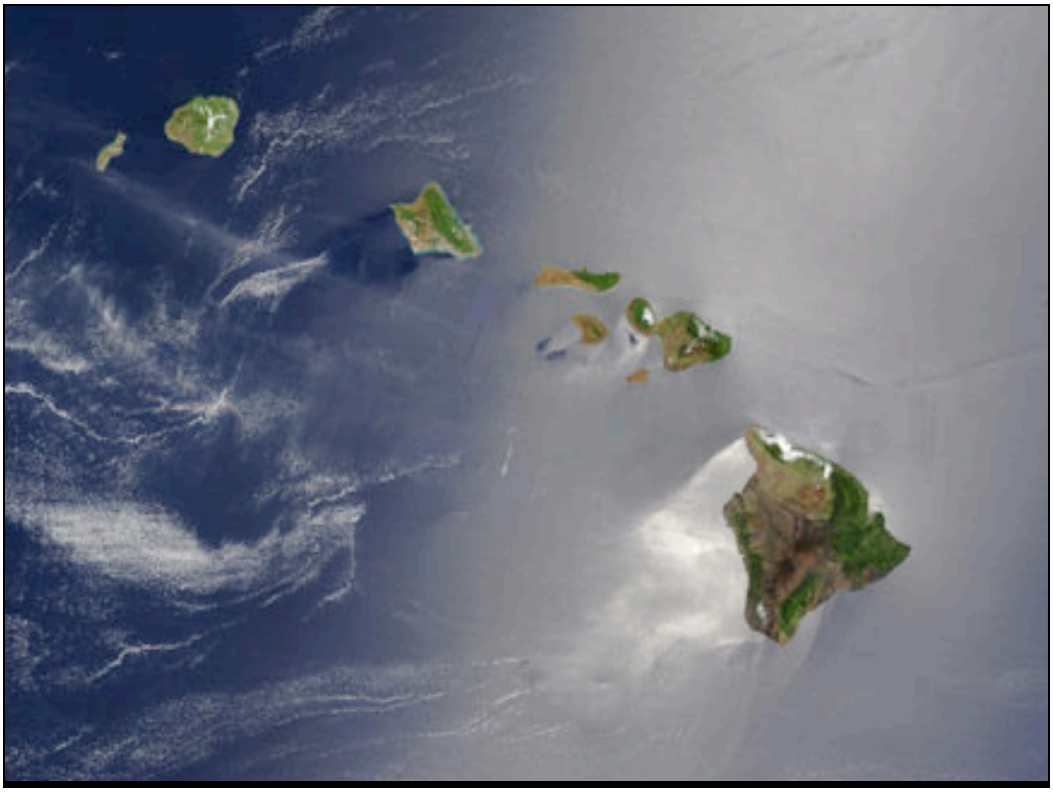
HAWAII STATEWIDE CEDS 2010



HAWAII COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY

PREFINAL

Prepared By

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Department of Business, Economic Development, and Planning

Economic Development Alliance of Hawaii

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City and County of Honolulu

Kauai Economic Development Board

Maui Economic Development Board

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With the Assistance of
Enterprise Honolulu

Office of Planning
DBEDT

This report was prepared under an Award from the U.S. Department of Commerce, Economic Development Administration
Economic Development Administration Award No. 07 69 06172

HAWAII STATEWIDE COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY (CEDS) 2010

PREPARED BY THE

OFFICE OF PLANNING

DEPARTMENT OF BUSINESS ECONOMIC DEVELOPMENT & TOURISM
STATE OF HAWAII

CITY & COUNTY OF HONOLULU
OFFICE OF ECONOMIC DEVELOPMENT

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With the assistance of the
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and
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Office of Planning

The Office of Planning guides Hawaii towards a strong economy and a healthy environment by bringing people and ideas together to resolve immediate and long-term issues facing our state. The Office facilitates collaboration between local business, community groups, and State and County governments to collectively analyze issues and develop courses of action.

The Office of Planning is responsible for the State's planning, land use and coastal zone management programs and for developing and implementing a statewide planning and geographic information system.

This report was prepared by the Office of Planning, Department of Business, Economic Development & Tourism. The statements, conclusions, and recommendations are those of the author and do not necessarily reflect the views of the Economic Development Administration.

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FOREWARD

The 2010 Statewide Comprehensive Economic Development Strategy (CEDS) demonstrates that the State of Hawaii has gone through a deliberative and thorough planning process to provide a framework for recommending projects for EDA funding. A CEDS is required as a precondition for funding under most EDA programs.

The report identifies industry clusters which provide economic competitive advantages for the State. Strategies and infrastructure projects to support and strengthen these industry clusters are proposed.

This strategy has been developed through a collaborative effort between the Hawaii State Office of Planning, the State Department of Economic Development & Tourism (DBEDT); the Economic Development Alliance of Hawaii (EDAH); Enterprise Honolulu; Economic Development Boards; County Economic Development Agencies; and community, business, non-profit and other organizations, and the public.

We express our appreciation to the many who participated in focus groups, stakeholder meetings and public workshops and contributed their time and effort in the development of this strategy. Ted Liu, Director, DBEDT, provided consistent support for the project. We acknowledge the assistance of Gail Fujita, Economic Development Representative for Hawaii and Outer Pacific, EDA, throughout this process.

We wish to thank the Research and Analysis Division (READ) in DBEDT for providing the background conditions and analysis of economic development problems and opportunities. Pearl Imada Iboshi, the State Economist, Eugene Tian, Acting Administrator, Robert Shore, Chief of the Economic Information Staff, and READ staff contributed their expertise and valuable insights into external and internal forces affecting Hawaii's economy.

This effort is one component of the State of Hawaii’s broader mission to strengthen and diversity Hawaii’s economy while honoring our island traditions and protecting our fragile environment.

ABSTRACT

This report updates the 2004 strategy for economic development for the State of Hawaii which supports key industry clusters to increase Hawaii's economic competitiveness. The recommendations promote economic stability, economic diversification, and regional competitiveness. The report identifies infrastructure needs for targeted industry clusters and recommends projects which may be eligible for EDA funding to address these needs. The timeframe (short- or long-range) and potential matching funds are also identified for these projects.

The report was prepared by the State Office of Planning, Department of Business, Economic Development & Tourism and its sub-grantees-the City & County of Honolulu, Office of Economic Development, Kauai Economic Development Board, Maui Economic Development Board and Hawaii Island Economic Development Board. The Economic Development Alliance of Hawaii served as the Strategy Committee for the CEDS and Enterprise Honolulu coordinated the public review and preparation of the CEDS final report. In addition, assistance and cooperation was received from the economic development agencies of each county.

EXECUTIVE SUMMARY

The 2010 Statewide Comprehensive Economic Development Strategy is a collaborative effort between the State of Hawaii, Kauai Economic Development Board, Maui Economic Development Board, Hawaii Island Economic Development Board, the City and County of Honolulu and the Economic Development Alliance of Hawaii in partnership with Enterprise Honolulu, and the County Economic Development agencies. The 2010 CEDS builds on the 2004 CEDS which was a groundbreaking effort to coordinate economic development strategy throughout the State.

The Economic Development Administration of the U.S. Department of Commerce provided funding to develop a 2010 Statewide Comprehensive Economic Development Strategy including cluster industry analysis and identification of cluster industries and infrastructure projects to support these industries over a five-year time period. A CEDS is required as a prerequisite for certain types of EDA funding.

The Federal grant was provided to help the State diversify and stabilize its economy in the wake of the 2007 – 2009 recession that caused extensive job losses in Hawaii. Hawaii's economy has started to recover, but nonetheless, it is prudent to continue efforts to diversify and expand the economy.

Workshops, focus groups, and key informant interviews have been held extensively throughout the State to develop economic development strategies, identify targeted cluster industries, and recommend infrastructure projects to support these industries.

A public meeting was held on July 7, 2010, and was attended by a diverse group of public, private, and community representatives. Feedback indicated that it was essential for Hawaii's economic development to support the social, environmental, and cultural goals of Hawaii's people.

Key economic clusters for the State as a whole were identified. Tourism remains the dominant economic engine directly or indirectly providing 18% of the jobs in the state. Other important clusters are defense, technology, creative industries, agri-business, health and wellness, education and potential high growth activities. County-specific clusters are also identified in the plan.

PURPOSE OF THE REPORT

Public Law 105-393, the Economic Development Administration Reform Act of 1998, a comprehensive amendment of the Public Works and Economic Development Act of 1965, as amended requires a Comprehensive Economic Development Strategy (CEDS) to qualify for assistance under most Economic Development Administration (EDA) programs.

EDA works to ensure that no geographic or demographic sector is left behind when it comes to participating in the American Dream

EDA projects/programs are intended to alleviate conditions of substantial and persistent unemployment and underemployment in economically-distressed areas or regions; help diversify economies in areas experiencing economic dislocation; promote economic self-sufficiency; and result in an environment where higher skill, higher wage jobs are created.

The Statewide Comprehensive Economic Development Strategy is a collaborative effort between the Hawaii State Office of Planning, Kauai Economic Development Board, Maui Economic Development Board, Hawaii Island Economic Development Board, the Office of Economic Development of the City and County of Honolulu, Enterprise Honolulu, the Economic Development Alliance of Hawaii, and County Economic Development agencies.

This Strategy will help Hawaii to achieve the following goal expressed the Hawaii State Plan: *A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawaii's present and future generations. (Sec. 226-4, Hawaii Revised Statutes.)*

HAWAII STATEWIDE CEDS 2010

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COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY

2010

For the purposes of this report, each major section reflects the presentation style and intent of each of its Authors.

Each section, therefore, retains its own page numbering system, reflective of and consistent with its own presentation approach.

CHAPTER 1

2010 STATEWIDE ECONOMIC OVERVIEW

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ECONOMIC BACKGROUND

CURRENT ECONOMIC CONDITIONS & OUTLOOK

According to the latest economic assessment by the Hawaii Department of Business Economic Development and Tourism (DBEDT), Hawaii's economy was beginning to feel some economic recovery by the first quarter of 2010, after two years of decline. [1] The most encouraging signs that a recovery was underway occurred in tourism. Visitor arrivals increased 4.5 percent in the first quarter from a year before and total visitor expenditures were up 5.0 percent. during the first quarter of 2010, although jobs and new construction authorizations were still showing declines.

General excise tax (GET) revenues, an indicator of economic activity in the state, increased 4.6 percent in the first quarter of 2010 as compared with the same period in 2009. This was the first year-over-year increase in five calendar quarters. Another area of solid gain in tax collections for the first quarter of 2010 was the transient accommodations tax, which increased 12.3 percent, or $6.4 million. This was partly due to an increase in the tax rate in mid 2009.

The key area of the economy that has yet to improve is the labor market, which is expected to be the last element of the economy to respond. Hawaii's economy continued to lose jobs through the first quarter of 2010, with a 2.2 percent decline in wage and salary jobs from the same quarter of 2009. Civilian employment showed a similar pattern, declining 1.1 percent from same quarter of 2009. However, both employment and the labor force showed an increase of several thousand persons between the fourth quarter of 2009 and the first quarter of 2010. While much of this gain turns out to be expected seasonal fluctuation, both series showed a gain of 750 persons from the fourth to the first quarters on a seasonally adjusted basis. This suggests that despite being down from the year before, some stability was taking hold in the state's labor market.

All but a few major sectors of the economy showed job losses in the first quarter of 2010 from the year before. The most significantly impacted sector was the professional and business services sector which lost 4,300 jobs or 5.9 percent compared to the same quarter 2009; followed by the natural resources, mining and construction sector, which lost 3,300 jobs or 9.9 percent. Only the agriculture, health care, and education sectors showed increases in jobs.

Total personal income in Hawaii (in current dollars) showed a slight, 1.0 percent increase for the fourth quarter of 2009 from the same quarter the year before, but that was thanks to a large increase in personal transfer payments, such as retirement and unemployment insurance benefits. The core of personal income -- wages, salaries and proprietors' income -- declined 1.7 percent while dividends, interest, and rent declined 5.5 percent.

Shown in Table 1, the latest economic outlook for Hawaii by DBEDT expects continued gradual recovery through 2010 and into 2011 and beyond. Hawaii's economy depends significantly on conditions in the U.S. economy and key international economies, especially Japan. For the U.S. economy continued positive economic data in recent months has resulted in gradual optimism being reflected in national economic forecasts. Forecasts also continue to improve for Hawaii's most important foreign market, Japan.[2]

Based on the updated U.S. and International outlook as well as new data on the Hawaii economy, the revised forecast for Hawaii shows slightly more encouraging expectations, although the basic projection of a slow and gradual recovery has not changed. Overall, Hawaii's economy measured by real GDP is projected to show a 1.1 percent increase in 2010. That growth is expected to increase

[1] *Quarterly Statistical and Economic Report*, 2nd Quarter 2010, DBEDT, http://hawaii.gov/dbedt/info/economic/data_reports/qser
[2] *Blue Chip Economic Forecast*, for the U.S. and selected international economies, May 10, 2010.

modestly to 1.4 percent in 2011. Tourism arrivals are expected to increase 2.6 percent in 2010, and increase to 4.1 percent in 2011.

Despite the increase in the visitor forecast, wage and salary jobs will likely show a 0.9 percent decline in 2010. It is likely that current excess capacity in the visitor industry will accommodate more visitors without an immediate increase in the workforce. However, modest growth in jobs is expected to occur in the second half of 2010. In 2011, jobs are projected to increase 0.8 percent. Personal income should show a 1.9 percent increase in 2010. In 2011, current-dollar personal income is forecast to increase 3.0 percent, of which 0.8 percent will be real growth after inflation.

Economic Indicators	ACTUAL		FORECAST			
	2008	2009	2010	2011	2012	2013
Total population (thousands)	1,287	1,295	1,304	1,314	1,323	1,332
Visitor arrivals (thousands) 1/	6,823	6,514	6,681	6,956	7,272	7,560
Visitor days (thousands) 1/	63,857	61,186	62,765	65,400	68,407	71,173
Visitor expenditures (million dollars) 1/	11,399	10,080	10,570	11,343	12,463	13,346
Honolulu CPI-U (1982-84=100)	228.9	230.0	234.0	239.0	244.2	249.5
Personal income (million dollars)	54,175	54,410	55,445	57,120	59,119	61,366
Real personal income (millions of 2000$) 2/	41,733	41,697	41,781	42,133	42,685	43,370
Total wage & salary jobs (thousands)	625.4	597.7	592.2	596.9	603.0	609.4
Gross domestic product (million dollars) 3/	63,847	64,154	65,309	67,133	69,576	72,406
Real gross domestic product (millions of 2000$) 3/	49,782	49,456	49,983	50,662	51,657	52,812
Gross domestic product deflator (2000=100)	128.3	129.7	130.7	132.5	134.7	137.1
Annual Percentage Change						
Total population	0.8	0.6	0.7	0.7	0.7	0.7
Visitor arrivals 1/	-10.6	-4.5	2.6	4.1	4.5	4.0
Visitor days 1/	-8.9	-4.2	2.6	4.2	4.6	4.0
Visitor expenditures 1/	-11.0	-11.6	4.9	7.3	9.9	7.1
Honolulu CPI-U	4.3	0.5	1.7	2.2	2.2	2.2
Personal income	3.7	0.4	1.9	3.0	3.5	3.8
Real personal income 2/	-0.6	-0.1	0.2	0.8	1.3	1.6
Total wage & salary jobs	-1.0	-4.4	-0.9	0.8	1.0	1.1
Gross domestic product 3/	2.9	0.5	1.8	2.8	3.6	4.1
Real gross domestic product 3/	0.7	-0.7	1.1	1.4	2.0	2.2
Gross domestic product deflator	2.2	1.1	7	4	6	8

Source: Hawaii State Department of Business, Economic Development & Tourism, May 13, 2010.

Beyond 2011 the gradual recovery is expected to continue with modest job growth of around 1.0 percent for 2012. Visitor arrivals should show a 4.5 percent increase in 2012. Hawaii's real GDP growth in 2012 is expected to reach 2.0 percent. The gradual recovery should continue into 2013, assuming national and international economic conditions continue to improve.

MAJOR ECONOMIC ACTIVITY

Hawaii's major pillars of economic support are tourism and U.S. defense activity. Hawaii has had a strong competitive advantage in these sectors thanks to its environmental beauty, historical sites and strategic location near the middle of the Pacific Ocean. A third pillar of support, agriculture, has faded in recent years. Both Sugar and Pineapple growing were strong contributors to the economy in the first three quarters of the 20th century, but have since declined sharply as low-wage foreign competition has overcome Hawaii's productivity and quality advantages in these crops.

Tourism emerged as the major growth industry in the early 1970s, surpassing the income generating power of defense spending. Tourism's size and share of the economy continued to increase over the subsequent two decades, making Hawaii one of the strongest and fastest growing economies in the U.S. However, in the 1990s, over-capacity in hotels and other visitor related businesses, coupled with several years of declining visitor arrivals, resulted in nearly a decade of overall economic stagnation in the regional economy. The industry recovered between 2003 and 2006 but entered another decline in 2007 as the most recent U.S. recession sapped the vitality of the state's tourism markets.

Federal military is the second largest source of economic activity in the region. This sector still spends over $5 billion per year to maintain the nation's strategic presence in the Pacific Region. Despite annual growth in this sector and emerging defense programs of a more technological nature in the islands, the military's share of GDP has declined over the years.

The major declining sector has been plantation agriculture, namely sugar and pineapple growing and processing. For instance in 1970, Hawaii produced about 10.5 million tons of raw sugar valued at about $451 million adjusted to 2006-valued dollars. By 2006, sugar production had fallen to 1.6 million tons with a value of about $50 million. Likewise the pineapple industry produced 954,000 tons of fruit in 1970 worth about $161 million when converted to 2006 dollars. By 2006 production had fallen to 185,000 tons with a value of $74 million.[3] Over the last several years cut backs and closures have continued in both sugar and pineapple growing. Today the largest growing activity in Hawaii agriculture is biotech oriented, seed corn research. A handful of operations have found Hawaii to be an ideal site for the development of new varieties of corn. The Hawaii Department of Agriculture estimates the value of seed corn growing at $169 million in the 2008/09 growing season, more than double the value from the 2005/06. It represented about one-third the value of all crops grown in the state in 2008/09.

GEOGRAPHY

Hawaii consists of four major, populated counties, encompassing its six largest islands. This includes: the City and County of Honolulu (island of Oahu), Hawaii County (island of Hawaii), Maui County (islands of Maui, Lanai and Molokai), and Kauai County (island of Kauai). Hawaii is roughly 2,500 miles from the U.S. mainland with about 1.3 million residents, making it probably the largest, geographically isolated population on Earth. The vast expanse of ocean between the islands and the nearest continental land mass virtually defines the Hawaiian Islands as a region unto itself. With a land area of more than 6,400 square miles, the region approaches the size of New Jersey land mass alone, with a resident population larger than Vermont or Maine. The target region is the four major, populated counties of Hawaii.

FIGURE 1. MAP OF THE MAJOR HAWAIIAN ISLANDS

Counties	Major City
City & County of Honolulu	Honolulu
Hawaii County	Hilo
Maui County	Kahului
Kauai County	Lihue

[3] 1970 data from Robert C. Schmitt, Historical Statistics of Hawaii, 1977. 2006 data from Hawaii Department of Agriculture/U.S. Dept. of Agriculture. 1970 dollar values inflated to 2006 using U.S. GDP Deflator.

DEMOGRAPHICS AND WORKFORCE

Compared with the U.S., Hawaii has slightly more males to females in the population, is a bit older on average and has a higher proportion of high school and college graduates (Table 2). For the 2006-2008 period, per capita income was about 6 percent above the national average. However due to slightly higher labor force participation and persons per household, Hawaii's median household income was nearly 27 percent higher than the U.S.

Hawaii's home price values were nearly 3 times the national median in the 2006-2008 period. Not surprisingly, the percentage of home owners in the state was well below the national average and the proportion of renters was correspondingly more.

Ethnically, Hawaii is significantly different than the U.S. as a whole. Caucasians account for 27 percent of the single-race population compared with 74 percent nationally. Asians, are nearly 39 percent of the resident population compared with 4 percent nationally. Mixed race individuals make up 22 percent of the population in Hawaii compared with 2 nationally.

TABLE 2. Hawaii Demographic Profile
(2006-2008 American Community Survey 3-Year Estimates)

Characteristic	Estimate	Percent	
		Hawaii	U.S.
Total population	1,280,273		
Male	646,088	50.5%	49.3%
Female	634,185	49.5%	50.7%
Median age (years)	37.7	-	36.7
Under 5 years	85,823	6.7%	6.9%
18 years and over	993,814	77.6%	75.5%
65 years and over	184,157	14.4%	12.6%
Population 25 years and over	868,474		
High school graduate or higher	-	89.5%	84.5%
Bachelor's degree or higher	-	29.2%	27.4%
Foreign born	219,771	17.2%	12.5%
Household population	1,245,174		
Average Household size	2.85	-	2.61
Average family size	3.41	-	3.2
Economic Characteristics			
In labor force (16+)	682,982	66.5%	65.2%
Median household income ($2008)	66,034	-	52,175
Median family income ($2008)	76,467	-	63,211
Per capita income ($2008)	29,335	-	27,466
Families below poverty level	-	6.3%	9.6%
Individuals below poverty level	-	8.8%	13.2%
Housing Characteristics	**Estimate**	**Percent**	**U.S.**
Total housing units	506,550		
Occupied housing units	436,449	86.2%	88.0%
Owner-occupied housing units	257,037	58.9%	67.1%
Renter-occupied housing units	179,412	41.1%	32.9%
Vacant housing units	70,101	13.8%	12.0%
Owner-occupied homes	257,037		
Median value (dollars)	548,700	-	192,400
Ethnicities	**Estimate**	**Percent**	**U.S.**
One race	1,003,049	78.3%	97.8%
White	343,578	26.8%	74.3%
Black or African American	29,895	2.3%	12.3%
American Indian and Alaska Native	3,867	0.3%	0.8%
Asian	495,762	38.7%	4.4%
Native Hawaiian/Pacific Islander	113,113	8.8%	0.1%
Some other race	16,834	1.3%	5.8%
Two or more races	277,224	21.7%	2.20%
Hispanic or Latino (of any race)	110,006	8.6%	15.10%

Source: U.S. Census Bureau, 2006-2008 American Community Survey

INFRASTRUCTURE & ENVIRONMENT

Many of the State's infrastructure and environmental systems overlap and are therefore best discussed together. Hawaii's environment is noted for its relatively clean air, high water quality, spectacular natural beauty, and consistently moderate climate. In fact, the unique quality of its environment is a cornerstone of the State's largest industry, tourism. The challenge in maintaining this high quality natural environment has been the management of economic growth and development to minimize negative impacts.

Hawaii's infrastructure issues are much the same as in other regions of the nation. The key challenge is maintaining the major infrastructures systems (water, waste disposal, energy transportation, etc) as the core systems age and economic growth and development place more demand on those systems. Financing new infrastructure systems in the current economic environment is another major challenge.

The last comprehensive review of infrastructure and environmental systems was conducted in 2002 as part of the State's sustainable tourism study.[4] The study reviewed the condition of about 20 major infrastructure and environmental systems with the following major assessments.

- **Water Quantity and Quality:** Water *quantities* had been approaching sustainable yields[5] in some areas – most notably on Oahu, Molokai and West Hawaii. In other areas, permitted uses have not reached sustainable yields. Aging infrastructure and remote lines make repairs and upgrades difficult. Water quality was generally good, but needs to be monitored continually for traces of agricultural chemicals and other potential contaminants.

- **Sewage Systems**: The study noted the problem of the use of cesspools around the state and that their proximity to fresh water sources was a concern. Since the study, efforts have been made to convert cesspools to septic tank systems where connection to municipal sewer systems is not feasible. Municipal sewage collection and treatment systems generally suffered from aging and were subject to saltwater intrusion. Air, noise and odor pollution near some treatment facilities was also identified as a problem.

- **Solid Waste Disposal:** Capacity was being reached or exceeded in a number of regions in the state at the time of the study. It was noted that efforts to expand capacity would benefit by expanded reuse and recycling of appropriate solid waste. More recently, Honolulu County has continued to expand its residential green waste and solid waste recycling programs, to cut landfill volume. In addition a statewide deposit and bottle recycling program has been instituted.

- **Roads:** Hawaii's Roads continue to be more crowded. The study noted that changes such as traffic signal synchronization and staggered work shifts could temporarily alleviate some traffic problems, but that major changes were needed particularly an expansion of mass transit. Among the alternatives available, Honolulu subsequently chose expansion of the bus system and construction of a light rail system for the critical downtown to West Oahu commuting corridor. Construction of that system is awaiting completion and approval of final economic and environmental studies. Other counties have very limited bus systems and that is a problem for resident mobility.

- **Airports:** The majority of passenger airports in Hawaii were found to be underutilized at the time of the study, probably due to the fall off in visitor arrivals after the 9-11 terrorist attacks. However, there was a need for improved maintenance of passenger areas and modifications in organization and physical layout to minimize passenger congestion and confusion within the airports. The situation worsened with the increased security checks of passengers and baggage instituted over the subsequent years. In response to the need for airport improvements, the State of Hawaii has embarked on a multi-year, $2.3 billion airports modernization plan.

- **Harbors:** The study noted a need to improve and expand Hawaii's harbor cargo facilities statewide. In 2007 the State of Hawaii initiated a six-year, $842 million, statewide harbors improvement program that is designed to accommodate projected need for ocean cargo and passenger facilities through 2030.[6]

- **Parks:** The study also noted that State and county parks were in need of alternative sources of funding to improve and maintain park facilities. State parks at major visitor attractions like Diamond Head, Waimea Canyon (Kauai), and many other locations are key visitor industry assets.

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[4] Reports may be reviewed at http://hawaii.gov/dbedt/info/economic/visitor-stats/sustainable-tourism-project.

[5] Maximum rate at which water may be withdrawn from a water source without impairing the utility or quality of the water source

[6] Hawaii Harbors Modernization Plan Fact Sheet, Hawaii Department of Transportation, December 18, 2007

Therefore in 2002 roughly $1 million per year was required to be transferred from hotel tax revenues to supplement State Park maintenance. This has helped bring a number of state park facilities up to higher standards. Still, in the current difficult budget times, finding adequate funds for thorough maintenance and improvements of parks is a challenge.

- **Coastal Water Quality:** Coastal water quality for Hawaii was seen as excellent except when impaired by severe storms and construction where best management practices were not followed. The greatest threat to coastal water quality is non-point source pollution. Nonpoint source charges have a greater impact on streams and near shore waters than point source discharges. Effective monitoring of storm water discharge and enforcement of health violations is a step toward remedying this threat.

- **Air Quality:** For most islands, Hawaii's air quality is excellent. It is well above federal and State standards. There is a lack of major polluting industries and trade winds blow any residual air pollution out to sea. However, Hawaii County is experiencing continued threat to air quality by volcanic related haze and gasses. Kilauea Crater has been in continuous eruption for some years now and volcanic pollution is an increasing problem.

