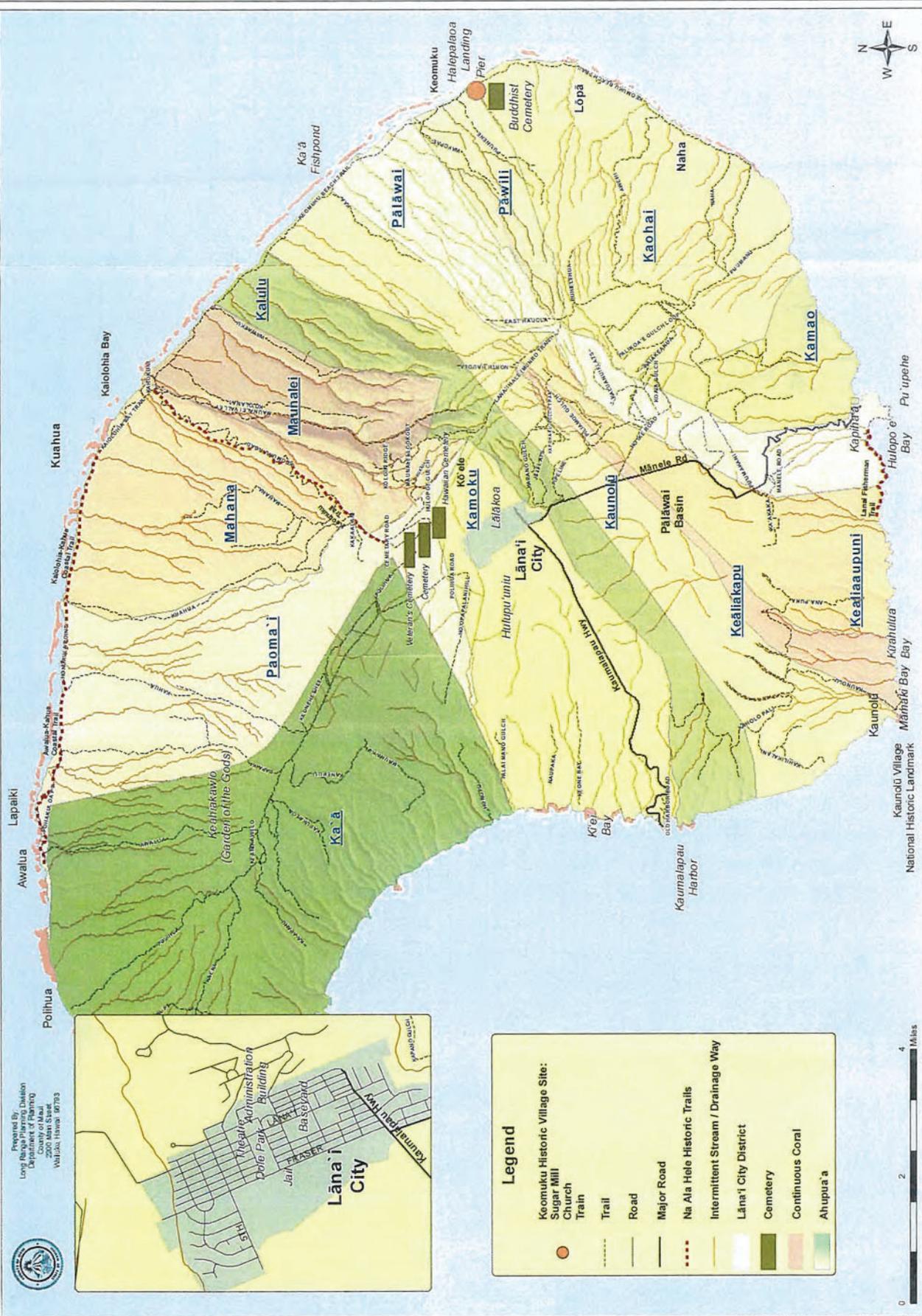


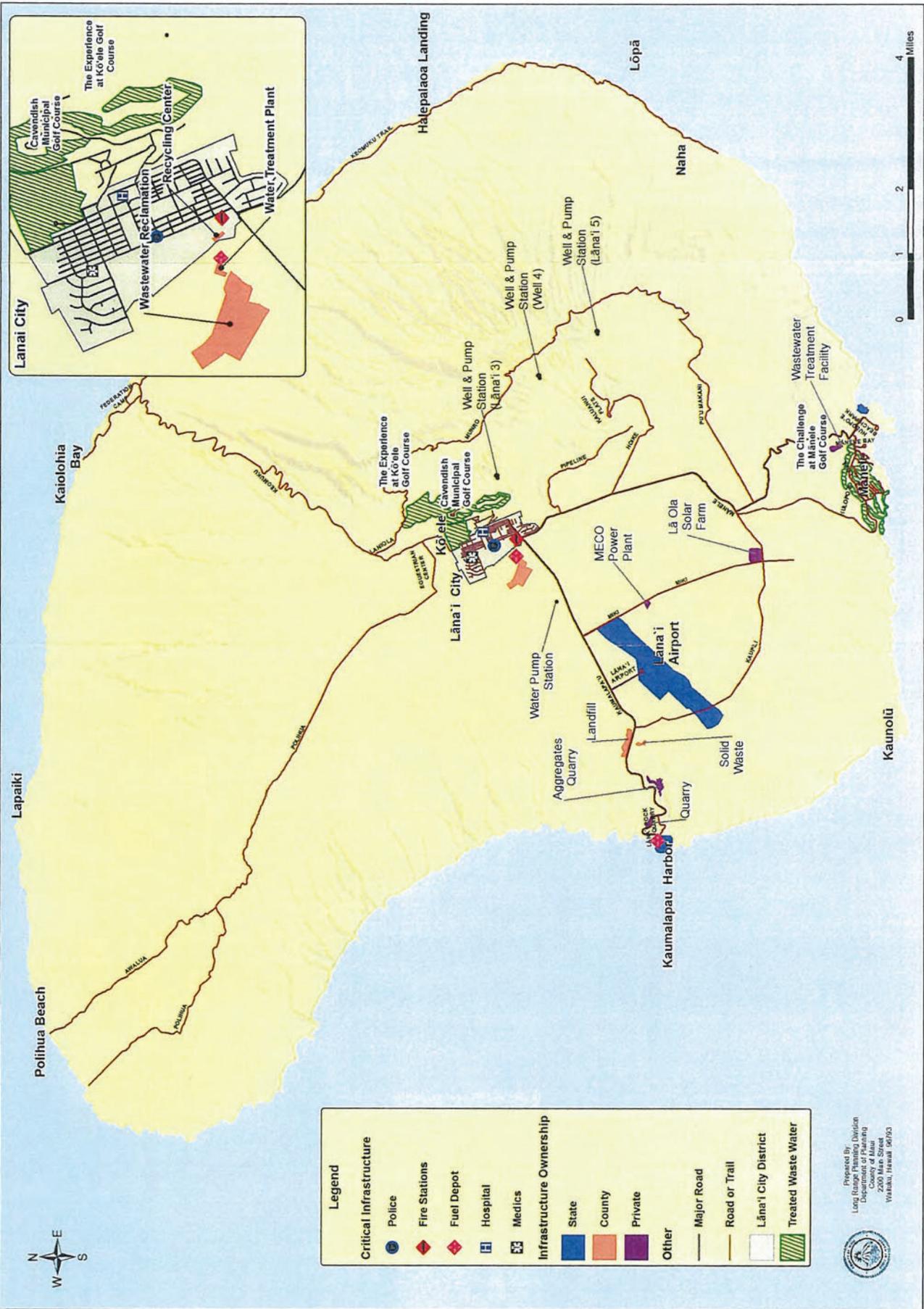
Map 5.1 Cultural, Historic, and Archaeological Resources Lāna'i Community Plan Update



Prepared By:  
Long Range Planning Division  
Department of Planning  
2200 Main Street  
Waipā, Hawaii 96793



