PEDESTRIAN SHED.
- f. CIVIC BUILDING sites should be located within or adjacent to a CIVIC SPACE, or at the axial termination of a significant Thoroughfare.
- g. CIVIC BUILDINGS shall not be subject to the standards of Article 5. The particulars of their design shall be determined by WARRANT.
- h. CIVIC BUILDINGS may be permitted within SPECIAL DISTRICTS by WARRANT.

### 3.5. SPECIAL DISTRICTS

- 3.5.1. SPECIAL DISTRICT designations shall be assigned to areas that, by their intrinsic size, FUNCTION, or CONFIGURATION, cannot conform to the requirements of any TRANSECT ZONE or combination of zones. Conditions of development for SPECIAL DISTRICTS shall be determined in public hearing of the Legislative Body and recorded on Table 13.

### 3.6. TRANSPORTATION CORRIDOR STANDARDS

#### 3.6.1. GENERAL

- a. TRANSPORTATION CORRIDORS are intended for use by vehicular and pedestrian traffic and to provide access to LOTS and OPEN SPACES.
- b. TRANSPORTATION CORRIDORS shall generally consist of vehicular lanes and PUBLIC FRONTAGES.
- c. TRANSPORTATION CORRIDORS shall be designed in context with the urban form and desired design speed of the TRANSECT ZONES through which they pass. The PUBLIC FRONTAGES of TRANSPORTATION CORRIDORS that pass from one TRANSECT ZONE to another shall be

adjusted accordingly or, alternatively, the TRANSECT ZONE may follow the alignment of the THOROUGHFARE to the depth of one LOT, retaining a single PUBLIC FRONTAGE throughout its trajectory.

- d. Within the more urban TRANSECT ZONES (T3 through T5) pedestrian comfort shall be a primary consideration of the THOROUGHFARE. Design conflict between vehicular and pedestrian movement generally shall be decided in favor of the pedestrian.
- e. The THOROUGHFARE network shall be designed to define BLOCKS not exceeding the size prescribed in Table 11c. The perimeter shall be measured as the sum of LOT FRONTAGE LINES. BLOCK perimeter at the edge of the development parcel shall be subject to approval by WARRANT.
- f. All TRANSPORTATION CORRIDORS shall terminate at other TRANSPORTATION CORRIDORS, forming a network. Internal TRANSPORTATION CORRIDORS shall connect wherever possible to those on adjacent sites. Cul-de-sacs shall be subject to approval by WARRANT to accommodate specific site conditions only.
- g. Each LOT shall ENFRONT a vehicular THOROUGHFARE, except that 20% of the LOTS within each TRANSECT ZONE may ENFRONT a PASSAGE.
- h. TRANSPORTATION CORRIDORS along a designated B-GRID may be exempted by WARRANT from one or more of the specified PUBLIC FRONTAGE or PRIVATE FRONTAGE requirements. See Table 4
- i. Standards for PATHS and BICYCLE TRAILS shall be approved by WARRANT.
- j. The standards for TRANSPORTATION CORRIDORS within SPECIAL DISTRICTS shall be determined by VARIANCE.

### 3.6.2. VEHICULAR LANES

- a. TRANSPORTATION CORRIDORS may include vehicular lanes in a variety of widths for parked and for moving vehicles, including bicycles. The standards for vehicular lanes shall be as shown in Table 2A.
- b. A bicycle network consisting of BICYCLE TRAILS, BICYCLE ROUTES and BICYCLE LANES should be provided throughout as defined in Article 7 Definitions of Terms and allocated as specified in Table 11d. BICYCLE ROUTES should be marked with Sharrows. The village bicycle network shall be connected to existing or proposed regional networks wherever possible.

### 3.6.3. PUBLIC FRONTAGES

- a. GENERAL TO ALL ZONES
  - i. The PUBLIC FRONTAGE contributes to the character of the TRANSECT ZONE, and includes the types of SIDEWALK, CURB, planter, bicycle facility, and street trees.
  - ii. PUBLIC FRONTAGES shall be designed as shown in Table 3A and Table 3B and allocated within TRANSECT ZONES as specified in Table 11d.
- b. SPECIFIC TO ZONES T3
  - i. The PUBLIC FRONTAGE shall include trees of various species, naturalistically clustered, as well as understory.

- ii. The introduced landscape shall consist primarily of native species requiring minimal irrigation, fertilization and maintenance. Lawn shall be permitted only by WARRANT.
- c. C. SPECIFIC TO ZONES T4, T5
  - i. The introduced landscape shall consist primarily of durable species tolerant of soil compaction.
- d. SPECIFIC TO ZONE T4
  - i. The PUBLIC FRONTAGE shall include trees planted in a regularly-spaced ALLEE pattern of single or alternated species with shade canopies of a height that, at maturity, clears at least one STORY.
- e. SPECIFIC TO ZONE T5
  - i. The PUBLIC FRONTAGE shall include trees planted in a regularly-spaced ALLEE pattern of single species with shade canopies of a height that, at maturity, clears at least one STORY. At RETAIL FRONTAGES, the spacing of the trees may be irregular, to avoid visually obscuring the shopfronts.
  - ii. Streets with a Right-of-Way width of 40 feet or less shall be exempt from the tree requirement.

### 3.7. DENSITY CALCULATIONS

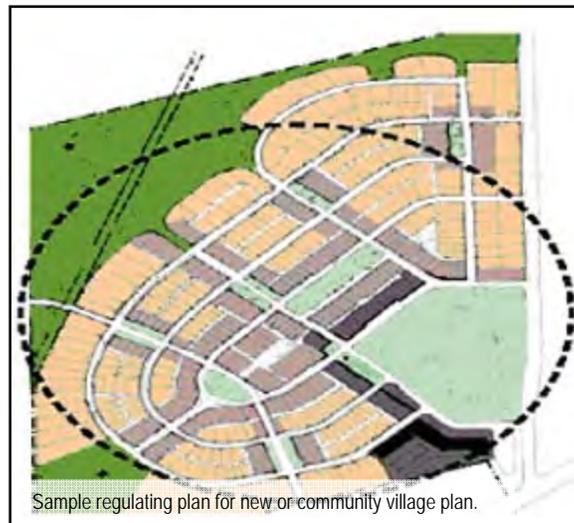
- 3.7.1. This section operates by referencing Table 11a and Table 11b (Summary Table), and Table 7 and Table 8 (Building FUNCTION and Parking Calculations). The code requires a minimum amount of dwelling units to be exchanged for other FUNCTIONS (LODGING, OFFICE, or RETAIL). The exchange is subject to approval as a WARRANT, and cannot exceed in any event 50% of the total number of dwelling units permitted for the applicable TRANSECT ZONE. The density calculations, which are inherently complex, operate at the village scale, while a further determination of local density occurs at the building scale. These calculations allow adjustment according to the site and market conditions. The sequence of calculations is as follows:
- a. In the process of preparing the Village Plan, allocate an area of land to each TRANSECT ZONE as permitted by Table 11a. The table shows a range of ratios for each VILLAGE UNIT type that, once the plan is complete, become fixed allocations appearing on the permitting documents, both graphically on the plan and also listed as the number of acres of each TRANSECT ZONE.
  - b. Using the acreage of these TRANSECT ZONES, including the TRANSPORTATION CORRIDORS but not the CIVIC ZONES, calculate from Table 11b the BASE RESIDENTIAL DENSITY. Note that the "BY RIGHT" density is much lower than the "By TDR" density. This encourages the TRANSFER OF DEVELOPMENT RIGHTS from lands that should remain open, in order to achieve the higher allowable density.
  - c. Establish the requisite degree of mixed use by translating a ratio of the overall BASE RESIDENTIAL DENSITY to "Other FUNCTIONS" as specified on Table 11b and Section 3.8.5. These densities become part of the permit, appearing as fixed numbers and allocated by TRANSECT ZONES on the Village Plan.

- d. When the lots and buildings are subsequently being designed according to Article 5, the localized density is determined. See Section 5.9 DENSITY and Parking Calculations.
- 3.7.2. All areas of the New Village Plan site that are not part of the T-1 Preserved Sector shall be considered cumulatively the NET SITE AREA. The NET SITE AREA shall be allocated to the various TRANSECT ZONES according to the parameters specified in Table 11a.
- 3.7.3. DENSITY shall be expressed in terms of housing units per acre as specified for the area of each TRANSECT ZONE by Table 11b. For purposes of DENSITY calculation, the TRANSECT ZONES include the TRANSPORTATION CORRIDORS but not land assigned to CIVIC ZONES (CS and CB). Twenty percent (20%) shall be in the AFFORDABLE HOUSING range.
- 3.7.4. The BASE DENSITY of the VILLAGE UNIT may be increased by the TRANSFER OF DEVELOPMENT RIGHTS (TDR) up to the amount specified for each Zone by Table 11b. An increase in housing units by TDR shall be factored in when meeting the AFFORDABLE HOUSING requirements.
- 3.7.5. Within the percentage range shown on Table 11b for Other FUNCTIONS, the housing units specified on Table 11b shall be exchanged at the following rates:
  - a. For LODGING: 2 bedrooms for each unit of NET SITE AREA DENSITY.
  - b. For OFFICE or RETAIL: 1000 square feet for each unit of NET SITE AREA DENSITY.
- 3.7.6. The number of units exchanged shall be subject to approval by WARRANT.
- 3.7.7. The housing and other FUNCTIONS for each TRANSECT ZONE shall be subject to further adjustment at the building scale as limited by Table 7, Table 8 and Section 5.9.

### 3.8. MANDATORY AND SPECIAL REQUIREMENTS

- 3.8.1. New and Redevelopment Village Plans shall include a REGULATING PLAN consisting of one or more maps showing the following for each VILLAGE UNIT in the plan area, in compliance with the standards described in this Article:
  - a. TRANSECT ZONES
  - B. CIVIC ZONES
  - c. THOROUGHFARE network
  - d. SPECIAL DISTRICTS, if any
  - e. SPECIAL REQUIREMENTS, if any
  - f. Numbers of WARRANTS or VARIANCES, if any.
- 3.8.2. A New or Community Village Plan may designate any of the following SPECIAL REQUIREMENTS:

- a. A differentiation of the TRANSPORTATION CORRIDORS as A-GRID and B-GRID. Buildings along the A-GRID shall be held to the highest standard of this Code in support of pedestrian activity. Buildings along the B-GRID may be more readily considered for WARRANTS allowing automobile-oriented standards. The FRONTAGES assigned to the B-GRID shall not exceed 30% of the total length of FRONTAGES within a PEDESTRIAN SHED.
- b. Designations for Mandatory and/or Recommended RETAIL FRONTAGE requiring or advising that a building provide a SHOPFRONT at SIDEWALK level along the entire length of its PRIVATE FRONTAGE. The SHOPFRONT shall be no less than 70% glazed in clear glass and shaded by an awning overlapping the SIDEWALK as generally illustrated in Table 4 and specified in Article 5. The first floor shall be confined to RETAIL use through the depth of the second LAYER. (Table 14d)
- c. Designations for Mandatory and/or Recommended GALLERY FRONTAGE, requiring or advising that a building provide a permanent cover over the SIDEWALK, either cantilevered or supported by columns. The GALLERY FRONTAGE designation may be combined with a RETAIL FRONTAGE designation.
- d. Designations for Mandatory and/or Recommended ARCADE FRONTAGE, requiring or advising that a building overlap the SIDEWALK such that the first floor FACADE is a colonnade. The ARCADE FRONTAGE designation may be combined with a RETAIL FRONTAGE designation.
- e. A designation for Coordinated FRONTAGE, requiring that the PUBLIC FRONTAGE (Table 3A) and PRIVATE FRONTAGE (Table 4) be coordinated as a single, coherent landscape and paving design.
- f. Designations for Mandatory and/or Recommended Terminated Vista locations, requiring or advising that the building be provided with architectural articulation of a type and character that responds visually to the location, as approved by the Design Center.
- g. A designation for Cross BLOCK Passages, requiring that a minimum 8-foot-wide pedestrian access be reserved between buildings.
- h. A designation for Buildings of Value, requiring that such buildings and structures may be altered or demolished only in accordance with Municipal Preservation Standards and Protocols.



## ARTICLE 4. VILLAGE SCALE PLANS-- INFILL

### 4.1. MINIMUM AREA REQUIREMENTS

- 4.1.1. The owner of a parcel, or abutting parcels, consisting of 20 acres or more of contiguous lots abutting existing development within the Urban Area as approved by the Design Center shall prepare a village plan to regulate, at minimum, an area the size of the Pedestrian Shed commensurate with its Village Unit type as listed in Section 4.2, even if it overlaps adjacent parcels. Both the site and plan area should connect and blend with surrounding urbanism.

### 4.2. VILLAGE UNIT TYPES

- 4.2.1. Infill Regulating Plans shall encompass the Village Unit types below. The allocation percentages of Table 11a do not apply.
  - a. TND. An INFILL TND should be assigned to neighborhood areas that are predominantly residential with one or more MIXED USE CORRIDORS or centers. An INFILL TND shall be mapped as at least one complete Standard Pedestrian Shed, which may be adjusted as a NETWORK PEDESTRIAN SHED, oriented around one or more existing or planned Common Destinations. The edges of an INFILL TND should blend into adjacent neighborhoods and/or a downtown without buffers.
  - b. RCD. The INFILL RCDs consist of the Redevelopment areas identified on the Land Use Map—Kailua Village TOD and the Rural Towns TODs. These areas include significant OFFICE and RETAIL uses as well as government and other CIVIC institutions of regional importance. These INFILL RCD may be mapped as at least one complete LONG or LINEAR PEDESTRIAN SHED, which may be adjusted as a NETWORK PEDESTRIAN SHED, oriented around an important MIXED USE CORRIDOR or center. The edges of these INFILL RCDs should blend into adjacent neighborhoods without buffers. As TODs, the higher DENSITY represented by the EFFECTIVE PARKING allowance in Section 5.9.2d apply.

### 4.3. TRANSECT ZONES

- 4.3.1. TRANSECT ZONE standards for INFILL REGULATING PLANS should be calibrated by means of a survey of exemplary existing and intended conditions, as identified in a process of public consultation and subject to the approval of the Design Center. Metrics shall be recorded on Table 11 and Tables 12A-C.
- 4.3.2. A TRANSECT ZONE shall include elements indicated by Article 3, Article 5, and Article 6.

#### 4.4. CIVIC ZONES

##### 4.4.1. GENERAL

- a. Infill Plans should designate CIVIC SPACE Zones (CS) and CIVIC BUILDING Zones (CB).
- b. A CIVIC ZONE may be permitted by WARRANT if it does not occupy more than 20% of a PEDESTRIAN SHED, otherwise it is subject to the creation of a SPECIAL DISTRICT. See Section 4.5.
- c. Parking provisions for CIVIC ZONES shall be determined by WARRANT.

##### 4.4.2. CIVIC SPACE ZONES (CS)

- a. CIVIC SPACES shall be generally designed as described in Table 10, their type determined by the surrounding or adjacent TRANSECT ZONE in a process of public consultation subject to the approval of the Design Center.

##### 4.4.3. CIVIC BUILDING ZONES (CB)

- a. CIVIC BUILDINGS shall be permitted by WARRANT in any TRANSECT ZONE.
- b. CIVIC BUILDINGS shall not be subject to the Requirements of Article 5. The particulars of their design shall be determined by WARRANT.

#### 4.5. SPECIAL DISTRICTS

- 4.5.1. Areas that, by their intrinsic size, FUNCTION, or CONFIGURATION, cannot conform to the requirements of any TRANSECT ZONE or combination of zones shall be designated as SPECIAL DISTRICTS by the Planning Director in the process of preparing an Infill Plan. Conditions of development for SPECIAL DISTRICTS shall be determined by the Design Center and recorded on Table 13.