- **Beaches & Reefs:** The state owns the beaches, and takes the lead in beach/coastal management. However, beach erosion is a naturally occurring phenomenon. It will continue to occur at varying rates on all islands. Options used to address erosion management include, restoring the beach, controlling erosion rates with sand fill and structures, adapt human occupancy to accommodate erosion, and hardening the shoreline. Reefs along less populated coasts show higher fish abundance and diversity than the more populated main Hawaiian Islands. The State needs to discourage over fishing along the coast, which creates localized depletion of various marine biota and is a potential threat to the Marine Ecosystem. Providing educational information and interpretive programs to residents and visitors regarding the importance and uniqueness of

- **Invasive Species:** The silent invasion of Hawaii by insects, disease organisms, snakes, weeds, and other pests may be the single greatest long-term threat to Hawaii's economy and natural environment and the health and lifestyle of Hawaii's people. One of the most cost-effective solutions to this problem is to find and eradicate these species before they proliferate beyond control. This avoids the damage costs created by the pests themselves as well as the costs of perpetual pest control and mitigation.

PROJECTIONS

Long range Projections of Hawaii's Economy are produced and updated by the Research and Economic Analysis Division of the Department of Business, Economic development & Tourism. The latest update, dated July 29, 2010, shows growth of resident population averaging under 1 percent per year from 2007 to 2035(Table 3). That amounts to an increase of about 25 percent over the entire period. However, within the population, residents 65 and over are expected increase in number by more than 3 percent annually for much of the 2007 to 2035 period. While this does not sound excessive, it amounts to more than a doubling of this older population between 2007 and 2035.

TABLE 3. POPULATION PROJECTIONS, STATE OF HAWAII, 2015 TO 2035

	2007	2015	2020	2025	2030	2035
Total resident population	**1,277,356**	**1,367,795**	**1,432,538**	**1,492,253**	**1,547,460**	**1,598,675**
By military status						
Military and dependents	94,498	95,683	95,683	95,683	95,683	95,683
Other civilians	1,182,858	1,272,112	1,336,855	1,396,570	1,451,777	1,502,991
By age group						
Population: 0 to 17 years	286,909	291,433	311,391	320,563	323,768	327,728
Population: 18 to 64 years	806,561	838,836	840,651	845,872	860,912	881,879
Population: 65 years and over	183,886	237,526	280,496	325,819	362,780	389,068
Growth rates (%)	**For Period**	**Annual Average**				
	2007-2035	**2007-2015**	**2015-2020**	**2020-2025**	**2025-2030**	**2030-2035**
Total resident population	25.2	0.9	0.9	0.8	0.7	0.7
By military status						
Military and dependents	1.3	0.2	0.0	0.0	0.0	0.0
Other civilians	27.1	0.9	1.0	0.9	0.8	0.7
By age group						
Population: 0 to 17 years	14.2	0.2	1.3	0.6	0.2	0.2
Population: 18 to 64 years	9.3	0.5	0.0	0.1	0.4	0.5
Population: 65 years and over	111.6	3.3	3.4	3.0	2.2	1.4

Source: Hawaii Department of Business, Economic Development & Tourism, July 2009.

The number of children to 17 years will increase slower than the overall average growth rate for period except for an uptick in growth from 2015 to 2020. Overall this segment of the population will increase by about 25 percent over the entire 2007 to 2035 period.

On the other hand, the middle population group from 18 to 64 years will show only modest growth, well under the overall resident average. For the entire 2007 to 2035 period this segment, which represents the bulk of the working population, will likely increase only about 9 percent.

These differing rates between the older and younger populations are mostly a result of the aging of the baby-boom generation. Proportionately fewer workers, more retirees and the needs of an older population will result in significant challenges and changes to the way government and businesses produce and deliver products and services.

By county, the Island of Hawaii will likely see the fastest growth over the period, increasing by 62 percent. Honolulu is projected to show the slowest population growth at 15 percent (Table 3).

TABLE 4. POPULATION PROJECTIONS BY COUNTY, 2015 TO 2035

	2007	2015	2020	2025	2030	2035
State of Hawaii	**1,277,356**	**1,367,795**	**1,432,538**	**1,492,253**	**1,547,460**	**1,598,675**
Honolulu County	900,525	941,824	969,462	994,610	1,017,565	1,038,316
Hawaii County	172,547	199,488	221,862	242,643	261,758	279,706
Maui County	141,523	158,043	169,066	179,404	189,300	198,727
Kauai County	62,761	68,440	72,148	75,598	78,837	81,925
Growth rates (%)	**For Period**	**Annual Average**				
	2007-2035	**2007-2015**	**2015-2020**	**2020-2025**	**2025-2030**	**2030-2035**
State of Hawaii	**25.2**	**0.9**	**0.9**	**0.8**	**0.7**	**0.7**
Honolulu County	15.3	0.6	0.6	0.5	0.5	0.4
Hawaii County	62.1	1.8	2.1	1.8	1.5	1.3
Maui County	40.4	1.4	1.4	1.2	1.1	1.0
Kauai County	30.5	1.1	1.1	0.9	0.8	0.8

Source: Same as Table ___.

The size of Hawaii's workforce is expected to increase at a rate just under 1.0 percent per year from 2007 to 2035. However there are significant differences in the rates of growth by industry. As shown in Table 4.

Health services will likely show the sharpest growth, with the number of workers increasing nearly 54 percent from 2007 to 2035. The next fastest growing industry in terms of jobs is projected to be education services at 32 percent for the period.

At the lower end of the growth projection is food processing, in which jobs are expected to grow only 6 percent for the 2007 to 2035 period. Manufacturing and Agriculture are also expected to lag behind the rest of the economy, growing less than 10 percent in jobs for the period in total.

These projections are based on past trends adjusted by analysis of more recent conditions that may impact growth in the future. They do not incorporate policy goals which could result in faster growth for industries such as technology, and arts and culture.

TABLE 5. PROJECTIONS FOR WAGE AND SALARY JOBS BY INDUSTRY 2015 TO 2035

	2007	2015	2020	2025	2030	2035
Total civilian wage and salary jobs	**661,112**	**701,990**	**736,370**	**769,790**	**802,240**	**834,090**
Agriculture	7,321	7,490	7,640	7,770	7,900	8,020
Mining and construction	40,341	42,200	44,500	46,530	48,420	50,250
Food processing	6,321	6,390	6,500	6,570	6,650	6,700
Other manufacturing	9,120	9,350	9,550	9,720	9,850	9,960
Transportation	30,576	32,790	34,350	35,900	37,390	38,890
Information	10,786	11,270	11,700	12,090	12,490	12,870
Utilities	3,031	3,180	3,320	3,450	3,580	3,700
Wholesale trade	18,737	19,870	20,750	21,690	22,590	23,460
Retail trade	72,478	77,080	80,590	83,980	87,100	90,080
Finance and insurance	17,515	18,280	19,070	19,850	20,610	21,290
Real estate and rentals	13,587	13,940	14,310	14,620	14,930	15,180
Professional services	25,934	27,510	28,940	30,410	31,880	33,370
Business services	51,854	54,640	57,430	59,970	62,610	65,090
Educational services	15,213	16,580	17,430	18,310	19,160	20,050
Health services	62,375	70,010	76,060	82,410	88,980	95,860
Arts and entertainment	12,657	13,460	14,100	14,770	15,440	16,130
Hotels	39,697	42,370	44,400	46,210	47,940	49,410
Eating and drinking	59,357	62,600	65,450	68,120	70,670	73,270
Other services	32,295	34,310	35,910	37,600	39,200	40,730
Government	131,917	138,690	144,380	149,820	154,870	159,790

	Total % Chng	Average Annual % Change				
Growth rates (%)	**2007 to 2035**	**2007-2015**	**2015-2020**	**2020-2025**	**2025-2030**	**2030-2035**
Total civilian wage and salary jobs	**26.2**	**0.8**	**1.0**	**0.9**	**0.8**	**0.8**
Agriculture	9.5	0.3	0.4	0.3	0.4	0.3
Mining and construction	24.6	0.6	1.1	0.9	0.8	0.7
Food processing	6.0	0.1	0.3	0.2	0.2	0.2
Other manufacturing	9.2	0.3	0.4	0.4	0.3	0.2
Transportation	27.2	0.9	0.9	0.9	0.8	0.8
Information	19.3	0.5	0.7	0.7	0.7	0.6
Utilities	22.1	0.6	0.9	0.8	0.7	0.7
Wholesale trade	25.2	0.7	0.9	0.9	0.8	0.8
Retail trade	24.3	0.8	0.9	0.8	0.7	0.7
Finance and insurance	21.6	0.5	0.8	0.8	0.8	0.6
Real estate and rentals	11.7	0.3	0.5	0.4	0.4	0.3
Professional services	28.7	0.7	1.0	1.0	0.9	0.9
Business services	25.5	0.7	1.0	0.9	0.9	0.8
Educational services	31.8	1.1	1.0	1.0	0.9	0.9
Health services	53.7	1.5	1.7	1.6	1.5	1.5
Arts and entertainment	27.4	0.8	0.9	0.9	0.9	0.9
Hotels	24.5	0.8	0.9	0.8	0.7	0.6
Eating and drinking	23.4	0.7	0.9	0.8	0.7	0.7
Other services	26.1	0.8	0.9	0.9	0.8	0.8
Government	21.1	0.6	0.8	0.7	0.7	0.6

Source: Same as Table 4.

ECONOMIC DEVELOPMENT OPPORTUNITIES AND CHALLENGES

A number of sources have identified Hawaii's strategic strengths, weaknesses, opportunities and threats over the years.[7] The following summarizes the most commonly cited.

A. STRENGTHS & OPPORTUNITIES

Three major strategic strengths have been noted that tend to give the State an overall comparative advantage for numerous economic development opportunities. Those strengths are:

1. Environment

Hawaii's is noted as one of the most beautiful places in the world with a multifaceted climate, geography and geology that can support a range of specialized industries and scientific research. Environment is one of the three major factors attracting visitors to the state (historical sites and unique Hawaiian culture being the other two).

- Hundreds of miles of white sand beaches, stunning geographical scenery and moderate sub tropical climate compete favorably with any similar tourism destination in the world.
- Deep ocean waters, active geology and clear night skies atop the higher mountain peaks facilitate scientific and technological research ranging from ocean research to astronomy and vulcanology.
- Oceans, rich volcanic soil and varied growing conditions and geographic isolation provide a strong base for aquaculture, specialty agriculture such as coffee and tropical fruits, and agricultural-based genetic research like the fast-growing hybrid seed corn research industry.
- The high proportion annual days in full sunlight, pervasive trade winds, ocean tides, deep cold ocean water and geothermal resources provide the basis for multifaceted alternate and renewable energy development to replace most of Hawaii's need for imported petroleum products.
- Hawaii's varied natural environment provides cost savings opportunities for motion picture projects to authentically reproduce numerous Asian and tropical locales in the islands, saving the cost and risks of using locations in foreign countries. This strength is leveraged by Hawaii's wide ranging manmade environment that provides backdrops for old and current Asian-Western set projects and varied architecture that has doubled for settings ranging from Korean commercial districts to European street scenes.

2. Cultural and Historical Uniqueness

Few, if any other places in the world have the diversity of cultures and strong, host culture identification and celebration as Hawaii. Asian and Western ethnicities and cultures intermingle while the Hawaiian culture with its unique values embracing social stability and environmental awareness serves as a backdrop. Hawaii's role in U.S. history, particularly in World War II serves to further distinguish Hawaii as a place to live and visit.

- Cultural and historical uniqueness combine with environment to make Hawaii one of the most coveted vacation experiences in the World. This has helped grow and sustain a world class tourism industry, particularly since the beginning of commercial jet air travel in the early 1960s.
- Cultural uniqueness coupled with Hawaii's environment also provide a strong attraction for well educated and sometimes extraordinarily talented in-migrants who provide valuable

[7] Among the more recent were the WIRED III Grant Application, DLIR 2007, and the Hawaii Statewide Science & Technology Plan Framework, Statewide EPSCoRE Committee, January 2010.

skills to the economy and help refocus economic goals and strategies to changing world markets.

3. Mid Pacific Location

As isolated geographically as it is, Hawaii's location near the middle of the Pacific Ocean also makes reasonably accessible by commercial air travel to both North America and Asia. In addition its location is a strategic asset to the U.S. for providing military stability to the Pacific region and as part of the nations missile defense system.

- For more than a century, Hawaii's strategic value as a base for U.S. military forces has been proven time and again and is the current home for the U.S. Pacific Command and 25th Infantry Division. This complex is supported by more than 17,450 of Hawaii's civilian workers and injects more than $5.2 billion into the economy annually.
- The combination of mid Pacific location and multicultural environment makes the State attractive as a commercial bridge between East and West. Asian companies find Hawaii a useful testing ground for products, business models and gradual cultural acclimation for staff before entering major U.S. markets and business environments. U.S. companies find expertise in Hawaii for honing Asian business plans and as a Pacific headquarters that enables staff to remain in the U.S. but only hours away by plane from major Asian markets. This is facilitated by the local time zone which permits Honolulu offices to consult with U.S. main offices and Asian offices over the course of the same business day.
- Based on the same locational and multicultural assets Hawaii is a convenient place for cultural, political and other meetings that bring representatives of Asian and North American governments and institutions together to address mutual issues. For instance the next major meeting of the organization for Asia-Pacific Economic Cooperation (APEC) will bring leaders of the 21 major member economies together in Honolulu in November 2011.

ASSETS

In addition to these strategic conditions in Hawaii's favor, a number of assets have been identified that position the state to excel in a number of opportunities related to the strategic strengths.

1. In-migration of workers with college degrees over the last several decades has contributed to putting Hawaii 13th among the states in years of school completed.
2. The region has 30 financial institutions. The five regional banks hold assets of $28 billion.
3. There are 11 university campuses in the region offering bachelors and higher degrees, supplemented by a seven-campus community college system serving all counties. The flagship college campus is the University of Hawaii (UH) at Manoa, which offers Ph.D. degrees in numerous subjects and maintains schools of law and medicine.
4. There are also more than 1,100 establishments in the region's technology sector, and they are served by a fledgling venture capital sector.
5. As indicated, the U.S. military provides an ongoing injection of billions of dollars per year into Hawaii's economy supporting a range of procurement and professional services opportunities.
6. Observatories on Maunakea attract astronomy research grants and scientists from universities throughout the world.

OPPORTUNITIES

According to the Department of Business, Economic Development and Tourism, these strategic strengths and assets present a number of opportunities for future growth and development that can supplement traditional sun and surf tourism.

- **Emerging Visitor Markets**

  One of the spin offs of economic diversification into technology, science, health, entertainment and other emerging industry is the potential for developing newer and more targeted, niche tourism markets such as techno tourism, agri-tourism, health tourism and cultural tourism, among others.

- **Stable defense presence with immense procurement needs**

  Hawaii has benefited for decades from the defense establishment's standard procurement needs such as construction, operating supplies, management services and agricultural products. Still there are still many goods and service procurements that go to outside companies that Hawaii's companies could potentially fulfill with better information, understanding of procurement processes and collaboration among Hawaii firms.

- **Technology industries based on Environment and defense presence**

  Ocean access, active geology, clear night skies and two of the top five viewing sites in the world, and other environmental strengths cited earlier, all support additional development of scientific research and development of commercial technologies based on those assets. Also, as Hawaii's defense system evolves into more technology oriented activity, new and powerful opportunities open up for development of scientific and technological research and development by Hawaii companies to help serve those emerging needs. This market can potentially leverage the development and maturation of Hawaii's technology companies into competitive players in the wider global tech markets.

- **Creative industries based on Environment, cultural strengths and visitor markets**

  Filming has been an important contributor to Hawaii's economy for decades. More recently, entertainment technology have begun to merge film, computer animation, computer game programming and digital effects into new products that serve as platforms for delivery well beyond the movie theater and TV screen. This includes internet based delivery, and mobile devises like cell phones and small media players like the iPod. Hawaii's established environmental and cultural resources can potentially be combined by Hawaii firms with emerging entertainment technology to provide compelling stories and experiences.

- **Renewable and Alternate Energy Development based on climate/geography**

  As noted earlier, the resources based on sun, ocean and geothermal assets can support substantial development alternate and clean energy sources for the state's economy. Many of these sources need further technology development and Hawaii is well positioned with its natural and institutional assets to conduct that research and development.

- **Specialty Agriculture based on geography, isolation and visitor markets**

  Volcanic soil and year-round growing environment can facilitate the production of many valuable and unique specialty crops and provide the basis for continued scientific crop research. Major market assets such as the large tourism base, military establishment and stock for bio fuels can help support renewed efforts in diversified agriculture.

- **Pacific-Asian Gateway activities**

  Hawaii has yet to reach its potential as a key site for international cultural and political interchange. With its proximity, major educational, multicultural assets and birth state of the current U.S. President, new opportunities to increase Hawaii's role in Asian-Pacific affairs are emerging. In particular, Hawaii will have an opportunity to leverage its hosting of the 2011 APEC meeting into more frequent and ongoing international interchanges.

B. THREATS AND CHALLENGES

As Hawaii purses its opportunities and strengths it must be mindful of threats and challenges to fulfilling those potentials. The following have identified the following major negatives.

1. Isolation, limited natural resource base and tourist destination image

As noted earlier, Hawaii lies about 2,500 miles from the nearest continental land mass, making it one of the most geographically isolated places in the world. It enjoys a high, modern standard of living primarily by maintaining extensive shipping and air transportation networks, linking it with the U.S. mainland and nations of the Pacific Rim. However, these limited and long-distance lifelines also make the state vulnerable to transportation disruptions. Distance and isolation also impede labor migration. It is costly to travel between Hawaii and the U.S. mainland and costly to move household goods.

Geographic isolation also poses a challenge for keeping Hawaii's business, professions, government operations and policy making bodies fully abreast of emerging trends issues and sentiments of the outside world. For Hawaii to be innovative in a relevant way it will be important to address ways to mitigate the effects of its geographical isolation through frequent interchanges between Hawaii sectors and their mainland counterparts.

In addition to its isolation, Hawaii lacks most of the mineral, fossil fuel, forest and hydro power resources that are within relatively close proximity to most major mainland populations. This means that that petroleum and other essentials must be shipped in continuously from great distances to maintain the economy. Even more significantly these geographical and resource constraints limit the range of economic activity that is practical in Hawaii, particularly excluding most commercial scale manufacturing of products for which the market demand is price sensitive. These limitations argue against development of products for markets that are price sensitive. Rather these limitations suggest focus on products and markets demanded primarily for their quality or markets in which Hawaii can provide a unique product with limited competition.

Finally, isolation coupled with Hawaii's image as primarily a tourism destination tends to undermine efforts to promote the state as a place to do serious business. This is so even though tourism represents less than 25% of the economy and the state hosts to such sophisticated technological assets as the world renowned, Maunakea Astronomy Park, one of the worlds few super computers, and provides services to the Navy's latest nuclear submarines.

2. High-cost structure

Related to its isolation and limited resources is the tendency for goods and services to cost more in Hawaii then elsewhere on average. For instance, the median value of owner occupied housing cited earlier was $548,700 in Hawaii for 2006-2008. This compared with a $192,000 median nationally. Gasoline was 24 percent higher in Hawaii on average than across the nation in the spring of 2010.[8] Costs are generally higher because most goods consumed or used in construction and investment must be brought in by ship, or plane in the case of very perishable goods. Added to shipping costs are the higher cost of land and energy. These higher costs are usually reflected in a higher cost of final goods and services sold.

[8] DBEDT Monthly Energy Trends, April 2010 (for regular gasoline)
http://hawaii.gov/dbedt/info/economic/data_reports/energy-trends

Fortunately, price is not everything in commerce. Quality counts, as does uniqueness. Hawaii has been competitive in tourism and some other products because of high quality and uniqueness despite higher prices.

As Hawaii evaluates emerging economic opportunities it must assessment partly on the basis of how quality, uniqueness and other non-price factors can overcome the burden of a higher cost structure. In the case of energy it may be possible to narrow comparative energy costs as alternative sources of energy are developed.

3. Dependence on Tourism

Hawaii's strongest competitive advantage over the years has been in tourism. The benefits of this advantage have allowed the state to enjoy a modern standard of living on a group of small islands with thousands of miles between it and its closest neighbors and markets. Efforts to develop new economic activity and reduce dependence on tourism are continuous and promising. However, no single alternative industry or combinations of industries have or are likely to provide a substitute for the income generated by tourism in the foreseeable future.

Given this vulnerability, Hawaii must remain mindful that reducing dependence on tourism is not the same as replacing it. If the state is to maintain the income flow to support its standard of living and investment in alternative economic activity, it must ensure the continued health and market relevance of tourism.

4. Limited Capital Resources

Hawaii is fortunate to have a strong cadre of financial institutions that, for the most part, have not been impacted seriously by the subprime mortgage market collapse that has damaged many mainland institutions directly or indirectly. However, standard bank loans are not generally available to the more risky technology sector or to startup entrepreneurs with no demonstrated track record of management skill and success. Those needs are usually filled by equity financing from individual investors and investment funds that specialize in the technology and innovation sector. Hawaii has some local resources for equity funding of the technology sector, but does not usually present opportunities of the magnitude that interest national venture capital firms. The approaches to addressing this problem have ranged from very generous tax incentives on private high tech investment to direct state government investment. With state government's more limited capacity to fund tax incentives and direct assistance in the current economic environment, the challenge will be to find alternative ways to match promising research with adequate funding.

5. Limited Entrepreneurial Resources

Studies from numerous organizations, particularly the National Governor's Association and U.S. Department of Commerce, has shown that the key catalyst in transferring University based research knowledge into new, commercial products is entrepreneurial talent. It is generally thought that Hawaii has a limited entrepreneurial base apart from easy-entry businesses in the local services sector such as small retailing and restaurants. It is difficult to verify this, but it is clear that until recently the training and support of technology-oriented entrepreneurial resources has been very limited. Within the higher education community, only the private, Hawaii Pacific University and Kapiolani Community College have had degree or certificate programs in entrepreneurism. A major boost to developing home-grown entrepreneurs occurred in 2009 with the establishment of a Bachelors Degree in entrepreneurism within the Shidler College of Business at the University of Hawaii at Manoa. However, it will be some time before there are graduates from this program and it is as yet not clear if this program will solve the perceived entrepreneurial deficiency.

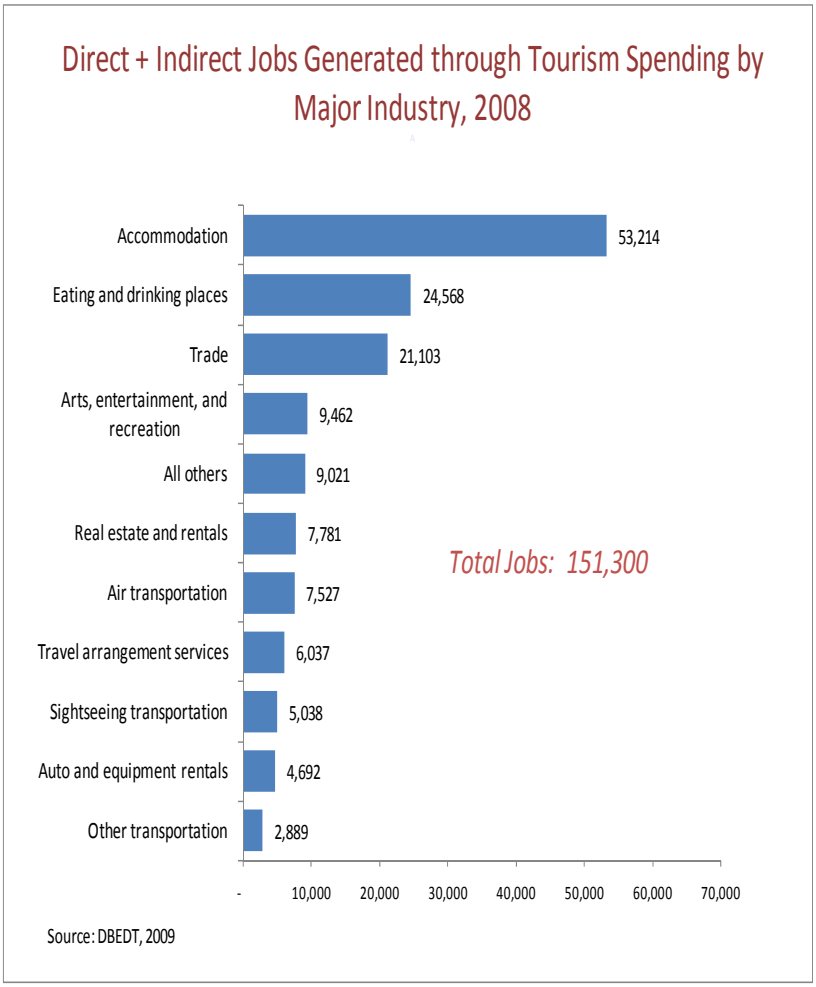
KEY ECONOMIC CLUSTERS

Tourism and U.S. defense procurement represent the current bedrock of economic activity supporting much of Hawaii's economy. However, a portfolio of smaller activity in technology, creative industries, agriculture and health care among others, are providing a growing source of diversification and skilled jobs.

TOURISM

The tourism sector in Hawaii is a mature activity and is the State's largest economic cluster. While often referred to as an *industry*, tourism is actually a market that is served by a range of traditional industries like accommodations, amusement and recreation, eating and drinking, transportation, retailing and others.

The tourism sector is a chief generator of employment for Hawaii's people. In 2008, DBEDT estimated that tourism accounted directly and indirectly for $14.6 billion in spending which supported 151,300 jobs or 18% of total state jobs. In addition, tourism accounted directly and indirectly for $10.8 billion or 17% of Gross Domestic State Product (GDP).[9]



In 2007, after enjoying several years of strong growth the tourism sector experienced the beginning of a decline in visitor arrivals that extended through 2009. Visitor arrivals declined by 1.1 million over the three years, or nearly 15% of the peak total in 2006. Tourism arrivals began recovering in 2010, although it is expected to take a number of years before equaling the 2006 benchmark.

The Hawaii Tourism Authority (HTA), which is charged with the coordination, planning and state marketing of tourism, established a strategic plan for tourism in 2002 which envisioned a new era of expanded competition in worldwide tourism that Hawaii had to address.[10] Recognizing the need to protect Hawaii's social and natural environment from over expansion of tourism, the HTA strategic plan stressed increases in the value (average spending) of tourists over sheer numbers of visitors to the islands.

[9] Tourism Satellite Account and Related Data, DBEDT Research Division, October 2009.

[10] *Ke Kumu, Strategic Directions for Hawaii's Visitor Industry*, Hawaii Tourism Authority, 2002

The HTA has recently updated the strategic plan for the 2010 to 2012 period. The update focuses marketing and product development resources on putting the tourism sector onto a recovery path from the 2007 to 2009 recession. In 2010 that will consist of focusing marketing efforts on increasing arrivals and increasing Hawaii's share of the recovering national and international tourism market. From 2011 to 2012 the strategy calls for shifting the emphasis to increasing visitor spending and development of new markets. The emerging China and Korean markets are of particular priority for new market development.