Map 7.1 Infrastructure & Utilities Lāna'i Community Plan Update



**Legend**

**Critical Infrastructure**

- Police
- Fire Stations
- Fuel Depot
- Hospital
- Medics

**Infrastructure Ownership**

- State
- County
- Private
- Other

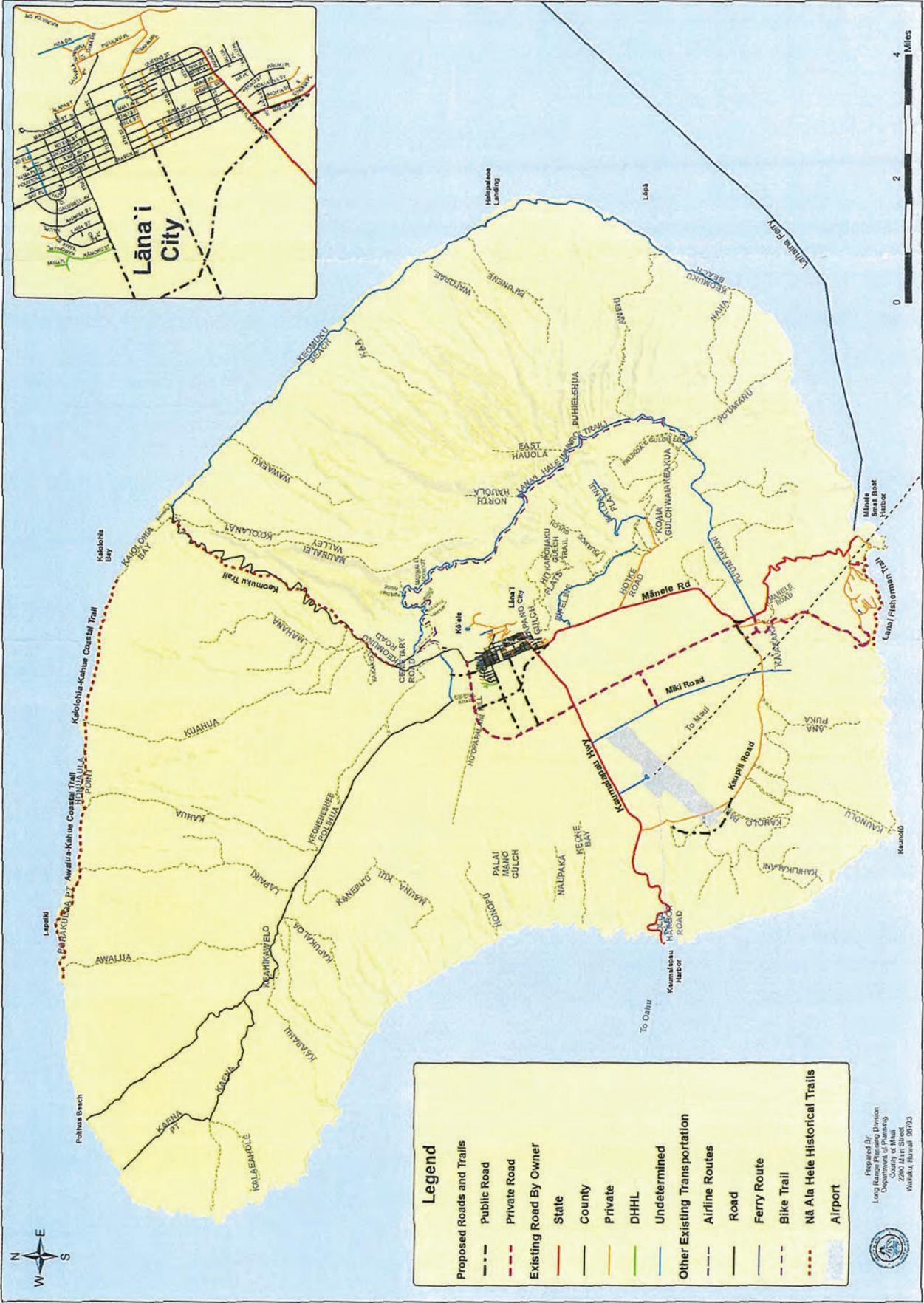
**Other**

- Major Road