#### 4.6. MANDATORY AND SPECIAL REQUIREMENTS

- 4.6.1. Infill Regulating Plans shall consist of one or more maps showing the following:
  - a. The outline(s) of the PEDESTRIAN SHED(s) and the boundaries of the Village Unit(s)
  - b. TRANSECT ZONES and any CIVIC ZONES within each PEDESTRIAN SHED, assigned according to an analysis of existing conditions and future needs
  - c. a Thoroughfare network, existing or planned (Table 2A, Table 2B, Table 3A, and Table 3B)
  - d. any SPECIAL DISTRICTS (Section 4.5)
  - e. any Special Requirements (Section 4.7)
  - f. a record of any WARRANTS or VARIANCES.
- 4.6.2. An Infill Village Plan may designate any of the following Special Requirements:
  - a. A differentiation of the transportation corridors as A-GRID and B-GRID. Buildings along the A-GRID shall be held to the highest standard of this Code

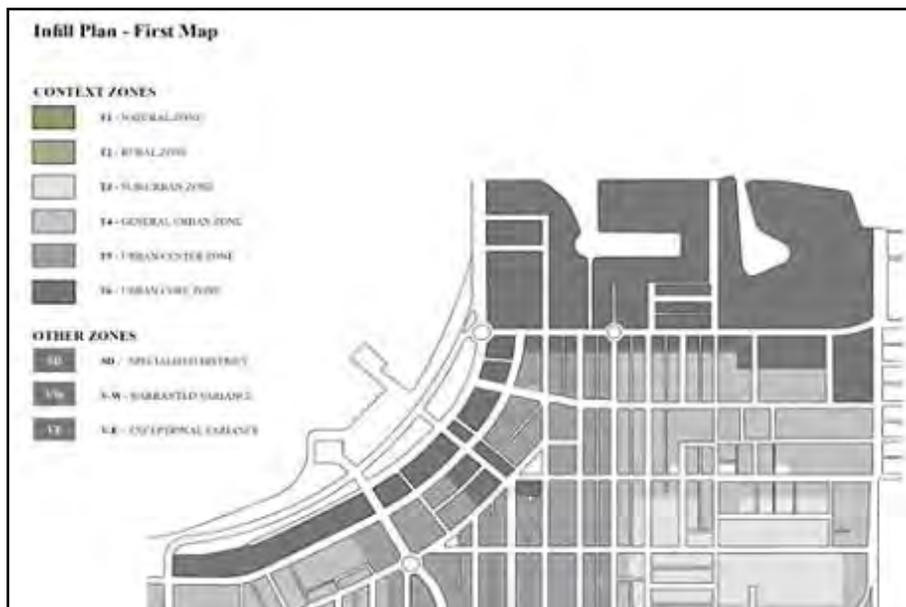
in support of pedestrian activity. Buildings along the B-GRID may be more readily considered for Warrants allowing automobile-oriented standards. The FRONTAGES assigned to the B-GRID shall not exceed 30% of the total length of FRONTAGES within a PEDESTRIAN SHED.

- b. Designations for Mandatory and/or Recommended RETAIL FRONTAGE requiring or advising that a building provide a SHOPFRONT at SIDEWALK level along the entire length of its PRIVATE FRONTAGE. The SHOPFRONT shall be no less than 70% glazed in clear glass and shaded by an awning overlapping the SIDEWALK as generally illustrated in Table 4 and specified in Article 5. The first floor shall be confined to Retail use through the depth of the second LAYER. (Table 14d.)
- c. Designations for Mandatory and/or Recommended GALLERY FRONTAGE, requiring or advising that a building provide a permanent cover over the SIDEWALK, either cantilevered or supported by columns. The GALLERY FRONTAGE designation may be combined with a RETAIL FRONTAGE designation.
- d. Designations for Mandatory and/or Recommended ARCADE FRONTAGE, requiring or advising that a building overlap the SIDEWALK such that the first floor Facade is a colonnade. The ARCADE FRONTAGE designation may be combined with a RETAIL FRONTAGE designation.
- e. A designation for Coordinated FRONTAGE, requiring that the PUBLIC FRONTAGE (Table 3A) and PRIVATE FRONTAGE (Table 4) be coordinated as a single, coherent landscape and paving design.
- f. Designations for Mandatory and/or Recommended Terminated Vista locations, requiring or advising that the building be provided with architectural articulation of a type and character that responds visually to the location, as approved by the Design Center.
- g. A designation for Cross BLOCK Passages, requiring that a minimum 8-foot-wide pedestrian access be reserved between buildings.
- h. A designation for Buildings of Value, requiring that such buildings and structures may be altered or demolished only in accordance with Design Center approval.

#### **4.7. SPECIAL REQUIREMENTS RELATED TO REDEVELOPMENT PLANS (PRE-EXISTING CONDITIONS)**

- 4.7.1. Existing buildings and appurtenances that do not conform to the provisions of this Code may continue in the same use and form until a Substantial Modification occurs or is requested, at which time the Design Center shall determine the provisions of this Section that shall apply.
- 4.7.2. Existing buildings that have at any time received a certificate of occupancy shall not require upgrade to the current Building Code and when renovated may meet the standards of the code under which they were originally permitted (to be negotiated by the Design Center with the Building Division).

- 4.7.3. The modification of existing buildings is permitted BY RIGHT if such changes result in greater conformance with the specifications of this Code (to be negotiated by the Design Center with the Building Division).
- 4.7.4. Where buildings exist on adjacent LOTS, the Design Center may require that a proposed building match one or the other of the adjacent Setbacks and heights rather than the provisions of this Code.
- 4.7.5. Any addition to or modification of a Building of Value that has been designated as such by the Local Preservation Organization or to a building actually or potentially eligible for inclusion on a state, local or national historic register, shall be subject to approval by the Local Preservation Organization.
- 4.7.6. The restoration or rehabilitation of an existing building shall not require the provision of (a) parking in addition to that existing or (b) on-site stormwater retention/detention in addition to that existing. Existing parking requirements that exceed those for this Code may be reduced as provided by Tables 10 and 11.



## ARTICLE 5. BUILDING SCALE PLANS

### 5.1. INSTRUCTIONS

- 5.1.1. LOTS and buildings located within a New, Redevelopment, or Infill Village Plan governed by this Code and previously approved shall be subject to the requirements of this Article.
- 5.1.2. Building and site plans submitted under this Article shall show the following, in compliance with the standards described in this Article:
  - a. For preliminary site and building approval:

- Building Disposition
  - Building CONFIGURATION
  - Building FUNCTION
  - Parking Location Standards
- b. For final approval, in addition to the above:
- Landscape Standards
  - Signage Standards
  - Special Requirements, if any

5.1.3. SPECIAL DISTRICTS that do not have provisions within this Code shall be governed by the standards of the pre-existing zoning.

## 5.2. BUILDING DISPOSITION

### 5.2.1. SPECIFIC TO ZONES T3, T4, T5

- a. Newly platted LOTS shall be dimensioned according to Table 11f and Tables 12A-C.
- b. Building DISPOSITION types shall be as shown in Table 6 and Table 11i.
- c. Buildings shall be disposed in relation to the boundaries of their Lots according to Table 11g, Table 11h, and Tables 12A-C.
- d. One Principal Building at the FRONTAGE, and one Outbuilding to the rear of the Principal Building, may be built on each LOT as shown in Table 14c.
- e. LOT coverage by building shall not exceed that recorded in Table 11f and Tables 12A-C.
- f. Facades shall be built parallel to a rectilinear PRINCIPAL FRONTAGE LINE or to the tangent of a curved PRINCIPAL FRONTAGE LINE, and along a minimum percentage of the FRONTAGE width at the SETBACK, as specified as FRONTAGE Buildout on Table 11g and Tables 12A-C.
- g. Setbacks for Principal Buildings shall be as shown in Table 11g and Tables 12A-C. In the case of an Infill LOT, Setbacks shall match one of the existing adjacent SETBACKS. SETBACKS may otherwise be adjusted by WARRANT.
- h. Rear SETBACKS for Outbuildings shall be a minimum of 12 feet measured from the centerline of the REAR ALLEY or REAR LANE easement. In the absence of REAR ALLEY or REAR LANE, the rear SETBACK shall be as shown in Table 11h and Tables 12A-C.
- i. To accommodate slopes over ten percent, relief from front Setback requirements is available by WARRANT.

## 5.3. BUILDING CONFIGURATION

### 5.3.1. Specific to zones T3, T4, T5

- a. Newly platted LOTS shall be dimensioned according to Table 11f and Tables 12A-C.
- b. Building Disposition types shall be as shown in Table 6.
- c. Buildings shall be disposed in relation to the boundaries of their LOTS according to Table 11g and Tables 12A-C.

- d. One PRINCIPAL BUILDING at the FRONTAGE, and one ACCESSORY UNIT to the rear of the PRINCIPAL BUILDING, may be built on each LOT as shown in Table 14c.
- e. LOT coverage by building shall not exceed that recorded in Table 11f and Tables 12A-C.
- f. Facades shall be built parallel to a rectilinear PRINCIPAL FRONTAGE LINE or to the tangent of a curved PRINCIPAL FRONTAGE LINE, and along a minimum percentage of the FRONTAGE length at the SETBACK, as specified on Table 11g and Tables 12A-C.
- g. SETBACKS for PRINCIPAL BUILDINGS shall be as shown in Table 11g and Tables 12A-C. In the case of an INFILL LOT, Setbacks shall match one of the existing adjacent SETBACKS. SETBACKS may otherwise be adjusted by the Final Site Plan.
- h. Rear SETBACKS for ACCESSORY UNITS shall be a minimum of 12 feet measured from the centerline of the REAR ALLEY easement. In the absence of REAR ALLEY, the rear SETBACK shall be as shown in Table 11h and Tables 12A-C.
- i. To accommodate slopes over ten percent, relief from front SETBACK requirements may be considered as a Special Condition.

#### 5.4. BUILDING CONFIGURATION

##### 5.4.1. General to zones T3, T4, T5

- a. The PRIVATE FRONTAGE of buildings shall conform to and be allocated in accordance with Table 4 and Table 11j.
- b. Buildings on corner LOTS shall have two PRIVATE FRONTAGES as shown in Table 14. Prescriptions for the second and third LAYERS pertain only to the PRINCIPAL FRONTAGE. Prescriptions for the first LAYER pertain to both FRONTAGES.
- c. The first STORY of all FACADES should be glazed with clear glass no less than 30%.
- d. Building Heights, SETBACKS, EXPRESSION LINES, and EXTENSION LINES shall conform to Table 5 and Table 11j.
- e. Stories may not exceed 14 feet in height from finished floor to finished ceiling, except for a first floor COMMERCIAL FUNCTION, which shall be a minimum of 11 feet and may be a maximum of 25 feet. A single floor level exceeding 14 feet, or 25 feet at ground level, shall be counted as two (2) stories. Mezzanines extending beyond 33% of the floor area shall be counted as an additional STORY.
- f. In a PARKING STRUCTURE or garage, each level counts as a single STORY regardless of its relationship to habitable Stories.
- g. Height limits do not apply to ATTICS or raised basements, masts, belfries, clock towers, chimney flues, water tanks, or elevator bulkheads.

##### 5.4.2. Specific to zones T3, T4, T5

- a. The minimum size of a dwelling within a PRINCIPAL BUILDING shall be 300 sq ft in interior space. ACCESSORY UNITS may be any size, not to exceed 900 sq ft.
- 5.4.3. Specific to zone T3
- a. No portion of the PRIVATE FRONTAGE may encroach the SIDEWALK.
  - b. Open lanais may encroach the first LAYER 50% of its depth. (Table 14d)
  - c. Lanais and bay windows may encroach the First LAYER 25% of its depth.
- 5.4.4. Specific to zone T4
- a. Lanais and bay windows may encroach the first LAYER 50% of its depth. (Table 14d)
- 5.4.5. Specific to zones T5
- a. Awnings, ARCADES, and GALLERIES may encroach the SIDEWALK to within two feet of the CURB but must clear the SIDEWALK vertically by at least 8 feet.
  - b. Maximum Encroachment heights (EXTENSION LINES) for ARCADES shall be as shown on Table 5.
  - c. Entryway steps, lanais, and bay windows may encroach the first LAYER 100% of its depth. (Table 14d)
  - d. Loading docks and service areas shall be permitted on FRONTAGES only as a Special Condition.
  - e. In the absence of a building FACADE along any part of a FRONTAGE LINE, a STREETSCREEN shall be built co-planar with the Facade.
  - f. STREETSCREENS should be between 3.5 and 8 feet in height. The STREETSCREEN may be replaced by a hedge or fence by WARRANT. STREETSCREENS shall have openings no larger than necessary to allow automobile and pedestrian access.
  - g. A first level RESIDENTIAL or LODGING FUNCTION shall be raised a minimum of 2 feet from average SIDEWALK grade.

## 5.5. BUILDING FUNCTION

- 5.5.1. General to zones T3, T4, T5
- a. Buildings in each TRANSECT ZONE shall conform to the FUNCTIONS on Table 7 and Table 9 and Table 11k. FUNCTIONS that do not conform shall require approval by Warrant or Variance as specified on Table 9.
- 5.5.2. Specific to zone T3
- a. Accessory FUNCTIONS of Restricted LODGING or Restricted OFFICE shall be permitted within an ACCESSORY UNIT. See Table 7.
- 5.5.3. Specific to zones T4, T5
- a. Accessory FUNCTIONS of Limited LODGING or Limited OFFICE shall be permitted within an ACCESSORY UNIT. See Table 7.

5.5.4. Specific to zones T5

- a. First STORY COMMERCIAL FUNCTIONS shall be permitted.
- b. Manufacturing FUNCTIONS within the first Story may be permitted by Variance.

**5.6. PARKING AND DENSITY CALCULATIONS**

5.6.1. Specific to zone T3

- a. Buildable DENSITY on a LOT shall be determined by the actual parking provided within the LOT as applied to the FUNCTIONS permitted in Table 7.

5.6.2. Specific to zones T4, T5

- a. Buildable DENSITY on a LOT shall be determined by the sum of the actual parking calculated as that provided (1) within the LOT (2) along the parking lane corresponding to the LOT FRONTAGE, and (3) by purchase or lease from a CIVIC PARKING RESERVE within the PEDESTRIAN SHED, if available.
- b. The actual parking may be adjusted upward according to the SHARED PARKING FACTOR of Table 8 to determine the EFFECTIVE PARKING. The SHARED PARKING FACTOR is available for any two FUNCTIONS within any pair of adjacent BLOCKS.
- c. Based on the EFFECTIVE PARKING available, the DENSITY of the projected FUNCTION may be determined according to Table 7.
- d. Within the overlay area of a TRANSIT-ORIENTED DEVELOPMENT (TOD) the EFFECTIVE PARKING may be further adjusted upward by 30%.
- e. The total DENSITY within each TRANSECT ZONE shall not exceed that specified by an approved Regulating Maps based on Article 3 or Article 4.
- f. ACCESSORY UNITS do not count toward DENSITY calculations.
- g. Liner Buildings less than 30 feet deep and no more than two STORIES shall be exempt from parking requirements.

5.6.3. Parking Calculations. The calculations work as follows:

- a. The required parking for each category of function appears on Table 7. These requirements also apply to the subcategories of Table 9. For those functions that are not covered, the parking is calculated by WARRANT.
- b. Table 8a (Required Parking) summarizes the parking requirements of Table 7, which determines the amount of parking required for each site or, conversely, the amount of buildings allowed on each site given the parking available.
- c. In the event of mixed use, the actual parking required is calculated by adding the total number of spaces required by each separate function and dividing the total by the appropriate factor from Table 8b (SHARED PARKING FACTOR). An example of this calculation: The RESIDENTIAL FUNCTION requires 10 spaces while the office portion requires 12 spaces. Independently they would require 22 spaces, but when divided by the sharing factor of 1.4, they would

require only 16 spaces. A second way to calculate: If there are 22 spaces available for RESIDENTIAL and OFFICE, multiplying this by the factor 1.4 gives the equivalent of 30 spaces. Thus buildings are allowed corresponding to 30 parking spaces. When three functions share parking, use the lowest factor so that enough parking is assured.

## 5.7. PARKING LOCATION STANDARDS

- 5.7.1. General to zones T3, T4, T5
  - a. Parking shall be accessed by REAR ALLEYS when such are available on the REGULATING MAPS.
  - b. Open parking areas shall be masked from the FRONTAGE by a Building or STREETSCREEN.
  - c. For buildings on B-GRIDS, open parking areas may be allowed unmasked on the FRONTAGE, except for corner lots at intersections with the A-GRID.
- 5.7.2. Specific to zones T3
  - a. Open parking areas shall be located at the second and third LOT LAYERS, except that DRIVEWAYS, drop-offs and unpaved parking areas may be located at the first LOT LAYER. (Table 14d)
  - b. Garages shall be located at the third LAYER except that side- or rear-entry types may be allowed in the first or second LAYER.
- 5.7.3. Specific to zones T3, T4
  - a. DRIVEWAYS at FRONTAGES shall be no wider than 10 feet in the first LAYER. (Table 2B-f)
- 5.7.4. Specific to zone T4
  - a. All parking areas and garages shall be located at the second or third LAYER.
- 5.7.5. Specific to zones T5
  - a. All parking lots, garages, and PARKING STRUCTURES shall be located at the second or third LAYER. (Table 14d)
  - b. Vehicular entrances to parking lots, garages, and PARKING STRUCTURES shall be no wider than 24 feet at the FRONTAGE. (Table 2B-f)
  - c. Pedestrian exits from all parking lots, garages, and PARKING STRUCTURES shall be directly to a FRONTAGE LINE (i.e., not directly into a building) except underground levels which may be exited by pedestrians directly into a building.
  - d. PARKING STRUCTURES on the A-GRID shall have LINER BUILDINGS lining the first and second STORIES.
  - e. A minimum of one bicycle rack place should be provided within the PUBLIC or PRIVATE FRONTAGE for every ten vehicular parking spaces.