Most recent projections by DBEDT anticipate it will not be until 2013 before the annual visitor arrival total fully recovers to the 2006 level.

DEFENSE

Defense spending in Hawaii was $5.5 billion in 2007. Defense expenditures are second only to tourism in terms of economic contribution to the State. Defense spending in Hawaii accounted for 8.5% of gross domestic state product versus the 17% for tourism.

TABLE 6

Direct Defense Expenditures or Obligations, by County, 2005 to 2007
(thousands of dollars, for fiscal years ending September 30)

Year	State Total	City and County of Honolulu	Hawaii County	Maui County	Kauai County	State undistrib-uted
2005	5,015,329	4,754,443	80,087	75,135	105,664	-
2006	5,379,202	5,172,871	39,949	53,521	94,801	18,059
2007	5,466,653	5,204,520	78,090	28,775	155,268	-

Source: DBEDT Federal Economic Activities in Hawaii, March 2009

Civilian employment with the military in Hawaii declined following the end of the Vietnam War but has stabilized in a range between 52,000 and 55,000 since 2000. The count of military personnel has also declined since Vietnam, stabilizing between 32,000 and 35, 000 since 2000.

TABLE 7

Miliatry Personnel and Civilian Workers, 1970 to 2007

(As of September 30. Excludes Coast Guard and Personnel on Ships)

	Civilian Military Jobs		Active Duty Military Personnel				
Year	jobs	as % of state total	Total	Army	Navy	Marine Corps	Air Force
1970	68,949	17.9%	38,397	9,639	11,996	7,189	9,573
1975	72,142	16.6%	43,071	17,312	10,852	8,403	6,504
1980	66,457	13.3%	43,313	17,118	10,976	9,277	5,942
1985	68,904	13.1%	46,875	18,262	12,722	9,192	6,699
1990	67,225	10.8%	41,887	18,590	12,289	5,618	5,390
1995	58,638	9.5%	38,172	16,672	10,738	6,198	4,564
2000	52,783	8.4%	33,930	15,483	7,998	5,960	4,489
2005	53,019	7.8%	32,629	15,458	6,524	5,796	4,851
2006	54,363	7.8%	34,935	18,687	6,080	5,050	5,118
2007	54,528	7.7%	34,838	19,867	5,595	4,483	4,893

Source: DBEDT Federal Economic Activities in Hawaii, March 2009

U.S. Defense presence in Hawaii has undergone considerable evolution over the decades since the end of World War II. It is still headquarters for the Pacific fleet, including a number of attack submarines. It is also home for the Army's 25th Infantry Division and the Air Force's 15th Airlift Wing. But the defense establishment has also developed a sophisticated array of high tech assets in the Hawaiian Islands to augment national defense and its overall mission in the Pacific.

A major asset apart from the traditional armed forces contingent is the Navy's Pacific Missile Range on Kauai. Stretching from the West end of Kauai to several hundred miles into the Pacific, this facility was developed as a three-dimensional training range that could incorporate surface, subsurface and airborne assets in simulated combat. The facility has added launch facilities and is integral to the testing of missile defense systems.

Two other major assets are the Air force's Maui High Performance Computing Center (MHPCC) and affiliated space surveillance facility, on Maui's 10,023 ft. high, Haleakala. MHPCC is one of the most advanced super computers in the world dedicated primarily to defense projects.

The Pearl Harbor Naval Shipyard is still a very active facility serving Navy surface vessels and submarines stationed in, and passing through the Hawaiian Islands. The Shipyard has been gearing up to host and service the new Virginia Class attack submarines with their advanced technology. The first of these subs to be stationed in Hawaii, the USS Hawaii, arrived in July 2009. The increasingly more complex technology of the newer vessels requires more training and skill sets than earlier subs that are partly facilitated by additional training programs by the University of Hawaii Community College System.

No major changes in the strategic deployment of US military assets are currently known that would impact Hawaii the foreseeable future. However, the Pearl Harbor Naval Shipyard has come under periodic review by base closing commissions as part of efforts to reduce duplication and excess capacity among the various Naval Shipyards around the country. Pearl Harbor Shipyard has

so far avoided being placed on a list for potential closure. However, the importance of the facility to Hawaii's economy argues for continuous efforts by economic development and educational institutions to assist in helping the Yard improve skill levels and efficiency into the future.

EVALUATING EMERGING INDUSTRY CLUSTERS

In 2009, DBEDT conducted a comprehensive review of the many industries and activities that have been promoted or suggested over the years as potential growth industries that could help reduce the state's substantial reliance on tourism and defense spending for economic growth.[11] This effort resulted in the compilation of a Targeted Industry Portfolio, which was then defined, measured and tested for various measures of performance over the 2002 to 2008 period.

Table 8 lists the major industry groups in the targeted industry portfolio and their total job counts (wage/salary and self-employed/sole proprietors) in 2008. The portfolio contains two major groups. Those industry groups that can be reasonably measured by NAICS as *producing industries* are in the first two columns. Those that represent more of a *market or product* definition are in the last column. The list is also organized by some major sectors, particularly technology, creative industries and agribusiness. The study drew on results and methods developed in a 2008 study of the technology sector by DBEDT, the Hawaii Science and Technology Institute, and the consultant firm C2ER.

TABLE 8. HAWAII'S TARGET INDUSTRY PORTFOLIO; PRODUCTION VS. MARKET SIDE ORIENTATION

PRODUCTION SIDE TARGET GROUPS				MARKET SIDE ACTIVITIES	
TECHNOLOGY	2008 Jobs	Design Services	1,453	TECHNOLOGY	Jobs
Computer Services	6,583	Radio and TV Broadcasting	1,361	Astronomy/Space Science	279*
Engineering and Related Services	4,842	Film, TV & Video Production	1,231	Alternate Energy	na
Biotechnology	3,927	Music	1,106	Agricultural Bio-Tech	na
Technical Consulting Services	3,760	AGRIBUSINESS	2008 Jobs	Ocean Science & Tech.	1348*
Research & Development Services	3,604	Farm Production	12,235	Environmental Tech	na
Info and Telecom Tech Services	2,196	Agric. Processing	6,462	Defense Dual Use	na
Medical and Diagnostic Testing	1,695	Fishing	1,497	Other Targets	Jobs
Technology Equipment Distrib.	871	Agric. Support Services	1,248	Captive Insurance	na
Technoogy Manufacturing	716	Agric. Inputs	414	Specialty Tourism	na
CREATIVE INDUSTRIES	2008 Jobs	Aquaculture Production	221		
Performing and Creative Arts	8,531	Agric. Packaging & Warehsg	197		
Engineering/R&D	7,336	Forestry & Hunting	101		
Computer and Digital Media	6,657	OTHER TARGETS	2008 Jobs		
Marketing & Related	4,918	Health & Wellness	51,346		
Business Consulting	4,291	Education	7,581		
Publishing & Information	2,887	Apparel	1,165		
Cultural Activities	2,311	Call Centers	435		
Architecture	2,280				

*Survey results. Data for 2007

The performance of these industry groups and sectors was evaluated using a regional economic analysis tool that maps the typical industry life-cycle process. This tool provides a way to combine performance information such as growth, competitive national share and industry concen-

[11] *Benchmarking Hawaii's Emerging Industries*, Full and Summary reports, DBEDT, December 2009. http://hawaii.gov/dbedt/info/economic/data_reports/emerging-industries

tration into a single overview framework. In addition, the tool helped clarify an objective measure for an *emerging* industries.

As shown in Figure 5, the first stage of the life cycle map (lower right corner) is usually called the *emerging* stage of an industry. This characterizes newer, fast growing activities that are usually serving new markets inside or outside the local economy.

The second stage, in the upper right quadrant, identifies *base-growth* industries. These are industries that have passed through the emerging stage and have become strong, competitive sources of economic growth in the economy. These are generally export-oriented industries.

As a base-growth industry matures it reaches its full market potential. This represents the *transition* stage in the upper left quadrant. These are still specialized, important activities, but are slowing and may be becoming less competitive over time.

Finally, in the lower left quadrant are industries that are shrinking as a proportion of the economy by losing jobs over time. These are the economy's *declining* industries. If the industry is unable to reinvent itself with new products and markets, it will continue to wither away.

Not all industries fit nicely into this generalized life-cycle framework, at least over the period of only one or two business cycles, and the model probably works best using longer term data over several business cycles. Still, it provides a way to classify and visualize the situation in an industry and what strategies for addressing the industry might work best.

With the appropriate metrics, the industry groups in Hawaii's targeted industry portfolio can be placed on a performance map that mirrors the industry life cycle model above. The specific criteria for placing industries on the performance map are summarized in table ___. The three performance measures -- job growth, change in competitive national industry share[12] and concentration of the industry in the local economy[13] -- are the primary criteria for placement onto the map.

[12] National competitive share measures how much jobs grow or decline in a regional industry compared to the same industry nationally. An increasing competitive share indicates the regional industry is growing faster. A declining competitive share indicates the regional industry is losing national competitive share.

[13] Concentration compares the proportion of an industry's employment in the region's total job count compared with that industry's proportion in the national economy. Industries with a higher than national concentration in their regional economies are more likely to be exporting some of their product outside the region. These are also more likely to be the region's basic, income earning industries. Regional industries with a smaller than national concentration are not yet very specialized in the local economy. While they may be exporting some product, their potential as growth industries is yet to be established.

TABLE 9. CRITERIA FOR PLACEMENT ON THE PERFORMANCE MAP

TRANSITIONING	BASE-GROWTH
• Positive job growth • Losing competitive national industry share.	• Positive job growth • Highly concentrated in the economy • Increasing competitive national industry share
DECLINING	**EMERGING**
• Losing jobs over period	• Positive job growth • Current low concentration in the economy • Increasing competitive national industry share

The best performing industries are on the right side of the map. The base growth and emerging industries show positive growth in jobs for the period and are gaining in national competitive share. The only major difference is that base-growth industries have achieved high concentration within the local economy and are likely among the driving industries. Emerging industries, while showing high growth and competitiveness, are not highly concentrated in the economy. Whether they eventually will join the base-growth industry group remains to be seen.

The left side of the map contains the balance of the industries in the portfolio. Transitioning industries are showing positive job growth for the period but are losing competitive share of the national industry. If they are also showing high employment concentration in the local economy, they may be in a matured stage that could lead to future decline or movement towards the base-growth industry side of the map if they can be revitalized.

The declining quadrant of the performance map contains target industries that showed jobs losses over the 2002 to 2008 period. Most are also losing competitive share of the national industry. However, while these targeted industries' lack of jobs growth is c a concern, it may reflect reversible difficulties rather than a stagnate industry.

Table 10 shows how the targeted industries were distributed on the performance map after measurement on the criteria above. The 'best performing' industries on the right side of the map encompass about 37% of all jobs in the targeted industry portfolio.

TABLE 10.

Target Industry Groups Mapped by Performance , 2002-2008

Total Jobs in Targeted Industry Groups, 2008*: 131,684

Average Annual Earnings All Groups, 2008: $49,100

Net Change in Jobs 2002-2008: 4.8%

Transitioning Groups: 24% of jobs			Base-Growth Groups: 5% of jobs		
Groups	Chg in Jobs	Ave. Earnings	Groups	Chg in Jobs	Ave. Earnings
Technical consulting services	26%	$52,159	Aquaculture production	54%	$39,882
Arts education	19%	$13,190	Research & development services	33%	$70,946
Computer services (technology)	18%	$67,965	Medical labs and imaging centers	26%	$55,240
Computer & digital media (creative)	16%	$68,244	Cultural activities	15%	$43,557
Architecture	10%	$64,145	Music	6%	$26,229
Pharmacies	8%	$39,330			
Specialty education	3%	$30,107			
Marketing, & related	1%	$40,027			
Performing & creative arts	0%	$14,393			
Information/telecom tech serv.	0%	$61,301			
Ave. change in jobs 2002-2008:	**6%**		**Ave change in jobs 2002-2008:**	**42%**	
Average 2008 Earnings for Group:		**$41,200**	**Average 2008 Earnings for Group:**		**$51,400**

Declining Groups: 39% of jobs			Emerging Groups: 32% of jobs		
Groups	Chg in Jobs	Ave. Earnings	Groups	Chg in Jobs	Ave. Earnings
Health practitioners	(2%)	$63,921	Call centers	95%	$16,726
Radio and television broadcasting	(2%)	$58,442	Specialty health care services	75%	$43,803
Publishing & information	(2%)	$63,183	Forestry & hunting	38%	$36,784
Higher education (Pvt)	(3%)	$33,626	Biotechnology (BIO)	29%	$55,288
Agricultural processing	(5%)	$43,727	Design services	28%	$42,135
Agricultural input materials & serv.	(7%)	$48,878	Business consulting	27%	$52,948
Farm production	(12%)	$26,227	Engineering/R&D serv. (creative)	26%	$79,672
Film, TV, video production/distrib.	(18%)	$33,793	Farm production & support serv.	25%	$33,569
Garment mfg	(36%)	$23,798	Engineering & related serv. (tech.)	15%	$71,649
Fishing	(36%)	$21,955	Hospitals & nursing facilities	11%	$60,295
Agric. packaging & warehousing	(42%)	$78,231	Technology Mfg	3%	$64,493
Ave. change in jobs 2002-2008:	**(9%)**		**Ave. change in jobs 2002-2008:**	**21%**	
Average 2008 Earnings for Group:		**$46,200**	**Average 2008 Earnings for Group:**		**$58,200**

*After eliminating duplication from overlapping target sectors.

Five industry groups with about 5% of the portfolio employment registered as *base-growth* industries. This means that they increased their job counts over the 2002 to 2008 period, were highly concentrated in the economy and gained in competitive national share. Earnings among the base-growth targets averaged $51,400 for 2008. Another 32% of portfolio jobs were in *emerging* industries, which also gained jobs and competitive national market share, but have yet to reach concentration levels matching the same national industries. Earnings among the emerging groups averaged $58,200.

Transitioning industry groups, which are those that lost completive national share but otherwise either grew jobs or held steady, accounted for 24% of portfolio jobs. Earnings for the transitioning industry groups averaged $41,200. Finally, declining industry groups in the portfolio accounted for 39% of jobs, with an earnings average of $46,200.

It must be emphasized that this performance map framework is more of a guide to analysis rather than a conclusion about the value of a given target industry to the state. In addition to competitiveness, the current placement of an industry on the performance map can be affected by the time period used for the measure, the timing differences in the Hawaii and U.S. business cycles, and other factors. What the mapping provides is a starting point for understanding the strengths and weaknesses of the industries in the portfolio. It identifies those industries that have shown the most promise in diversifying the economy and helps us diagnose the problems in industries that have not. Over time the period for the performance measures will increase and provide a more long-term and ongoing monitoring system for portfolio and emerging industry performance

TECHNOLOGY SECTORS

As Table 11 shows overall 2002-2008 jobs growth in the technology sector exceeded growth of the same industries nationally, as well as the overall state jobs growth of 13 percent. No technology sector industry lost jobs over the period.

TABLE 11

	Jobs				Ave Earnings 2008		Performance Metrics		
	Hawaii		Percent change				Compet Share	Industry Concentration (Loc Quotient)	
Group/Industry	2002	2008	Hawaii 2002-08	U.S. 2002-08	Hawaii	U.S.	2002-08	2008	Change 2002-08
TECHNOLOGY SECTOR	**20,588**	**24,267**	**17.9%**	**12.4%**	**$ 65,433**	**$ 92,984**	**0.8%**	**0.59**	**0.00**
Computer Services	5,587	6,583	17.8%	20.2%	$ 67,965	$ 88,821	-0.3%	0.74	-0.05
Engineering and Related Serivces	4,212	4,842	15.0%	14.5%	$ 71,649	$ 78,549	0.1%	0.75	-0.03
Technical Consulting Services	2,980	3,760	26.2%	36.0%	$ 52,159	$ 74,280	-1.0%	0.66	-0.08
Research & Development Services	2,714	3,604	32.8%	16.4%	$ 70,946	$ 106,626	2.3%	1.17	0.10
Information and Telecomm Tech Services	2,196	2,196	0.0%	2.4%	$ 61,301	$ 96,902	-0.3%	0.49	-0.03
Medical and Diagnostic Testing	1,347	1,695	25.8%	22.5%	$ 55,240	$ 62,530	0.5%	1.52	-0.02
Technology Equipment Distribution	854	871	2.0%	0.4%	$ 77,263	$ 103,788	0.4%	0.34	-0.01
Technology Manufacturing	699	716	2.5%	-0.5%	$ 64,493	$ 113,986	3.5%	0.08	0.00
Biotechnology Breakout	3,050	3,927	28.7%	8.3%	$ 55,288	$ 98,501	3.0%	0.63	0.08

Five of the eight technology industry groups in the target industry portfolio registered as either base-growth or emerging industries. None of the groups fell into the declining quadrant of the performance map.

- The highest performing technology industry group was research and development. This activity feeds into a number of commercial market specialties such as astronomy, ocean science & technology and biotechnology. R&D had one of the highest annual average earning levels at nearly $71,000. Most significantly, R&D achieved a concentration exceeding the national level in 2008, which suggests that the activity has found a comparative advantage in Hawaii. Biotechnology, medical labs, engineering and even technology manufacturing also registered in the high performing right side of the map, but their concentrations have yet to match national levels.
- Computer services, technical consulting and information/telecom technology services regis-

tered as transitioning industries on the performance map. Computer services and technical consulting grew faster than Hawaii's economy, so these are by no means problematic industries. However, because the same national industries managed to grow faster, there was a slight loss of competitive national share.

- Information/telecom technical services, on the other hand showed no net growth over the period. However, the industry lost only a slight amount of national competitive share, indicating that it is reflecting nationwide trends in information and communications technology. That trend is towards higher productivity in providing services, which in turn slows jobs growth.

Technology Commercial Market Sectors

As Table 1 showed, information on the commercial market sectors of technology is limited. However, efforts have been made through surveys and estimates to provide some information on these market sectors. A summary of that information is presented below. Information on digital media is covered in the section on the Creative Sector.

Astronomy & Space Science

Table 12 provides an overview of employment and earnings in Hawaii's astronomy sector developed in the 2007 HiSciTech study of the technology sector.

TABLE 12. HAWAII'S ASTRONOMY MARKET SECTOR, 2007

Astronomy Market Segment	Hawaii	US
Employment (all astronomy jobs)	885	n/a
Employment (private-sector astronomy jobs)	342	222,685
% of all private-sector employment	0.0%	1%
Annual private-sector employment growth rate ('02-'07)	7.3%	1.2%
Avg. earnings	$70,951	n/a
Avg. earnings – private-sector only	$83,654	$106,567
Establishments	28	n/a

Source: The Hawaii Science & Technology Institute, *Innovation and Technology in Hawaii: An Economic and Workforce Profile*, October, 2008

Ocean Science and Technology

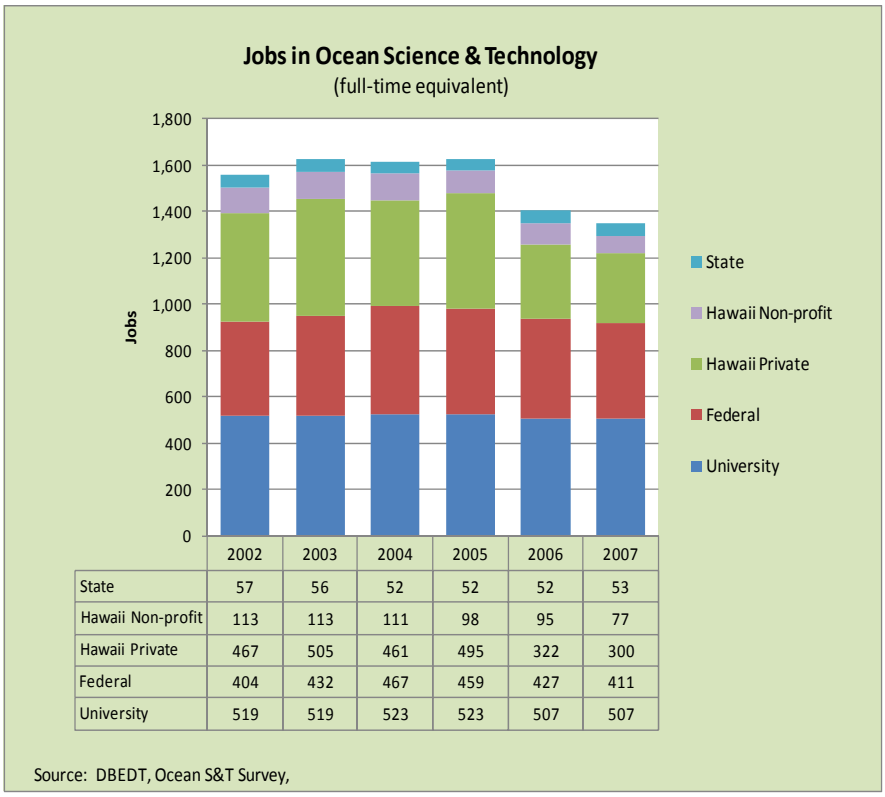
Ocean science and technology includes a mix of different fields including biology, chemistry, geology, physics, engineering and others. In Hawaii, the ocean science and technology sector encompasses both the public and private sectors. The majority of activities in this sector are in research and technical development projects funded by the government, non-profit organizations and some private sources.

Figure 2 charts the trend in jobs associated with Ocean S&T activity from 2002 to 2007 differentiated by *performing* sector, that is, the firms and agencies that received funding for projects.

The decline in total Ocean S&T jobs after 2004 corresponds to a decline in funding for those activities. A more thorough discussion of Ocean Science and Technology funding is presented in the full, Emerging Industries report.

The most recent survey on Ocean Science & Technology may be accessed at http://hawaii.gov/dbedt/info/economic/data_reports/OceanScTechReport2007.pdf.

FIGURE 2



	2002	2003	2004	2005	2006	2007
State	57	56	52	52	52	53
Hawaii Non-profit	113	113	111	98	95	77
Hawaii Private	467	505	461	495	322	300
Federal	404	432	467	459	427	411
University	519	519	523	523	507	507

Source: DBEDT, Ocean S&T Survey,

Energy Technology

Energy technology targets a number of emerging markets by engaging a multitude of traditional industries. Those industries have allocated some of their activity to focus on the replacement or conservation of fossil fuels. While the NAICS system for industry classification does contain a classification for *other power generation*, it captures only a small part of the emerging field of alternate energy activity.

There are two major subsectors in energy technology. *Energy efficiency* is focused on reducing the use of energy in the economy, particularly buildings. *Energy Replacement* (renewable or alternate energy) is focused on replacing fossil fuel with alternative, preferably renewable sources like solar, wind, and other types.

Energy efficiency and energy replacement involve numerous traditional industries ranging from heating and plumping to engineering and architecture. For instance, solar panels may be installed by a number of different contracting specialties. About 20 different industries service some aspect or provide support for renewable energy and conservation. The full emerging industry report shows the range of industries associated with the alternate energy sector.

Dual Use (The Military Technology Market)

Dual use technology has been a market opportunity for Hawaii companies to leverage investment in technology developed for military applications into products to serve commercial markets. For instance, a company developing corneal regeneration technology to treat battlefield eye injuries will likely find a market for that technology in the commercial medical sector.

Like other targets that represent market or product activities (ocean science, digital media, astronomy) data and information on the workers and revenues of firms serving the military technology market are difficult to develop. This is because they do not fit into the scheme of NAICS producing industries for which a rich set of standard data are produced on a regular basis. Data for market and product based activity like dual use technology must be developed through surveys or other estimating methods.

The most structured effort to gather data on the dual use sector was by the State Department of Labor and Industrial Relations (DLIR) in 2005. In support of the Workforce Development Council and Enterprise Honolulu, the Research and Statistics (R&S) Office of DLIR surveyed 132 companies in the dual use sector. The R&S survey estimated employment in the dual-use technology industry to be 1,204 workers in 2005 with an additional 108 positions vacant and needing to be filled.

CREATIVE SECTOR

Hawaii's creative sector accounted for nearly 45,000 jobs in 2008 (Table 13). Overall jobs growth in the sector was about 10% for the 2002-2008 period, less than growth for both the same sector nationally and the Hawaii economy as a whole.

TABLE 13.

	Jobs				Ave Earnings 2008		Performance Metrics		
	Hawaii		Percent change				Compet Share	Industry Concentration (Loc Quotient)	
Group/Industry	2002	2008	Hawaii 2002-08	U.S. 2002-08	Hawaii	U.S.	2002-08	2008	Change 2002-08
CREATIVE SECTOR	**40,718**	**44,649**	**9.7%**	**14.1%**	**$ 49,947**	**$ 70,179**	**-0.7%**	**0.89**	**-0.08**
Performing and Creative Arts	8,523	8,531	0.1%	13.1%	$ 14,393	$ 18,680	-2.0%	1.29	-0.23
Engineering, Research & Devel	5,842	7,336	25.6%	17.5%	$ 79,672	$ 93,373	1.1%	0.92	0.02
Computer & Digital Media	5,744	6,657	15.9%	18.6%	$ 68,244	$ 94,662	-0.4%	0.65	-0.04
Marketing & Related Serv.	4,882	4,918	0.7%	11.8%	$ 40,027	$ 63,537	-1.7%	0.78	-0.12
Business Consulting	3,379	4,291	27.0%	24.4%	$ 52,948	$ 75,186	0.7%	0.60	-0.01
Publishing & Information	2,946	2,887	-2.0%	-1.9%	$ 63,183	$ 68,948	0.0%	0.75	-0.03
Cultural Activities	2,014	2,311	14.7%	13.2%	$ 43,557	$ 40,194	0.3%	2.69	-0.08
Architecture	2,077	2,280	9.8%	13.8%	$ 64,145	$ 66,960	-0.6%	1.35	-0.11
Design Services	1,134	1,453	28.1%	17.5%	$ 42,135	$ 48,143	1.5%	0.89	0.04
Radio/TV Broadcasting	1,387	1,361	-1.9%	0.4%	$ 58,442	$ 76,455	-0.4%	1.11	-0.07
Film, TV & Video Prod	1,500	1,231	-17.9%	2.0%	$ 33,793	$ 81,256	-1.7%	0.73	-0.22
Music	1,048	1,106	5.5%	-2.5%	$ 26,229	$ 37,505	1.3%	1.69	0.06
Arts Education	242	287	18.6%	30.9%	$ 13,190	$ 14,898	-1.6%	0.69	-0.10

The creative sector consists of 13 industry groups, which were distributed around the performance map. The creative and technology sectors share some industry elements in the areas of research and development, engineering and computer services.

Creative Sector Producing Industries

- Cultural activities and music registered as base-growth industries, while design services business consulting and engineering/R&D series fell into the emerging industry quadrant. All but music exceeded the jobs growth rate for the state as a whole.

- Five creative industries fell into the transitioning quadrant. All of the creative industry groups in the transitioning quadrant lost competitive national share over the period. However two groups, arts education and computer and digital media, grew jobs faster than the state as a whole. Architecture grew jobs slightly slower than the state as a whole, while marketing and performing/creative arts showed little or no net jobs growth over the 2002 to 2008 period.