- Road or Trail
- Lāna'i City District
- Treated Waste Water

Prepared By:  
 Long Range Planning Division  
 Department of Planning  
 2000 Main Street  
 Waikeolu, Hawaii 96793



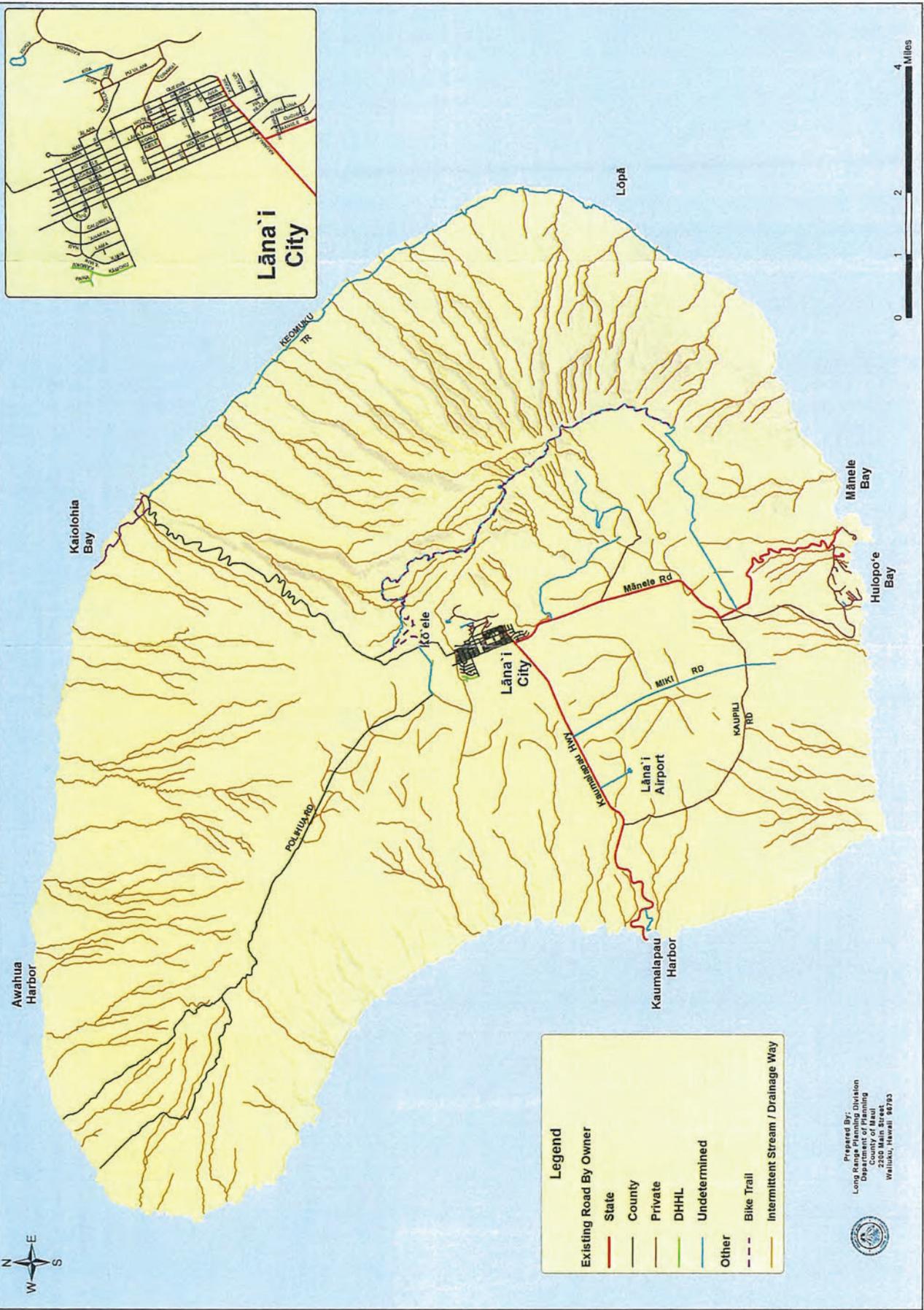
# Map 7.2 Transportation: Existing and Proposed Lāna'i Community Plan Update