## 5.8. LANDSCAPE STANDARDS

- 5.8.1. General to zones T4, T5 (Table 11)
  - a. Impermeable surface shall be confined to the ratio of LOT coverage specified in Table 11f.
- 5.8.2. Specific to zones T3, T4
  - a. The first LAYER may not be paved, with the exception of DRIVEWAYS as specified in Section 5.10.2 and Section 5.10.3. (Table 14d)
- 5.8.3. Specific to zone T4
  - a. A minimum of one tree shall be planted within the first LAYER for each 30 feet of FRONTAGE LINE or portion thereof. (Table 14d)
  - b. Trees shall be a single species to match the species of Street Trees on the PUBLIC FRONTAGE, or as shown on Table 5.
  - c. Lawn shall be permitted BY RIGHT.
- 5.8.4. Specific to zones T5
  - a. Trees shall not be required in the first LAYER.
  - b. The first LAYER may be paved to match the pavement of the PUBLIC FRONTAGE.

## ARTICLE 6. STANDARDS AND TABLES

## ARTICLE 7. DEFINITIONS

This Article provides definitions for terms in this Code that are technical in nature or that otherwise may not reflect a common usage of the term. If a term is not defined in this Article, then the Planning Director shall determine the correct definition. Items in italics refer to Articles, Sections, or Tables in the SmartCode.

**A-Grid:** cumulatively, those transportation corridors that by virtue of their pre-existing pedestrian-supportive qualities, or their future importance to pedestrian connectivity, are held to the highest standards prescribed by this Code. See B-Grid. (Syn: primary grid.)

**Accessory Building:** an Outbuilding with an ACCESSORY UNIT.

**Accessory Unit:** an Apartment not greater than 440 square feet sharing ownership and utility connections with a Principal Building; it may or may not be within an Outbuilding. See Table 7 and Table 14. (Syn: ancillary unit)

**Adjusted Pedestrian Shed:** a Pedestrian Shed that has been adjusted according to Section 3.2, creating the regulatory boundary of a Village Unit.

**Affordable Housing:** dwellings consisting of rental or for-sale units that have a rent (including utilities) or sales price meeting the requirements of HCC chapter 11 or the Kona CDP.

**Allee:** a regularly spaced and aligned row of trees usually planted along a Thoroughfare or Path.

**Apartment:** a Residential unit sharing a building and a Lot with other units and/or uses; may be for rent, or for sale as a condominium.

**Arcade:** a Private Frontage conventional for Retail use wherein the Facade is a colonnade supporting habitable space that overlaps the Sidewalk, while the Facade at Sidewalk level remains at the FRONTAGE LINE.

**Attic:** the interior part of a building contained within a pitched roof structure.

**Avenue (AV):** a Thoroughfare of high vehicular capacity and low to moderate speed, acting as a short distance connector between urban centers, and usually equipped with a landscaped median.

**B-Grid:** cumulatively, those transportation corridors that by virtue of their use, location, or absence of pre-existing pedestrian-supportive qualities, may meet a standard lower than that of the A-GRID. See A-GRID. (Syn: secondary grid.)

**BRT:** see Bus Rapid Transit.

**Backbuilding:** a single-Story structure connecting a Principal Building to an Outbuilding. See Table 14.

**Base Density:** the number of dwelling units per acre before adjustment for other Functions and/or TDR. See Density.

**Bed and Breakfast:** an owner-occupied Lodging type offering 1 to 5 bedrooms, permitted to serve breakfast in the mornings to guests.

**Bicycle Lane (BL):** a dedicated lane for cycling within a moderate-speed vehicular Thoroughfare, demarcated by striping.

**Bicycle Route (BR):** a Thoroughfare suitable for the shared use of bicycles and automobiles moving at low speeds.

**Bicycle Trail (BT):** a bicycle way running independently of a vehicular Thoroughfare.

**Block:** the aggregate of private Lots, Passages, Rear Alleys and Rear Lanes, circumscribed by transportation corridors.

**Block Face:** the aggregate of all the building Facades on one side of a Block.

**Boulevard (BV):** a Thoroughfare designed for high vehicular capacity and moderate speed, traversing an Urbanized area. Boulevards are usually equipped with Slip Roads buffering Sidewalks and buildings.

**Brownfield:** an area previously used primarily as an industrial site.

**Bus Rapid Transit:** a rubber tire system with its own right-of-way or dedicated lane along at least 70% of its route, providing transit service that is faster than a regular bus.

**By Right:** characterizing a proposal or component of a proposal for a Village Plan or Building Scale Plan (Article 3, Article 4, or Article 5) that complies with the SmartCode and is permitted and processed administratively, without public hearing. See Warrant and Variance.

**Civic:** the term defining not-for-profit organizations dedicated to arts, culture, education, recreation, government, transit, and municipal parking.

**Civic Building:** a building operated by not-for-profit organizations dedicated to arts, culture, education, recreation, government, transit, and municipal parking, or for use approved by the legislative body.

**Civic Parking Reserve:** Parking Structure or parking lot within a quarter-mile of the site that it serves. See Section 5.9.2.

**Civic Space:** an outdoor area dedicated for public use. Civic Space types are defined by the combination of certain physical constants including the relationships among their intended use, their size, their landscaping and their Enfronting buildings. See Table 10.

**Civic Zone:** designation for public sites dedicated for Civic Buildings and Civic Space.

**Commercial:** the term collectively defining workplace, Office, Retail, and Lodging Functions.

**Common Destination:** An area of focused community activity, usually defining the approximate center of a Pedestrian Shed. It may include without limitation one or more of the following: a Civic Space, a Civic Building, a Commercial center, or a transit station, and may act as the social center of a neighborhood.

**Common Yard:** a planted Private Frontage wherein the Facade is set back from the Frontage line. It is visually continuous with adjacent yards. See Table 4.

**Configuration:** the form of a building, based on its massing, Private Frontage, and height.

**Corridor:** a lineal geographic system incorporating transportation and/or Greenway trajectories. A transportation corridor may be a lineal Transect Zone.

**Cottage:** an Edgeward building type. A single-family dwelling, on a regular Lot, often shared with an ACCESSORY BUILDING in the back yard.

**Courtyard Building:** a building that occupies the boundaries of its Lot while internally defining one or more private patios. See Table 6.

**Curb:** the edge of the vehicular pavement that may be raised or flush to a Swale. It usually incorporates the drainage system. See Table 3A and Table 3B.

**DDC:** Development and Design Center.

**Density:** the number of dwelling units within a standard measure of land area.

**Design Speed:** is the velocity at which a Thoroughfare tends to be driven without the constraints of signage or enforcement. There are four ranges of speed: Very Low: (below 20 MPH); Low: (20-25 MPH); Moderate: (25-35 MPH); High: (above 35 MPH). Lane width is determined by desired Design Speed. See Table 2A.

**Developable Areas:** lands other than those in the T-1 Preserved Open Sector. Development and Design Center (DDC): A component of the Planning Office assigned to advise on the use of this Code and to aid in the design of the Communities and buildings based on it.

**Disposition:** the placement of a building on its Lot. See Table 6 and Table 14.

**Dooryard:** a Private Frontage type with a shallow Setback and front garden or patio, usually with a low wall at the Frontage Line. See Table 4. (Variant: Lightwell, light court.)

**Drive:** a Thoroughfare along the boundary between an Urbanized and a natural condition, usually along a waterfront, Park, or promontory. One side has the urban character of a Thoroughfare, with Sidewalk and building, while the other has the qualities of a Road or parkway, with naturalistic planting and rural details.

**Driveway:** a vehicular lane within a Lot, often leading to a garage. See Section 5.10 and Table 2B-f.

**Edgeward Building:** a building that occupies the center of its Lot with Setbacks on all sides. See Table 6.

**Effective Parking:** the amount of parking required for Mixed Use after adjustment by the Shared Parking Factor. See Table 8.

**Effective Turning Radius:** the measurement of the inside Turning Radius taking parked cars into account. See Table 14.

**Elevation:** an exterior wall of a building not along a Frontage Line. See Table 14. See: Facade.

**Encroach:** to break the plane of a vertical or horizontal regulatory limit with a structural element, so that it extends into a Setback, into the Public Frontage, or above a height limit.

**Encroachment:** any structural element that breaks the plane of a vertical or horizontal regulatory limit, extending into a Setback, into the Public Frontage, or above a height limit.

**Enfront:** to place an element along a Frontage, as in "porches Enfront the street."

**Estate House:** an Edgeward building type. A single-family dwelling on a very large Lot of rural character, often shared by one or more ACCESSORY BUILDINGS. (Syn: country house, villa)

**Expression Line:** a line prescribed at a certain level of a building for the major part of the width of a Facade, expressed by a variation in material or by a limited projection such as a molding or balcony. See Table 5. (Syn: transition line.)

**Extension Line:** a line prescribed at a certain level of a building for the major part of the width of a Facade, regulating the maximum height for an Encroachment by an ARCADE Frontage. See Table 5.

**Facade:** the exterior wall of a building that is set along a Frontage Line. See Elevation. Forecourt: a Private Frontage wherein a portion of the Facade is close to the Frontage Line and the central portion is set back. See Table 4.

**Frontage:** the area between a building Facade and the vehicular lanes, inclusive of its built and planted components. Frontage is divided into Private Frontage and Public Frontage. See Table 3A and Table 4.

**Frontage Line:** a Lot line bordering a Public Frontage. Facades facing Frontage Lines define the public realm and are therefore more regulated than the Elevations facing other Lot Lines. See Table 14.

**Function:** the use or uses accommodated by a building and its Lot, categorized as Restricted, Limited, or Open, according to the intensity of the use. See Table 7 and Table 9.

**Gallery:** a Private Frontage conventional for Retail use wherein the Facade is aligned close to the Frontage Line with an attached cantilevered shed or lightweight colonnade overlapping the Sidewalk. See Table 4.

**Green:** a Civic Space type for unstructured recreation, spatially defined by landscaping rather than building Frontages. See Table 10.

**Greenfield:** an area that consists of open or wooded land or farmland that has not been previously developed.

**Greenway:** an Open Space Corridor in largely natural conditions which may include trails for bicycles and pedestrians.

**Greyfield:** an area previously used primarily as a parking lot. Shopping centers and shopping malls are typical Greyfield sites. (Variant: Grayfield.)

**Highway:** a rural and suburban Thoroughfare of high vehicular speed and capacity. This type is allocated to the more rural TRANSECT ZONES (T-1, T-2, and T-3).

**Home Occupation:** non-Retail Commercial enterprises. The work quarters should be invisible from the Frontage, located either within the house or in an Outbuilding. Permitted activities are defined by the Restricted Office category. See Table 7.

**House:** an Edgeyard building type, usually a single-family dwelling on a large Lot, often shared with an ACCESSORY BUILDING in the back yard. (Syn: single.)

**Infill:** noun - new development on land that had been previously developed, including most Greyfield and Brownfield sites and cleared land within Urbanized areas. verb- to develop such areas.

**Infill RCD:** a Village Unit type within an Urbanized, Greyfield, or Brownfield area based on a Long or Linear Pedestrian Shed and consisting of T-4 and/or T-5 Zones. An Infill RCD is permitted BY RIGHT in the Kailua Village TOD and the Rural Towns TODs and is regulated by Article 4. See Section 4.2.3. (Var: downtown.)

**Infill TND:** a Village Unit type within an Urbanized, Greyfield, or Brownfield area based on a Standard Pedestrian Shed and consisting of T-3, T-4, and/or T-5 Zones. An Infill TND is permitted By Right (with PUD approval) in the Urban Area outside of TODs with existing urban zoning and is regulated by Article 4. See Section 4.2.2. (Var: neighborhood.)

**Inn:** a Lodging type, owner-occupied, offering 9 to 12 bedrooms, permitted to serve breakfast in the mornings to guests. See Table 7.

**Layer:** a range of depth of a Lot within which certain elements are permitted. See Table 14.

**Lightwell:** A Private Frontage type that is a below-grade entrance or recess designed to allow light into basements. See Table 4. (Syn: light court.)

**Linear Pedestrian Shed:** A Pedestrian Shed that is elongated along an important Mixed Use Corridor such as a main street. A Linear Pedestrian Shed extends approximately 1/4 mile from each side of the Corridor for the length of its Mixed Use portion. The resulting area is shaped like a lozenge. It may be used to structure a TND, RCD, Infill TND, or Infill RCD. (Syn: elongated pedestrian shed.)

**Liner Building:** a building specifically designed to mask a parking lot or a Parking Structure from a Frontage.

**Live-Work:** a Mixed Use unit consisting of a Commercial and Residential Function. The Commercial Function may be anywhere in the unit. It is intended to be occupied by a business operator who lives in the same structure that contains the Commercial activity or industry. See Work-Live. (Syn.: flexhouse.)

**Lodging:** premises available for daily and weekly renting of bedrooms. See Table 7 and Table 9.

**Long Pedestrian Shed:** a Pedestrian Shed that is an average 1/2 mile radius or 2640 feet, used when a transit stop (bus or rail) is present or proposed as the Common Destination. A Long Pedestrian Shed represents approximately a ten-minute walk at a leisurely pace. It is applied to structure an RCD Village Unit type. See Pedestrian Shed.

**Lot:** a parcel of land accommodating a building or buildings of unified design. The size of a Lot is controlled by its width in order to determine the grain (i.e., fine grain or coarse grain) of the urban fabric.

**Lot Line:** the boundary that legally and geometrically demarcates a Lot.

**Lot Width:** the length of the Principal Frontage Line of a Lot.

**Main Civic Space:** the primary outdoor gathering place for a community. The Main Civic Space is often, but not always, associated with an important Civic Building.

**Manufacturing:** premises available for the creation, assemblage and/or repair of artifacts, using table-mounted electrical machinery or artisanal equipment, and including their Retail sale.

**Meeting Hall:** a building available for gatherings, including conferences, that accommodates at least one room equivalent to a minimum of 10 square feet per projected dwelling unit within the Pedestrian Shed in which it is located.

**Mixed Use:** multiple Functions within the same building through superimposition or adjacency, or in multiple buildings by adjacency, or at a proximity determined by Warrant.

**Net Site Area:** all developable land within a site including transportation corridors but excluding land allocated as Civic Zones.

**Network Pedestrian Shed:** a Pedestrian Shed adjusted for average walk times along transportation corridors. This type may be used to structure Infill Village Plans. See Table 14.

**Office:** premises available for the transaction of general business but excluding Retail, artisanal and Manufacturing uses. See Table 7.

**Open Space:** land intended to remain undeveloped; it may be for Civic Space. **Outbuilding:** an ACCESSORY BUILDING, usually located toward the rear of the same Lot as a Principal Building, and sometimes connected to the Principal Building by a BACKBUILDING. See Table 14.

**Park:** a Civic Space type that is a natural preserve available for unstructured recreation. See Table 10.

**Parking Structure:** a building containing one or more Stories of parking above grade.

**Passage (PS):** a pedestrian connector, open or roofed, that passes between buildings to provide shortcuts through long Blocks and connect rear parking areas to Frontages.

**Path (PT):** a pedestrian way traversing a Park or rural area, with landscape matching the contiguous Open Space, ideally connecting directly with the urban Sidewalk network.

**Pedestrian Shed:** An area that is centered on a Common Destination. Its size is related to average walking distances for the applicable Village Unit type. Pedestrian Sheds are applied to structure Communities. See Standard, Long, Linear or Network Pedestrian Shed. (Syn: walkshed, walkable catchment.)

**Planter:** the element of the Public Frontage which accommodates street trees, whether continuous or individual.

**Plaza:** a Civic Space type designed for Civic purposes and Commercial activities in the more urban Transect Zones, generally paved and spatially defined by building Frontages.

**Principal Building:** the main building on a Lot, usually located toward the Frontage. See Table 14.

**Principal Entrance:** the main point of access for pedestrians into a building.

**Principal Frontage:** On corner Lots, the Private Frontage designated to bear the address and Principal Entrance to the building, and the measure of minimum Lot width. Prescriptions for the parking Layers pertain only to the Principal Frontage. Prescriptions for the first Layer pertain to both Frontages of a corner Lot. See Frontage.