- Three creative industry groups lost jobs over the period and therefore registered as declining industries for 2002 to 2008. Radio/TV broadcasting and publishing/information showed slight job declines of 2% each for the period. Due to competition from other media, the internet and productivity increases, these two industries are struggling nationally as well as in Hawaii.

- Film, TV and video production also fell into the declining industry category for the period in terms of jobs. Part of the reason is the volatility of production employment. The gain or loss of a major film project can affect the data on production workers significantly. For instance, if the base for measuring jobs growth had been 2003 instead of 2002, the industry would have shown a slight, 3% jobs growth for the period, enough to boost it into the transitioning quadrant. Also, only the production workforce of established companies can be effectively measured for this industry. However, the Hawaii State Film office has estimated that between 4,000 to 5,000 people spend some time working in the industry each year. Therefore film production employment may be providing a fragmentary picture of industry performance.

Digital Media Commercial Market

While not an easily definable or measurable activity within the creative sector, digital media is a direct and indirect product of computer activity. Evolving digital technology is an opportunity for musical artists, programmers and content developers to compete in a market that has been dominated by large firms in the past. Through affordable digital technology it is possible for film, music, speech, literature, historical documentation, games, educational instruction, as well as computer programs and data to share similar, digitized formats and be distributed and consumed on common platforms. These platforms are quickly evolving beyond computers and iPods to multipurpose cell phones and direct internet broadcasts. New products for this market are evolving as fast as new platforms are developed. Examples of such products are shown below.

TABLE 14

Examples of Digital Media Products	
Video games and interactive virtual worlds	Blogs and social websites
Multimedia CD-ROM publishing	Email and attachments
Digital music publishing and distribution	Podcasting New media
Mobile devices and content	Internet Art
Software for the various devices and content	Interactive television
Web sites including 'brochureware'	Hypertext fiction
Electronic kiosks	Mashups (combining bits and pieces of existing digital content into original content.)

There are a multitude of firms in numerous industries that dedicate some fraction of their work to digital media markets. It is likely that the NAICS computer services industry will contain many of these firms. But there are probably firms serving this market in other NAICS industries such as the music, film production, and information industries. Work is needed to better identify and measure the mix and scope of these firms across industries and digital markets.

Agribusiness Sector

Traditionally, Hawaii agriculture has been separated into two major components -- a larger plantation agricultural system (sugar and pineapple growing) and a diversified agricultural component. However, with the decline of sugar and pineapple activity to relatively modest proportions of the agricultural sector, this division is probably obsolete. [14]

As indicated in Table15, there were about 22,400 jobs in the agricultural and closely related industries including fishing, aquaculture, and food processing. This count was down about 11 percent from 2002. But that decline was likely due mostly to the winding down of most sugar and pineapple growing activities in the state and associated processing activity. Farm production represented

[14] This section is adapted from the DBEDT report, *Benchmarking Hawaii's Emerging Industries*, Full Report, December 2009

the largest component of diversified agriculture with about 12,200 jobs in 2008. Most components of agriculture experienced job declines in recent years with the notable exceptions of agricultural support services and aquaculture.

TABLE 15

Group/Industry	Jobs				Ave Earnings 2008		Competitive Metrics		
	Hawaii		Percent change				Compet Share	Industry Concentration (Loc Quotient)	
	2002	2008	Hawaii 2002-08	U.S. 2002-08	Hawaii	U.S.	2002-08	2008	Change 2002-08
FARMING & CLOSELY RELATED ACTIVITIES	**25,021**	**22,375**	**-10.6%**	**-3.1%**	**$ 32,464**	**$ 34,050**	**-1.3%**	**0.82**	**-0.11**
Farm Production	13,861	12,235	-11.7%	-4.8%	$ 26,227	$ 19,808	-1.2%	0.79	-0.10
Agricultural Processing	6,825	6,462	-5.3%	-2.9%	$ 43,727	$ 56,635	-0.4%	0.92	-0.07
Fishing	2,331	1,497	-35.8%	-20.3%	$ 21,955	$ 22,970	-3.5%	4.03	-1.20
Farm Production & Support Serv.	1,002	1,248	24.6%	11.6%	$ 33,569	$ 44,244	1.9%	0.55	0.03
Agric Input Materials and Serv.	443	414	-6.5%	-0.8%	$ 48,878	$ 60,594	-0.9%	0.37	-0.04
Packaging & Warehousing	342	197	-42.4%	-0.6%	$ 78,231	$ 50,839	-5.5%	0.25	-0.20
Aquculture	144	221	53.5%	1.0%	$ 39,882	$ 28,957	8.5%	7.93	2.48
Forestry & hunting	73	101	38.4%	2.5%	$ 36,784	$ 37,474	46.3%	0.77	0.17

Source: DBEDT September 2009

Of the seven agribusiness industry groups in the targeted industry portfolio, only three registered in the high performing categories of either base-growth or emerging industries. The remaining five agribusiness industries fell into the declining quadrant for 2002 to 2008.

- With 221 jobs in 2008, aquaculture production registered in the base-growth quadrant of the performance map, posting a 54% increasing in jobs from 2002 to 2008 and an average gain in competitive national share of 8.5% per year. Aquaculture's concentration in Hawaii's economy was nearly 8 times that of the same industry nationally.

- The small, forestry and hunting industry, with 101 jobs in 2008, ranked with the emerging industries. This activity showed a 38% increase in jobs for the 2002 to 2008 period and posted an average 46% per year average increase in competitive national share. In 2008 employment in the activity was about 80% as concentrated in Hawaii as it was nationally. The performance in this small and volatile industry must be viewed with caution. The acceleration in this industry resulting in the high performance measures was primarily caused by the addition of just 26 jobs to timber tract activity.

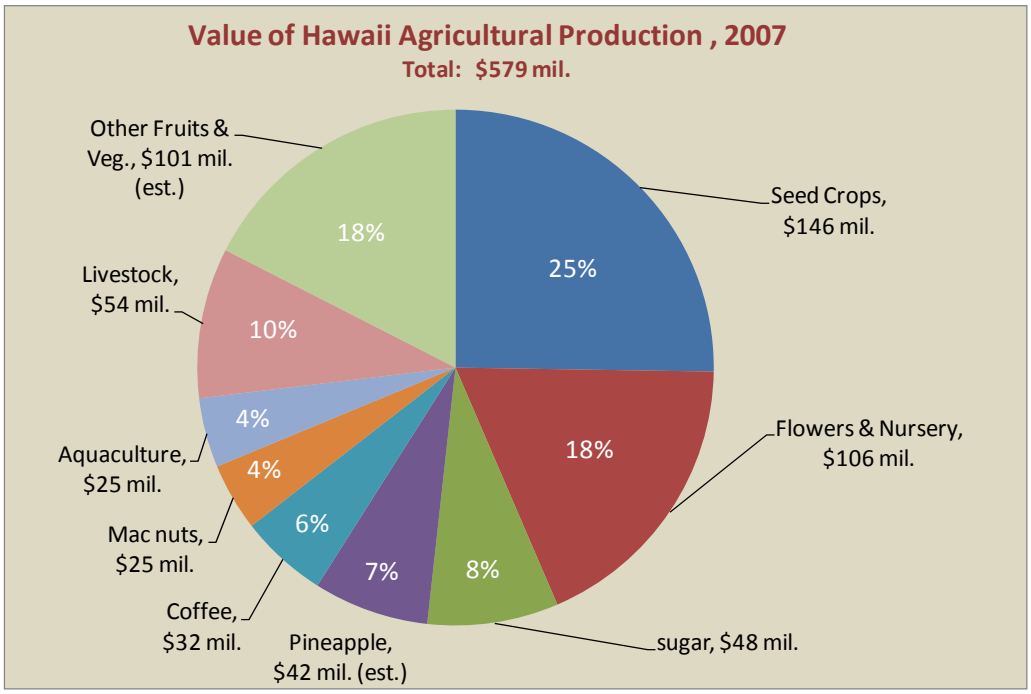
- Farm production and support services with 221 jobs in 2008 also ranked with the emerging industries. With a 25% increase in jobs over the period, the activity also gained competitive national market share at an average 1.9% per year. This is another activity whose performance must be viewed with caution. An increase in Support services for forestry helped the performance of this category, but most of the growth was in veterinarian services which also services the household pet market.

- Farm production and food processing activity fell into the declining industries category in the 2002 to 2008 period. Together these two activities accounted for 18,700 jobs, so the decline is of concern. It has been primarily the decline in sugar and pineapple production that has dragged down the performance of the agribusiness sector. Increases in seed crops, coffee and flowers/nursery products have been unable to counter the overall decline.

A breakdown of total employment in farm production by the major products and specialties is not readily available. However, the Hawaii Department of Agriculture compiles data on the dollar value of output for crop and livestock specialties. This data provides some sense of the current proportions among Hawaii's major agricultural specialties.

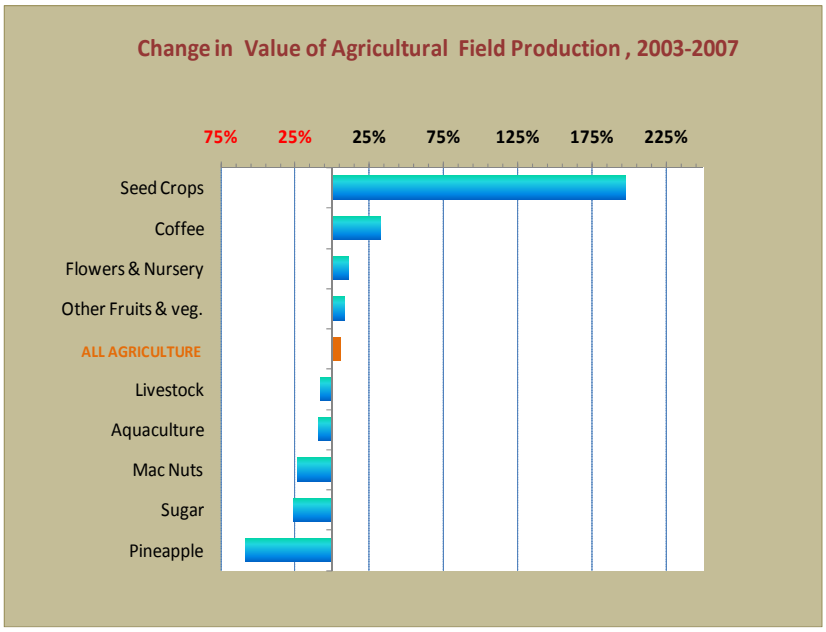
Figure 3 summarizes the value of activity by major activity in 2007 (the latest complete year for data). The total value of farming and aquaculture was nearly $580 million in 2007. The most prominent activity in agriculture in terms of value is now seed crop production (25% by value), followed by flowers and nursery products (18%). Combined sugar and pineapple production account for only 15% of agricultural production measured by field value.

FIGURE 3.



In contrast to the general decline in jobs, farm revenues from major agricultural products in Hawaii saw an overall 7% increase during the period of 2003 to 2007 in current dollar value (Figure 3).[15] The increase was primarily driven by higher value of output for seed crops, coffee, flowers and nursery products, and selected fruits and vegetables (excluding pineapples). Revenues from pineapple and unprocessed sugarcane have seen significant declines in recent years as both industries have continued their trend of long-term contraction.

FIGURE 4.



The value of seed crops in Hawaii's agricultural sector has experienced explosive growth in recent years. Data show that the value of seed

[15] If inflation were to be taken into account the real value of agricultural output would have likely shown a modest decline over the period.

crops was nearly $177 million in the 2008-09 growing year.

Despite a gain in jobs over the 202 to 2008 period, the value of aquaculture products registered a small decline over the 2003 to 2007 period. If this decline continues the job count will likely begin to reflect that.

HEALTH & WELLNESS

The emergence of health-and-wellness related activities as an economic development prospect for Hawaii is rooted in the notion that the Islands have both cultural and technological advantages as a place for healing and improving health. The ideas for development have ranged from medical tourism such as for surgeries and sophisticated medical treatment, to rest and rejuvenation through spas and self improvement services. In 1995 the UH School of Travel Industry Management proposed that a health-related segment of tourism could be developed around medical care (treatment), fitness and wellness (preventative), and rehabilitation/recuperation services (post-treatment). The potential market was thought to be upper income individuals in the Asia-Pacific region and aging baby boomers in the U.S. It is not clear how many visitors come to Hawaii for medical, wellness or recuperative services, although visitors do utilize such services while in Hawaii.

Another potential market would be military service personnel, whose expenditures are highly subsidized by defense dollars. Of course, the military has its own array of health facilities and it is not clear how much outsourcing of military health-related services is done.

In order to track the potential growth of the health and wellness sector, DBEDT has utilized a definition of the sector developed by the County of Kauai for its 2005 Comprehensive Economic Development Strategy. This definition captures the major components of the health care delivery system from hospitals to home health care services.

As Table 16 shows, the sector had more than 51,000 workers in 2008, up 11% from 2002. This was slightly less growth than for the Hawaii job count as a whole and also below the U.S. increase of 14%. As a result, Hawaii showed a very slight decline in national competitive share. The sector was also slightly less concentrated in Hawaii than at the national level.

TABLE 16. HEALTH AND WELLNESS JOBS AND GROWTH, 2002-2008

	bs				Ave Earnings 2008		Performance Metrics		
	Hawaii		Percent change				Compet Share	Industry Concentration (Loc Quotient)	
Group/Industry	2002	2008	Hawaii 2002-08	U.S. 2002-08	Hawaii	U.S.	2002-08	2008	Change 2002-08
HEALTH & WELLNESS	**46,248**	**51,346**	**11.0%**	**14.4%**	**$ 57,697**	**$ 54,182**	**-0.5%**	**0.8**	**-0.1**
Health Practitioners	20,277	19,907	-1.8%	15.0%	$ 63,921	$ 67,262	-2.6%	1.0	-0.2
Hospitals & Nursing Facilities	17,015	18,874	10.9%	8.9%	$ 60,295	$ 51,252	0.4%	0.7	0.0
Specialty Health Care Services	3,954	6,909	74.7%	38.8%	$ 43,803	$ 36,648	4.6%	0.8	0.1
Pharmacies	3,655	3,961	8.4%	9.3%	$ 39,330	$ 39,205	-0.1%	1.2	-0.1
									0.0

Health and wellness (H&W) includes five industry groups covering the range of medical services from full service hospitals to medical labs and diagnostic testing. Three of the H&W industry groups (medical labs & diagnostic testing, specialty health care, and hospitals/nursing facilities) were high-performing, falling on the right side of the performance map. Pharmacies fell in the transitioning quadrant, while the health practitioners industry was a declining group.

- Medical labs & diagnostic testing (a group also shared with the technology sector) was the highest performing industry group for H&W. Jobs increased by more than 26% over the 2002 to 2008 period. The group gained competitive national share over the period and in 2008 was about 50% more concentrated in Hawaii's economy that the same industry nationally.
- Specialty health care and hospitals registered as emerging industries with growth in jobs, increasing competitive national share, but still less concentrated than the same industry groups nationally.

- Pharmacies fell into the transitioning group while health practitioners registered as a declining group due to modest jobs losses.

EDUCATION

The potential export of educational services has also been of interest to the state and educational community over the years. Based on its mid-Pacific location Hawaii has been a proven magnet for Asian and Pacific educational activity including the prestigious East-West Center and Japan-America Institute of Management Science (JAIMS), among many others. In a recent survey, DBEDT found that international students and their dependents spent $160 million in Hawai'i during the 2008-2009 academic year.

Jobs in public sector colleges and universities are difficult to separate from other government employment. As a result, state-national comparisons of employment in public education are not readily available. The most readily available data for education activity reflects private sector colleges and specialty schools. Unfortunately, there is no information on the portion of these activities that represent educational exports. Thus, until better data can be compiled, private sector enrollment in post-secondary and specialty education will need to suffice as an indicator of educational services demand.

Table 17 shows the performance of private higher and specialty education over the 2002 to 2008 period. In Hawaii, education programs for sports, management training, arts and language account for about 60% of specialty education jobs. At the national level, higher and specialty education grew faster than the economy as a whole, particularly specialty education. Hawaii's private higher and specialty education performed well below the national level, with higher education employment contracting by about 3% and specialty education growing 3%. These two areas of education also showed lower concentration in Hawaii than nationally.

TABLE 17. PRIVATE EDUCATION JOBS AND GROWTH, 2002-2008

	bs				Ave Earnings 2008		Competitive Metrics		
	Hawaii		Percent change				Compet Share	Industry Concentration (Loc Quotient)	
Group/Industry	2002	2008	Hawaii 2002-08	U.S. 2002-08	Hawaii	U.S.	2002-08	2008	Change 2002-08
EDUCATION (PVT)	**7,658**	**7,581**	**-1.0%**	**20.8%**	**$ 32,472**	**39,240**	**-3.3%**	**0.62**	**-0.17**
Higher Education	5,248	5,095	-2.9%	16.7%	$ 33,626	$ 42,148	-3.0%	0.55	-0.14
Specialty Education	2,410	2,486	3.2%	35.5%	$ 30,107	$ 30,147	-4.6%	0.84	-0.31

Source: DBEDT June 2009

Of course, since this data represent a significant proportion of resident students, the amount of exported education is not clear. Also, post secondary education is often a counter cyclical sector. That is, it tends to attract more students when the rest of the economy is doing poorly and jobs are scarce and shows more modest growth when other industries are expanding and workers are in

demand. Clearly, major improvements in the collection of data on educational exports is

needed before the performance of this targeted industry group can be properly evaluated.

OTHER TARGETS AND POTENTIAL HIGH GROWTH ACTIVITIES

A number of more specialized activities remain to be examined, beginning with the more measureable in terms of NAICS data and progressing to the least measurable such as captive insurance and regional headquarters.

Garments and Call Centers

Aloha/Hawaiian wear have been staples of visitor purchases since the tourism market began. In 2008 it is estimated that visitors spent nearly $704 million on clothing and accessories. Decades ago it was hoped that the visitor market for Aloha attire could sustain an ongoing garment manufacturing industry. Certainly, visitors prefer to see made-in-Hawaii labels on the Aloha shirts and dresses they purchase. Nevertheless, over the years more and more of the Aloha attire sold in Hawaii has been out-sourced to lower cost production areas. The labels on many aloha garments state that they are designed in Hawaii, but show the manufacturing locations to be Korea, Singapore, Thailand, and Sri Lanka, among others. Still, some high-profile producers continue to manufacture exclusively in Hawaii while others locally manufacture a portion of their lines.

As Table 18 shows, garment manufacturing in Hawaii employed around 1,200 workers in 2008, down from 1,800 in 2002. Nevertheless, Hawaii's garment industry, while small compared to other industries in the local economy is actually more concentrated than the same industry nationally. This is probably the result of some strength in Hawaii's specialized garment market and the cost-driven decline in U.S. garment manufacturing over the years. Over the 2002 to 2008 period, both Hawaii and the U.S. sustained about a 36% decline in garment industry jobs over the period. However, the considerably lower level of average earnings in Hawaii ($23,800) compared the national industry ($42,100) suggest that Hawaii's manufacturing of garments involves more part-time and piece work jobs.

TABLE 18. GARMENT MANUFACTURING AND CALL CENTERS, JOBS AND GROWTH, 2002-2008

	bs				ve Earnings 2008		ompetitive Metrics		
	Hawaii		Percent change				Compet Share	Industry Concentration (Loc Quotient)	
Group/Industry	2002	2008	Hawaii 2002-08	U.S. 2002-08	Hawaii	U.S.	2002-08	2008	Change 2002-08
GARMENT MANUFACTURING	1,809	1,165	-35.6%	-36.3%	$ 23,798	42,088	0.2%	1.21	-0.04
CALL CENTERS	223	435	95.1%	14.3%	$ 16,726	$ 31,634	13.8%	0.21	0.08

Source: DBEDT June 2009

Table 30 also documents the sharp increase in the relatively small call center industry. The growth of this activity has centered on telemarketing which can involve either the selling and promotion of products, or assistance to customers such as product support. It is unclear which facet of the industry is responsible for the growth. It is also possible that some of this growth represents the outsourcing or divesting of call center and product support functions that were within some larger companies and not reported separately under the call center industry codes. This means that there may have been job declines of similar magnitudes in the divesting industries that matched the job gains in the call center industry.

Most of the growth in call centers was achieved in 2003 and 2004, reaching a peak of nearly 490 jobs. Since then, the activity has declined somewhat to its current level. The average earnings in the industry are only about half the average earnings nationally, at around $16,700. This suggests predominantly part-time employment. Even with the sharp increase in employment, the industry

has a very low concentration in Hawaii's economy compared to the activity nationally.

Manufactured Housing

Due to the high cost of custom home building in Hawaii, the local, factory manufacture of homes that could be transported to building sites has been suggested over the years as a way to cut housing costs. However, between 2002 and 2008 no jobs were recorded in NAICS categories for manufactured homes and fewer than 40 jobs were estimated in the manufacture of prefabricated wood buildings in 2008. While the reasons why no such activity has emerged in one of the most costly states for housing would be interesting to know, for the purposes of this report, there is essentially no such industry to measure.

Captive insurance

Captive insurance is a very complex area of insurance activity that essentially permits a company, usually with diverse business interests and establishments, to form an insurance company that will provide the insurance needs of the related businesses. It is called a "captive" insurance company mainly because it is owned by its primary client. There are cost and tax advantages of such arrangements. Due to the complexities of this activity, the subsidiary captive insurance company usually outsources its day-to-day operations to an experienced insurance company. Hawaii is one of the leading domiciles for captive insurance companies nationally and internationally because of favorable laws and regulations designed to attract them. For 2007, the Hawaii Insurance Commissioner reported 163 active captive insurance licenses in the state (second greatest number of licenses nationally) with combined assets of about $6.8 billion. The investment of these companies in Hawaii was nearly $1.2 billion in that year. The Insurance Commissioner reports that new licenses have declined in recent years due to lower prices for commercial insurance and competition from other states.

The impact of captive insures on jobs and income in Hawaii is difficult to measure. Captive insurance companies themselves apparently have very few employees. NAICS data for insurance companies does not isolate captive insurance companies, although since those companies probably outsource most of their activity, the data would not reflect the actual size of captive insurance activity. Due to the unique nature of this activity it will require some concentrated research to flesh out the magnitude, economic impacts and future prospects of this industry.

CHAPTER 2

OAHU

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OAHU ECONOMIC OVERVIEW

SECTION I: THE CEDS PROCESS

The Oahu Comprehensive Economic Development Strategy is a consolidated economic development plan. The plan focuses on the island's need for economic growth and diversification to ensure a prosperous future for Oahu's residents.

Stakeholders participating in this study considered the community's fundamental needs to:

- Attract and recruit new businesses
- Encourage growth and diversification among existing businesses
- Help entrepreneurs in their business development efforts
- Promote a business-friendly economic climate
- Increase the availability of high-wage jobs for Oahu's populace

Cluster Identification

As a planning strategy, the Oahu CEDS concentrates on identification and evaluation of key industry clusters.

> A **cluster** is a group of businesses or industries, concentrated in a specific geographic area. They are interrelated through alliances, competition or buyer/supplier linkages. They draw upon a common talent pool, related technologies and the same or similar support bases.

To successfully build and strengthen key business clusters, Oahu's public and private sectors collaborated in the production of a comprehensive economic development plan that serves as a roadmap for a diversified economy.

Oahu's Clusters

Oahu's CEDS stakeholders identified clusters that have the potential to foster economic growth and diversification. Stakeholders also looked at various means of financing the top-priority projects, with emphasis on minimizing governmental involvement.

The clusters identified in this report have the potential to enhance the island's economic diversity and increase its prosperity by attracting and retaining industries that require a skilled workforce and will pay correspondingly higher wages.

The clusters identified for the 2010 Oahu CEDS are:

- Diversified Agriculture
- Culture, Entertainment and Sports
- Defense, Dual Use
- Renewable Energy
- Film and Digital Media
- Life Sciences
- IT/Communications
- Visitor Industry

Specific proposals for the Life Sciences and IT/Communications clusters were not submitted. However, these clusters are represented by proposals in related clusters (e.g., Defense, Dual Use). In addition, this report includes proposals whose impact can be felt across multiple economic clusters.

Methodology

Using Economic Development Administration guidelines, planners adapted the approach described below. Representatives of the City and County of Honolulu were included throughout the CEDS-development process to ensure consistency with the county's objectives.

Step 1 – Committee Formation/Brainstorming Session

An Oahu CEDS Steering Committee was formed. Its members represented local government entities, economic development agencies, financial intermediaries, educational institutions and businesses.

The role of the Steering Committee was to:

- Review and approve the identified clusters
- Prioritize the identified projects

Step 2 – Focus Groups

Focus groups were established for each of the identified clusters. Each group provided direct input about opportunities and potential hindrances related to its cluster, and provided useful information and observations about current and future infrastructure needs.

Factors taken into account included the present and future availability of:

- Funding (both private and governmental)
- Educational institutions to feed clusters with skilled workers and help develop new technologies
- Infrastructure (including transportation, buildings/sites, communications)
- Local businesses that have related needs and resources

Step 3 – Prioritization and Consolidation

The Steering Committee prioritized the proposals submitted by the focus groups, classifying each as short-range or long-range.

Step 4 – Report to State Office of Planning

This completed 2010 Oahu CEDS report represents the City and County of Honolulu's contribution to the statewide CEDS report produced by the State Office of Planning.

Section II: COUNTY PROFILE

This section provides a brief description of Oahu's geography, environment, demographics and infrastructure. Because the City and County of Honolulu includes the entire island of Oahu, both terms are used interchangeably within this report.

Fig. 1

Geography and Geology

Oahu is centrally located between the U.S. Mainland and Asia. Because of its location, Oahu is an ideal location for Pacific Rim business meetings and regional public and private conferences.

Oahu was formed as the Pacific Plate slowly moved northeast over a volcanic "hot spot." Thousands of years ago, lava flows formed the Waianae and Koolau Mountains and deposited the rich soil of Oahu's central plateau. The third largest island in the Hawaiian chain, Oahu is approximately 44 miles long by 30 miles wide and has 112 miles of coastline.

Environment

Oahu's mild, year-round climate appeals to potential employees looking for an active, outdoor lifestyle in a beautiful sub-tropical setting. Average temperatures on Oahu range from the low-70s in the winter to the low- to mid-80s in the summer. Frequent light trade winds blow pollutants off shore and keep Honolulu air quality ranked near the top of all U.S cities.

Drinking water. Honolulu's Board of Water Supply (BWS) regularly monitors the county's drinking water supply as mandated under federal and state law. The BWS ensures that Oahu's water supply not only meets the Safe Drinking Water Act requirements, but also exceeds the most demanding regulations governing the quality of drinking water.

On Oahu, the drinking water begins as rain falling over the Koolau and Waianae Mountain ranges. Since volcanic rock is porous, much of this rain is naturally filtered through the ground on its way to large underground aquifers. The Board of Water Supply maintains 104 water sources that provide Oahu's residents with 150 million gallons of water a day.