Prepared By: Division  
 Long Range Planning  
 Department of Planning  
 County of Maui  
 2400 Main Street  
 Wailuku, Hawaii 96793



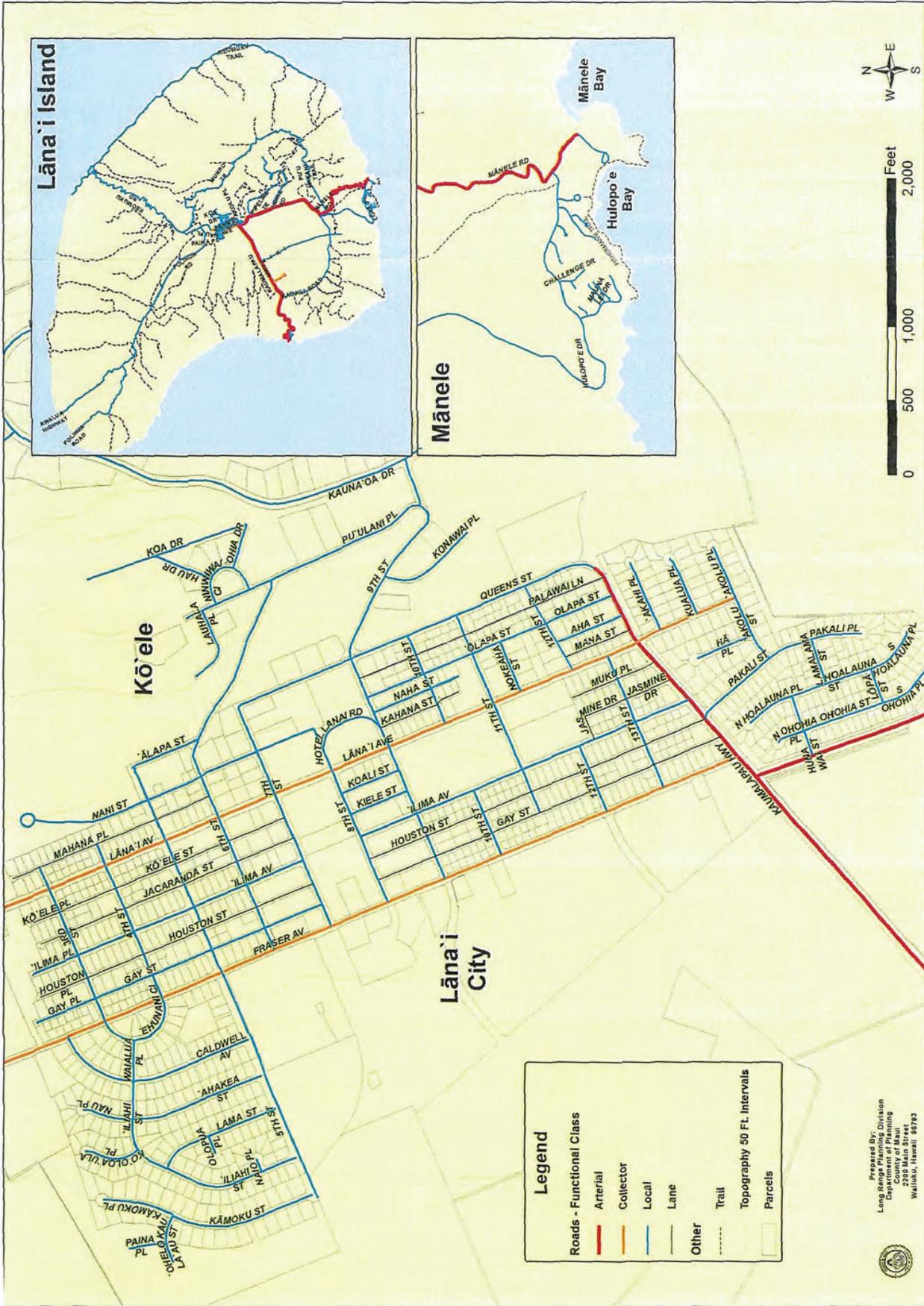
# Map 7.3 Road Ownership Lāna'i Community Plan Update