**Private Frontage:** the privately held Layer between the Frontage Line and the Principal Building Facade. See Table 4 and Table 14.

**Public Frontage:** the area between the Curb of the vehicular lanes and the Frontage Line. See Table 3A and Table 3B.

**RCD:** see Regional Center Development.

**Rear Alley (RA):** a vehicular way located to the rear of Lots providing access to service areas, parking, and Outbuildings and containing utility easements. Rear Alleys should be paved from building face to building face, with drainage by inverted crown at the center or with roll Curbs at the edges.

**Rear Lane (RL):** a vehicular way located to the rear of Lots providing access to service areas, parking, and Outbuildings and containing utility easements. Rear Lanes may be paved lightly to Driveway standards. The streetscape consists of gravel or landscaped edges, has no raised Curb, and is drained by percolation.

**Rearyard Building:** a building that occupies the full Frontage Line, leaving the rear of the Lot as the sole yard. See Table 6. (Var: Rowhouse, Townhouse, APARTMENT House)

**Recess Line:** a line prescribed for the full width of a Facade, above which there is a Stepback of a minimum distance, such that the height to this line (not the overall building height) effectively defines the enclosure of the Enfronting public space. Var: Extension Line. See Table 5.

**Regional Center:** Regional Center Development or RCD.

**Regional Center Development (RCD):** a Village Unit type structured by a Long Pedestrian Shed or Linear Pedestrian Shed, which may be adjoined without buffers by one or several Standard Pedestrian Sheds, each with the individual Transect Zone requirements of a TND. RCD takes the form of a high-Density Mixed Use center connected to other centers by transit. See Infill RCD, Table 11a. (Var: town center, downtown. Syn: Regional Center)

**Regulating Plan:** a Zoning Map or set of maps that shows the Transect Zones, Civic Zones, Special Districts if any, and Special Requirements if any, of areas subject to, or potentially subject to, regulation by these Guidelines.

**Residential:** characterizing premises available for long-term human dwelling.

**Retail:** characterizing premises available for the sale of merchandise and food service. See Table 7 and Table 9.

**Retail Frontage:** Frontage designated on a Regulating Plan that requires or recommends the provision of a Shopfront, encouraging the ground level to be available for Retail use. See Special Requirements.

**Road (RD):** a local, rural and suburban Thoroughfare of low-to-moderate vehicular speed and capacity. This type is allocated to the more rural Transect Zones (GB-T3). See Table 2A.

**Rowhouse:** a single-family dwelling that shares a party wall with another of the same type and occupies the full Frontage Line. See Rearyard Building. (Syn: Townhouse)

**Secondary Frontage:** on corner Lots, the Private Frontage that is not the Principal Frontage. As it affects the public realm, its First Layer is regulated. See Table 14.

**Setback:** the area of a Lot measured from the Lot line to a building Facade or Elevation that is maintained clear of permanent structures, with the exception of Encroachments listed in Section 5.7. See Table 11g. (Var: build-to-line.)

**Shared Parking Factor:** an accounting for parking spaces that are available to more than one Function. See Table 8.

**Shopfront:** a Private Frontage conventional for Retail use, with substantial glazing and an awning, wherein the Facade is aligned close to the Frontage Line with the building entrance at Sidewalk grade. See Table 4.

**Sidewalk:** the paved section of the Public Frontage dedicated exclusively to pedestrian activity.

**Sideyard Building:** a building that occupies one side of the Lot with a Setback on the other side. This type can be a Single or Twin depending on whether it abuts the neighboring house. See Table 6.

**Slip Road:** an outer vehicular lane or lanes of a Thoroughfare, designed for slow speeds while inner lanes carry higher speed traffic, and separated from them by a planted median. (Syn: access lane, service lane, frontage road)

**Specialized Building:** a building that is not subject to Residential, Commercial, or Lodging classification. See Table 6.

**Special District (SD):** an area that, by its intrinsic Function, Disposition, or Configuration, cannot or should not conform to one or more of the normative Village Unit types or Transect Zones specified by these Guidelines. Special Districts may be mapped and regulated at the regional scale or the village scale.

**Special Flood Hazard Area:** a designation by the Federal Emergency Management Agency (FEMA) that may include the V (Velocity) Zones and A Zones where building construction is forbidden, restricted, or contingent upon raising to the Base Flood Elevation.

**Special Requirements:** provisions of Section 3.9, Section 4.7, and Section 5.3 of this Code and/or the associated designations on a Regulating Plan or other map for those provisions.

**Square:** a Civic Space type designed for unstructured recreation and Civic purposes, spatially defined by building Frontages and consisting of Paths, lawns and trees, formally disposed. See Table 10.

**Standard Pedestrian Shed:** a Pedestrian Shed that is an average 1/4 mile radius or 1320 feet, about the distance of a five-minute walk at a leisurely pace. See Pedestrian Shed.

**Stepback:** a building Setback of a specified distance that occurs at a prescribed number of Stories above the ground. See Table 5.

**Stoop:** a Private Frontage wherein the Facade is aligned close to the Frontage Line with the first Story elevated from the Sidewalk for privacy, with an exterior stair and landing at the entrance. See Table 4.

**Story:** a habitable level within a building, excluding an ATTIC or raised basement. See Table 5.

**Street (ST):** a local urban Thoroughfare of low speed and capacity. See Table 2B and Table 3B.

**Streetscreen:** a freestanding wall built along the Frontage Line, or coplanar with the Facade. It may mask a parking lot from the Thoroughfare, provide privacy to a side yard, and/or strengthen the spatial definition of the public realm. (Syn: streetwall.) See Section 5.7.5f.

**Substantial Modification:** alteration to a building that is valued at more than 50% of the replacement cost of the entire building, if new.

**Swale:** a low or slightly depressed natural area for drainage.

**T-zone:** Transect Zone.

**TDR:** Transfer of Development Rights, a method of relocating existing zoning rights from areas to be preserved as Open Space to areas to be more densely urbanized.

**TDR Receiving Area:** an area intended for development that may be made more dense by the transfer of development rights from TDR Sending Areas.

**TDR Sending Area:** an area previously zoned for development within a designated Reserved Open Sector (0-2), from which development rights may be transferred to T-4 or T-5 Zones.

**Terminated Vista:** a location at the axial conclusion of a Thoroughfare. A building located at a Terminated Vista designated on a Regulating Plan is required or recommended to be designed in response to the axis.

**TND:** Traditional Neighborhood Development, a Village Unit type structured by a Standard Pedestrian Shed oriented toward a Common Destination consisting of a Mixed Use center or Corridor, and in the form of a medium-sized settlement near a transportation route. See Table 11a. (Syn: village. Variant: Infill TND, neighborhood.)

**TOD:** Transit Oriented Development. TOD is created by an overlay on all or part of a TND or RCD, or by designation on a Regional Plan, permitting increased Density to support rail or Bus Rapid Transit (BRT) as set forth in Section 5.9.2d.

**Townhouse:** See Rearyard Building. (Syn: Rowhouse)

**Transect:** a cross-section of the environment showing a range of different habitats. The rural-urban Transect of the human environment used in the SmartCode template is divided into six Transect Zones. These zones describe the physical form and character of a place, according to the Density and intensity of its land use and Urbanism.

**Transect Zone (T-zone):** One of several areas on a Zoning Map regulated by these Guidelines. Transect Zones are administratively similar to the land use zones in conventional codes, except that in addition to the usual building use, Density, height, and Setback requirements, other elements of the intended habitat are integrated, including those of the private Lot and building and Public Frontage. See Table 1.

**Transportation Corridor:** a way for use by vehicular and pedestrian traffic and to provide access to Lots and Open Spaces, consisting of Vehicular Lanes and the Public Frontage. See Table 2A, Table 2B and Table 14a.

**Turning Radius:** the curved edge of a Thoroughfare at an intersection, measured at the inside edge of the vehicular tracking. The smaller the Turning Radius, the smaller the pedestrian crossing distance and the more slowly the vehicle is forced to make the turn. See Table 2B and Table 14.

**Urban Boundary Line:** the extent of potential urban growth as determined by the projected demographic needs of a region. The Urban Boundary Line may be adjusted from time to time.

**Urbanism:** collective term for the condition of a compact, Mixed Use settlement, including the physical form of its development and its environmental, functional, economic, and sociocultural aspects.

**Urbanized:** generally, developed. Specific to the SmartCode, developed at T-3 (Sub-Urban) Density or higher.

**Variance:** a ruling that would permit a practice that is not consistent with either a specific provision or the Intent of this Code (Section 1.3). Variances are granted pursuant to the procedures of the zoning code. See Section 1.5.

**Village Unit:** a regulatory category defining the physical form, Density, and extent of a settlement. The two Village Unit types addressed in this Code are TND and RCD. Variants of TND and RCD for Infill (Article 4) are called Infill TND and Infill RCD. The TOD Village Unit type may be created by an overlay on TND or RCD.

**Warrant:** a ruling that would permit a practice that is not consistent with a specific provision of this Code, but that is justified by its Intent (Section 1.3). Warrants are granted administratively by the Planning Director. See Section 1.5.

**Work-Live:** a Mixed Use unit consisting of a Commercial and Residential Function. It typically has a substantial Commercial component that may accommodate employees and walk-in trade. The unit is intended to function predominantly as work space with incidental Residential accommodations that meet basic habitability requirements. See Live-Work. (Syn: Live-With.)

**Yield:** characterizing a Thoroughfare that has two-way traffic but only one effective travel lane because of parked cars, necessitating slow movement and driver negotiation. Also, characterizing parking on such a Thoroughfare.

**Zoning Map:** the official map or maps that are part of the zoning ordinance and delineate the boundaries of individual zones and districts. See Regulating Plan.

TABLE 1: Transect Zone Descriptions. This table describes of the Intent of each Transect Zone.

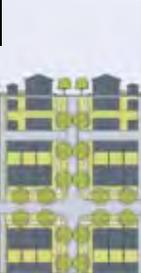
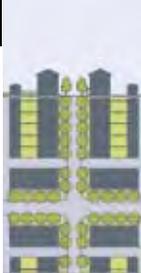
<b>GB</b>		<p><b>GB GREENBELT</b>  <b>General Character:</b> Natural landscape with some agricultural use  <b>Building Placement:</b> Not applicable  <b>Frontage Types:</b> Not applicable  <b>Typical Building Height:</b> Not applicable  <b>Type of Civic Space:</b> Parks, Greenways</p>
<b>T3</b>		<p><b>T-3 SUB-URBAN (SECONDARY AREA)</b>  <b>General Character:</b> Lawns, and landscaped yards surrounding detached single-family houses; pedestrians occasionally  <b>Building Placement:</b> Large and variable front and side yard Setbacks  <b>Frontage Types:</b> Porches, fences, naturalistic tree planting  <b>Typical Building Height:</b> 1- to 2-Story with some 3-Story  <b>Type of Civic Space:</b> Parks, Greenways</p>
<b>T4</b>		<p><b>T-4 GENERAL URBAN</b>  <b>General Character:</b> Mix of Houses, Townhouses &amp; small Apartment buildings, with scattered Commercial activity; balance between landscape and buildings; presence of pedestrians  <b>Building Placement:</b> Shallow to medium front and side yard Setbacks  <b>Frontage Types:</b> Porches, fences, Dooryards  <b>Typical Building Height:</b> 2- to 3-Story with a few taller Mixed Use buildings  <b>Type of Civic Space:</b> Squares, Greens</p>
<b>T5</b>		<p><b>T-5 URBAN CENTER</b>  <b>General Character:</b> Shops mixed with Townhouses, larger Apartment houses, Offices, workplace, and Civic buildings; predominantly attached buildings; trees within the public right-of-way; substantial pedestrian activity  <b>Building Placement:</b> Shallow Setbacks or none; buildings oriented to street defining a street wall  <b>Frontage Types:</b> Stoops, Shopfronts, Galleries  <b>Typical Building Height:</b> 3- to 5-Story with some variation  <b>Type of Civic Space:</b> Parks, Plazas and Squares, median landscaping</p>

TABLE 2A: Vehicular Lane Dimensions. This table assigns lane widths to Transect Zones. The Design ADT (Average Daily Traffic) is the determinant for each of these sections. The most typical assemblies are shown in Table 2B. Specific requirements for truck and transit bus routes and truck loading shall be decided by Warrant.

DESIGN SPEED	TRAVEL LANE WIDTH	GB	T3	T4	T5
Below 20 mph	8 feet			■	
20-25 mph	9 feet				■
25-35 mph	10 feet				
25-35 mph	11 feet				
Above 35 mph	12 feet				

DESIGN SPEED	PARKING LANE WIDTH	GB	T3	T4	T5
20-25 mph	(Angle ) 18 feet				
20-25 mph	(Parallel) 7 feet				
25-35 mph	(Parallel) 8 feet				
Above 35 mph	(Parallel) 9 feet				

DESIGN SPEED	EFFECTIVE TURNING RADIUS	GB	T3	T4	T5
Below 20 mph	5-10 feet				
20-25 mph	10-15 feet				
25-35 mph	15-20 feet				
Above 35 mph	20-30 feet				■

BY RIGHT

■ BY WARRANT

Kona

TABLE 2B: Vehicular Lane & Parking Assemblies. The projected design speeds determine the dimensions of the vehicular lanes and turning radii assembled for Transportation Corridors.

	ONE WAY MOVEMENT		TWO WAY MOVEMENT		
a. NO PARKING	<b>GB T3</b>	<b>GB T3</b>	<b>GB T3</b>	<b>GB</b>	<b>GB</b>
Design ADT	300 VPD	600 VPD	2,500 VPD	22,000 VPD	36,000 VPD
Pedestrian Crossing	3 Seconds	5 Seconds	5 Seconds	9 Seconds	13 Seconds
Design Speed	20-30 MPH	Below 20 MPH	20-25 MPH		35 MPH and above
b. YIELD PARKING	<b>T3 T4</b>		<b>T3 T4</b>		
Design ADT	1,000 VPD		1,000 VPD		
Pedestrian Crossing	5 Seconds		7 Seconds		
c. PARKING ONE SIDE PARALLEL	<b>T3 T4</b>	<b>T3 T4 T5</b>	<b>T5</b>	<b>T4 T5</b>	<b>T5</b>
Design ADT	5,000 VPD	18,000 VPD	16,000 VPD	15,000 VPD	32,000 VPD
Pedestrian Crossing	5 Seconds	8 Seconds	8 Seconds	11 Seconds	13 Seconds
Design Speed	20-30 MPH		25-30 MPH	25-30 MPH	
d. PARKING BOTH SIDES PARALLEL	<b>T4</b>	<b>T4 T5</b>	<b>T4 T5</b>	<b>T5</b>	<b>T5</b>
Design ADT	8,000 VPD	20,000 VPD	15,000 VPD	22,000 VPD	32,000 VPD
Pedestrian Crossing	7 Seconds	10 Seconds	10 Seconds	13 Seconds	15 Seconds
Design Speed	Below 20 MPH	25-30 MPH	25-30 MPH	25-30 MPH	35 MPH and above
e. PARKING BOTH SIDES DIAGONAL	<b>T5</b>	<b>T5</b>	<b>T5</b>	<b>T5</b>	<b>T5</b>
Design ADT	18,000 VPD	20,000 VPD	15,000 VPD	22,000 VPD	31,000 VPD
Pedestrian Crossing	15 Seconds	17 Seconds	17 Seconds	20 Seconds	23 Seconds
Design Speed	Below 20 MPH	20-25 MPH	20-25 MPH	25-30 MPH	25-30 MPH
f. PARKING ACCESS			<b>T3 T4</b>	<b>T5</b>	
Design ADT					
Pedestrian Crossing			3 Seconds	6 Seconds	
Design Speed					

TABLE 3A: Public Frontages - General. The Public Frontage is the area between the private Lot line and the edge of the vehicular lanes. Dimensions are given in Table 3B.