Wastewater treatment. One area of environmental concern for Oahu is its aging sewer and wastewater treatment systems. In some cases, the county has been unable to meet federal standards for water quality discharged into the ocean. The EPA is working with the county on a realistic schedule to upgrade some of its wastewater plants.

Demographics

Oahu is the most populous Hawaiian island with 70 percent of the state's population. The U.S. Census Bureau calculated the island's population to be 905,000 as of July 2008. Census officials estimate that the island's population will reach 1,038,300 by the year 2035.

The City and County of Honolulu is well known for its cultural and racial diversity. See **Fig. 2** on the next page for a breakdown of Oahu's population by ethnicity.

Although the island has a large population of children and seniors, 63 percent of its residents are ages 18 through 64, making for a sizable, available and active workforce.

Fig. 3 shows the percentage distribution of the City and County of Honolulu's population by age group.

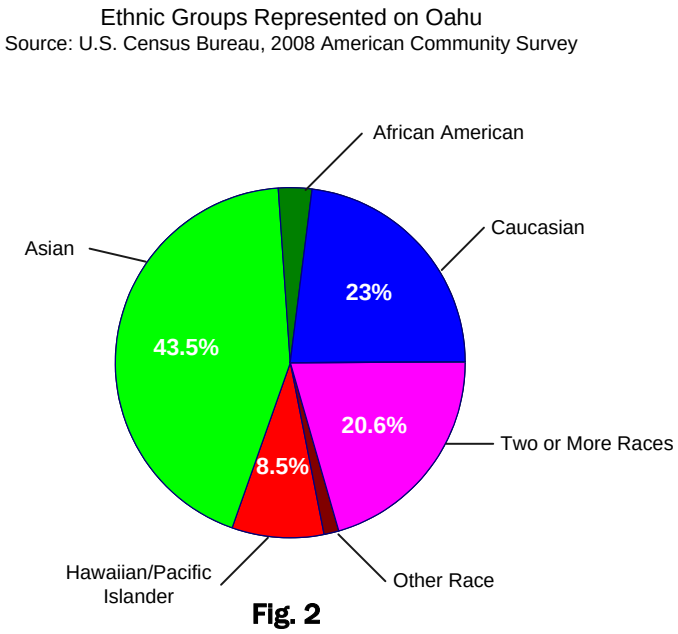


Fig. 2

Education. Honolulu ranked highly in the U.S. Census Bureau's 2008 American Community Survey for its academic achievements. The survey found that of adults age 25 and older:

- 91 percent had a high-school diploma, compared to 85.4 percent nationally
- 31 percent held a Bachelor's degree or higher, compared to 27.4 percent nationally

The City and County of Honolulu is served by four universities:

- The University of Hawaii (with campuses in Manoa Valley and West Oahu) and its four associated community colleges
- Chaminade University
- Hawaii Pacific University
- Brigham Young University—Hawaii

Other colleges and universities have a smaller presence on the island, particularly on the military bases.

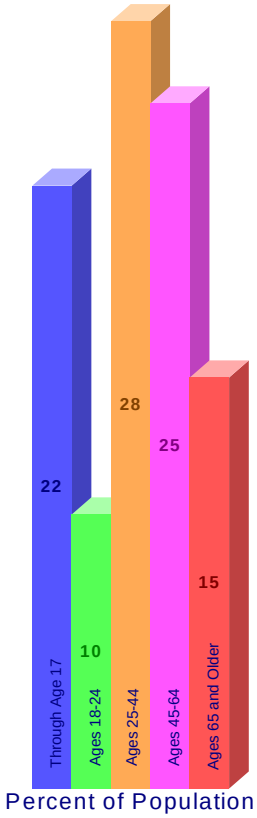


Fig. 3
Oahu Population by Age Group

SECTION III: INFRASTRUCTURE

For purposes of this analysis, the following types of infrastructure were examined: transportation, electric power and telecommunications.

Transportation

In the past, Oahu's location was considered an asset for providing a central location for Pacific Rim business meetings and regional public or private conferences. Air travel to and from Pacific Rim destinations could be accomplished in a single day.

But increases in direct flights from the U.S. Mainland to Pacific Rim cities have made Hawaii less central to business transactions than it once was, and of course the increased use of broadband video conferencing facilities has impacted air travel plans.

Airports. Honolulu International Airport (HNL) is the primary hub for Hawaii's domestic, overseas and inter-island flights. Employing about 550 islanders, HNL is one of the biggest and busiest airports in the world.

HNL has four active runways, which it shares with neighboring Hickam Air Force Base. Twenty international and domestic airlines, and three commuter carriers, provide daily and weekly service to Oahu. In 2009, HNL welcomed 29,618,156 airline passengers, a one percent decrease from the previous year.

This summer, HNL will see the start of non-stop service between Honolulu and Beijing by China-based Hainan Airlines. It will be the first mainland Chinese carrier to service the islands and the airline's second U.S. destination after Seattle. Hawaiian Airlines is also considering adding a direct flight to Tokyo.

HNL is in the midst of a $1.7 billion renovation and facilities upgrade. A new parking garage across from the International Arrivals terminal has been completed, as well as an air-conditioned corridor with moving walkways for passengers on international flights.

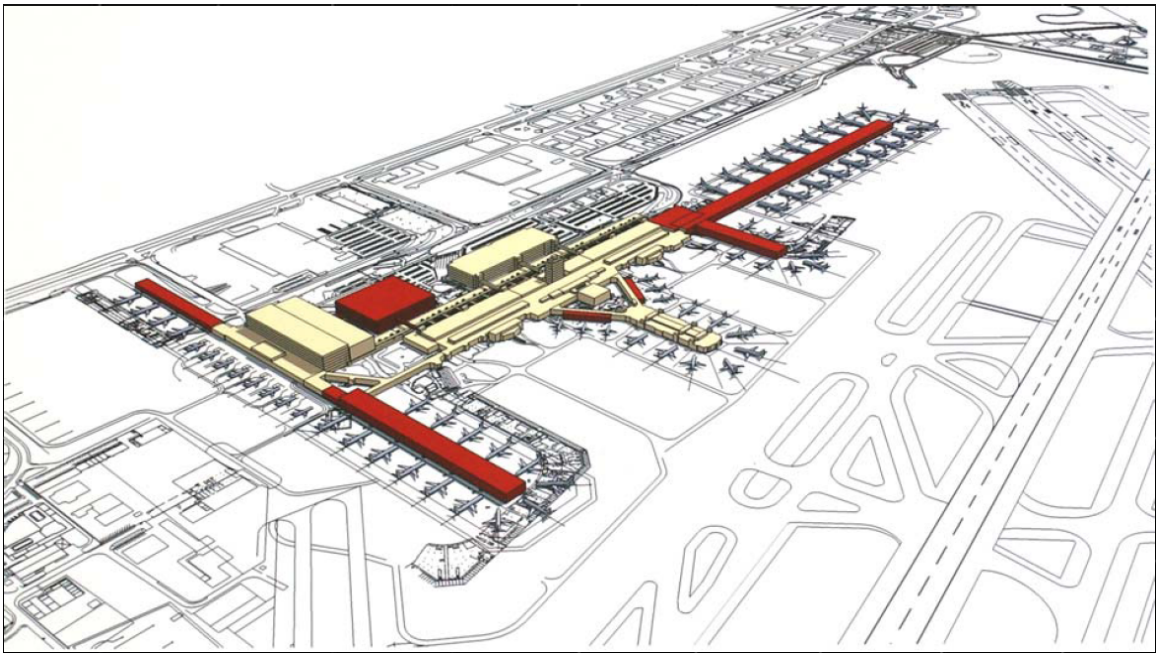


Fig. 4 Honolulu International Airport expansion plans in red.

Fig. 4 outlines in red new terminal expansion plans. Construction of a mauka concourse branching off the Interisland Terminal will be the first concourse expansion for HNL in fifteen years. The concourse will replace the existing Commuter Terminal.

The State Department of Transportation oversees HNL and through the Airport's Administrator also operates a secondary airport at Kalaeloa (the former Barber's Point Naval Air Station). Kalaeloa is a general aviation relief airport and serves as an alternate landing site for both military and commercial flights. The Coast Guard continues to maintain a small air station at Kalaeloa, even though it is no longer a naval facility. Dillingham Airfield, A smaller airport on Oahu's North Shore, is also a general aviation airport, primarily serving gliders and parachutists.

In addition, the U.S. military maintains airfields at Kaneohe Marine Base, Hickam Air Force Base and Wheeler Army Airfield in Wahiawa.

Harbors. In addition to a significant military presence at Pearl Harbor, Oahu is served by two commercial deep-draft harbors: Honolulu Harbor and Barbers Point Harbor (outside of Kapolei).

The harbors serve several cargo shipping lines, including Matson, Horizon, Maersk-

Fig. 5 *(Photo: Honolulu Harbor. State of Hawaii, Department of Transportation, Harbors Division)*

Sealand, and Pasha Hawaii Transport Lines. (See **Fig. 5**.)

Barbers Point Harbor also facilitates regular deliveries from oil tankers to the Chevron and Tesoro refineries located in nearby Campbell Industrial Park.

Tesoro's West Oahu refinery is losing money, leading company officials to re-evaluate keeping it in operation; Chevron is also reviewing refinery operations in Hawaii. If both companies discontinued operations, the state would be forced to import refined petroleum, boosting prices at local gas pumps.

Kewalo Basin is another harbor managed by the State Department of Transportation. In addition, a yacht harbor and several marinas dot the shoreline, providing anchorage for commercial fishing and recreational boating.

Several major cruise lines dock at Honolulu Harbor, including Norwegian Cruise Lines, Princess Cruises, Carnival Cruise Lines, Royal Caribbean, and Cunard (owned by Carnival Corporation). However, due to the recession, Oahu welcomed only 264,150 cruise line passengers in 2008, a decrease of 47.3 percent from 2007. This figure represented 1.6 percent of the county's total visitor arrivals.

Highways. The City and County of Honolulu has three major freeways, designated H-1, H-2 and H-3. The U.S. Census Bureau estimated that more than 298,000 commuters drove to work each day in 2008. In addition, nearly 74,000 carpooled and more than 35,000 took public transportation. The mean commute time on Oahu was estimated at 27.3 minutes.

Public Transportation. The City and County of Honolulu's bus transit system is known as TheBus. The American Public Transit Association has twice named TheBus America's best transit system. The latest award was in 2000-2001.

TheBus has 541 buses with weekday boarding of 236,000 passengers. The system also has 139 Handy-Vans, which provide services to the elderly and disabled.

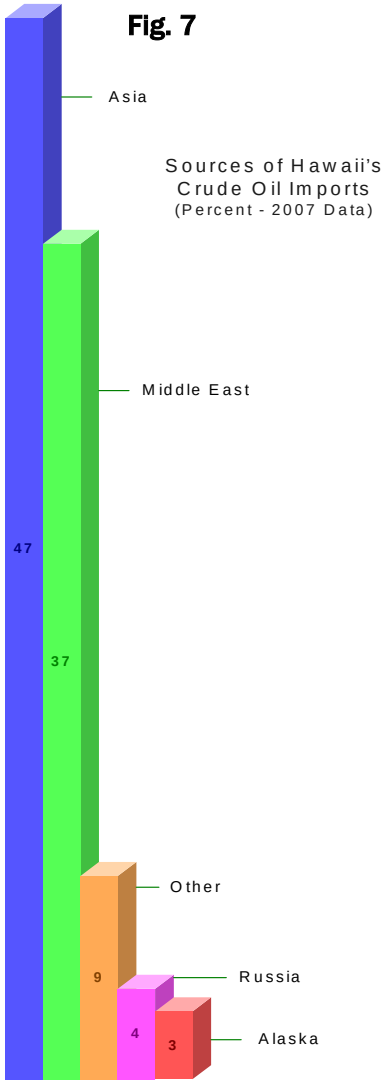
Rapid Transit. The City and County of Honolulu is currently in the final stages of developing plans for an elevated, high capacity, rapid transit system. The preliminary budget for the project is $5.4 billion.

The project will be built in stages, initially covering the 20 miles between West Oahu and Ala Moana Center. (See **Fig. 6**.) Planned expansions will eventually bring rapid transit to Kalaeloa and the University of Hawaii at Manoa. A weekday ridership of 90,000 passengers is projected.

Electric Power

Hawaiian Electric Company, Inc. (HECO) delivers electricity to more than 293,000 customers in the City and County of Honolulu. As of 2008, HECO's total generating capability was 1,727 megawatts (MW).

Plants located on the Leeward Coast, and near Pearl Harbor, produce most of the power, which is delivered throughout Oahu by two primary transmission corridors, one on the north side of the island, and one on the south.



In cases of emergency or utility maintenance, HECO's sub-transmission systems cover large areas with more than one circuit. The redundancy allows HECO to switch the flow of electricity to an alternate path to serve its customers without interrupting service.

Nearly 14 percent of the electricity generated on Oahu comes from renewable energy sources. In addition, 46 MW of electricity is produced at the H-POWER (Honolulu Project of Waste Energy Recovery) plant, which burns a portion of Oahu's combustible waste. AES Hawaii, part of an international power company, operates a coal-fired plant on Oahu, producing approximately 180 MW of electricity which is sold to HECO. However, the majority of the county's power comes from plants that generate power from oil.

Oil for Energy. Most of the petroleum used by HECO is the residual, low-sulfur, fuel oil left after lighter petroleum products, such as gasoline, are refined from crude oil. Although oil prices are affected by global factors, nearly half of the oil used on Oahu is imported from Asia. (See **Fig. 7.**) Thus, Oahu's supply of this critical commodity is somewhat more stable than the supplies in many other states largely dependent on oil from the volatile Middle East.

Telecommunications

Connectivity is essential for successfully linking mainland U.S. markets with Asian and Pacific markets as far east as Afghanistan, and as far south as Australia. The City and County of Honolulu provides this connectivity and has room to expand.

Honolulu, home for the Pacific Telecommunications Council, has been recognized for its leadership in digital connectivity. The 2009 Digital Cities Survey taken by *Government Technology Magazine* in cooperation with the National League of Cities, named Honolulu as the eighth-most-most advanced digital city in America (population 250,000+). However, with regards to Internet speed and bandwidth, the state ranked 47th in the nation, according to a report by the Communications Workers of America in 2009.

Oahu's service providers offer broadband cable, DSL, T-1 to DS-3 to Optical Carrier-96 capacity, Voice over Internet Protocol (VoIP), secure data storage and data backup, offshore disaster recovery systems, and Web and e-commerce hosting. Today's main T1 and DS-3 line users are medium to large web hosting companies, high-traffic web sites, government entities, medical centers, call centers and universities.

Fiber Optic Cable. Oahu is the submarine, fiber optic hub of the mid-Pacific, connecting businesses and governments throughout the Pacific Rim.

Oahu is linked to its neighbor islands by an extensive network of fiber optic cables, allowing inter-island businesses to share expertise and labor.

Teleports. Fourteen satellite earth stations on Oahu can receive satellite transmissions not available from the mainland U.S., or Asia.

The Asian market struggles, as many of its regional markets lack fiber optic access to global networks. As a result, satellite communication is integral to reaching these markets.

One challenge in reaching these Asian markets is the Earth's curvature, which prevents straight-line, satellite-circuit uplinks to Asia via "single hop" satellite transmissions from the U.S. mainland.

This is where Oahu's network of teleports comes in. Oahu's teleports extend the global international networks by more than 3,500 miles, into nearly all of Asia's regional markets.

This extension of satellite circuit transmissions brings in an additional market of 2.4 billion people.

Fig. 8 shows that West Coast teleports can reach only satellites that are positioned above the middle of the Pacific. However, Oahu's teleports, by linking back to the U.S. mainland, can reach satellites that are positioned directly over Asia, extending its one-hop satellite broadcasting reach into the U.S. and all of Asia.

(Courtesy, Hawaii Pacific Teleport Used by permission).

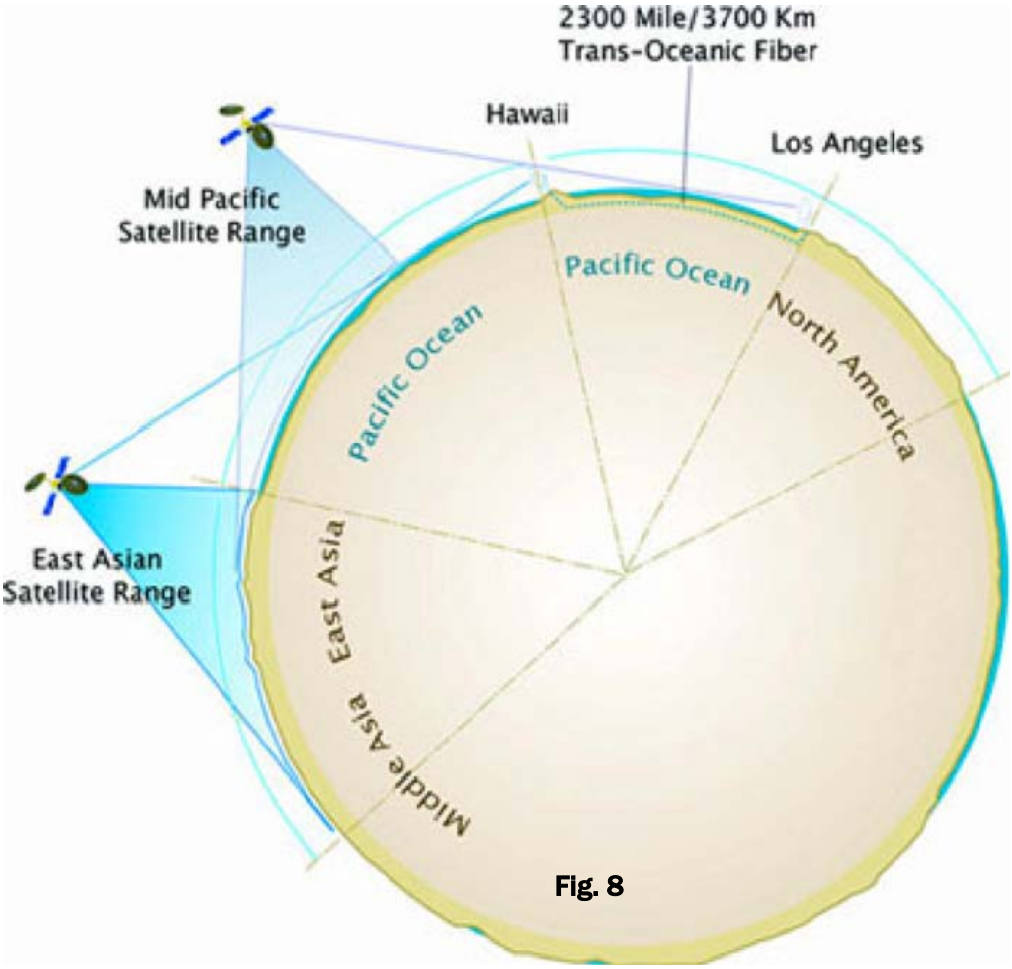


Fig. 8

Wireless Communication. The City and County of Honolulu is served by national and local cellular phone service providers, including:

- AT&T Wireless
- Cingular
- Hawaiian Telcom
- Mobi PCS
- Nextel
- Sprint
- T-Mobile
- Verizon Wireless
- Wavecom Solutions

As cell phones became more popular, and wireless voice plans more economical, the number of Hawaii households discontinuing the use of traditional fixed-line systems increased, yet to a lesser extent than on the mainland. The National Health Interview Survey, conducted by the Centers for Disease Control and Prevention, found that 8.0 percent of Hawaii households were wireless-only in 2007, compared to 14.7 percent nationally.

Wireless data transmissions have become an important part of wireless communication. The demand for transmitting data through mobile devices continues to rise, via cell phone text-messaging, web browsing and file sharing. Personal digital assistants (PDAs), serving as palm-top computers, send and receive e-mail and electronic files via wireless local area networks (commonly referred to as Wi-Fi). The usage of smartphones serving as cell phones, digital photo/video capture and transmission devices, and Global Positioning System (GPS) receivers has also gained in popularity.

Wireless carriers are now under increasing competitive pressure to offer unlimited voice and data plans for these devices, resulting in simultaneous need to expand and improve current wireless networks.

Wireless communication companies, as well as telephone service providers, are losing a portion of their business to VoIP service providers, such as Skype and Google Talk, which offer free voice and video calls over the Internet.

SECTION IV: ECONOMIC ANALYSIS

Growth

When the 2005 CEDS was prepared, Honolulu's economy, along with the rest of the state, was strong. The worldwide recession that spilled into 2010 has led to a steep economic decline in Hawaii. The visitor industry, in particular, was hard hit, reminding planners of the importance of pursuing economic diversity.

Hawaii lost 42,550 jobs as of the 3rd quarter, 2009, from the peak of the 4th quarter, 2007. The largest declines were in construction and visitor-related industries. However, visitor arrivals showed signs of recovery during the summer of 2009, even though visitor spending was down. Year-over-year growth in visitor spending was off by more than 11 percent in 2008, a figure expected to decline further when final 2009 figures are released.

There are some bright spots. Personal income growth in the islands has tracked at a slightly higher rate than the U.S., since 2002. That growth is expected to continue, although in the low single-digit range. The county still has a problem with the number of living wage jobs it provides.

Decline

Local businesses have responded to the recession by cutting employment through attrition and layoffs. The state government has implemented a statewide furlough program for its workers in order to help fulfill a state constitutional mandate for a balanced budget.

Although the City and County of Honolulu has a lower unemployment rate than the Neighbor Islands, Oahu's unemployment rate is nearly three times higher than it was in 2005. From late 2009 into early 2010, the island's unemployment rate hovered around 5.7 percent. The greatest job declines were in private construction, despite increases in governmental capital improvement projects.

Inflation did not drop as quickly as the number of jobs did. The Consumer Price Index (CPI) for Honolulu remained high, rising 4.3 percent from 2007 to 2008. By late 2009, state economic analysts projected the increase in the CPI for Honolulu (2008-2009) had dropped to 0.1 percent. The analysts have also projected a 1.7 percent increase in the CPI for 2010, despite their forecast of a 0.9 percent decline in wages and salaries.

Low-Income/Depressed Areas

The recession has hit some communities on the island particularly hard. (See **Fig. 9**.) These include the Leeward Coast, the North Shore, the Waimanalo area on the Windward Coast, and the Kalihi neighborhood in urban Honolulu.

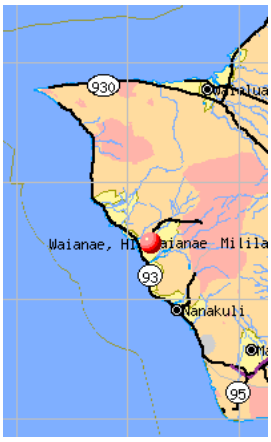


Fig. 9 *(Oahu's Leeward Coast)*

Influencing Factors

Factors that have influenced Honolulu's economic downturn include the following:

1. High Cost of Living – According to Kiplinger's 2009 Cost of Living Index, Honolulu was the most expensive place to live among the 100 largest metropolitan areas in the United States. A score of 100 represents the national average. The top five cities by cost of living are shown on **Table 1**.

Table 1: 2009 Kiplinger's Cost of Living Index (detail)

Metropolitan Area	Cost of Living Index
Honolulu, HI *	165
San Jose, Sunnyvale, Santa Clara, CA	158
Bridgeport, Stamford, Norwalk, CT	147
Los Angeles, Long Beach, Santa Ana, CA	142
Washington DC, including suburban Arlington and Alexandria, VA	138
* The Cost of Living Adjustment (COLA) for military families living on Oahu versus the mainland U.S. was 128.	

2. Median Household Income – Despite the high cost of living, Honolulu's median household income in 2009, as reported by Kiplinger, was only the 14th highest in the country at $64,355.

According to the U.S. Census Bureau that relatively high ranking is due to the fact that Hawaii has large household sizes and more multiple jobholders. The workforce, in general, is heavily invested in low-paying service and retail industry jobs, the second highest percentage of such workers in the nation, according to U.S. Census data.

Table 2 shows the average wages for established and new-hire employees for the City and County of Honolulu's most common industries, according to the State of Hawaii Data Book. The Data is averaged for the 3rd quarter of 2007 through second quarter 2008

Table 2: Average Wages for Honolulu's Most Common Industries

Industry	Avg. Monthly Earnings	New Hire Earnings
Accommodations	$3,155	$2,539
Food services and drinking places	1,585	1,181
Administrative and support services	2,480	1,894
Specialty trade contractors	4,784	3,583
Ambulatory health care services	4,399	2,620
Hospitals	4,711	3,515
Educational services	2,987	1,481
Social assistance	1,954	1,491

Many adult workers in Honolulu work two or more jobs, and in about 74 percent of families with two parents, both spouses must work full-time to support the household. A 2006 U.S. Census report ranked Hawaii 3rd highest in the nation for that trend.

Fig. 10 *(Kula Lei Homes at Ewa, Schuler Homes)*

Furthermore, a 2006 study showed that 29.3 percent of Oahu's families live in multi-family, multi-generational households *(State of Hawaii Data Book, 2008)*. The same study indicated that eight percent of Honolulu's residents live in housing considered overcrowded. While *ohana* (family) is a strong cultural value in Hawaii, a lot of multi-generational living is an outgrowth of economic necessity.

3. Low Home-Ownership Rate – In 2008, the county's estimated home ownership rate was 58.2 percent, compared to the national average of 67.1 percent. On Oahu, 47.4 percent of home-owners pay more than 30 percent of their household incomes on mortgages and

other housing costs, compared to 37.3 percent of homeowners nationally. *(U.S. Census Data)*

The low home-ownership rate is primarily due to the high cost of housing in the county. In 2009, the average price of a home on Oahu was $570,000. Kiplinger cited Honolulu as having the second highest housing prices in the country, exceeded only by the San Francisco metropolitan area.

4. Loss of Employment – Another issue facing the City and County of Honolulu, is the significant loss of jobs. **Table 3** shows the total civilian labor force on Oahu, and how it changed, from the fourth quarter of 2008, to the fourth quarter of 2009.

Table 3: Total Civilian Labor Force Changes

Employment – Fourth Quarter	2008	2009	Percent Change
Total civilian labor force	455,550	447,600	-1.7
Civilians employed	436,850	422,150	-3.4
Civilians unemployed	18,700	25,450	+36.1
Unemployment rate	4.1	5.7	-1.6

Fig. 11 Aloha Airlines filed for Chapter 11 bankruptcy and shutdown in March of 2008. 1,900 workers at the airline lost their jobs.

Table 4 shows employment losses in wage and salary jobs, from 2008 to 2009, by industry. Of 16 sectors, only two showed job growth.