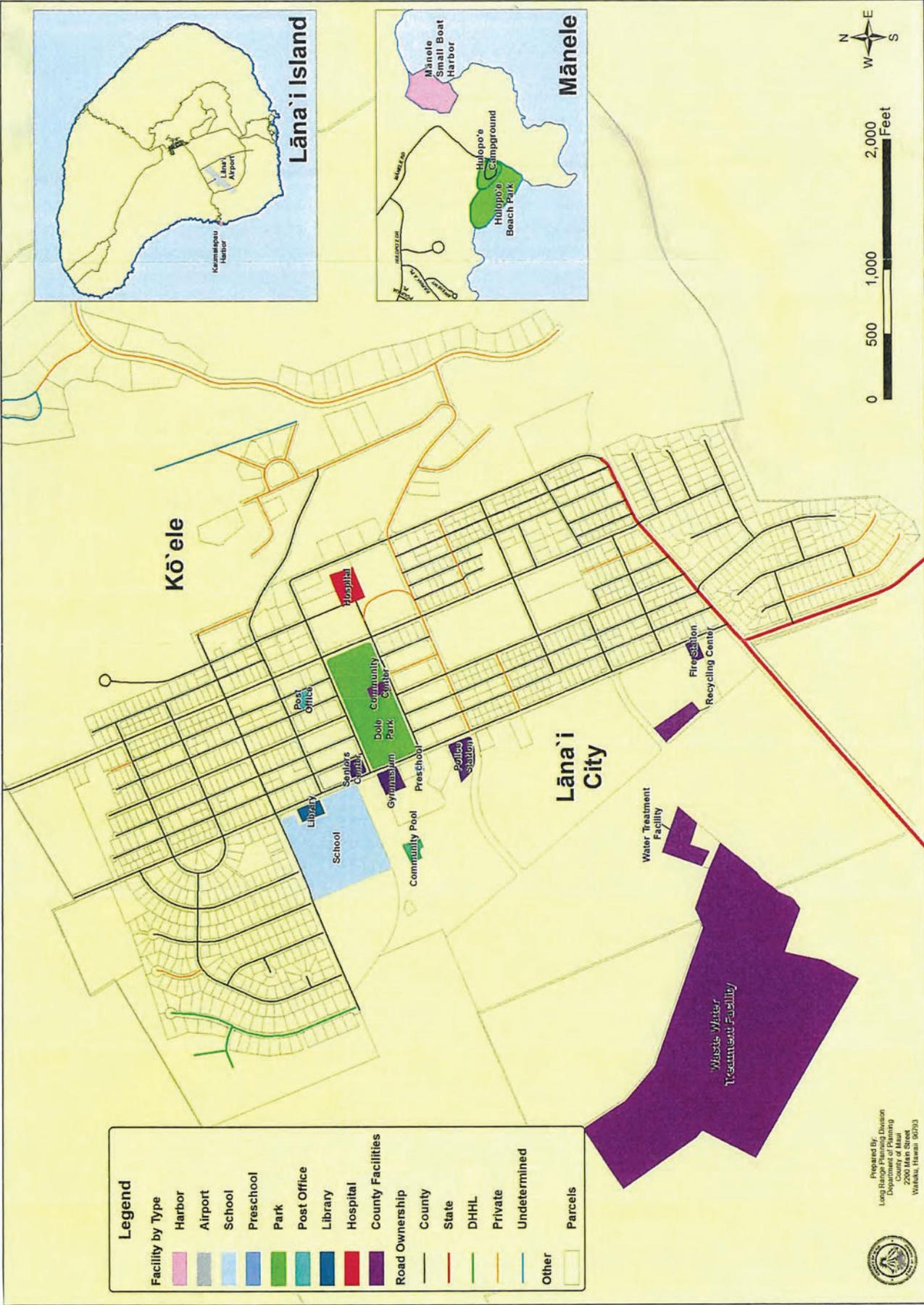
Prepared By:  
 Long Range Planning Division  
 Planning Department  
 County of Maui  
 2200 Main Street  
 Wailuku, Hawaii 96793