PLAN		
	LOT ►    ◀ R.O.W. PRIVATE FRONTAGE ►    ◀ PUBLIC FRONTAGE	
<p>a. (HW) For Highway: This Frontage has open Swales drained by percolation, Bicycle Trails and no parking. The landscaping consists of the natural condition or multiple species arrayed in naturalistic clusters. Buildings are buffered by distance or berms.</p>		GB T3
<p>b. (RD) For Road: This Frontage has open Swales drained by percolation and a walking Path or Bicycle Trail along one or both sides and Yield parking. The landscaping consists of multiple species arrayed in naturalistic clusters.</p>		GB T3
<p>c. (ST) For Street: This Frontage has raised Curbs drained by inlets and Sidewalks separated from the vehicular lanes by individual or continuous Planters, with parking on one or both sides. The landscaping consists of street trees of a single or alternating species aligned in a regularly spaced Allee.</p>		T3 T4 T5
<p>d. (DR) For Drive: This Frontage has raised Curbs drained by inlets and a wide Sidewalk or paved Path along one side, related to a Greenway or waterfront. It is separated from the vehicular lanes by individual or continuous Planters. The landscaping consists of street trees of a single or alternating species aligned in a regularly spaced Allee.</p>		T3 T4 T5
<p>e. (AV) For Avenue: This Frontage has raised Curbs drained by inlets and wide Sidewalks separated from the vehicular lanes by a narrow continuous Planter with parking on both sides. The landscaping consists of a single tree species aligned in a regularly spaced Allee.</p>		T3 T4 T5
<p>f. (CS) (AV) For Commercial Street or Avenue: This Frontage has raised Curbs drained by inlets and very wide Sidewalks along both sides separated from the vehicular lanes by separate tree wells with grates and parking on both sides. The landscaping consists of a single tree species aligned with regular spacing where possible but clears the storefront entrances.</p>		T5
<p>g. (BV) For Boulevard: This Frontage has Slip Roads on both sides. It consists of raised Curbs drained by inlets and Sidewalks along both sides, separated from the vehicular lanes by Planters. The landscaping consists of double rows of a single tree species aligned in a regularly spaced Allee.</p>		T3 T4 T5

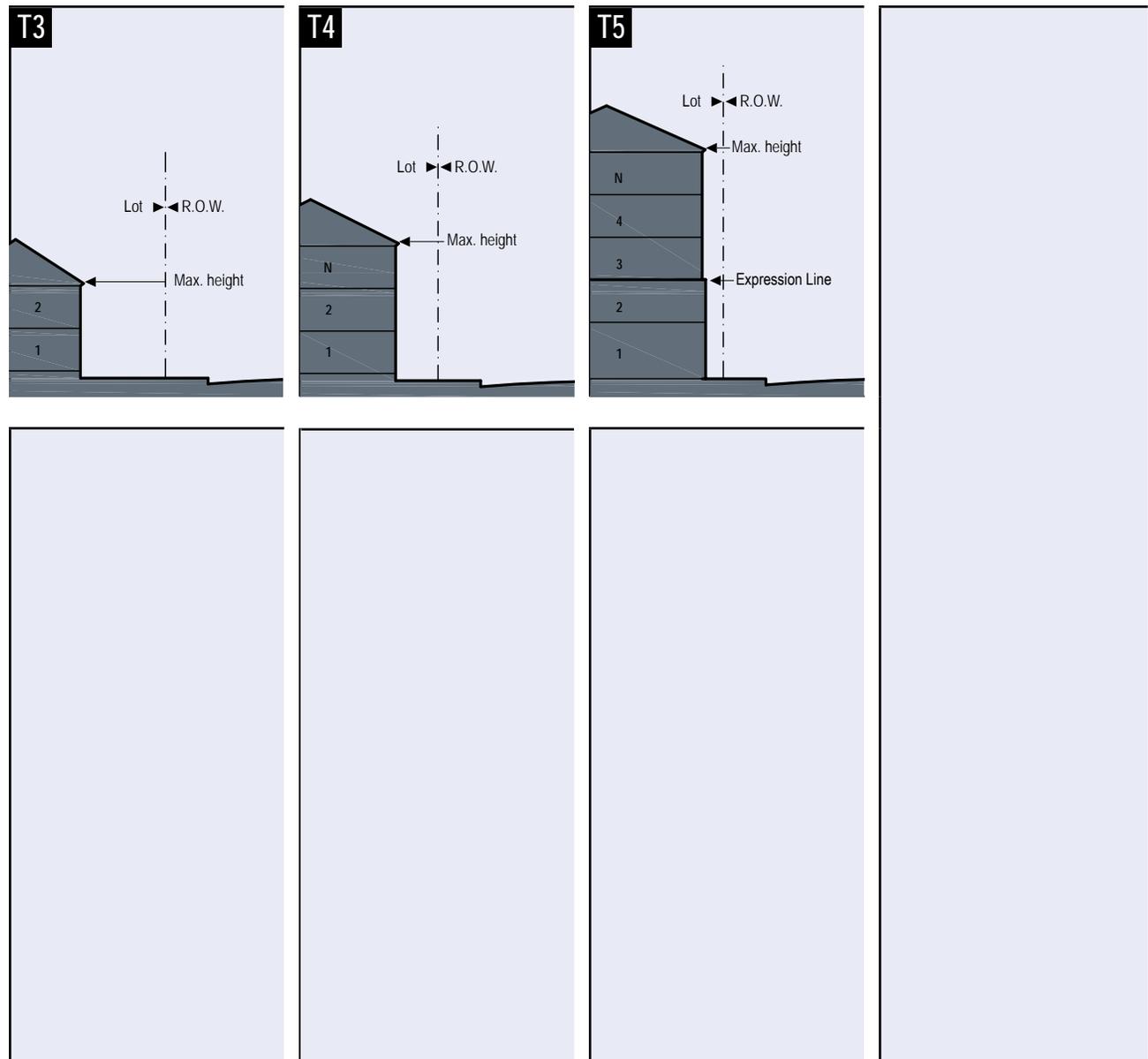


TABLE 4: Private Frontages. The Private Frontage is the area between the building Facades and the Lot lines.

	SECTION	PLAN
	LOT PRIVATE FRONTAGE R.O.W. PUBLIC FRONTAGE	LOT PRIVATE FRONTAGE R.O.W. PUBLIC FRONTAGE
<p>a. <b>Common Yard:</b> a planted Frontage wherein the Facade is set back substantially from the Frontage Line. The front yard created remains unfenced and is visually continuous with adjacent yards, supporting a common landscape. The deep Setback provides a buffer from the higher speed Transportation Corridor.</p>		
<p>b. <b>Porch &amp; Fence:</b> a planted Frontage wherein the Facade is set back from the Frontage Line with an attached porch permitted to Encroach. A fence at the Frontage Line maintains street spatial definition. Porches shall be no less than 8 feet deep.</p>		
<p>c. <b>Terrace or Lightwell:</b> a Frontage wherein the Facade is set back from the Frontage line by an elevated Terrace or a sunken Lightwell. This type buffers Residential use from urban Sidewalks and removes the private yard from public Encroachment. Terraces are suitable for conversion to outdoor cafes. Syn: Dooryard.</p>		
<p>d. <b>Forecourt:</b> a Frontage wherein a portion of the Facade is close to the Frontage Line and the central portion is setback. The Forecourt created is suitable for vehicular drop-offs. This type should be allocated in conjunction with other Frontage types. Large trees within the Forecourts may overhang the Sidewalks.</p>		
<p>e. <b>Stoop:</b> a Frontage wherein the Facade is aligned close to the Frontage Line with the first Story elevated from the Sidewalk sufficiently to secure privacy for the windows. The entrance is usually an exterior stair and landing. This type is recommended for ground-floor Residential use.</p>		
<p>f. <b>Shopfront:</b> a Frontage wherein the Facade is aligned close to the Frontage Line with the building entrance at Sidewalk grade. This type is conventional for Retail use. It has a substantial glazing on the Sidewalk level and an awning that should overlap the Sidewalk to within 2 feet of the Curb. Syn: Retail Frontage.</p>		
<p>g. <b>Gallery:</b> a Frontage wherein the Facade is aligned close to the Frontage line with an attached cantilevered shed or a lightweight colonnade overlapping the Sidewalk. This type is conventional for Retail use. The Gallery shall be no less than 10 feet wide and should overlap the Sidewalk to within 2 feet of the Curb.</p>		
<p>h. <b>Arcade:</b> a Frontage wherein the Facade is a colonnade that overlaps the Sidewalk, while the Facade at Sidewalk level remains at the Frontage Line. This type is conventional for Retail use. The Arcade shall be no less than 12 feet wide and should overlap the Sidewalk to within 2 feet of the Curb.</p>		

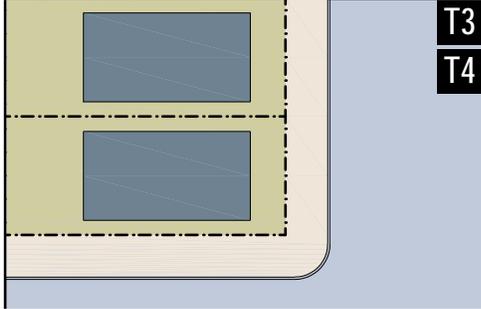
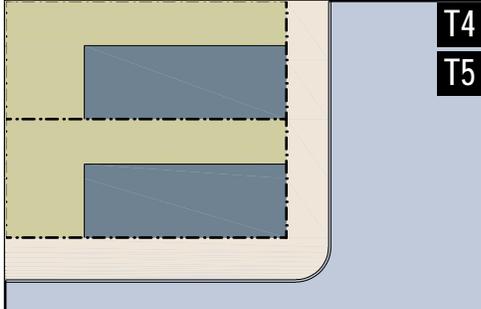
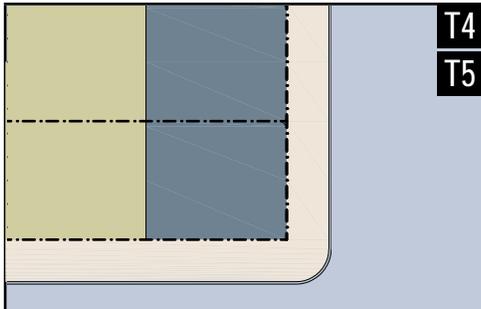
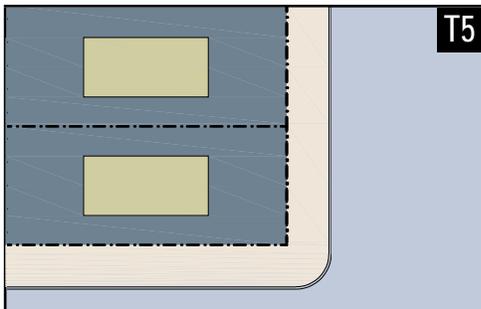
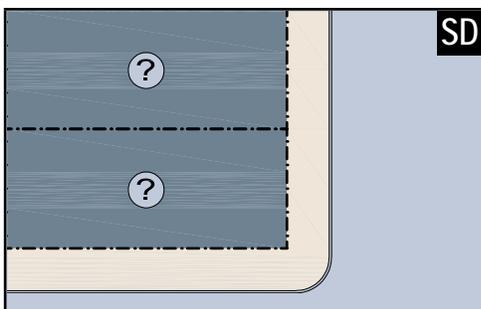
Kona

**TABLE 5: Building Configuration.** This table shows the Configurations for different building heights for each Transect Zone. It must be modified to show actual calibrated heights for local conditions. Recess Lines and Expression Lines shall occur on higher buildings as shown. N = maximum height as specified in Table 11k.



1. Building height shall be measured in number of Stories, excluding Attics and raised basements. Height limits also do not apply to masts, bellies, clock towers, chimney flues, water tanks, elevator bulkheads and similar structures.
2. Stories may not exceed 14 feet in height from finished floor to finished floor, except for a first floor Commercial Function, which shall be a minimum of 11 feet and may be a maximum of 25 feet.
3. Height shall be measured from the average Enfronting Sidewalk grade to the uppermost eave of a main pitched roof (not of a dormer), or to the uppermost roof deck (not the top of parapet) of a flat roof.

TABLE 6: Building Disposition. This table approximates the location of the structure relative to the boundaries of each individual Lot, establishing suitable basic building types for each Transect Zone.

<p>a. <b>Edgeyard:</b> Specific Types - single family House, cottage, villa, estate house, urban villa. A building that occupies the center of its Lot with Setbacks on all sides. This is the least urban of types as the front yard sets it back from the Frontage, while the side yards weaken the spatial definition of the public Transportation Corridor space. The front yard is intended to be visually continuous with the yards of adjacent buildings. The rear yard can be secured for privacy by fences and a well-placed Backbuilding and/or Outbuilding.</p>	
<p>b. <b>Sideyard:</b> Specific Types - Charleston single House, double house, zero-lot-line house, twin. A building that occupies one side of the Lot with the Setback to the other side. A shallow Frontage Setback defines a more urban condition. If the adjacent building is similar with a blank party wall, the yard can be quite private. This type permits systematic climatic orientation in response to the sun or the breeze. If a Sideyard House abuts a neighboring Sideyard House, the type is known as a twin or double House. Energy costs, and sometimes noise, are reduced by sharing a party wall in this Disposition.</p>	
<p>c. <b>Rearyard:</b> Specific Types - Townhouse, Rowhouse, Live-Work unit, loft building, Apartment House, Mixed Use block, Flex Building, perimeter block. A building that occupies the full Frontage, leaving the rear of the Lot as the sole yard. This is a very urban type as the continuous Facade steadily defines the public Thoroughfare. The rear Elevations may be articulated for functional purposes. In its Residential form, this type is the Rowhouse. For its Commercial form, the rear yard can accommodate substantial parking.</p>	
<p>d. <b>Courtyard:</b> Specific Types - patio house. A building that occupies the boundaries of its Lot while internally defining one or more private patios. This is the most urban of types, as it is able to shield the private realm from all sides while strongly defining the public Transportation Corridor. Because of its ability to accommodate incompatible activities, masking them from all sides, it is recommended for workshops, Lodging and schools. The high security provided by the continuous enclosure is useful for crime-prone areas.</p>	
<p>e. <b>Specialized:</b> A building that is not subject to categorization. Buildings dedicated to manufacturing and transportation are often distorted by the trajectories of machinery. Civic buildings, which may express the aspirations of institutions, may be included.</p>	

Kona

TABLE 9: Building Function - General. This table categorizes Building Functions within Transect Zones. Parking requirements are correlated to functional intensity. For Specific Function and Use permitted By Right or by Warrant, see Table 9.

	T3	T4	T5
a. RESIDENTIAL	<b>Restricted Residential:</b> The number of dwellings on each Lot is restricted to one within a Principal Building and one within an Accessory Building, with 2.0 parking places for each. Both dwellings shall be under single ownership. The habitable area of the Accessory dwelling shall not exceed 500 square feet.	<b>Limited Residential:</b> The number of dwellings on each Lot is limited by the requirement of 1.5 parking places for each dwelling, a ratio which may be reduced according to the shared parking standards (See Table 8).	<b>Open Residential:</b> The number of dwellings on each Lot is limited by the requirement of 1.0 parking places for each dwelling, a ratio which may be reduced according to the shared parking standards (See Table 8).
b. LODGING	<b>Restricted Lodging:</b> The number of bedrooms available on each Lot for lodging is limited by the requirement of 1.0 assigned parking place for each bedroom, up to five, in addition to the parking requirement for the dwelling. The Lodging must be owner occupied. Food service may be provided in the a.m. The maximum length of stay shall not exceed ten days.	<b>Limited Lodging:</b> The number of bedrooms available on each Lot for lodging is limited by the requirement of 1.0 assigned parking places for each bedroom, up to twelve, in addition to the parking requirement for the dwelling. The Lodging must be owner occupied. Food service may be provided in the a.m. The maximum length of stay shall not exceed ten days.	<b>Open Lodging:</b> The number of bedrooms available on each Lot for lodging is limited by the requirement of 1.0 assigned parking places for each bedroom. Food service may be provided at all times. The area allocated for food service shall be calculated and provided with parking according to Retail Function.
c. OFFICE	<b>Restricted Office:</b> The building area available for office use on each Lot is restricted to the first Story of the Principal or the Accessory Building and by the requirement of 3.0 assigned parking places per 1000 square feet of net office space in addition to the parking requirement for each dwelling.	<b>Limited Office:</b> The building area available for office use on each Lot is limited to the first Story of the principal building and/ or to the Accessory building, and by the requirement of 3.0 assigned parking places per 1000 square feet of net office space in addition to the parking requirement for each dwelling.	<b>Open Office:</b> The building area available for office use on each Lot is limited by the requirement of 2.0 assigned parking places per 1000 square feet of net office space.
d. RETAIL	<b>Restricted Retail:</b> The building area available for Retail use is restricted to one Block corner location at the first Story for each 300 dwelling units and by the requirement of 4.0 assigned parking places per 1000 square feet of net Retail space in addition to the parking requirement of each dwelling. The specific use shall be further limited to neighborhood store, or food service seating no more than 20.	<b>Limited Retail:</b> The building area available for Retail use is limited to the first Story of buildings at corner locations, not more than one per Block, and by the requirement of 4.0 assigned parking places per 1000 square feet of net Retail space in addition to the parking requirement of each dwelling. The specific use shall be further limited to neighborhood store, or food service seating no more than 40.	<b>Open Retail:</b> The building area available for Retail use is limited by the requirement of 3.0 assigned parking places per 1000 square feet of net Retail space. Retail spaces under 1500 square feet are exempt from parking requirements.
e. CIVIC	See Table 9	See Table 9	See Table 9
f. OTHER	See Table 9	See Table 9	See Table 9

TABLE 8: Parking Calculations. The Required Parking table summarizes the parking requirements of Table 7 for each site or, conversely, the amount of building allowed on each site given the parking available.