Table 4: Employment Loses in Wages by Industry

Industry – Fourth Quarter	2008	2009	Percent Change
Natural resources, mining, construction	25,800	22,950	-11.0
Manufacturing	11,550	10,900	-5.6
Wholesale trade	14,950	14,300	-4.3.
Retail trade	47,100	45,100	-4.2
Transportation, warehousing, utilities	21,050	19,950	-5.2
Information	7,800	7,450	-4.5
Financial activities	22,550	21,600	-4.2
Professional and business services	60,150	57,900	-3.7
Educational services	12,350	12,200	-1.2
Healthcare and social assistance	46,100	47,200	2.4
Arts, entertainment and recreation	6,200	6,000	-3.2
Accommodation	14,800	15,150	2.4
Food services and drinking places	40.800	39,550	-3.1
Other services	20,950	19,750	-5.7
Government	102,050	99,300	-2.7
Agriculture	1,450	1,400	-3.4

(Source: Hawaii State Department of Business, Economic Development and Tourism)

SECTION V: IDENTIFIED ECONOMIC CLUSTERS

As explained in Section I, the specific clusters identified in the Oahu 2010 CEDS are:

1. Diversified Agriculture
2. Culture, Entertainment and Sports
3. Defense, Dual Use
4. Renewable Energy
5. Film and Digital Media
6. Life Sciences
7. IT/Communications
8. Visitor Industry

Focusing on cluster development allows individual regions such as Oahu to benefit by:

- Increasing the level of expertise in each cluster
- Allowing commercial vendors to draw upon complementary skill sets within a cluster
- Creating economies of scale within an industry
- Strengthening social and informal networks within an industry
- Enhancing entrepreneurship and innovation through the sharing of information
- Enabling the development of support organizations

Each of the identified clusters has a unique set of challenges and opportunities. (See also the note relating to Life Sciences and IT/Communications clusters on page 2 of this report).

Diversified Agriculture

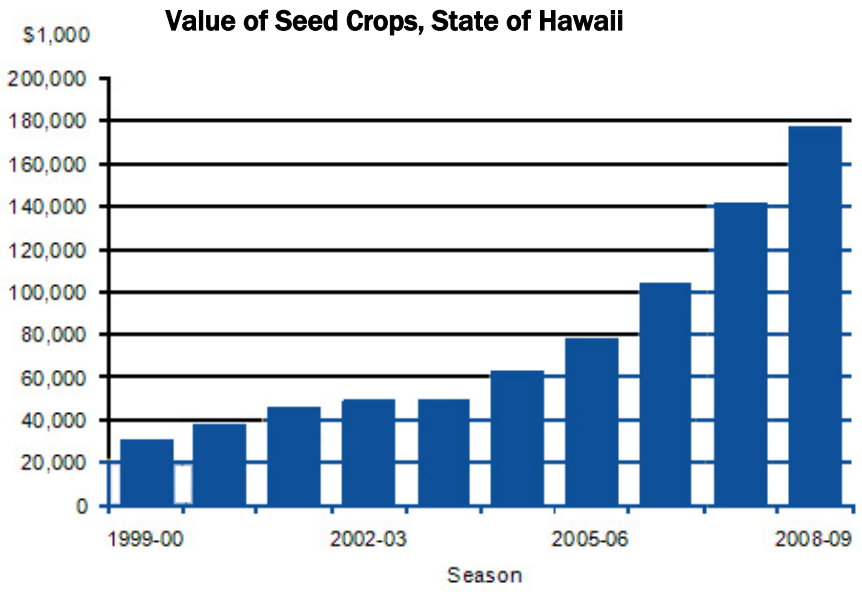
Although sugar production on Oahu phased out with the shutdown of Waialua Sugar Company in 1996, and pineapple production is following suit, an agriculture industry is still viable on Oahu. The local climate gives the industry the advantage of being able to harvest three to four crops a year.

Among the crops and agricultural products currently being grown on Oahu are:

Asparagus	Papayas	Taro
Coffee	Corn	Tomatoes
Ginger root	Cabbage	Watermelons
Fresh herbs	Cucumbers	Flowers
Seed crops	Onions	Salad greens
Macadamia nuts	Peppers	Sunflowers
Bananas	Sweet potatoes	

Also of note (See **Fig. 12**) is the raising of genetically modified seed corn in Hawaii. Oahu is one of four islands in the state making substantial profits from the commodity and a nationally recognized center of research in the field. Seed corn statewide represents a $169.3 million dollar industry in Hawaii according to the Hawaii Field Office of the National Agricultural Statistics Service.

Fig. 12



Aquaculture is also gaining in production and market share. Oahu facilities are leaders in the production of shrimp and other saltwater fish for use as food, to help replenish wild populations and for aquarium hobbyists.

Obstacles/Needs. Among the obstacles and needs raised by in the Diversified Agriculture focus group were:

- Oahu needs to act to preserve its water system (e.g., Waihole Ditch). In the past, the sugar and pineapple plantations had a stake in keeping these systems operational. However, without their active involvement, the systems are at risk and may not last another 10 years. The question needs to be asked, "Who is responsible for maintaining these water systems?" Logically, the state should take on this responsibility, but the legislature has yet to budget for this.

- Oahu needs to ensure the security of the fresh food supply being raised and cultivated on Oahu. A new air route being opened with China brings with it the potential that fresh fish, shrimp and vegetables will start coming into the state in bulk. We also get imports from Vietnam and Thailand. Viruses and diseases could easily come in with the imports. In addition, the volume of imports is expected to be such that it could create significant competition for local farmers who would not be able to compete with the low prices of Chinese products.

- Oahu needs to ensure more access for farmers to agricultural land. The group expressed a need for the development of an agricultural park.

- Oahu needs to help secure sufficient grassland to feed local cattle. Most cattle are now shipped to the mainland to be grain fed.

- Oahu needs to recognize that the sole slaughterhouse on the island, for hogs and cattle, is struggling financially, and could close at any time.

- The focus group mentioned that despite the wide variety of crops grown on Oahu, the island only has enough agricultural yield to feed itself for less than 30 days. Oahu continues to rely on imports to maintain an adequate food supply.

Culture, Entertainment and Sports

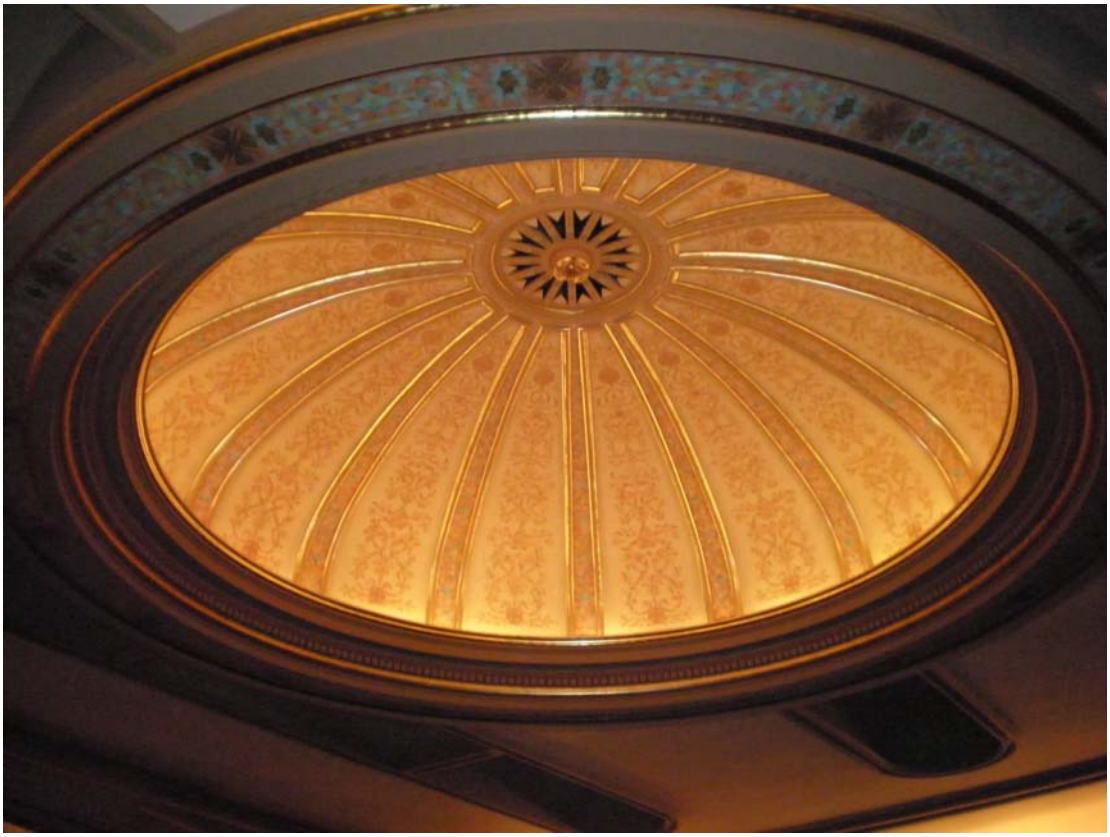


Fig. 13 *The interior dome of the Hawaii Theatre, Honolulu. This historic theater was built in 1922, and full restoration was completed in 2004. The Theatre has been referred to as the Pride of the Pacific. Photo by Joel Bradshaw.*

The Culture, Entertainment and Sports cluster includes a variety of sectors:

- Performing arts
- Creative arts
- Museums
- Historical sites
- Musical venues
- Various sporting events

Also included are the recording industry, promoters, agents, managers and art dealers.

Performing Arts. In addition to the Hawaii Theatre, there are a wide variety of community-based theaters on Oahu, including:

- ARTS at Marks Garage – Downtown Honolulu
- Children's Theatre of Oahu – Pearl City Cultural Center
- Diamond Head Theatre – adjoining KCC
- Doris Duke Theatre – Honolulu Academy of Arts
- Kennedy Theatre – UH, Manoa
- Kumu Kahua Theatre – Downtown Honolulu
- Leeward Community College Theatre
- Mamiya Theatre – St. Louis School and Chaminade University
- Manoa Valley Theatre
- Orvis Auditorium – UH, Manoa
- Paliku Theatre – Windward Community College
- Paul and Vi Loo Theater – Hawaii Pacific University
- Princess Abigail Kawananakoa Auditorium
- Richardson Theatre – Fort Shafter
- Ronald E. Bright Theatre – Castle Performing Arts Center
- Tenney Theater – St. Andrew's Cathedral

Major performing venues include the Waikiki Shell, often used for musical productions, and the Blaisdell Concert Hall, used for the Honolulu Symphony, Hawaii Opera Theatre, traveling productions of Broadway shows and limited-run appearances by nationally known entertainers.

Art Museums. The City and County of Honolulu has a number of art museums. The Honolulu Academy of Arts on Beretania Street and its Linekona Art Center are historical buildings, and are the backbone of the visual arts in Honolulu. There are also Hawaii State Art Museum on Hotel Street and the Contemporary Art Museum in Makiki.

Art Galleries. Oahu also has numerous public and private art galleries. The community colleges have small galleries, and there is a gallery at the University of Hawaii at Manoa. In addition, there is a vibrant arts community downtown on Bethel Street and in the surrounding neighborhood.

Historical Museums. The Bishop Museum in Kalihi, the Mission Houses Museum downtown and Iolani Palace are Oahu's premier historical museums. The Queen Emma Summer Palace and Washington Place are both open for tours.

Other Venues. Other venues considered in this cluster are a number of botanical gardens throughout the island, the Plantation Village in Waipahu, the Children's Discovery Center in Kakaako, the Hanauma Bay Nature Preserve, the Polynesian Cultural Center, and the Tropic Lightning (military) Museum at Schofield Barracks. There are many more cultural and historic sites throughout Oahu, including the Hawaii Capital Historic District in downtown Honolulu.

Sports. The National Football League's Pro Bowl returns to Honolulu in 2011 under terms of a two-year deal signed with the Hawaii Tourism Authority earlier this year. The Pro Bowl and the PGA's Sony Open are two of the major contests that crowd a local calendar filled with sporting events.

The North Shore of Oahu plays host to the world's premier surfing competitions, including the Vans Triple Crown of Surfing and The Quiksilver Eddie Aikau Big Wave Invitational. The annual Honolulu Marathon is among the 10 largest marathon races in the world. Basketball fans eagerly await the Outrigger Hotels Rainbow Classic the longest running, eight-team pre-season collegiate basketball tournament in the country.

Hawaii's "home team" is at the University of Hawaii at Manoa, and local fans show their strong support for UH football, basketball, volleyball, softball and soccer. The county boasts an avid fan base for amateur boxing events.

Obstacles/Needs. Among the obstacles and needs raised by the Culture, Entertainment and Sports focus group were:

- More cultural activities are needed in outlying neighborhoods along the Windward and Leeward Coasts.
- Oahu needs to find a way to revive the Honolulu Symphony Orchestra.
- The city needs to provide better access to cultural and historic areas using TheBus, by providing maps and directions to the sites.
- The city needs to find a way to help incentivize businesses to incorporate, or display, art in the workplace.

Defense, Dual Use

Dual use technology has been the foundation of Hawaii's high tech sector. Moreover, many of Hawaii's high tech developments rose from technology developed for the Department of Defense (DoD).

Dual use technologies have both military and civilian applications. The actual technology developed by dual use companies may not differ from those developed by non-dual use companies. Both types of companies could work on medical devices, software, renewable energy technologies and more. However, dual use companies can benefit from federal funding for the research and development phase of business ventures.

Defense Department statistics showed that in 2007, the DoD awarded more than $1.71 billion in contracts to Hawaii. Among U.S. states and territories, Hawaii ranked 29th in the value of contracts awarded.

In addition to the amounts invested in civilian contracts, the large military presence on Oahu substantially benefits the local economy. Wages for active-duty military personnel stationed on Oahu totaled more than $1.7 billion in 2008, a large portion of which was spent locally. Although Maui, Kauai, and Oahu all have a significant military presence, Oahu has the largest bases, with more military personnel than the other islands combined.

Pearl Harbor and Hickam. Joint Base Pearl Harbor-Hickam (JBPHH) is in the process of combining two historic bases into a single joint installation to support both Air Force and Navy missions, along with their tenant commands, and their service members and families. The DoD hopes that combining the bases will result in economies of scale and more efficiency in providing military personnel with appropriate services. (See **Fig.14**.)

Fig. 14

Marine Corps Base Hawaii (MCBH), formerly known as Marine Air Corps Station Kaneohe Bay. The base houses a large contingent of marines and a naval air station. (See **Fig.15**, next page.)

Schofield Barracks Army Base. Schofield Barracks is located on Oahu's central plain near Wahiawa. The 25th Infantry Division consists of four infantry brigades and an air brigade located at nearby Wheeler Army Airfield. The 25th Infantry is known as *Tropic Lightning*.

Fig. 15 Marine Corps Air Station Kaneohe Bay, satellite image courtesy www.globalsecurity.org

Other bases. Other bases on Oahu include Camp Smith, Fort Shafter, Fort Ruger, and a Coast Guard station on Sand Island.

Sustainability. Federal agencies such as the DoD, NASA, and the Commerce and Energy Departments have focused on programs and facilities that pertain to national security. They have focused as well on programs that have feasible applications for civilian commercial use. The bases themselves have included as part of their mission statements the importance of developing self-sustaining energy sources and environmental protection.

For example, the large military bases on Oahu are considering renewable energy options to decrease their use of fossil fuels and electricity. Civilians helping with these projects will gain valuable insight and experience. In addition, there are opportunities for innovation and creativity in design work at the installations, along with opportunities providing other goods and services for the DoD.

Priorities. A 2006 study by the Hawaii Technology Development Venture (HTDV) listed priorities of the DoD that could be addressed by local contractors. Among the priorities were:

- Unmanned system sensors to detect smoke, fire, biological contamination, chemical signatures, toxic gases, radiological contamination, weapons, explosives, trip wires, mines, muzzle flashes and shock waves
- Robotic arms for simple and complex applications
- Wheeled, tracked, crawling or other mobility technologies that could enable an unmanned vehicle to traverse rough terrain
- Energy source technologies to support unmanned vehicle platform and mission packages
- Software and sensors to detect, diagnose, predict and recover from failures or degradation in performance for unmanned vehicles
- Wireless, data, directional, frequency spectrum management and other technologies for maintenance of communication links between operators and unmanned systems
- Lifecycle-support-system technologies
- Aerial improvised explosive device (IED) detection technologies
- Soft-kill and equipment-disabling technologies

Obstacles/Needs. Among the obstacles and needs raised by the Defense/Dual Use focus group were:

- There is a need for a rapid prototyping manufacturing space to assist in the development of new devices.
- There is a need for increased engagement with UH.
- There is a need for increased IT support.
- There is a need for increased communications bandwidth.
- There is an opportunity for defense-dual use companies to work more closely with the renewable energy industry.

Renewable Energy

The renewable energy industry focuses on replacing fossil fuel with alternative, renewable sources such as solar, wind and biomass waste products.

Many different industry classifications are directly or indirectly involved in the renewable energy cluster. (See **Table 5**.)

Table 5: Renewable Energy Direct and Indirect Job Classifications

Classification	Description
Construction	• Plumbing and HVAC contractors • Site preparation contractors
Wholesale and Retail Merchants	• Building material suppliers
Professional and Technical Services	• Attorneys • Engineers • Consultants • Researchers
Other Support Services	• Administrative staff • Waste disposal contractors • Repair and maintenance workers

(Source: Hawaii State Department of Business, Economic Development and Tourism)

State Law. The Hawaii Clean Energy Initiative set a goal of providing Hawaii's residents with 70 percent clean energy by 2030. The initiative is intended to encourage various groups in the state to develop Hawaii's local, sustainable sources of energy.

Oahu's plentiful sunshine, strong trade winds, surrounding ocean, temperate climate and year-round growing season can all be tapped to provide sustainable sources of energy that are essential to a clean energy future.

According to the U.S. Department of Energy's Energy Information Administration, Hawaii ranks third in the nation (after Maine and California) in use of renewable energy relative to the state's total electricity production.

Sun. A variety of technologies have been developed to take advantage of solar energy, including:

- Photovoltaic systems
- Solar hot water
- Concentrating solar power systems
- Passive solar design

In part, because of Oahu's abundant supply of sunshine, and, in part, because of new regulations and economic incentives that support the widespread installation of solar systems, solar energy is positioned to offset a substantial portion of the fossil fuel that supplies our energy today. (**Fig. 16.**)

According to the National Renewable Energy Laboratory, "… solar water heating is cost effective at any location in the Hawaiian Islands."

By March 2010, solar water heaters had been installed in some 80,000 homes and other buildings throughout the state. That number is on the rise as the result of the Solar Roofs Act, a 2008 law that requires most new homes in Hawaii to be equipped with solar water heaters.

Fig.16 *Photovoltaic installation at Waianae Intermediate School, Building J. (Photo: Hawaiian Electric Company)*

Wind. Tower-mounted turbines are used to capture wind energy. At 100 feet (30 meters) or more above ground, wind turbines can take advantage of the faster and less turbulent wind.

Seawater. Seawater air conditioning does not create energy. It offsets or replaces the electricity needed to cool buildings with a clean, renewable technology. Conventional air conditioning systems consume four to twelve times more electricity than equivalent seawater A/C systems.

Honolulu Seawater Air Conditioning, LLC, is currently developing a 25,000-ton seawater air conditioning system for downtown Honolulu.

Biomass. With more than a century of experience in using biomass for power and fuel production, Honolulu's engineers, agronomists, pathologists, foresters, entomologists, microbiologists, environmental specialists, chemists, economists, researchers, and others have developed an extensive base of knowledge and experience in the conversion of a wide variety of plant species for biomass energy applications.

Examples of biomass energy use on Oahu include:

- **Electricity from refuse-derived fuel.** H-POWER, the City and County of Honolulu's "garbage to energy" plant, is burning refuse-derived fuel to generate electricity, which it sells to the Hawaiian Electric Company. The plant produces approximately seven percent of Oahu's electricity and is the largest renewable energy project in the islands. (See **Fig.17**.)

Fig. 17 Conveyer belt at Honolulu H-Power plant, the largest alternative energy source in the state.

- **Biomass from agricultural waste.** Although sugar plantations on Oahu are no longer in operation, other crops – coffee, macadamia nuts, watermelons and many others – are being grown in locations where sugar was previously grown. Waste products from these operations can be used to produce electricity.
- **Biodiesel from vegetable oil.** Used cooking oil is converted into fuel at an Oahu facility that produces 400,000 gallons of biodiesel per year.

Obstacles/Needs. Among the obstacles and needs raised by the Renewable Energy focus group were:

- Oahu lacks adequate capacity in its energy storage systems.
- A general agreement was reached that problems with getting permits persist at all levels.
- It was agreed that the Public Utilities Commission lacks adequate staffing.
- There was discussion on the limitations imposed by height restrictions for wind turbines.
- The group also identified opportunities for harnessing more energy from methane produced in landfills.
- The focus group saw value in possibly instituting a revolving loan fund to help fund smaller projects.
- The group also mentioned the need to retrofit existing buildings, particularly state and county buildings, to conserve energy.

Film and Digital Media

According to a recent press release by the Hawaii film office, "Hawaii is the only place in the U.S. where you can find tropical locations. In about the time it takes to travel to New York to attend a meeting, LA filmmakers can fly to Hawaii and find locations that duplicate the world's most remote tropical areas."

Locations on Oahu can double for the jungles of Central Africa, the rain forests of South America, the central highlands of Southeast Asia, or the palm-shaded beaches of the South Pacific. Plus, filmmakers can do all this without learning another language, or changing their currency and cell phone providers.

Hawaii has some of the most generous tax credits for film, television, and commercial productions in the U.S., including a 15 percent refundable income tax credit on Oahu for qualified production costs.

In contrast, digital media is an emerging industry that includes a variety of computer-enhanced creative outlets. Tax incentives are available for this industry as well.

Oahu's Film and Digital Media cluster includes:

- Traditional film and television production
- Digital filmmaking, video games, computer animation and dynamic web design

Fig. 18 *Photo: Hawaii Film Studio*
Main gate, parking lot and 16,500 sq. ft. sound stage.

In addition, Honolulu is home to three generations of crews, seasoned through nearly 40 years of non-stop Hollywood studio and network television production. (**Fig. 18.**) Oahu has a production complex, complete with a soundstage and water tank for filming, state of the art camera, lighting and grip equipment, rolling stock and a multi-ethnic talent pool.

Digital Media. The creative sector places heavy emphasis on rapidly developing digital technology. Evolving digital technology has revolutionized the delivery of traditional content such as music and movies. It has also pushed the limits of technology to take in nontraditional content such as animation, games, and many other Internet-based services. The digital media industry is creating new opportunities for programmers, designers, musicians and writers.

As a relatively new sector, digital media grew 16 percent from 2002 to 2008, about three percentage points faster than the economy as a whole. Average annual earnings in this sector were relatively high at $68,200 in 2008.

Obstacles/Needs. Among the obstacles and needs raised by the Film and Digital Media focus group were:

- Oahu needs more soundstages for indoor scenes and a larger "tank" for underwater filming.
- The island lacks sufficient short-term housing and office space.
- Oahu needs more trained production staff.
- A need has been established for a digital archives library to save important film and videotape material that is presently stored in rapidly growing obsolete formats.
- There is a need for a program at UH offering advanced degrees (MA) in film and digital media for those students who wish to specialize in this area.

Life Sciences

The Life Sciences cluster includes various sectors such as:

- Medical and diagnostic testing
- Medical informatics (which can also be considered to fall under the IT/Communications cluster)
- Medical device manufacturing
- Biotechnology research and development (**Fig. 19**)
- Seed corn research and development (which was considered under the Diversified Agriculture cluster)

Fig. 19 Local biotech workers are crossing new frontiers

As of 2007, the Life Sciences cluster employed 6,785 workers.

Table 6 lists some of the breakout industries in the Life Sciences cluster in Hawaii and their relative growth, or decline, in jobs from 2002 to 2008. Also listed are average wages in Hawaii and the U.S. as a whole. Again, as in other industries, wages in Hawaii were considerably below the national average for comparable jobs.

Table 6: Life Sciences Breakout Industries, growth, decline

Industry Sector	No. of Jobs		Percent Change	Average Earnings 2008	
	2002	2008		Hawaii	U.S.
Research, testing and medical labs	2,531	3,468	37.0	54,588	81,156
Medical devices and equipment	282	346	22.7	64,616	85,489
Agricultural chemicals	216	73	-66.2	32,149	106,093
Drugs and pharmaceuticals	21	40	90.5	77,495	151,501

Source: Hawaii State Department of Business, Economic Development and Tourism, (DBEDT) 2009. Note: The figures above are for the state as a whole.

Also included in the Life Sciences cluster are:

- **Agricultural biotechnology.** Hawaii's agro-biotechnology industry is focused on corn seed, plant tissue culture and improvement in the overall value of various tropical fruits. The industry uses plant genetics to produce plants that have enhanced nutritional qualities or ripening characteristics, and altered or enhanced color and resistance to pests and viruses. (See page 21 for statistics on the size of the local seed corn industry)
- **Marine biotechnology.** This industry focuses on ways to use marine organisms in the development of new drugs, vitamins, nutritional products and enzymes.
- **Environmental bioremediation.** Bioremediation is the use of living organisms to reduce environmental contamination. The agriculture-based remediation program is funded through the Pacific International Center for High Technology Research (PICHTR).

IT/Communications

The information technology and communications cluster on Oahu experienced strong growth from 2002 and 2007. During the period, the combined private and public tech cluster on Oahu grew 2.6 percent annually. In comparison, overall employment on Oahu grew 2.2 percent annually.

In 2007, Oahu's private tech cluster contributed an estimated $1.7 billion to Oahu's economy. This figure represented 5.7 percent of Oahu's total earnings. The average worker in the local private sector had annual earnings of $66,485 in 2007, which is nearly 35 percent higher than the amount earned by the average worker on Oahu. Nevertheless, this average salary is well below the comparable average annual salary of $86,000 for information technology and communications workers on the mainland.

Table 7, on the next page, lists the types of jobs in the IT/Communications cluster in Hawaii.

Table 7: Job Categories in the Oahu IT/Communications cluster

Description	No. of Jobs	Percent of total jobs
Cable and other program distribution	925	42%
Data processing	683	31%
Misc. telecom services	227	10%
Internet service providers	166	8%
Internet publishing and broadcasting	86	4%
Software publishing	74	3%
Web search portals	35	2%

Source: DBEDT, 2009. Represents jobs throughout the state.

Some sectors lost jobs and other sectors gained jobs as shown in **Table 8**.

Table 8: Job Loses and Gains in the Cluster, 2002-2008

Description	Job gains/loses
Cable and other program distribution	+29%
Data processing	No change
Misc. telecom services	+15%
Internet service providers	-56%
Internet publishing and broadcasting	+153%
Software publishing	-53%
Web search portals	+13%

Source: DBEDT, Gains and losses during the period from 2002 to 2008. Represents jobs throughout the state.

The job loss in the Internet service providers sector reflects consolidation of the industry as customers switched providers to obtain better service or faster download speeds. However, there is no conclusive reason for the decline in software publishing.