# Map 7.4 Road Classification Lāna'i Community Plan Update



Map 8.1 Public Facilities and Services

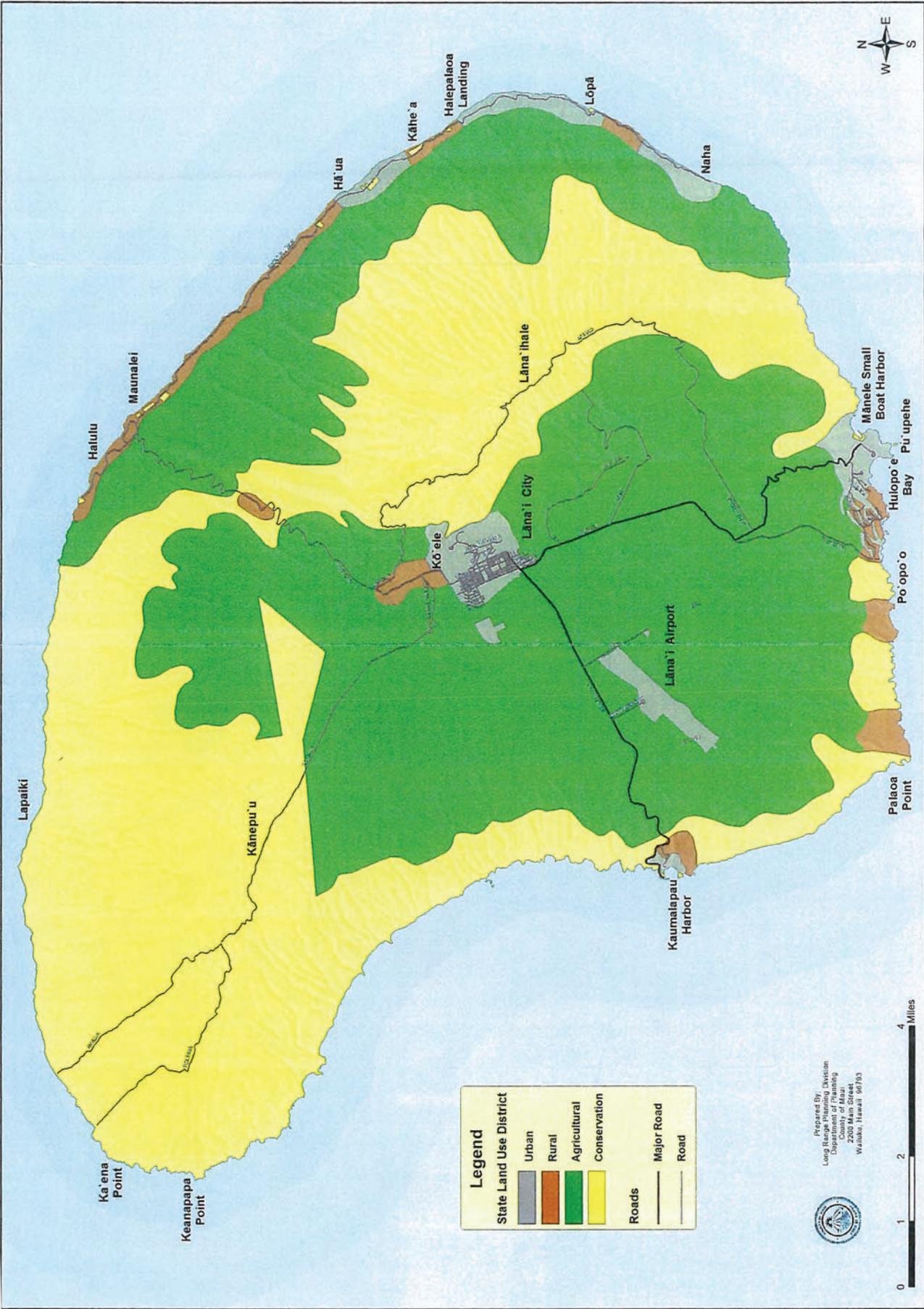


Legend	
Facility by Type	
Harbor	[Pink box]
Airport	[Light blue box]
School	[Blue box]
Preschool	[Green box]
Park	[Teal box]
Post Office	[Dark blue box]
Library	[Red box]
Hospital	[Purple box]
County Facilities	[Dark purple box]
Road Ownership	
County	[Black line]
State	[Red line]
DHHL	[Green line]
Private	[Orange line]
Undetermined	[Blue line]
Other	[Light blue line]
Parcels	[Yellow box]

Prepared By:  
Lana'i Planning Division  
Department of Planning  
County of Maui  
2500 Main Street  
Wailea, Hawaii 96793



# Map 9.1 State Land Use



**Legend**

**State Land Use District**

- Urban
- Rural
- Agricultural
- Conservation

**Roads**

- Major Road
- Road

Prepared By: Division  
 Long Range Planning  
 Department of Planning  
 County of Maui  
 2500 Main Street  
 Wailuku, Hawaii 96793