	REQUIRED PARKING (See Table 8)		
	T3	T4	T5
RESIDENTIAL	2.0 / dwelling	1.5 / dwelling	1.0 / dwelling
LODGING	1.0 / bedroom	1.0 / bedroom	1.0 / bedroom
OFFICE	3.0 / 1000 sq. ft.	3.0 / 1000 sq. ft.	2.0 / 1000 sq. ft.
RETAIL	4.0 / 1000 sq. ft.	4.0 / 1000 sq. ft.	3.0 / 1000 sq. ft.
CIVIC	To be determined by Warrant		
OTHER	To be determined by Warrant		

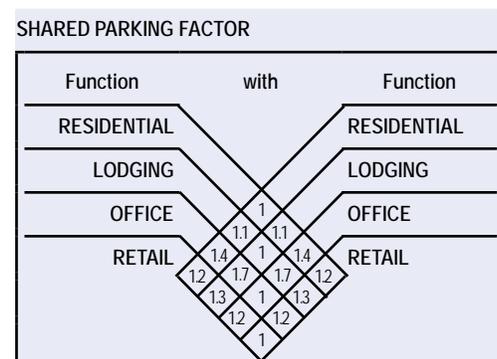


TABLE 9. SPECIFIC FUNCTION & USE

SMARTCODE

Kona

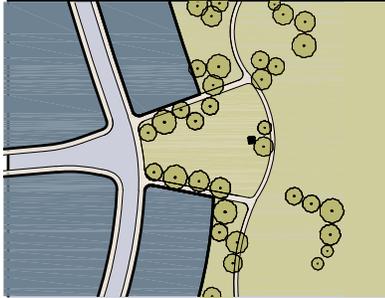
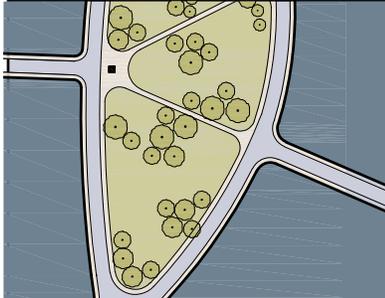
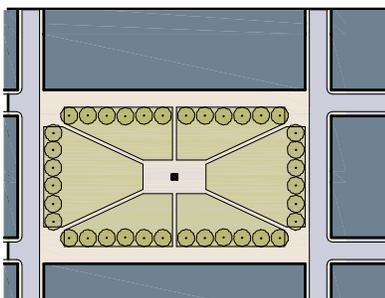
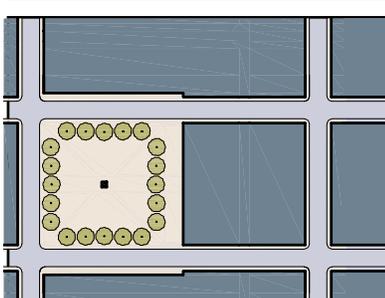
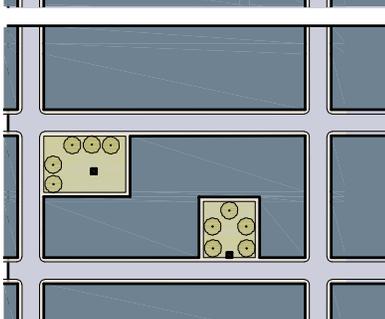
TABLE 9: Specific Function & Use. This table expands the categories of Table 7 to delegate specific Functions and uses within Transect Zones. Table 9 should be customized for local character and requirements.

	GB	T3	T4	T5	SD
<b>a. RESIDENTIAL</b>					
Mixed Use Block					
Flex Building					
Apartment Building					
Live/Work Unit					■
Row House					
Duplex House					
Courtyard House					
Sidyard House					
Cottage					
House					
Villa					
Accessory Unit					
<b>b. LODGING</b>					
Hotel (no room limit)					■
Inn (up to 12 rooms)					
Bed & Breakfast (up to 5 rooms)					
S.R.O. hostel	■	■	■	■	■
School Dormitory					
<b>c. OFFICE</b>					
Office Building					■
Live-Work Unit					■
<b>d. RETAIL</b>					
Open-Market Building					
Retail Building					■
Display Gallery					■
Restaurant					■
Kiosk					■
Push Cart			■	■	
Liquor Selling Establishment			■	■	
Adult Entertainment					■
<b>e. CIVIC</b>					
Bus Shelter					
Convention Center					
Conference Center			■		
Exhibition Center					
Fountain or Public Art					
Library					
Live Theater					
Movie Theater					
Museum			■		
Outdoor Auditorium					
Parking Structure					
Passenger Terminal			■		
Playground					
Sports Stadium					
Surface Parking Lot		■	■		
Religious Assembly					

	GB	T3	T4	T5	SD
<b>f. OTHER: AGRICULTURE</b>					
Grain Storage					■
Livestock Pen	■				■
Greenhouse		■			■
Stable		■			■
Kennel		■	■	■	■
<b>f. OTHER: AUTOMOTIVE</b>					
Gasoline				■	
Automobile Service					
Truck Maintenance					
Drive -Through Facility				■	
Rest Stop					■
Roadside Stand					■
Billboard					■
Shopping Center					■
Shopping Mall					■
<b>f. OTHER: CIVIL SUPPORT</b>					
Fire Station					
Police Station					
Cemetery		■	■		
Funeral Home					
Hospital				■	
Medical Clinic			■		
<b>f. OTHER: EDUCATION</b>					
College				■	
High School			■	■	
Trade School				■	
Elementary School		■			
Other- Childcare Center					■
<b>f. OTHER: INDUSTRIAL</b>					
Heavy Industrial Facility					
Light Industrial Facility					
Truck Depot					
Laboratory Facility					
Water Supply Facility					
Sewer and Waste Facility					
Electric Substation	■	■	■	■	
Wireless Transmitter	■				
Cremation Facility					
Warehouse					
Produce Storage					
Mini-Storage					

BY RIGHT  
 ■ BY WARRANT

Kona

<p>a. <b>Park:</b> A natural preserve available for unstructured recreation. A Park may be independent of surrounding building Frontages. Its landscape shall consist of Paths and trails, meadows, waterbodies, woodland and open shelters, all naturalistically disposed. Parks may be lineal, following the trajectories of natural Corridors. The minimum size shall be 8 acres. Larger Parks may be approved by Warrant as Special Districts in all zones.</p>	 <div style="float: right; text-align: center;"> <div style="background-color: black; color: white; padding: 2px 5px; margin-bottom: 2px;">GB</div> <div style="background-color: black; color: white; padding: 2px 5px;">T3</div> </div>
<p>b. <b>Green:</b> An Open Space, available for unstructured recreation. A Green may be spatially defined by landscaping rather than building Frontages. Its landscape shall consist of lawn and trees, naturalistically disposed. The minimum size shall be 1/2 acre and the maximum shall be 8 acres.</p>	 <div style="float: right; text-align: center;"> <div style="background-color: black; color: white; padding: 2px 5px; margin-bottom: 2px;">T3</div> <div style="background-color: black; color: white; padding: 2px 5px; margin-bottom: 2px;">T4</div> <div style="background-color: black; color: white; padding: 2px 5px;">T5</div> </div>
<p>c. <b>Square:</b> An Open Space available for unstructured recreation and Civic purposes. A Square is spatially defined by building Frontages. Its landscape shall consist of Paths, lawns and trees, formally disposed. Squares shall be located at the intersection of important Thoroughfares. The minimum size shall be 1/2 acre and the maximum shall be 5 acres.</p>	 <div style="float: right; text-align: center;"> <div style="background-color: black; color: white; padding: 2px 5px; margin-bottom: 2px;">T4</div> <div style="background-color: black; color: white; padding: 2px 5px;">T5</div> </div>
<p>d. <b>Plaza:</b> An Open Space available for Civic purposes and Commercial activities. A Plaza shall be spatially defined by building Frontages. Its landscape shall consist primarily of pavement. Trees are optional. Plazas <b>should</b> be located at the intersection of important streets. The minimum size shall be 1/2 acre and the maximum shall be 2 acres.</p>	 <div style="float: right; text-align: center;"> <div style="background-color: black; color: white; padding: 2px 5px;">T5</div> </div>
<p>e. <b>Playground:</b> An Open Space designed and equipped for the recreation of children. A playground <b>should</b> be fenced and may include an open shelter. Playgrounds shall be interspersed within Residential areas and may be placed within a Block. Playgrounds may be included within parks and greens. There shall be no minimum or maximum size.</p>	 <div style="float: right; text-align: center;"> <div style="background-color: black; color: white; padding: 2px 5px; margin-bottom: 2px;">GB</div> <div style="background-color: black; color: white; padding: 2px 5px; margin-bottom: 2px;">T3</div> <div style="background-color: black; color: white; padding: 2px 5px; margin-bottom: 2px;">T4</div> <div style="background-color: black; color: white; padding: 2px 5px;">T5</div> </div>

Note: All requirements in this Table are subject to calibration for local context.



	GB GREENBELT	T2 RURAL ZONE	T3 SUB-URBAN ZONE	T4 GENERAL URBAN ZONE	T5 URBAN CENTER ZONE	T6 URBAN CORE ZONE	SD SPECIAL DISTRICT
<b>a. ALLOCATION OF ZONES per Pedestrian Shed</b> (applicable to Article 3 only) (see Table 16)							
CLD requires	no minimum		10 - 30%	20 - 40%	not permitted		
TND requires	no minimum		10 - 30%	30 - 60 %	10 - 30%		
RCD requires	no minimum		10 - 30%	20 - 40%	30 - 60%		
<b>b. BASE RESIDENTIAL DENSITY</b> (see Section 3.4)							
By Right	not applicable		2 units / ac. gross	4 units / ac. gross	6 units / ac. gross		
By TDR	by Variance		6 units / ac. gross	12 units / ac. gross	24 units / ac. gross		
Other Functions	by Variance		10 - 20% min	20 - 30% min	30 - 50% min		
<b>c. BLOCK SIZE</b>							
Block Perimeter	no maximum		3000 ft. max	2400 ft. max	2000 ft. max		
<b>d. TRANSPORTATION CORRIDORS</b> (see Table 2 and Table 3) * 3000 ft. max with parking structures							
HW	permitted		permitted	not permitted	not permitted		
BV	not permitted		permitted	permitted	permitted		
AV	not permitted		permitted	permitted	permitted		
CS	not permitted		not permitted	not permitted	permitted		
DR	not permitted		permitted	permitted	permitted		
ST	not permitted		permitted	permitted	permitted		
RD	permitted		permitted	not permitted	not permitted		
Rear Lane	permitted		permitted	permitted	not permitted		
Rear Alley	not permitted		permitted	required	required		
Path	permitted		permitted	permitted	not permitted		
Passage	not permitted		permitted	permitted	permitted		
Bicycle Trail	permitted		permitted	not permitted *	not permitted		
Bicycle Lane	permitted		permitted	permitted	not permitted		
Bicycle Route	permitted		permitted	permitted	permitted		
<b>e. CIVIC SPACES</b> (see Table 10) * permitted within Open Spaces							
Park	permitted		permitted	by Warrant	by Warrant		
Green	not permitted		permitted	permitted	permitted		
Square	not permitted		not permitted	permitted	permitted		
Plaza	not permitted		not permitted	not permitted	permitted		
Playground	permitted		permitted	permitted	permitted		
<b>f. LOT OCCUPATION</b>							
Lot Width	not applicable		72 ft. min 120 ft. max	18 ft. min 96 ft. max	18 ft. min 180 ft. max		
Lot Coverage	not applicable		60% max	70% max	80% max		
<b>g. SETBACKS - PRINCIPAL BUILDING</b>							
Front Setback (Principal)	not applicable		24 ft. min	6 ft. min 18 ft. max	0 ft. min 12 ft. max		
Front Setback (Secondary)	not applicable		12 ft. min	6 ft. min 18 ft. max	0 ft. min 12 ft. max		
Side Setback	not applicable		12 ft. min	0 ft. min	0 ft. min 24 ft. max		
Rear Setback	not applicable		12 ft. min	3 ft. min *	3 ft. min *		
Frontage Buildout	not applicable		40% min	60% min	80% min		
<b>h. SETBACKS - OUTBUILDING</b>							
Front Setback	not applicable		20 ft. min +bldg setback	24 ft. min +bldg setback	40 ft. max from rear prop.		
Side Setback	not applicable		3 ft. or 6 ft.	0 ft. min or 3 ft.	0 ft. min		
Rear Setback	not applicable		3 ft. min	3 ft.	3 ft. max		
<b>i. BUILDING DISPOSITION</b> (see Table 6)							
Edgeyard	permitted		permitted	permitted	not permitted		
Sideyard	not permitted		not permitted	permitted	permitted		
Rearyard	not permitted		not permitted	permitted	permitted		
Courtyard	not permitted		not permitted	not permitted	permitted		
<b>j. PRIVATE FRONTAGES</b> (see Table 7)							
Common Yard	not applicable		permitted	not permitted	not permitted		
Porch & Fence	not applicable		permitted	permitted	not permitted		
Terrace or L.C.	not applicable		not permitted	permitted	permitted		
Forecourt	not applicable		not permitted	permitted	permitted		
Stoop	not applicable		not permitted	permitted	permitted		
Shopfront & Awning	not applicable		not permitted	permitted	permitted		
Gallery	not applicable		not permitted	permitted	permitted		
Arcade	not applicable		not permitted	not permitted	permitted		
<b>k. BUILDING CONFIGURATION</b> (see Table 5)							
Principal Building	not applicable		2 Stories max	3 Stories max, 2 min	5 Stories max, 2 min		
Outbuilding	not applicable		2 Stories max	2 Stories max	2 Stories max		
<b>l. BUILDING FUNCTION</b> (see Table 7 & Table 9)							
Residential	not applicable		restricted use	limited use	open use		
Lodging	not applicable		restricted use	limited use	open use		
Office	not applicable		restricted use	limited use	open use		
Retail	not applicable		restricted use	limited use	open use		

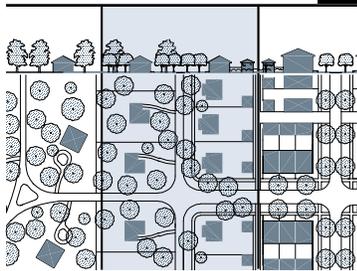
DISPOSITION

CONFIGURATION

FUNCTION

ARTICLE 5  
ARTICLE 2, 3, 4

**T3**



**BUILDING FUNCTION** (see Table 7 & Table 9)

a. Residential	restricted use
b. Lodging	restricted use
c. Office	restricted use
d. Retail	restricted use

**BUILDING CONFIGURATION** (see Table 5)

a. Principal Building	2 stories max.
b. Outbuilding	2 stories max.

**LOT OCCUPATION**

a. Lot Width	72 ft. min 120 ft. max.
b. Lot Coverage	60% max.

**BUILDING DISPOSITION** (see Table 6)

a. Edgeyard	permitted
b. Sideyard	not permitted
c. Rearyard	not permitted
d. Courtyard	not permitted

**SETBACKS - PRINCIPAL BUILDING**

a. Front Setback (P)	24 ft. min.
b. Front Setback (S)	12 ft. min.
c. Side Setback	12 ft. min.
d. Rear Setback	12 ft. min.

Frontage Buildout 40% min. at setback

**SETBACKS - OUTBUILDING**

a. Front Setback	20 ft. min. + bldg setback
b. Side Setback	3 ft. or 6 ft. min.
c. Rear Setback	3 ft. min.