Obstacles/Needs. Among the obstacles and needs raised by the IT/Communications focus group were:

- There is a need for venture capital. Many young entrepreneurs have gone to the mainland to get started. Venture capitalists are hesitant to invest in Hawaii. Therefore, creative thinkers, and the jobs they can create, end up leaving the state.
- Jobs are being lost as the industry becomes more efficient. With continual innovation, jobs become antiquated or obsolete more quickly.
- Some innovators are concerned about the potential of losing data or proprietary information to computer hackers.
- There is a need for a tech incubator, funded by the government, but run by private industry.
- Oahu needs to build greater local bandwidth.
- There is a need for more training on Oahu. Students in middle school, high school and college need to learn how technology works – not just how to use it.

Visitor Industry

The visitor industry has been an economic mainstay for Oahu for many years. From 2007 to 2009, there was a significant loss in revenue caused by:

- Fewer visitors coming to Hawaii
- Lower rates of per person per day (PPPD) spending
- Shorter visitor stays

The visitor falloff began to slow from 2009 to 2010, and there has been growth in certain sectors. According to the Hawaii Tourism Authority, 630,994 visitors arrived in Honolulu in January and February 2010, compared to 634,875 during the same period in 2009. This represents a decrease of 0.6 percent. In addition, in February 2010, the PPPD spending of Oahu visitors was $179, a decrease of 4.5 percent over the same month in 2009.

Obstacles/Needs. Among the obstacles and needs raised by the Visitor Industry focus group were:

- The City and County of Honolulu's infrastructure is in poor overall condition, particularly the beaches in Waikiki.
- The cost of energy usage for the hotels is high. Specifically, the hotels estimate that 40 percent of their energy usage goes toward air conditioning.
- Waikiki and downtown Honolulu lack a vibrant nightlife. It was suggested that Vegas-style nightclubs would be welcome.
- Waikiki lacks a visitor center, which should include cultural and interpretive displays.
- The Honolulu International Airport needs multi-lingual signage. Currently, signs in the common Asian languages are not available.
- Visitors need more information published to help guide them to sights outside of Waikiki, such as the historic district, the arts district, and other areas of interest.
- The Honolulu Zoo needs more staff training and a traveling exhibit to broaden community support and interest.

Fig. 20. Feeding time for the giraffes. The Honolulu Zoo faces an acute shortage of animal keepers. Photo: Courtesy Honolulu Zoo.

PROPOSED PROJECTS

This section lists project proposals for funding consideration by the Economic Development Administration, U.S. Department of Commerce in table format. Consult the project descriptions for further details.

The projects are coded as follows: the first two letters indentify the cluster, these letters are followed by an 'S' or 'L' indicating short-term or long-term development prospects. Where projects are primarily focused on one cluster, but have important links to additional clusters, the letter 'M' appears in the code. The additional clusters are identified in the proposal descriptions which follow this section. Finally, the project proposals are assigned a number. As an example: DALM01 identifies a Diversified Agriculture project (Oahu Sun Powered Farms) with long-range development prospects, and an important link to another economic cluster (renewable energy). It is the first such project to be so identified in its economic cluster.

The cluster abbreviations are as follows:

DA – Diversified Agriculture
CE – Culture, Entertainment, and Sports
DD – Defense, Dual Use
RE – Renewable Energy
FD – Film and Digital Media
MC – Multiple Economic Clusters
VI – Visitor Industry
SI – Support Industry

Two non-cluster categories have been created for organizational purposes. Projects with strong connections to several economic clusters are in a section entitled, "Proposals for Multiple Economic Clusters." Projects that support an industry are categorized by that industry's name.

SHORT RANGE PROJECTS LIST

CODE	Project Name	Applicant	Project Type	Estimated Jobs	EDA Request	Estimated Cost	Matching Funds Source
DIVERSIFIED AGRICULTURE							
DAS01	Kunia Village Agri-business Complex	Hawaii Agriculture Research Center	Public Works / Economic Adjustment	40+	$1.8 M	$3.6 M	Land & existing structures, cash, in-kind services
DAS02	Oahu Farmland Security Initiative	Oahu Resource Conservation and Development Council	Public Works	40-50	$250K	$500K	$180K from farmers, ranchers, in-kind
DASM03	Expansion of the Swine Industry through Local Production of Animal Feed	Agribusiness Development Corporation	Technical assistance	20 direct 15 indirect	$1.7M	$1.8+	$100K cash and in-kind
DASM04	Improving Hawaii's Agricultural Export Potential Using a Safe Food Transportation Management System	Hawaii State Department of Agriculture	Economic Adjustment	23 direct	$924K	$1.8M	Personnel in-kind, Donations, state funding as economy improves
DASM05	An Integrated Approach to Achieve Food and Fuel Security for Hawaii	Hawaii State Department of Agriculture	Economic Adjustment	1,000 by 2030	$240,330	$500K	Personnel in-kind, Donations, state funding as economy improves
DASM06	Establishing an Integrated Food Safety System for Hawaii's Food Supply Chain to Meet Federal and Buyer Food Safety Requirements	Hawaii State Department of Agriculture	Economic Adjustment	48	$1,997,000	$4M	Personnel in-kind, Donations, state funding as economy improves

CODE	Project Name	Applicant	Project Type	Estimated Jobs	EDA Request	Estimated Cost	Matching Funds Source
DAS07	North Shore Aquaculture & Aquaponics Project	North Shore Chamber of Commerce	Economic Adjustment and/or Technical Assistance	30	$1.5M over 5 years	$3M over 5 years	Private funds, retained earnings, relocated infrastructure and equipment, services in-kind, and loans: $1.5 million over five years.
DAS08	Diversified Agriculture (Aquaponics) Association Between the Hawaii Agricultural Research Center and Hawaii Pacific University for the Economic Re-Development of Kunia, Oahu.	Louis Primavera, Ph.D.	Public works	500 within three years	$872, 800	$872, 800+	In-Kind: 1) HPU: Summer three month salary for Dr. Primavera ($20,000), 2) HARC: Building #2- 7500 sq. ft. ($404,000), 3) HARC: Building #2 land lease ($12,400)
DAS09	Food Security Action Plan for Hawaii	Hawaii Institute for Public Affairs	Economic Adjustment	1 full time, 3 part time	$400K	$600K	$200,000 from State Civil Defense, agricultural and fisheries associations, local businesses and foundations.
DAS10	Honolulu Farmers' Market Hall	Hawaii Farm Bureau Federation, Hawaii Department of Agriculture	Public works	No answer	No answer	No answer	Philanthropic foundations, private organizations, state
DASM11	Kapiolani Community College Culinary Institute of the Pacific at Diamond Head	Kapiolani Community College Culinary Institute of the Pacific	Public Works	600 placements over 5 years	$10M	$20M+	Foundations, Corporate and private donors, state and federal funds, GO bonds

CODE	Project Name	Applicant	Project Type	Estimated Jobs	EDA Request	Estimated Cost	Matching Funds Source
CULTURE, ENTERTAINMENT, and SPORTS							
CESM01	Chinatown Riverwalk Revitalization Study	Hawaii Chapter of the American Society of Landscape Architects	Economic Adjustment	1,000+	$75K Phase I $175K phase II	$150K Phase I $350K phase II	In-kind, state and county funding
CES02	Hawaii Arts Center for Youth (HACY) Feasibility & Planning	Hawaii Arts Center for Youth, 501(c)(3)	Economic Adjustment , Capital / feasibility study	6 for planning, 80 for sustainability once built	$60K	$120K	Hawaii Community Foundation; John R. Halligan Fund; Island Soul Entertainment, anonymous private donor, other private donors
CES03	Hawaii Cultural Data Project	Hawaii Arts Alliance	Technical assistance, feasibility study	3 immediate, 100 to 300 throughout the sector	$320K	$250K to add Hawaii to the project, and $150K for 2 years to sustain expansion across the state.	Hawaii Community Foundation, Hawaii Tourism Authority
CESM04	Locally Grown “Bright Ideas”	Hawaii Arts Alliance		10 immediate	$360K	$450K	Hawaii Community Foundation, Local food and environment industry partners, retail and restaurant owners

CODE	Project Name	Applicant	Project Type	Estimated Jobs	EDA Request	Estimated Cost	Matching Funds Source
CES05	Heritage Corridor Promotion	Michael Story (HTA)	Economic Adjustment	10	$10K	$20K	Potential donors
CES06	Building a New Diamond Head Theatre	Diamond Head Theatre	Public Works	5 jobs, thousands of patrons	$120K	$222K	Foundation grants, DHT donors
CES07	Fine Arts Music Programming for Kapolei / West Oahu	Chamber Music Hawaii	Technical Assistance	14	$30K	$60K	Box office receipts, NEA and other federal grants
CESM08	Honolulu Zoo Outreach Education Animal Annex Feasibility Study	Honolulu Zoological Society	Technical Assistance	2	$30K	$60K	$30K cash and in-kind
DEFENSE, DUAL USE							
DDSM01	Rapid Response Prototyping and Manufacturing Center	City & County of Honolulu	Public Works	10	$3M	$6M	state, City & County of Honolulu, private
RENEWABLE ENERGY							
RESM01	Feasibility Study for Seawater-based Renewable Energy Systems for Waikiki	Hawaii Science and Technology Institute	Technical Assistance	20 (1-3 yrs.) 100+ (3-5 yrs.)	$300K	$1M	UH, state of Hawaii (DBEDT, HTA)
FILM and DIGITAL MEDIA							
FDS01	Hawaii Film and Creative Media Development Plan	DBEDT, Creative Industries Division	Economic Adjustment / Technical Assistance		$30K to $40K	$65K to $85K	state ($15K), UH ($15K), counties (TBD)

CODE	Project Name	Applicant	Project Type	Estimated Jobs	EDA Request	Estimated Cost	Matching Funds Source
FILM and DIGITAL MEDIA							
FDS02	Academy for Creative Media Digital Media Production Incubator at UH West Oahu Planning Grant	Academy for Creative Media, University of Hawaii System	University Center	1,000 over the next decade	$150K	$300K	Academy for Creative Media System, $150K
FDS03	Hawaii Digital Media Production and Education Center	DBEDT, Creative Industries Division	Economic Adjustment / Technical Assistance	25 planning, 10 design, 8 staffing, industry related jobs generated 4000-5000		Design: 250K, Construction : $2.5M	TBD - state of Hawaii, City and County of Honolulu, University of Hawaii Foundation, Industry donors.
MULTIPLE ECONOMIC CLUSTERS							
MCS01	Economic Development Through Transfer of Technology	Hawaii Science and Technology Institute	Technical Assistance, University Centers	2 (1-3 yrs.) 100s (next generation)		$500K	UH, HTDV
MCS02	Hawaii Digital Media Production and Education Center	DBEDT, Creative Industries Division	Economic Adjustment / Technical Assistance	25 Planning, 10 Design, 8 Facility staff. Industry related jobs generated 4000-5000		Design: 250K Construction : $2.5 Million	state of Hawaii, City & County of Honolulu, University of Hawaii Foundation, industry donors

CODE	Project Name	Applicant	Project Type	Estimated Jobs	EDA Request	Estimated Cost	Matching Funds Source
MULTIPLE ECONOMIC CLUSTERS							
MCS03	Innovation Economy Pipeline for Small Businesses ~ Commercialization/Tech Transfer & Energy Roadmap	High Technology Development Corp. (state government)	Technical Assistance	—	$150K	$300K	$150K (HTDC special fund, other state agencies, EDBs, private foundations, University of Hawaii)
MCS04	Statewide Science and Technology Strategic Plan	Hawaii Science and Technology Institute	Economic Adjustment	2 next yr. 1000's next generation		$500K	University of Hawaii, state of HI (DBEDT)
MCS05	The "Design Thinking Institute" at the University of Hawaii	University of Hawaii	University Centers, Technical Assistance	100	$300K	$600K	University of Hawaii and others to be determined
MCS06	Oahu Technology Transition & Commercialization Center	City & County of Honolulu	Public Works	250	$3M	$6M	TBD: developer & anchor tenants
VISITOR INDUSTRY							
VIS01	Oahu Green Map	Sustainability Assoc. of Hawaii	Economic Adjustment	2-3		$100K	Visitor-related businesses
VIS02	Waikiki Circulator Transportation System, Hybrid/Electric Vehicles	Hawaii Hotel and Lodging Assoc.—Oahu Chapter	Public Works / Economic Adjustment	TBD		$500K	Visitor-related businesses
VIS03	A Study to Identify New Tourist Attractions and Activities Appropriate for Waikiki, Oahu, and Hawaii	HH&LA (Noel G Trainor past chairman HH&LA dba Savoy Consulting LLC)	Technical Assistance	TBD		$40K	TBD

CODE	Project Name	Applicant	Project Type	Estimated Jobs	EDA Request	Estimated Cost	Matching Funds Source
VISITOR INDUSTRY							
VIS04	Honolulu Zoo Animal Zoo Keeper Training Program	Honolulu Zoological Society	Technical Assistance	6-12	$100K	$200K	Honolulu Zoo Society
VIS05	Waikiki Beach Nourishment	Waikiki Improvement Association	Public Works	Prevention of job loss in the visitor industry	$1.5M	$3.5M	state of Hawaii $1.5 million, Kyo-ya Hotels & Resorts, LP $500,000.
VIS06	Feasibility Study to Develop Tourism Training Programs as an Export	Kapiolani Community College	Technical Assistance	20-50	$15K		Hawaii Tourism Authority, DBEDT, Hawaii Society of Corporate Planners
VIS07	Visitor Emergency Alert System	Hawaii Hotel & Lodging Assoc.	Economic Adjustment	Preserves jobs	$105,000 ($1500/hotel)		$70,000 ($1,000/hotel)
SUPPORT INDUSTRY							
SIS01	The State of Physical Infrastructure in Hawaii – Phase 2	Hawaii Institute for Public Affairs	Economic Adjustment	1 full-time, 3 part-time	$400,000	$600,000	$200,000 from the construction, engineering, development and financial communities.
SIS02	Dental Health Expansion	Waimanalo Health Center	Economic Adjustment / Technical Assistance	4		$350,000	$52,000 from American Recovery and Reinvestment Act of 2009, $25,000 through the HRSA Loan Guarantee Program. Additional funds are still pending.

LONG RANGE PROJECTS LIST

CODE	Project Name	Applicant	Project Type	Estimated Jobs	EDA Request	Estimated Cost	Matching Funds Source
DIVERSIFIED AGRICULTURE							
DALM01	Oahu Sun Powered Farms	Oahu Resource Conservation and Development Council	Public works	20-35	$300K over three years	$500K over three years	$200K + in-kind
DALM02	Food Towers	Dr. Robert Yonover	Public works	20+	$125K	$125K	Private sector
DAL03	Aquaculture Technology Innovation Center	Oceanic Institute	Public works	50	$2M	$4M	Oceanic Institute Capital Campaign
CULTURE, ENTERTAINMENT, and SPORTS							
CELM01	PA'I Native Hawaiian Culture and Arts Center and Affordable Housing Project	PA'I Foundation	Technical Assistance	25	$1M	$25M	Artspace $500,000 Ford Foundation $250,000 Leveraging Investments in Creativity $100,000
CELM02	Interactive Digital Arts Center	Hawaii Arts Alliance	Economic Adjustment	300	$1,080,000	$1.2M	City & County of Honolulu, private foundations
CEL03	Chinatown Revival: Act II	Hawaii Theatre Center	Public Works / Economic Adjustment	89	$1.5M	$3M	$1.5M from Foundations, Corporations, Individuals, state of Hawaii Capital Improvement Grant-in-Aid

CODE	Project Name	Applicant	Project Type	Estimated Jobs	EDA Request	Estimated Cost	Matching Funds Source
CEL04	Athletic Training & Recreation Complex	Michael Story (HTA)	Public Works	56	$4M	$104M	Sponsor underwriting $20M, total land cost $1.99M
DEFENSE, DUAL USE							
DDLM01	City of Innovation Fund and Showcase	Hawaii Tourism Authority, Hawaii Technology Development Corp.	Economic Adjustment	4, potentially 100s from increased revenues to companies	$500K	$1M	city, state, private
FILM and DIGITAL MEDIA							
FDL03	Digital Media Business Incubator	Ocean Network		24	$100K	$200K	Private investors
VISITOR INDUSTRY							
VIL01	Gray's Beach Restoration	Gray's Beach, LLC	Public Works	See proposal for maintenance of visitor industry jobs.	$4M	$5M	$1M from Kyo-ya Hotels & Resorts, LP. Additional funding will be sought from HTA, state of Hawaii, WBIDA, and other private businesses.

CODE	Project Name	Applicant	Project Type	Estimated Jobs	EDA Request	Estimated Cost	Matching Funds Source
VISITOR INDUSTRY							
VIL02	Waikiki Visitor Information Center	Waikiki Business Improvement District Association	Public Works	See proposal for maintenance of visitor industry jobs.	$500K	$500K construction, $400K annual operation	Long-term operational funding would be provided by private sector
VIL03	Waikiki Sidewalk Paving	Waikiki Improvement Association	Public Works	Maintenance of visitor industry jobs	$8.5M	$19.7M	City and County of Honolulu $6.7 million and WIA Members $4.5 million
SUPPORT INDUSTRY							
SIL01	Ke'ehi Community Resource Center (KCRC)	The Pacific Gateway Center	Public Works	300	$4M	$8M	$3M from state, $1M from county
SIL02	Lake Wilson Repair and Clean Up for the Safety of the North Shore Residents	4AgHawaii / HDOA / ADC / Dole / North Shore Chamber	Public works	30	$2.2M	$3.2M	$1M, industry

SHORT RANGE PROJECTS

DIVERSIFIED AGRICULTURE

DAS01 Kunia Village and AgriBusiness Complex

Applicant: Hawaii Agriculture Research Center

The proposed project is an integral part of a diversified agricultural cluster developing in the Kunia area. Many of the factors considered critical to success of a cluster are present: presence of large firms, specialty services, business support services, physical infrastructure, etc. This project supports the physical infrastructure component, the business support services and the specialty services needs for this cluster. The evolution and location of this cluster is highly compatible with the City and County of Honolulu's Central Oahu Sustainable Communities plan and the Ewa Development plan. Clearly with the elimination of the two major agricultural crops in the Kunia area, agricultural employment was severely affected. However, there is a higher labor component requirement for the specialty crops emerging in this area doubling the employment opportunity and servicing needs. This project supports infrastructure renovation, which will facilitate stable, economically feasible and long term land tenure for the needed services and value-added components for the smaller operations emerging that cannot afford them. The project involves the rehabilitation of four (4) of the complex's nine structures and the access road, Lua Wai Street. Some structures in the complex are being renovated by the private sector. The complex consists of the Del Monte Fresh Produce Hawaii's (DM) industrial structures that were used in processing, packaging, storage and transportation of pineapple, and support facilities needed to maintain the operations. There are approximately 23 acres of land having over 150,000 sq. ft. under roof. The four "project" buildings represent about 35 percent or just over 53,000 sq. ft. and the adjacent access road.

Estimated Jobs Generated: 40+ jobs per year for 5 years or when the complex is completely occupied

Estimated Cost: $3,600,000

Project Type: Public Works and/or Economic Adjustment

Sources and Amounts of Matching Funds: Land and existing structures: $5 million cash and in-kind services: $350,000.

DAS02 Oahu Farmland Security Initiative

Applicant: Oahu Resource Conservation and Development Council

The Oahu Farmland Security Initiative is a five-year program to design and implement a comprehensive plan to address agricultural security issue on Oahu, especially theft and feral animal incursions. Farmland security is emerging as a new, avoidable, and potentially devastating challenge for farmers and nursery growers.

Feral animals, especially pigs, have long had a negative impact on Oahu's farmlands. However, new food safety certification standards have brought the problem into sharp focus, especially for farmers producing row crops. Evidence of a single incursion by a pig or other mammal can result in loss of an entire field due to contamination concerns.

Likewise, the growing popularity of small farms producing flowers and food crops, coupled with a very poor economy, has emboldened thieves to strike often and hard. Some small businesses report being hit multiple times in a single month, making it difficult for them to break even, let alone prosper.

Farmers, ranchers, and nursery growers need help to secure their borders, protect their investments, and grow their businesses.

The Oahu Farmland Security Initiative would work with local agricultural organizations and businesses to develop and implement effective strategies to address these problems. Preliminary strategies to combat agricultural theft include:

- Group purchase and installation of theft-deterrent devices, including lights, alarms, sprinkler systems, and camera, with some cost share provided.

- Development of a web-based Ag Alert network, enabling victims to immediately disseminate information to a central source, which would notify potential buyers of stolen goods.

- Production of a post-card reporting system, enabling victims to immediately mail a post card to local police, alerting them to the problem and providing support to both document and defeat theft rings.

Strategies to address feral animal incursions include:

- Group purchase and installation of pig exclusion fencing, with some cost share provided.

- Group engagement of wildlife consultants to recommend and implement feral animal control mechanisms.

- Cooperative efforts at feral animal control to include both the hunting and the conservation community.

Estimated Jobs Created: 40-50 businesses impacted, jobs supported

Estimated Cost: $250,000 (over 5 years, exclusive of match)

Project Type: Public Works

Sources and Amounts of Matching Funds: $180,000 from farmers, ranchers, and nursery growers as cost-share on security installations; also in-kind support from other organizations and agencies

DASM03 Expansion of the Swine Industry and Import Reduction through Local Production of Animal Feed

Applicant: Agribusiness Development Corporation.

Additional Cluster That This Project Supports: Visitor Industry

Hawaii's diverse population with its many Asian cultures creates a high demand for fresh pork. Approximately 43 percent of the pork consumed in Hawaii is imported and this percentage of imported pork has been increasing over time.

Oahu has substantial food waste, especially from food establishments in Waikiki. This waste is costly to dispose of and unless properly treated, poses a health risk. Hog farmers presently need to import expensive grain or cook the food waste for the hogs, which is labor intensive. The Agribusiness Development Corporation (ADC) is interested in addressing the high cost of livestock feed by utilizing food waste as well as assisting the Hospitality Industry with their waste disposal requirements. This project will also help to expand the local swine industry and replace imported hogs with locally produced

hogs. Our project partners will be the University of Hawaii, College of Tropical Agriculture and Human Resources, hotels, restaurants, and others within the visitor and food industries, the Hawaii Farm Bureau Federation, and the swine industry.

In an earlier feasibility study conducted in Hilo by UH CTAHR, it was demonstrated that collected restaurant food waste and added ingredients could be processed mechanically by machine into a dry animal feed. The production of the fortified and dehydrated garbage (FDG) involves fermentation and dehydration. The FDG is estimated to have a shelf life of about 10 days and is easily transportable. It was suggested in the study that Oahu would be a better place to commercialize this concept since there is a larger supply of input materials and a larger number of hog producers (Oahu has the largest number of hog farms in the state). The feasibility study determined that there is a market for about 13,000 tons of FDG at a value of approximately $9.6 million based on a population of about 13,000 hogs in Hawaii (2008 data) and that the cost of the FDG would be competitive with imported feed. Price competitiveness of the FDG in the foreseeable future will depend on the cost of oil, which affects energy, and transportation costs.

This proposed project would be a pre-commercialization step before large-scale production of FDG, requiring investor capital, can take place on Oahu. A production-sized machine with a capacity of about 5 to 10 tons/day will be needed to further refine the process, to work out food waste collection procedures, and to firm up production cost estimates. Additional work on formulations will be needed to ensure that the final product has a consistent nutrient content. When completed, the project will confirm whether further investment in the production of FDG is warranted.

If the production of FDG becomes commercially viable and price competitive, it may reverse the trend of declining hog production in the islands and move Hawaii closer to becoming more self-sufficient in terms of food security.

Estimated Jobs Generated: 20 direct and 15 indirect

Estimated Cost: $1,800,000 (EDA share)

Project type: Local Technical assistance

Current sources and amount of matching funds: *

ADC	$30,000 (cash—pending approval)
ADC	$10,000 (in-kind, coordination)
UH-CTAHR	$10,000 (in-kind, consultation)
HARC	$30,000 (in-kind, warehouse space)
HDOA – Commodities Branch	$20,000 (in-kind, consultation & testing)
Total	$100,000

*We will seek state matching funds as the economy improves. We also expect that the livestock industry will contribute to this project as well as the visitor industry.

DASM04 Improving Hawaii's Agricultural Export Potential Using a Safe Food Transportation Management System.

Applicant: Hawaii State Department of Agriculture.

Additional Cluster That This Project Supports: Visitor Industry

With the imminent passage of HB2749 and S510 into federal law, Hawaii's agricultural community will be required to implement food safety systems in order to compete with other sub-tropical exporters. Among the requirements of the law will be cold-chain transportation systems requiring temperature and humidity measurements and controls. The Hawaii State Department of Agriculture, working with companies from Hawaii, Taiwan, Hong Kong and California has developed a food safety cold-chain tracking and transportation system designed to improve managerial control over food safety transportation practices. The system replaces wooden pallets with recyclable, cleanable, food safe plastic pallets embedded with reusable RFID temperature/ humidity battery assisted tags. This private sector supported second generation RFID project is currently undergoing testing at three distribution centers located on Oahu, Hawaii and Maui. It is a direct offshoot of the 2008 RETAH funded Hawaii Farm Bureau Federation project established to pilot and test farm-to-fork RFID traceability. Our project partners will be Armstrong Produce, Motorola, Asia Pallet Pooling (APP Taipei, Taiwan), Global Systems 1 (GS1) Hong Kong, Intelleflex, and EPC Solutions (Taiwan).
This CEDS proposal seeks funds to expand the current interisland food safety traceability project into an international (Asia, Hawaii,

continental US, South America) supply chain project in anticipation of the 2011 Asia Pacific Economic Conference. The goal is to demonstrate an international (trans-Pacific) level cold/humidity controlled food safety and traceability management model capable of meeting the requirements of the federal legislation and further establishing the reputation of Hawaii as a significant leader in the delivery of fresh, safe, quality foods and products. The project will also highlight Hawaii's capability to serve as a center of international as well as domestic food safety collaboration, technical expertise, and innovation.

Estimated Jobs Generated: Twenty-three agricultural and transportation related positions would be established as a result of cold-chain implementation throughout the state.

Estimated Cost: $924,000 (EDA share). Funds will be used to purchase tags, pallets and employ the people required to implement and maintain the system.

Project Type: Economic Adjustment. This project will further strategies and attract investments that connect regional (Hawaii) economies with the worldwide marketplace.

Sources and Amounts of Matching Funds: Matching amounts will be calculated from personnel time expended by all private and public sector project participants as well as donations of equipment and materials. As the economy improves, we will also seek matching state funds.

DASM05 An Integrated Approach to Achieve Food and Fuel Security for Hawaii

Applicant: Hawaii Department of Agriculture

Additional Cluster That This Project Supports: Renewable Energy

In 2007, the Hawaii State Legislature established an Energy Feedstock Program within the Hawaii Department of Agriculture to:

1. Maintain cognizance of actions taken by industry and by federal, state, county, and private agencies in activities relating to the production of energy feedstock, and promote and support worthwhile energy feedstock production activities in the state;
2. Serve as an information clearinghouse for energy feedstock production activities;
3. Coordinate development projects to investigate and solve biological and technical problems involved in raising selected species with commercial energy generating potential;
4. Actively seek federal funding for energy feedstock production activities;
5. Undertake activities required to develop and expand the energy feedstock production industry; and
6. Perform other functions and activities as may be assigned by law, including monitoring the compliance provisions under section 205-4.5(a) (15). No resources were appropriated for the program and the state's energy initiatives have now progressed to the point where the Hawaii Department of Agriculture has to become a fully contributing partner in order for the state to achieve its energy objectives.