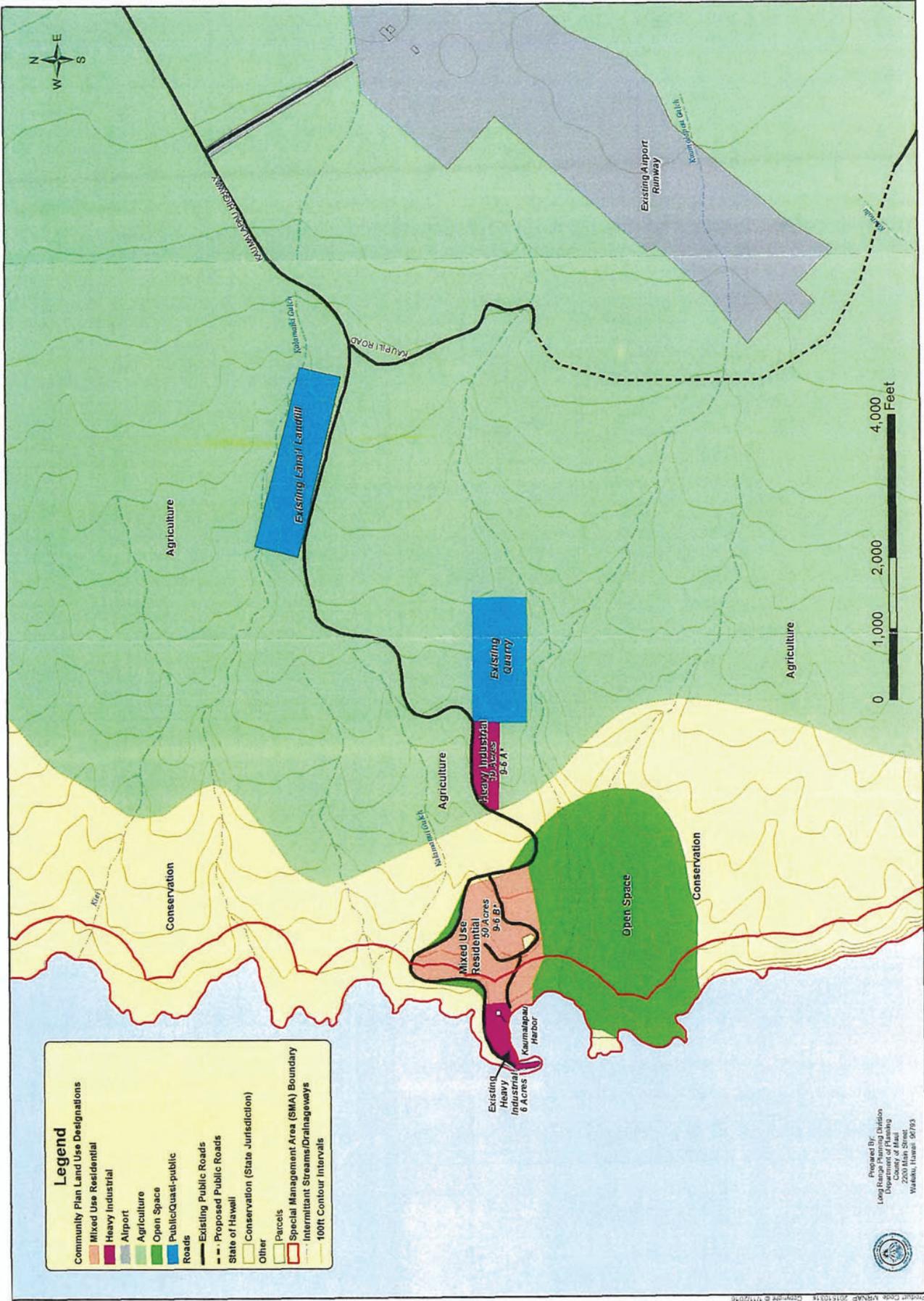








Map 9.6 Kaunamalapa Land Use Detail Lanai Community Plan Update



**Legend**

Community Plan Land Use Designations

- Mixed Use Residential
- Heavy Industrial
- Heavy Industrial
- Open Space
- Agriculture
- Conservation

Roads

- Existing Public Roads
- Proposed Public Roads

State of Hawaii

- Conservation (State Jurisdiction)
- Other

Parcels

Special Management Area (SMA) Boundary

- Intermittent Streams/Drainageways
- 100ft Contour Intervals

Prepared By:  
 Long Range Planning Division  
 Department of Planning  
 County of Maui  
 200 W. Kaunaloa, Hawaii 96703



# APPENDICES

## Appendix 1.1 LĀNA`I HISTORY SUMMARY

The traditional history of Lāna`i is rich and diverse, spanning some 800 years of Hawaiian residency followed by a century of ranching, a brief sugar venture, and seven decades of pineapple plantation history.

Prior to human arrival, the mountain zone was largely covered by a cloud-fog-drip forest, the mid-lowlands were covered by dryland forests and native grasslands, and the coastal zone was host to many native plant species and life forms. Early Lāna`i settlers came across the channels from Maui and Moloka`i. In traditional lore, settlement occurred after a young chief from Maui, Kaululā`au, killed the ghosts who inhabited the island. Charcoal layers indicate the early settlers cleared sections of the lowland forests with fire to develop agricultural fields and building sites.<sup>33</sup> Initial settlements were along the coasts or in the few valleys with intermittent water flow and springs. Large villages were along the windward coast at Keomuku and in the Maunalei River valley, and along the leeward coast at Kaunolū. The latter site became the focal point of Lāna`i's religious, political, and social community. Abundant ocean resources, combined with taro and sweet potato from upland fields, provided Lāna`i's settlers with food for centuries.

During the early years of settlement, high chiefs governed the island and its individual districts. The governance system later changed as the population grew and spread inland. Ahupua`a, a traditional system of land divisions that extended from ocean fisheries to the mountain peaks, were developed to promote a healthy landscape and sustainable resources in support of the growing population. Higher chiefs and kings (ali`i`ai moku & mō`ī) granted tracts of land to lesser chiefs (ali`i`ai ahupua`a) to manage on their behalf. Throughout most of its recorded history, Lāna`i was controlled by Maui rulers. Around 1795 to 1810, Kamehameha I, a warrior chief from Hawai`i Island, led wars to unify the individual chiefdoms into the Kingdom of Hawai`i, with Kamehameha I as its first king. During this period, Kamehameha frequented Lāna`i, spending time at Kaunolū and other sites around the island.

Records indicated western contact with Lāna`i first occurred in 1828, five years after the Protestant mission station was established in Lāhaina. By this time, Lāna`i's native population had suffered significant losses, which deterred the mission from settling on the island. However, in 1853, Mormon elders seeking to develop a colony of converts established the first permanent western settlement on Lāna`i at Palawai. The settlement, dubbed the City of Joseph in the Valley of Ephraim, was abandoned in 1858 and left in control of some 100 Hawaiian converts.

In 1861, Walter Murray Gibson settled on Lāna`i in an effort to reposition the colony. Gibson was excommunicated from the Mormon Church in 1865, but was able to claim lands he acquired and received through donations from the Hawaiian converts as his personal property. In 1874, Gibson secured a lease

---

<sup>33</sup> Kumu Pono Associates (2011).

## APPENDICES

to lands in the Kō`ele area that became the site of his home and the center of a ranching operation on Lāna`i.

Between 1864 and 1888, Gibson acquired fee-simple and leasehold title to nearly all the land on Lāna`i, with the exception of parcels retained by native tenant families granted as kuleana lands or through Royal Patent Grants. The ranching operation focused on raising sheep and goats, and included smaller herds of cattle, horses, and pigs. During the mid-1800s to early 1900s, many ranch animals became feral, and as the number of feral animals grew, extensive damage to the forests and native vegetation resulted.

Lāna`i's first plantation owners cultivated sugar on lands extending from Maunalei to Halepalaoa with the center of operations, including a mill site, located in the Keomuku area. Gibson's son-in-law, Frederick Hayselden, developed the plantation in 1898, but the venture went bankrupt in March 1901. During those years, laborers, including local Hawaiian and immigrants from Japan, China, and Portugal, built a wharf and a narrow-gauge railroad and planted sugarcane irrigated with water from Maunalei Valley and a well system.