**PRIVATE FRONTAGES** (see Table 4)

a. Common Law	permitted
b. Porch & Fence	permitted
c. Terrace or L.C.	not permitted
d. Forecourt	not permitted
e. Stoop	not permitted
f. Shopfront & Awning	not permitted
g. Gallery	not permitted
h. Arcade	not permitted

Refer to Summary Table 11

**PARKING REQUIREMENTS**

See Table 7 & Table 8

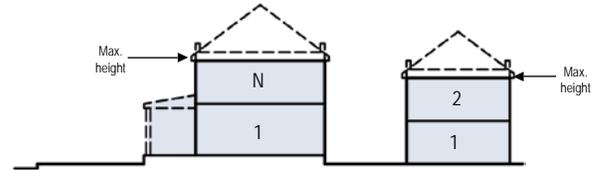
\* or 15 ft. from center line of alley

Graphics are illustrative only. Refer to metrics for Setback and height information.

"N" stands for any Stories above those shown, up to the maximum. Refer to metrics for exact minimums and maximums.

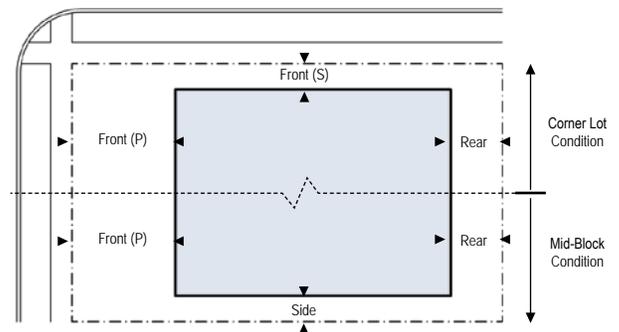
**BUILDING CONFIGURATION**

1. Building height shall be measured in number of Stories, excluding Attics and raised basements.
2. Stories may not exceed 14 feet in height from finished floor to finished ceiling, except for a first floor Commercial function which must be a minimum of 11 ft with no maximum.
3. Height shall be measured to the eave or roof deck as specified on Table 5.



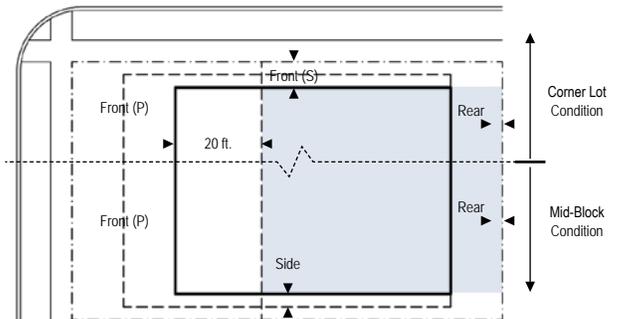
**SETBACKS - PRINCIPAL BLDG.**

1. The Facades and Elevations of Principal Buildings shall be distanced from the Lot lines as shown.
2. Facades shall be built along the Principal Frontage to the minimum specified width in the table.



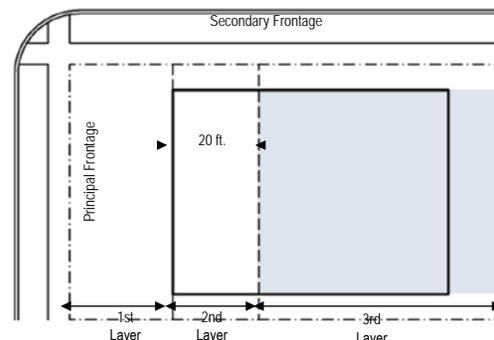
**SETBACKS - OUTBUILDING**

1. The Elevation of the Outbuilding shall be distanced from the Lot lines as shown.

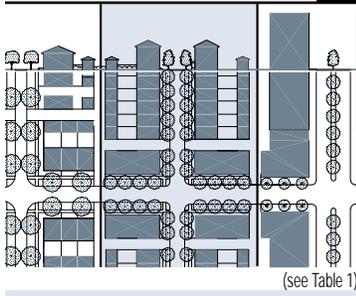


**PARKING PLACEMENT**

1. Uncovered parking spaces may be provided within the 2nd and 3rd Layer as shown in the diagram (see Table 14d).
2. Covered parking shall be provided within the 3rd Layer as shown in the diagram (see Table 14d).
3. Trash containers shall be stored within the 3rd Layer.



**T4**



(see Table 1)

**BUILDING FUNCTION** (see Table 7 & Table 9)

a. Residential	limited use
b. Lodging	limited use
c. Office	limited use
d. Retail	limited use

**BUILDING CONFIGURATION** (see Table 5)

a. Principal Building	3 stories max, 2 min.
b. Outbuilding	2 stories max.

**LOT OCCUPATION**

a. Lot Width	18 ft. min 96 ft. max.
b. Lot Coverage	70% max.

**BUILDING DISPOSITION** (see Table 6)

a. Edgeward	permitted
b. Sideyard	permitted
c. Rearyard	permitted
d. Courtyard	not permitted

**SETBACKS - PRINCIPAL BUILDING**

a. Front Setback (P)	6 ft. min. 18 ft. max.
b. Front Setback (S)	6 ft. min. 18 ft. max.
c. Side Setback	0 ft. min.
d. Rear Setback	3 ft. min.*
Frontage Buildout	60% min. at setback

**SETBACKS - OUTBUILDING**

a. Front Setback	24 ft. min. + bldg setback
b. Side Setback	0 ft. or 3 ft. min.
c. Rear Setback	3 ft. min.

**PRIVATE FRONTAGES** (see Table 4)

a. Common Law	not permitted
b. Porch & Fence	permitted
c. Terrace or L.C.	permitted
d. Forecourt	permitted
e. Stoop	permitted
f. Shopfront & Awning	permitted
g. Gallery	permitted
h. Arcade	not permitted

Refer to Summary Table 14

**PARKING REQUIREMENTS**  
See Table 7 & Table 8

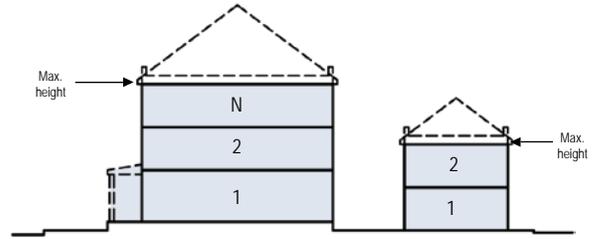
\* or 15 ft. from center line of alley

Graphics are illustrative only. Refer to metrics for Setback and height information.

"N" stands for any Stories above those shown, up to the maximum. Refer to metrics for exact minimums and maximums.

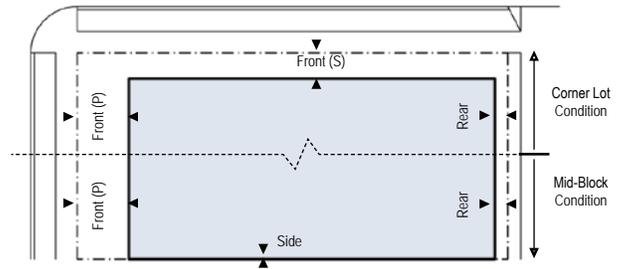
**BUILDING CONFIGURATION**

1. Building height shall be measured in number of Stories, excluding Attics and raised basements.
2. Stories may not exceed 14 feet in height from finished floor to finished ceiling, except for a first floor Commercial function which must be a minimum of 11 ft with no maximum.
3. Height shall be measured to the eave or roof deck as specified on Table 5.



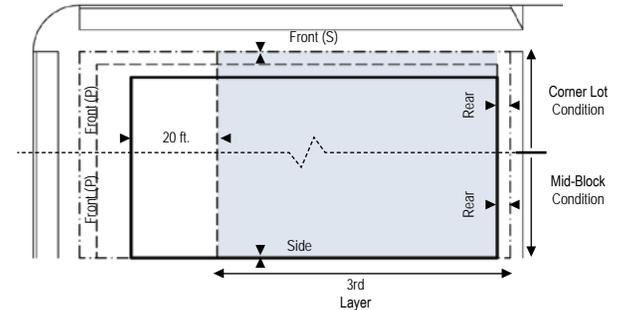
**SETBACKS - PRINCIPAL BLDG.**

1. The Facades and Elevations of Principal Buildings shall be distanced from the Lot lines as shown.
2. Facades shall be built along the Principal Frontage to the minimum specified width in the table.



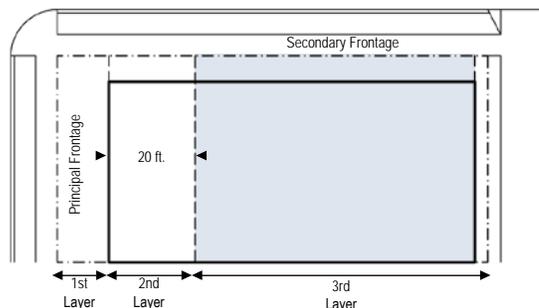
**SETBACKS - OUTBUILDING**

1. The Elevations of the Outbuilding shall be distanced from the Lot lines as shown.

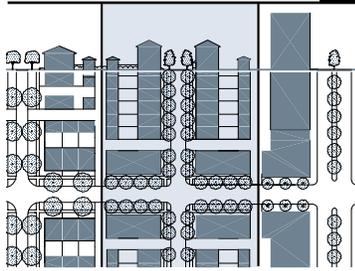


**PARKING PLACEMENT**

1. Uncovered parking spaces may be provided within the 3rd Layer as shown in the diagram (see Table 14d).
2. Covered parking shall be provided within the 3rd Layer as shown in the diagram (see Table 14d).
3. Trash containers shall be stored within the 3rd Layer.



**T5**



(see Table 1)

**BUILDING FUNCTION** (see Table 7 & Table 9)

a. Residential	open use
b. Lodging	open use
c. Office	open use
d. Retail	open use

**BUILDING CONFIGURATION** (see Table 5)

a. Principal Building	5 stories max, 2 min.
b. Outbuilding	2 stories max.

**LOT OCCUPATION**

a. Lot Width	18 ft. min 180 ft. max.
b. Lot Coverage	80% max.

**BUILDING DISPOSITION** (see Table 6)

a. Edgeward	not permitted
b. Sideyard	permitted
c. Rearyard	permitted
d. Courtyard	permitted

**SETBACKS - PRINCIPAL BUILDING**

a. Front Setback (P)	0 ft. min. 12 ft. max.
b. Front Setback (S)	0 ft. min. 12 ft. max.
c. Side Setback	0 ft. min. 24 ft. max.
d. Rear Setback	3 ft. min.*
Frontage Buildout	80% min. at setback

**SETBACKS - OUTBUILDING**

a. Front Setback	40 ft. max. from rear prop.
b. Side Setback	0 ft.
c. Rear Setback	3 ft. max.

**PRIVATE FRONTAGES** (see Table 4)

a. Common Law	not permitted
b. Porch & Fence	not permitted
c. Terrace or L.C.	not permitted
d. Forecourt	permitted
e. Stoop	permitted
f. Shopfront & Awning	permitted
g. Gallery	permitted
h. Arcade	permitted

Refer to Summary Table 11

**PARKING REQUIREMENTS**

See Table 7 & Table 8

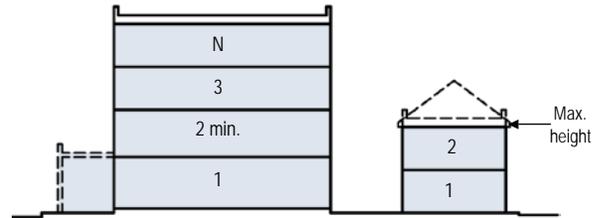
\* or 15 ft. from center line of alley

Graphics are illustrative only. Refer to metrics for Setback and height information.

"N" stands for any Stories above those shown, up to the maximum. Refer to metrics for exact minimums and maximums.

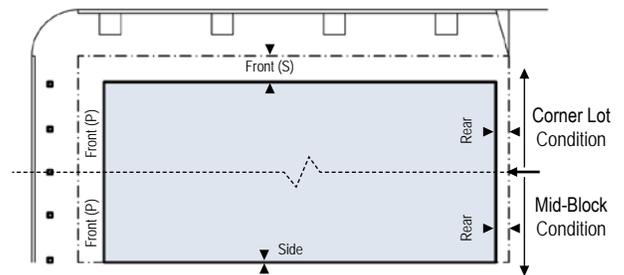
**BUILDING CONFIGURATION**

1. Building height shall be measured in number of Stories, excluding Attics and raised basements.
2. Stories may not exceed 14 feet in height from finished floor to finished ceiling, except for a first floor Commercial function which must be a minimum of 11 ft with no maximum.
3. Height shall be measured to the eave or roof deck as specified on Table 5.
4. Expression Lines shall be as shown on Table 5.



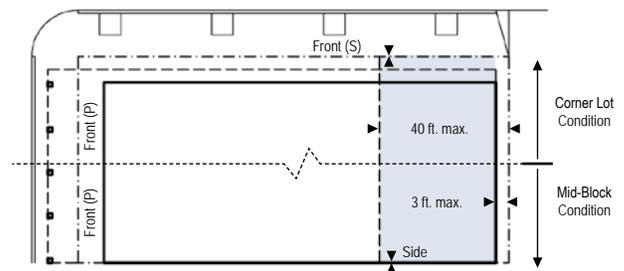
**SETBACKS - PRINCIPAL BLDG.**

1. The Facades and Elevations of Principal Buildings shall be distanced from the Lot lines as shown.
2. Facades shall be built along the Principal Frontage to the minimum specified width in the table.



**SETBACKS - OUTBUILDING**

1. The Elevation of the Outbuilding shall be distanced from the Lot lines as shown.



**PARKING PLACEMENT**

1. Uncovered parking spaces may be provided within the 2nd and 3rd Layer as shown in the diagram (see Table 14d).
2. Covered parking shall be provided within the 3rd Layer as shown in the diagram (see Table 14d).
3. Trash containers shall be stored within the 3rd Layer.

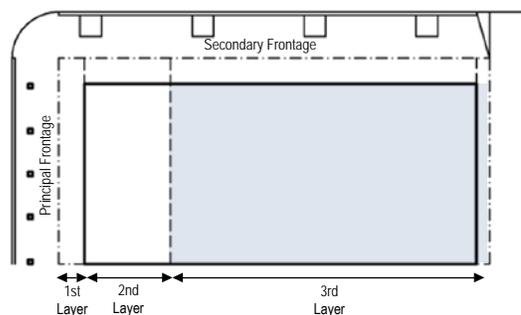


TABLE 13: Special District Standards. The metrics for each column of this table (SD1, SD2, etc.) are to be filled in for each Special District as they currently exist, or as they are permitted. More pages can be added. Special Districts that do not have provisions within this Code shall be governed by the standards of the pre-existing zoning.

	SD1	SD2	SD3	SD4	SD5	SD6	SD7
<b>a. ALLOCATION OF ZONES</b>							
CLD	X						
TND	X						
TOD	X						
<b>b. BASE RESIDENTIAL DENSITY</b>							
By Right	X						
By TDR	X						
Other Functions	X						
<b>c. BLOCK SIZE</b>							
Block Perimeter	X						
<b>d. THOROUGHFARES</b>							
HW	X						
BV	X						
AV	X						
CS	X						
DR	X						
ST	X						
RD	X						
Rear Lane	X						
Rear Alley	X						
Path	X						
Passage	X						
Bicycle Trail	X						
Bicycle Lane	X						
Bicycle Route	X						
<b>e. CIVIC SPACES</b>							
Park	X						
Green	X						
Square	X						
Plaza	X						
Playground	X						
<b>f. LOT OCCUPATION</b>							
Lot Width	X						
Lot Coverage	X						
<b>g. SETBACKS - PRINCIPAL BUILDING</b>							
Front Setback	X						
Side Setback	X						
Rear Setback	X						
<b>h. BUILDING DISPOSITION</b>							
Edgeyard	X						
Sideyard	X						
Rearyard	X						
<b>i. PRIVATE FRONTAGES</b>							
Common Yard	X						
Porch & Fence	X						
Terrace or L.C.	X						
Forecourt	X						
Stoop	X						
Shopfront	X						
Gallery	X						
Arcade	X						
Parking Lot	X						
<b>j. BUILDING CONFIGURATION</b>							
Principal Building	X						
Outbuilding	X						
<b>k. BUILDING FUNCTION</b>							
Residential	X						
Lodging	X						
Office	X						
Retail	X						

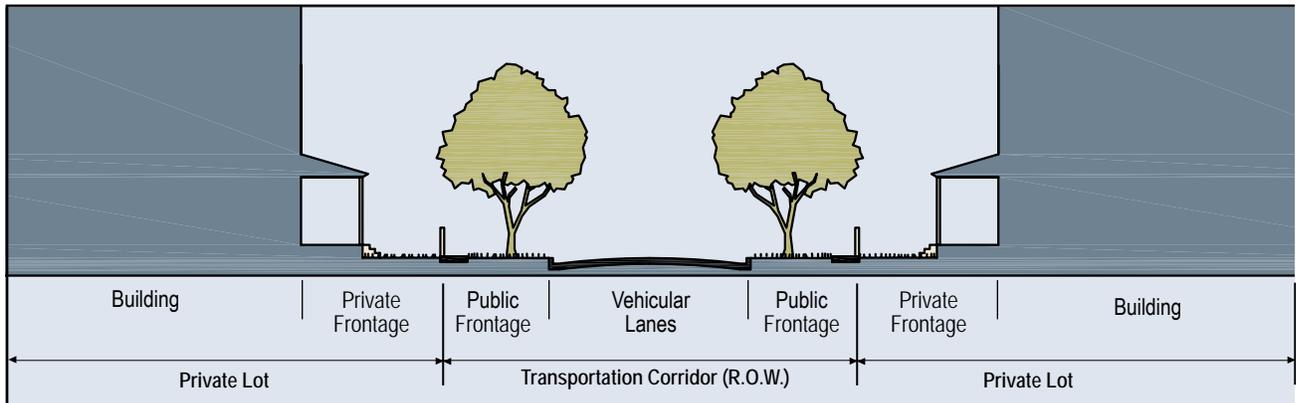
DISPOSITION

CONFIGURATION

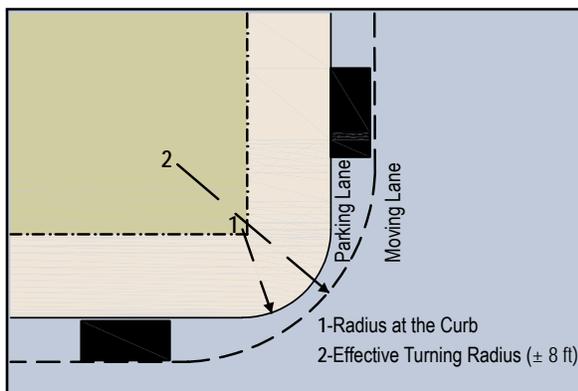
FUNCTION

Kona

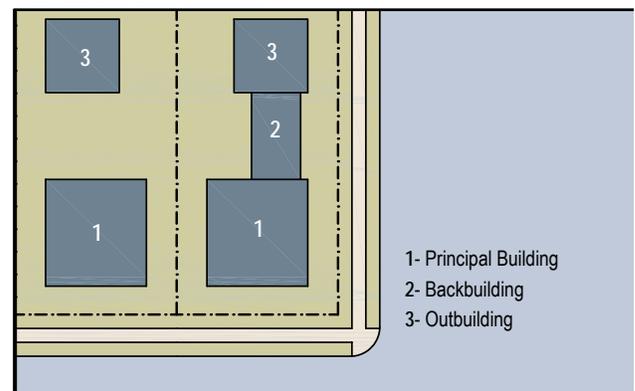
a. TRANSPORTATION CORRIDORS & FRONTAGES



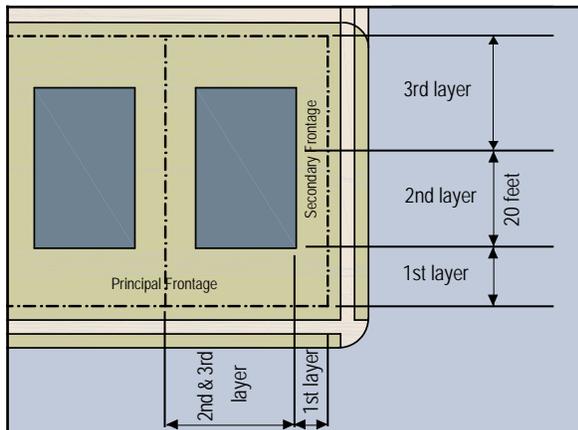
b. TURNING RADIUS



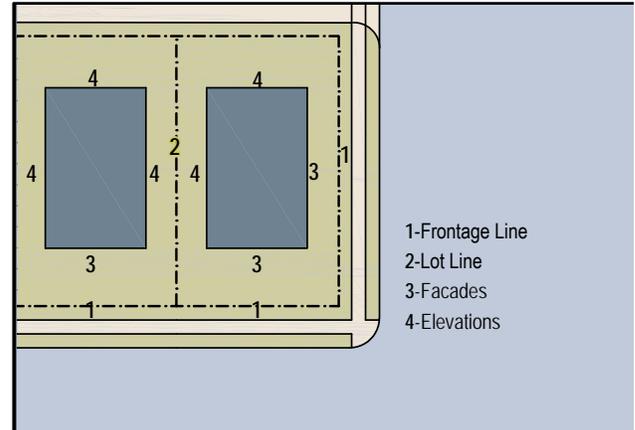
c. BUILDING DISPOSITION



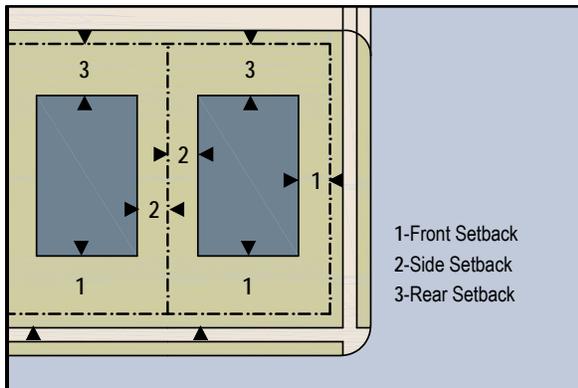
d. LOT LAYERS



e. FRONTAGE & LOT LINES



f. SETBACK DESIGNATIONS



g. NETWORK PEDESTRIAN SHED



## **ATTACHMENT C**

---

### **Clustered Rural Subdivision Guidelines**

## **ATTACHMENT C**

### **CLUSTERED RURAL SUBDIVISION GUIDELINES**

1. **Purpose and Intent.** It is the purpose of these guidelines to provide a flexible procedure to identify and preserve open space while maintaining the existing density of residential units for the overall site area. "Neutral density" is achieved by allowing smaller individual owned residential lots that include or are adjacent to aesthetically and ecologically important areas. Individually owned residential lots and the importance of preserving rural open space is as follows:
  - A. Protection of significant ecological, cultural, scenic, recreational, and agricultural areas in perpetuity;
  - B. Prevention of flooding, erosion, and water pollution, and protecting the quality and quantity of drinking water;
  - C. Promoting a more compact form of development.
  
2. **Applicability.** These guidelines apply to a special type of "Planned Unit Development" (PUD) for North and South Kona for lands outside the Urban Area zoned Agricultural, Intensive Agricultural, Family Agricultural, or Rural-Agricultural. The guidelines supplement the requirements and procedures for PUDs and subdivisions set forth in the Zoning Code, Subdivision Code, and Planning Department Rules.
  
3. **Review Procedure.** The following procedures specify the role of the Design Center, and integrate the PUD and subdivision review procedures.
  - A. Pre-Application Meeting at the Design Center.
    - i. Submittals. Be prepared to discuss the following 4-step process:
      - a) Step 1: Delineation of Open Space Lands. Prepare an Existing Resources and Site Analysis Map (Exhibit 1), prepared by a licensed surveyor or engineer, that contains at a minimum the following:
        - 1) Base information
          - i. Property boundaries
          - ii. All watercourses and other hydrologic features

- iii. Topographic contours of no less than 10-foot intervals
  - iv. Vegetation characteristics (e.g. Land Cover)
  - v. Existing infrastructure (road, water, sewer, etc.)
  - vi. Existing structures
  - vii. Identification of surrounding zoning, existing land use, and ownership
- 2) Primary Resource Areas. The lands listed below are considered to constitute lands that serve important ecological purposes and possess beneficial environmental qualities contributing to the health of the local community and shall be conserved and protected to the maximum amount and extent physically possible:
- i. The 100-year floodplain and setback buffer as defined in Chapter 27 Floodplain Management, Section 27-18(d)(5) (Ordinance 07-169).
  - ii. Slopes above 35% of at least 5000 square feet contiguous area
  - iii. Populations of endangered or threatened species, or habitat for such species.
  - iv. Important historic sites.
- 3) Secondary Resource Areas. The following lands are considered to have other intrinsic qualities of value to the community to be protected to the maximum extent possible after all identified Primary Resource Areas have been protected (Primary and Secondary Areas collectively are referred to as "Open Space"):
- i. Existing healthy, native forests of at least one contiguous acre.
  - ii. Individual existing healthy trees greater than 14 inches caliper measured at diameter at breast height (dbh)
  - iii. Other significant natural features and scenic viewsheds such as ridge lines, peaks and rock outcroppings, particularly those that can be seen from public roads

- iv. Prime agricultural lands of at least five acres contiguous area
    - v. Existing trails that connect the tract to neighboring areas
    - vi. Buffer around the perimeter of the tract a minimum of 25' wide designed at a minimum to provide protection against wildfires.
  - b) Step 2: Location of House Sites. Using Exhibit #1 Existing Resources and Site Analysis Map as a base, show preliminary site plan (Exhibit #2). House sites should generally be setback from Primary Resources and Secondary Resources, taking into consideration the potential negative impacts of residential development on such areas as well as the potential positive benefits of such locations to provide attractive views and visual settings for residences. Exhibits #2-4 do not have to be prepared by a licensed surveyor or engineer.
  - c) Step 3: Alignment of Streets and Trails. Using Exhibit #2 as a base, show proposed street plan designed to provide vehicular access to each house, complying with the minimum standards for road design set forth in these guidelines (see Section 4), and bearing a logical relationship to topographic conditions (Exhibit #3). Impacts of the street plan on proposed Open Space lands shall be minimized, particularly with respect to crossing environmentally sensitive areas such as wetlands and traversing steep slopes. Street connections shall generally be encouraged to minimize the number of cul-de-sacs and to facilitate access to and from homes in different parts of the tract and adjoining parcels.
  - d) Step 4: Drawing in the Lot Lines. Using Exhibit #4 as a base, show lot lines to delineate the boundaries of individual residential lots.
- ii. Site Inspection. Before or after the pre-application meeting, the staff may request that the applicant arrange for a site inspection of the property by the Planning staff and other County officials. The purpose of the site visit is to familiarize local officials with the property's existing conditions and special features, to identify potential site design issues, and to provide an informal opportunity to discuss site

design concepts, including the general layout of the designated Open Space lands and potential locations for proposed buildings and street alignments. Comments made by local officials or staff and consultants shall be interpreted as being only suggestive. It shall be understood by all parties that no formal recommendations can be offered, and no official decisions can be made at the site inspection.

- iii. Meeting Outcomes. As a result of the pre-application meeting, the applicant should have an understanding of the following:
  - a) Whether the Primary and Secondary Resources as shown are complete, accurate, and acceptable;
  - b) Whether the disposition of the Secondary Resources are acceptable;
  - c) Whether the location of the house sites and street layout are acceptable;
  - d) Whether the lot sizes and number of lots are acceptable.

B. Site Plan.

- i. Submittal to the Design Center.
  - a) Site Plan. The applicant shall incorporate any comments from the pre-application meeting, and submit to the Design Center a Site Plan, prepared by a licensed surveyor or engineer. The Site Plan shall be a refinement of Exhibit #4 and meet all the requirements of a Preliminary Plat Map set forth in the Subdivision Code.
  - b) Engineer's Report. Submit a brief report, prepared by a licensed engineer, that discusses the following:
    - 1) Access. Intersection requirements and sight distance for any proposed roads that intersect a County or State road.
    - 2) Water. Proposed water system serving the subdivision (source, storage, transmission, distribution).
    - 3) Wastewater. Proposed wastewater disposal system that meets the minimum requirements set forth in these guidelines.
    - 4) Utilities. Proposed power and communication system. If connecting to grid, confirm adequate capacity. Address whether any existing poles interfere with access or lot layout.
    - 5) Drainage. Estimated stormwater flow generated by the project

and method of handling the flow.

- c) Agency Review. The Design Center shall circulate the Site Plan and Engineers Report to pertinent agencies and receive comments within 30 days.
  - d) Draft legal instrument for open space preservation. Submit an instrument in draft form meeting the requirements in Section 5(a) below.
- C. PUD Report. The Design Center shall prepare a report recommending approval or denial of the PUD application, and set forth any conditions of approval. The report shall reference and attach the Site Plan, Engineer's Report, and draft legal instrument for open space preservation. If recommending approval, the Design Center shall instruct the applicant to prepare a preliminary plat map consistent with the approved Site Plan and meeting the requirements of the Subdivision Code.
- D. Preliminary Subdivision Approval. Upon receipt of the preliminary Site Plan, the Design Center shall transmit the PUD Report and preliminary Site Plan to the proper section of the Planning Department that reviews subdivisions. The Planning Director shall make a decision to issue preliminary subdivision approval within 30 days of receipt of this package from the Design Center. The Design Center staff shall monitor the status of review to ensure timely processing.

#### 4. Standards

- A. Density and Minimum Lot Size Standards. Hawaii Revised Statutes chapter 205 shall govern the minimum lot size. The permitted density shall be calculated based on gross density of the existing zoning.
- B. Open Space Standards. At least 40% of the tract shall be protected as Primary or Secondary Resource Areas. Of this protected area, at least 75% should be a contiguous area, and to the extent possible adjoin protected areas or candidate future protected areas on neighboring property.
- C. Road Standards. The design of private streets within the rural subdivision should seek to:
  - i. Provide an all-weather pervious surface or semi-pervious with a roadway minimum width of 16' and 4' graded shoulder to enable pull-offs.
  - ii. Minimize the number of cul-de-sacs. Where provided, minimize the amount of

impervious surface by limiting the internal turning radius to 35 feet. Use grass and vegetation for the inner circle of turn-arounds, rather than paving the entire area. Declare the Home Owner's Association (HOA) responsible for the maintenance of the grassy area by covenant.

- iii. Provide more than one entrance to the development and interconnect streets.
- iv. Omit curbs wherever appropriate.
- v. As an alternative to curbs and gutters, allow runoff from roofs and pavements to pass immediately through grass swales or infiltration basins. Use plant material that will absorb rainwater and act as a natural filter for oil and pollution.
- vi. Provide marked, pervious paths for non-vehicular traffic within the development and connecting to neighboring residential and commercial areas.

D. Wastewater Disposal Standards. The State Department of Health rules, policies, and standards will govern wastewater disposal. Where onsite septic systems are permitted, a septic system draining into a common leach field is permitted provided that a backup leach field area of comparable size is provided should one leach field fail. The common leach fields may be incorporated into the Secondary Resource Areas.

5. Ownership, Preservation, and Maintenance of Open Space. Open Space land shall be preserved and maintained solely for the purposes as specified.

A. Legal Instrument. The method for effectuating such preservation and maintenance may be one or a combination of the following:

i. Deed of conveyance to a Home Owners Association (HOA). If Open Space is deeded to a HOA, the applicant shall record a declaration of covenants, conditions, and restrictions, which shall include, but not be limited to, all of the following:

a) They shall provide that the HOA will maintain and pay taxes on the Open Space. The HOA shall develop a long-term rural plan for maintenance of common areas. This plan should include examples of environmentally friendly landscaping techniques for homeowners, recommend that at least one member of the HOA receive training in or be conversant in, wildlife habitat rural, enhancement, and maintenance, and assist homeowners

with site-specific information about indigenous habitat and diversity of species.

- b) They shall govern the use of the Open Space and restrict its uses to those consistent with the intent of the Open Space as specified in the development plan.
  - c) They shall run with the land in perpetuity.
  - d) They shall provide for a lien on the assessed property to secure collections of assessments levied by the HOA.
  - e) They shall require mandatory membership in the HOA for all homeowners in the subdivision.
- ii. Deed of conveyance to a government entity, which shall state the restrictions governing the use, improvement, maintenance, and preservation of the Open Space as conditions to the deed of conveyance.
  - iii. Deed of conveyance with restrictive covenant or a permanent conservation easement in favor of a bona fide land trust (or other nonprofit) for conservation purposes and restricting development.
- B. Approval and Recordation. All legal instruments used to permanently protect open areas platted within the subdivision shall be executed by the developer and approved by the County prior to approval of the final plat for the development. Upon approval of the final plan and the legal instruments for permanent protection of the rural areas, the County will record said documents with the Bureau of Conveyances or Land Court, as appropriate. All fees associated with the recordation of plats and legal instruments will be furnished by the developer of the rural subdivision or their agent.





# **KONA**

---

*Community Development Plan*