Bankruptcy caused the Gibson-Hayselden family to lose control of Lāna`i. Tracts of land were purchased by Charles Gay and family, who formally settled Lāna`i in 1903. Gay recognized the damage feral ungulates were causing to the islands' resources and began an eradication program that at times involved driving thousands of goats over the cliffs of Ka`apahu along the northwestern shoreline. In 1907, Gay entered into an agreement with the Territorial Governor to purchase all the government (ceded) lands on Lāna`i. The purchase marked the first time fee-simple title to some 99 percent of the island was held by one family. The Gay Family also ran into financial difficulties, and by 1910, a new ranch company was formed, Lāna`i Ranch Company. The owners elicited help from the Territorial Forestry Division to develop a plan to protect the forest lands and control herds of grazing animals. In 1911, the ranch hired George Munro as their ranch manager. Munro was a dedicated conservationist who worked towards halting the forest destruction and soil loss caused by erosion and uncontrolled grazing. During this period, recognizing the value provided by the Norfolk Island pine trees planted at Kō`ele by Gibson in 1875, Munro initiated a program to plant Cook Island Pines across Lāna`ihale. Munro also fenced the remnant dryland forest of Kānepu`u to protect the rare plant species of that region.

After having eradicated goats on Lāna`i, Munro introduced deer to Lāna`i in 1920, a decision he would later recognize as a mistake. Axis deer were introduced to Hawai`i around 1865 as a gift to Kamehameha V and taken to the king's lands on Moloka`i. When deer were introduced to Lāna`i, hunting on the island was limited to ranch employees and guests of the owners. Once the deer herd was established, deer hunting became a wider recreational offering on Lāna`i. The Territory of Hawai`i created a public hunting program after World War II. Since then, hunting both axis deer and mouflon sheep (introduced in the 1950s) for subsistence and recreational purposes has become a way of life for Lāna`i residents and other residents of the State. Herds of these animals now roam the island and have caused severe deforestation, diminishing the ability of Lāna`i to recharge its aquifer with moisture captured from clouds and fog.

## APPENDICES

In September 1922, James Dole purchased the island for his Hawaiian Pineapple Company. The groundwork for pineapple cultivation began in 1923 with the construction of a new city of forty buildings, laid out on a grid with Dole Park as the central town square. Lāna`i City, composed of hundreds of buildings with running water, electricity, and other amenities to accommodate the new plantation workers, debuted in January 1926. The first major labor force was made up of Japanese, followed by Filipinos and smaller groups of immigrants from China, Korea, Portugal, and other countries. Dole also built the Kaumālapa`u Harbor and a water system, which relied on Maunalei and the Lāna`ihale aquifer for water, to supply domestic water for the residents and to meet the irrigation needs of the plantation. The culturally diverse population that came to Lāna`i in the 1920s is the foundation of Lāna`i's population in the modern day.

The ranching operation was the longest surviving western business venture on Lāna`i and continued during the plantation's first 30 years. However, diminishing water resources and degradation of the pasture lands caused the ranch to close in 1951. The pineapple plantation grew to include 18,000 acres of cultivated pineapple land and made Lāna`i known as the worlds' largest pineapple plantation.

In 1961, Castle & Cooke purchased all interests of the Dole family in the Hawaiian Pineapple Company (Dole Foods). In 1985, David H. Murdock bought Castle & Cooke, acquiring 98 percent of Lāna`i as well. Under Murdock's tenure, Lāna`i's economy shifted from agriculture to tourism. The Lodge at Kō`ele opened in 1990 and the Mānele Bay Hotel in 1991. After 70 years, pineapple operations ended in 1992.

Lāna`i's previous business ventures and related decisions continue to affect the island today. Historical agricultural operations required an extensive amount of clearing, the use of pesticides and fertilizers, and the widespread use of black plastic for weed control. Feral ungulates degraded forest cover, resulting in decreased aquifer recharge rates. In 1995, the State Commission on Water Resource Management modeled the groundwater system of Lāna`i and predicted reduction of forest cover would drastically affect groundwater levels.

Many Lāna`i residents shifted from agricultural employment to work in the visitor industry. Today, Lāna`i City is the last intact plantation-era town in Hawai`i. In June 2012, Larry Ellison, CEO of Oracle Corporation, purchased Murdock's holdings on Lāna`i. The current management company is Pūlama Lāna`i.

# APPENDICES

## Appendix 1.2 Background Studies for Community Plans

The following list of technical studies was used in the development of the Lāna`i Community Plan. The public facilities and infrastructure assessments, and the socio-economic forecast were conducted for the County of Maui General Plan. The economic development and housing issue papers and the land use forecast were conducted specifically for this community plan update.

- The *Final Public Facilities Assessment Update County of Maui* (March 2007) identifies public facilities and services (e.g. schools, parks, police and fire protection, hospital, and solid waste disposal services) issues and opportunities in high-growth community plan regions.
- The *County of Maui Infrastructure Assessment Update* (May 2003) identifies infrastructure (e.g., roadways, drainage, water, wastewater, telephone, and electrical systems) issues and opportunities in the community plan regions.
- The *Draft Lāna`i Economic Development Issue Paper: A Discussion Paper for the Department of Planning Community Plan Update* (Draft May 2011) discusses current economic conditions and strategies for the future.
- The *Lāna`i Housing Issue Paper, Draft: A Discussion Paper for the Lāna`i Community Plan Update* (In-Progress Working Draft, May 2011) discusses current issues and projected future needs.
- The *Land Use Forecast, Island of Lāna`i, Maui County General Plan Technical Resource Study* (December 2012) provides a measure of existing and future vacant and undeveloped lands using the community plan land use designations.
- The *Socio-Economic Forecast, The Economic Projections for the Maui County General Plan 2030* (June 2006) projects residential, visitor, and employment growth, as well as housing demand. This planning tool is used to predict future growth scenarios for each community plan region.