The Hawaii Department of Agriculture proposes to implement the program by funding a Land and Water Use Planner, and Agricultural Energy Specialist and eventually a Grants Writer. The program will focus on:

1. Creating linkages between the livestock and aquaculture industries and bioenergy producers in order to utilize bioenergy by-products that can be used as affordable feed substitutes;
2. Addressing the waste disposal problem faced by livestock producers by creating linkages with bioenergy producers and users;

3. Identifying opportunities for farmers, aquaculturists, and ranchers to partner with bioenergy producers/users;
4. Collaborating with academic and industry partners to identify means to make farms and ranches more energy efficient using bioenergy feedstock and alternative energy technologies; and
5. Serving as a mediator and facilitator with the agricultural and bioenergy industries to resolve conflicts and jointly address problems and opportunities.

Our project partners will be the Hawaii Energy Office (DBEDT), Hawaii Cattlemen's Council, and the Hawaii Aquaculture and Aquaponics Association.

Estimated Jobs Generated: 1,000 new workers by 2030 in the bioenergy industry (production, conversion, and delivery)

Estimated Cost: $240,330 (EDA share). Funds will be used for a Land and Water Use Planner hired in Year 1, an Energy Specialist hired in Year 2, and a Grants Writer hired in Year 3.

Project Type: Economic Adjustment. Hawaii's feed and fuel costs are among the highest in the nation and both limit the growth of Hawaii's economy. This project will assist state government, livestock and aquaculture industries, and biofuel energy producers to collaborate together to contribute to Hawaii's energy and food security.

Sources and Amounts of Matching Funds: Matching amounts will be calculated using personnel time, donated equipment and materials, and other expenses incurred by all industry and public sector project participants. The grants writer is expected to generate grant funds equaling or exceeding at least two times his/her costs and as the economy improves, we will also seek state matching funds.

DASM06 Establishing an Integrated Food Safety System for Hawaii's Food Supply Chain to Meet Federal and Buyer Food Safety Requirements

Applicant: Hawaii State Department of Agriculture

Additional Clusters That This Project Supports: Information Technology, Visitor Industry

In 2010, the U.S. Congress is expected to pass HR 2749, the Food Safety Enhancement Act of 2009 requiring food supply chain members to meet FDA developed food safety certification, sampling, risk assessment and recall requirements. Hawaii's farmers, distributors and retailers will be severely challenged to meet the requirements, and as such, may lose market share or face closure altogether.

In 2008, the Economic Development Alliance of Hawaii (EDAH) funded a Hawaii Farm Bureau Federation project, which was the first in the nation to apply radio frequency identification (RFID) technology to support traceability of farm products. The project established farm-distribution center-retail outlet traceability and won numerous awards. Part of this project also focused on developing a food safety certification system designed to promote safety certified suppliers to the buying community. Since 2008, fresh produce buyers, the federal government and insurance companies have all stepped up the pressure to establish an integrated approach to food safety. Our project partners will be Armstrong Produce, Motorola, Oregon State University RFID Lab (Food Innovation Center), Hawaii Farm Bureau Federation, Foodland Stores, Maui Pineapple, Hamakua Mushrooms, Sugarland Farms, Lowry Computer, Bluebery Hawaii, Hawaii Student Television, Hawaiian Telecom, Kahuku Brand, Twin Bridge Farms, Infratab (California), Avery Dennison, Globe Ranger Software, PAXAR, and RFID Revolution.

This proposal requests funds to reconfigure and develop components of the original EDAH funded traceability and food safety project in order to develop a fully integrated and federally compliant food safety software system. The resulting software package will be provided at cost to Hawaii's food supply chain members in order to help them meet buyer, insurance and legal food safety management requirements. The system will also help Hawaii's food supply chain members to

incorporate newly evolving food safety management practices into their normal business operations.

Estimated Jobs Generated: 48. We estimate 40 new food safety positions at food supply chain members using the system, as well as eight positions responsible for development and implementation of the system.

Estimated Cost: $1,997,000 (EDA share). Funds will be used for system development, marketing, and system support.

Project Type: Economic Adjustment. This project assists state government and local, private sector technology companies and their partners to collaborate and develop a means to comply with federal and customer requirements for food safety compliance. Without a means of compliance, Hawaii's agricultural industry will be seriously restricted and suffer loss of market share. Hawaii's efforts to ensure food security will be seriously jeopardized and loss of market share will mean more imports will come into Hawaii, increasing the risk of invasive species.

Sources and Amounts of Matching Funds: Matching amounts will be calculated from personnel time expended by all private and public sector project participants as well as donations of equipment and materials. As the economy improves, we will also seek state matching funds.

DAS07 North Shore Aquaculture and Aquaponics Project

Applicant: North Shore Chamber of Commerce

Aquaculture has had a long and positive history on Oahu's rural North Shore. Aquaponics is a relatively new, innovative technology that recycles aquaculture waters for sustainable production of vegetables, herbs, fruits, and ornamentals. Oahu currently imports greater than 90 percent of its seafood and a similarly high proportion of its edible and ornamental plant products, negatively impacting our island's food security and balance of payments. The health benefits of eating fresh seafood and produce, and the economic benefits of buying locally grown agricultural products are increasingly well known, and are driving increased demand for locally-grown products. The North Shore Aquaculture and Aquaponics Project is a shovel-ready project that will help transition a former North Shore quarry and bitumuls site, located within the economically depressed Waialua Enterprise Zone, into a world-class freshwater aquaculture and aquaponics research, production, and education facility. The quarry aquaculture project, which is specifically noted in the county's "North Shore Sustainable Communities Plan", will research and develop innovative and competitive aquafarming practices, retain and generate long-term agricultural jobs, grow premium quality agricultural products, improve our island's food security, and inspire and educate current and future generations of skilled farmers and informed consumers.

Hawaii Fish Company (HFC), a nationally recognized small aquaculture business, has worked with an array of federal, state, county, and private strategic partners on Oahu to develop the project concept, obtain required conservation and well permits, and research and field test innovative prototype production technologies. HFC will provide project coordination and aquaculture expertise. Polynesian Orchids and Anthuriums, Inc., a Hawaii horticulture leader, will partner in this effort and provide expertise to the aquaponics portion of the project. Additional technical expertise will be provided by the Hawaii Department of Agriculture, Aquaculture Development Program, and the University of Hawaii at Manoa, College of Tropical Agriculture and Human Resources.

The project work plan will include removing derelict quarry infrastructure and debris, installing security fencing, transporting recycled agricultural structures and equipment to the project site

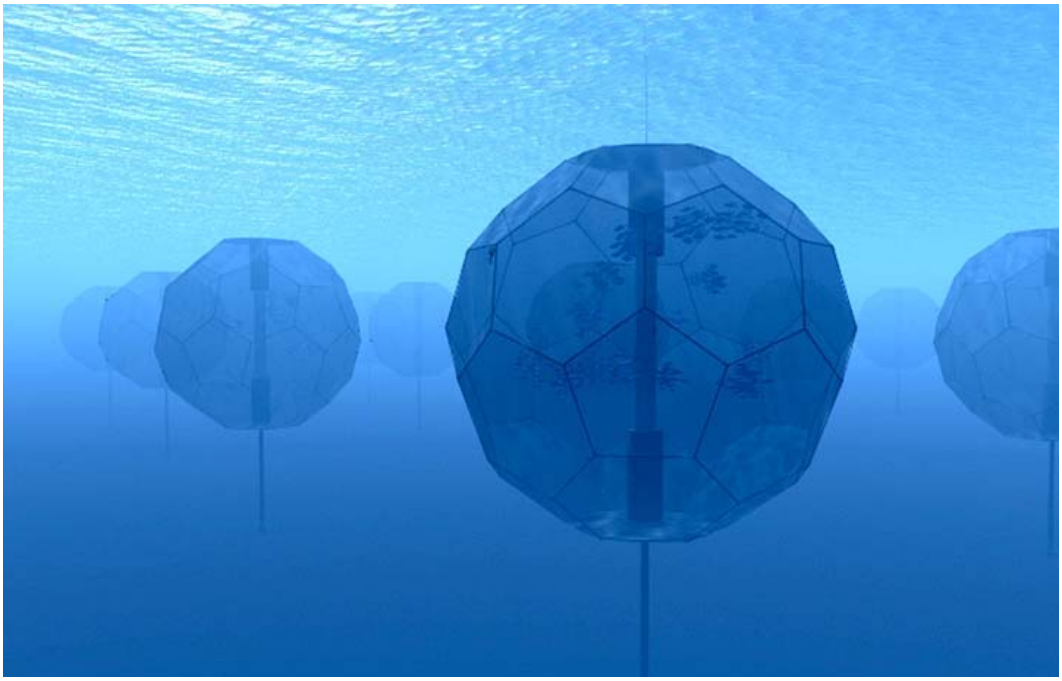
from elsewhere in the state, developing a 25-year project Master Plan, and designing and constructing initial research, production, education, and caretaker facilities on 18 acres of the 148-acre site. The project will become self-sustaining within the five-year project timeframe, will provide increased employment and tax revenues, and will reinvest profits and attract private investment for continued project development. The educational component of the project will include partnerships with the neighboring YMCA Camp Erdman's Environmental Education Program (currently serving 18,000 school children annually), the National Oceanographic and Atmospheric Administration's Navigating Change Curriculum Program, and the Waialua School Complex. The North Shore Chamber of Commerce will be the project's fiscal agent.

Estimated Jobs Generated: 30 jobs generated or retained

Estimated Cost: $3 million over five years. EDA funding: $1.5 million over five years.

Project Type: Economic Adjustment and/or Technical Assistance

Sources and Amounts of Matching Funds: Private funds, retained earnings, relocated infrastructure and equipment, services in-kind, and loans: $1.5 million over five years.



DAS08 Diversified Agriculture (Aquaponics) Association Between the Hawaii Agricultural Research Center and Hawaii Pacific University for the Economic Re-development of Kunia, Oahu.

Applicant: Louis Primavera, Ph.D.

The formation of a diversified agriculture association between the Hawaii Agricultural Research Center (HARC) and Hawaii Pacific University (HPU) has great potential as a business incubator to replace the employment vacuum that was created in Kunia, Oahu when Fresh Delmonte Produce, Inc. ceased operations in 2008 (nearly 700 people lost their jobs). This affiliation could create hundreds of high-skill, high-wage jobs as well as well as give birth to an aquaponics food industry on the island of Oahu. There currently exists a substantial dependency on imported foods that could easily be disrupted via natural catastrophe or a strike at the local shipping company. In order to become a more sustainable economy, Oahu needs to increase the amount of locally produced food. Aquaponics is a more sustainable type of agriculture (as compared to traditional soil farming) because it uses less land, water and can produce a greater abundance and diversity of produce (vegetables, herbs, fish, prawns, and shrimp). Currently, aquaponic agriculture is a topic of great interest to the local community and with substantial growth potential, as proven by the over 200 participants at the University of Hawaii at Manoa Aquaponics Conference (11/21/09) and numerous articles in the local newspapers. This proposed affiliation between HARC and HPU will allow the creation of a Kunia, Oahu training center where local people can learn and employ the concepts of aquaponics to grow produce as well as to provide value-added product development and manufacture. The summer salary (three months) for Dr. Primavera will be contributed by HPU and HARC will supply the HARC Building #2 facilities and land in a service in kind match for federal funding.

Estimated Jobs Generated: 500 full-time jobs regenerated/created within five years

Estimated Cost: $872, 800

Project Type: Public Works

Sources and Amounts of Matching Funds: Service in Kind: 1) HPU: Salary for Dr. Primavera ($20,000), 2) HARC: Building #2- 7500 sq. ft. ($404,000), 3) HARC: Building #2 land lease ($12,400)

DAS09 Food Security Action Plan for Hawaii

Applicant: Hawaii Institute for Public Affairs (HIPA)

Much has been written on food security for Hawaii, and it is a matter of grave concern. According to many sources, there is approximately a two-week supply of food in the islands, and we import approximately 80 percent of our food from outside Hawaii.

While much has been written, there does not appear to be an action plan pulling all resources together to successfully address the issue.

This project would start with an inventory of studies, reports, research, data and interviews to determine what is already know about the issue of food security. Then with a group of stakeholders including, but not limited to, agriculture, fisheries, production, processing, distribution, and education, we would begin to determine the best path to take to decrease our reliance on outside sources and how best to increase the local food supply. This would be done jointly with Hawaii State Civil Defense to ensure that the plan would lend itself to supplying Hawaii's needs in the case of a disaster.

Estimated Jobs Generated: One full-time researcher/consultant and three part-time members of HIPA's staff

Estimated Cost: $400,000 from U.S. Dept of Commerce Economic Development Administration

Project Type: Economic Adjustment

Sources and Amounts of Matching Fund: $200,000 from Hawaii State Civil Defense, agricultural and fisheries associations, local businesses and foundations.

DAS10 Honolulu Farmers' Market Hall

Applicant: Hawaii Farm Bureau Federation, Hawaii Department of Agriculture, Hawaii Community Development Agency (TBD)

Architectural design and pre-construction of a permanent farmers' market hall in Honolulu. Diversified agriculture is alive and well in Hawaii. Additionally, the movement to "Buy Local" is rapidly gaining momentum and contributed to making the farmers' market at Kapiolani Community College (KCC) a big success. Other farmers' markets and Community Supported Agriculture (CSAs) are growing all over the state. However, as the farmers' market at KCC matures, there is a reality that a permanent market with product serving, seven days a week to service the needs of both local consumers in demanding more fresh local produce and products and, tourists alike, stemming from an increasing time-share occupancy and an alternate attraction.

Why a permanent farmers market structure? Taking a cue from other cities on the west coast, permanent farmers' market provide a cornucopia of vendors under one roof…farmers, food processors, chefs, crafters, entertainers and other small businesses to incubate, grow and succeed. A case in point is that Starbucks Coffee was cultivated in the Pike Place Market in Seattle. This setting also allows local residents, as well as visitors to meet, eat, shop, talk story or just to blend and browse. With the diverse cultural base, Honolulu could provide visitors with a unique food-based, culinary and shopping experience that could be the envy of the world.

Ted Spitzer and Hilary Baum wrote in the book on public markets, *Public Markets and Community Revitalization, 1995*, for the Urban Land Institute and the Project for Public Spaces, Inc. that "the value of markets and why

people and government planners are discovering and rediscovering that public markets are great institutions for a healthy, vibrant city and its people."

Public markets are valued because they create common ground in the community, where people feel comfortable to mix, mingle, and enjoy the serendipitous pleasures of strolling, socializing, people watching, and shopping in a special environment.

Estimated Jobs Generated: ?

Estimated Cost: ?

Project Type: Public Works

Sources and Amounts of Matching Funds: Philanthropic foundations, private organizations, state

DASM11 Kapiolani Community College Culinary Institute of the Pacific at Diamond Head

Applicant: Kapiolani Community College Culinary Institute of the Pacific

Additional Clusters That This Project Supports: Diversified Agriculture and Visitor Industry

Kapiolani Community College Culinary Institute of the Pacific, through the University of Hawaii, acquired a long-term lease (65 years) for the former Cannon Club site located on Diamond Head State Monument (DHSM). At that site, KCC/CIP plans to develop a world class, silver LEED certified, high tech advanced culinary training facility, which will include; a four-star signature restaurant, classrooms, Asian Pacific and Multifunction kitchen labs, artisan baking and patisserie/ confiserie labs, administration building, competition demo theatre, imu, and cultural garden theme plots. The CIP-DH will complement the DHSM master plan and enhance visitors' experience to DHSM and to Hawaii. CIP-DH will collaborate with local farmers and promote the use of locally grown products in its effort to support Hawaii's agricultural industry. Since the time that KCC/CIP first presented its plans, the project has progressed in the areas of entitlements, site, and building design. Furthermore, CIP has greatly enhanced community and industry awareness of, and support for, the project, and its critical mission to provide advanced culinary education, to promote the visitor industry and diversified agriculture, and to support workforce and economic development, and sustainability for Hawaii.

Estimated Jobs Generated: 600 placements (over 5 years)

Estimated Cost: $20 Million+

Project Type: Public Works

Sources and Amounts of Matching Funds: Foundations, corporate and private donors, state and federal funds, GO bonds

CULTURE, ENTERTAINMENT and SPORTS

CESM01 Chinatown Riverwalk Revitalization Study

Applicant: Hawaii Chapter of the American Society of Landscape Architects

Additional Cluster That This Project Supports: Visitor Industry

Phase I: The purpose of this grant application is to fund a revitalization study that will identify ways to improve the social, economic, and environmental quality of the Chinatown and Nuuanu Stream corridor. The goal of the study will be to develop an urban design concept that creates a unique setting that serves Chinatown, the larger Honolulu community, and those island visitors seeking to experience our island culture and heritage. A key objective of this study will be to maintain and enhance the positive social fabric of the Chinatown area by creating a strong urban design identity and increased use that improves quality of life for all. Design features, land uses, and programs that minimize the anti-social and criminal behavior in the area, promote healthy and active life styles for the residents, and revitalizes business and community development will need to be part of the planning scope.

Phase II: Produce final construction contract documents for bidding including plans, specifications and estimates.

Estimated Jobs Generated: 1,000+

Estimated Cost: Phase I $150,000 and Phase II $350,000

Project Type: Economic Adjustment

Sources and Amounts of Matching Funds: In kind / state / City and County of Honolulu

CES02 Hawaii Arts Center for Youth (HACY) Feasibility and Planning

Applicant: Hawaii Arts Center for Youth, 501(c)(3)

HACY is a collaborative nonprofit partnership among Ballet Hawaii, Hawaii Youth Opera Chorus and Hawaii Youth Symphony to build a permanent home for three of the most prominent, oldest and best-established arts education groups. HACY partners share many of the same needs for office space, rehearsal space, classrooms, costume shop, central lobby and restrooms. Business efficiencies will be gained from sharing space and infrastructure costs. Co-locating programs and services would allow for increased safety for students and families, expansion of programming and artistic collaboration. Expansion and new works developed around HACY would result in job retention and growth, not only in the arts and education fields, but also in industries that support the performing arts, such as production, carpentry and stage crews. HACY would also bring lasting economic drivers to surrounding businesses in its base community, as it would be a regular and consistent destination point for families, statewide, with time and discretionary income.

Hawaii does not have a dedicated youth arts space. HACY will be key to securing the future and preservation of arts and arts education in our state. The role of independent arts organizations becomes increasingly important as continuing budget cuts jeopardize arts programs in our schools. HACY would serve as an anchor for the entire arts community, a physical gathering place readily identifiable with the arts. Rehearsal spaces would be available for other arts groups to use. Additionally, given the positioning of the constituent organizations, HACY would serve as a training facility not only for students but also for arts educators.

HACY has explored several sites and is looking at school campuses that the Department of Education is closing and releasing. The take-over of a smaller campus would well suit the needs of HACY and provide infrastructure. Construction costs are estimated at $12 million; HACY plans to add an endowment fund (raised through private donors) to its campaign goal for building maintenance.

Estimated Jobs Generated: 6 for planning and feasibility studies, 200 for overall construction and development of the HACY site, 80 for sustainability, once built.

Estimated Cost: $120,000 for planning and feasibility studies

Project Type: Economic Adjustment, Capital/feasibility study

Sources and Amounts of Matching Funds: Hawaii Community Foundation; John R. Halligan Fund; Island Soul Entertainment, Anonymous private donor, other private donors

CES03 Hawaii Cultural Data Project

Applicant: Hawaii Arts Alliance

The Cultural Data Project is an initiative to collect and harness the power of data to elevate the entire arts and cultural sector in Hawaii. Arts and culture is an important part of Hawaii's economy, and contributes a great deal to our quality of life. But the field has been without a source of broad-based, reliable, longitudinal data to articulate and provide evidence for the assets, needs and contributions of this often undervalued sector.

The Pew Charitable Trust has launched a national Cultural Data Project to use the power of knowledge to address the pressing challenges of our day. Hawaii Arts Alliance would coordinate a statewide effort to integrate Hawaii into this project to:

- Provide better information about cultural organizations to funding agencies
- Help arts managers improve their organizations' performance through use of trend and comparison data
- Generate reliable, objective and comprehensive data on the collective impact of the arts and culture sector for use in research and advocacy

Estimated Jobs Generated: 3 immediate – project could generate 100-300 jobs throughout the sector

Estimated Cost: $250,000 to add Hawaii to the project, and $150,000 for 2 years to sustain expansion across the state. Total: $400,000. EDA Request: $320,000

Project Type: Technical assistance, feasibility study/research

Sources and Amounts of Matching Funds: Hawaii Community Foundation, Hawaii Tourism Authority

CESM04 Locally Grown "Bright Ideas"

Applicant: Hawaii Arts Alliance

Additional Cluster That This Project Supports: Diversified Agriculture

Hawaii Arts Alliance would co-coordinate with environmental and private business partners, a project to gather community ideas on how to grow, eat, and sustain a local healthy environment called – Locally grown "Bright Ideas."

This would be structured as a statewide awards program that would offer 10 winners $4,000 each to help seed the development, and implementation, of innovative and creative ideas about how everyday Hawaii citizens can "eat local, and eat healthy." These ideas would address issues in local agriculture, food delivery, restaurant and market access, at-home gardening and preparation, and overall health and wellness.

A review committee comprised of community members representing all the dissecting industries, academics, government and other business representatives will select the award winners based on how well the proposed projects promote social engagement, new business opportunities, and access to local resources for wider public use.

The $4,000 seed money would be designated to research and more fully develop the 10-20 "Bright Ideas" into plans that can be implemented. The Hawaii Arts Alliance and project partners will connect winners to financial and community development resources, to facilitate effective public/private partnerships.

This model program was developed and tested in Honolulu's Downtown/Chinatown applied towards urban revitalization of this historic neighborhood with success, and is a proven vehicle for economic and social advancement in our community.

Estimated Jobs Generated: 10 immediately – project could generate 100-300 jobs in several areas, including arts and culture, health and wellness, food service and agriculture.

Estimated Cost: $300,000 to add Hawaii to the project, and $150,000 to sustain expansion across the state for two years. Total: $450,000. EDA Funding request: $360,000.

Project Type: Economic Adjustment, Technical Assistance

Sources and Amounts of Matching Funds: Hawaii Community Foundation, Local food and environment industry partners, Retail and Restaurant Owners

CES05 Heritage Corridor Promotion

Applicant: Michael Story (HTA)

Additional Cluster That This Project Supports: Visitor Industry

Create a promotional education program for visitors and residents interested in seeing what Oahu has to offer in the area of Culture and the Arts. Work with local stakeholders to create maps, transportation routes, discount cards, event calendars, etc., across multiple media platforms in order to drive Hawaii visitors and residents to culture and the arts sites and events.

Estimated Jobs Generated: 10

Estimated Cost: $20,000.00. EDA Request: $10,000

Project Type: Economic Adjustment

Sources and Amounts of Matching Funds: $0.00, but potential to raise $10,000.00

CES06 Building a New Diamond Head Theatre

Applicant: Diamond Head Theatre

Diamond Head Theatre is a non-profit community theatre founded by New England missionary families in 1915. The theatre group, which started out as "The Footlights" and was later re-named "Honolulu Community Theatre", is the third oldest continually operating community theatre in the nation. Diamond Head Theatre offers six theatrical productions each season to over 35,000 theatergoers, presenting the latest musicals, plays and traditional favorites. Our shows are cast, built and produced with the help of hundreds of volunteers, many of them high school students, who contribute their time, talent and energy under the guidance of our theatre staff. Youth programs are the mainstay of DHT's performing arts program, offering training in voice, dance and acting to the community, with special workshops and regular class sessions. Musical Theatre Experience is our summer musical theatre program with over 75 children ranging from 7-16 years old attending our 6-week program and another 20 attending an advanced MTE II session the following weeks. We also have a 45-member youth performing troupe, the Diamond Head Theatre "Shooting Stars" who perform at community events all over Oahu, from homeless shelters to Neiman Marcus's Breakfasts with Santa. Diamond Head Theatre facility, also known as Fort Ruger Theatre, was built in the 1930's as a USO movie theater. It has been minimally upgraded over the years but is essentially the same structure, that the Army turned over to the state in the early 1950's. The state then leased the theatre to Honolulu Community Theatre (HCT). HCT became "Diamond Head Theatre" in 1990. The renewal of the state lease was approved by DLNR last year and its term extends to 2046 with an option to renew until 2071. The building needs major upgrades. We contracted a firm in August 2007 to perform a top-to-bottom building assessment, and it was determined that essentially, it would be more efficient to build a new theatre. We have now contracted with a planning firm to investigate what can be built on the site, recognizing actual construction is several years away.

The site plan involves a lead agency, Helber, Hastert and Fee who will coordinate contractors such as engineers, land use specialists, and topographers to survey, explore and evaluate. The information would be gathered into a report, which would then give Diamond Head Theatre the road map on how to proceed. Next, we will choose an

architect to design the structure. Future steps will be continuing to identify funding strategies and working with the community.

Estimated Jobs Generated: 5 jobs, thousands of patrons

Estimated Cost: $222,000

Project Type: Public Works (planning grant)

Sources and Amounts of Matching Funds: Foundation Grants: $120,000; DHT donors

CES07 Fine Arts Music Programming for Kapolei/West Oahu.

Applicant: Chamber Music Hawaii, PO Box 61939, Honolulu HI 96839

The l4 professional musicians of Chamber Music Hawaii, comprising brass, wind, and string ensembles, would present an introductory season of eight concerts from September through May in a venue centrally located and accessible in the Kapolei community as a way of introducing live classical music to West Oahu residents far removed from cultural programming of downtown Honolulu. Family attendance would be actively encouraged by means of print and broadcast media and personal visitations by CMH musicians to the various communities. Music programming would also be extended to the public and private schools of Kapolei, Makakilo, and the Leeward Coast. CMH musicians, each an experienced teaching artist, would work with high and intermediate school band and orchestra leaders to assist in skills training, and would visit elementary schools to introduce classical music in informal "Talk Story" formats. Thus, professional musicians now resident in Hawaii would be provided additional work that is a critical need in the professional music community if talent and teaching artist skills are not to be lost to the state. Residents of the new West Oahu communities would have the opportunity to experience the life enriching gifts of music. Their children would have the opportunity to learn the fundamentals of one of civilization's great arts – music. The stated cost would make possible a one-year initiative, with the aim of eventually building an audience for public concerts and education programming that would sustain ongoing services. The arts are generative. Long-time expectations include individual teaching for both youth and adults by musicians resident

in the community and participatory opportunities, such as community musical groups.

This specific proposal by one classical music organization is but one such arts and cultural service that could be part of a comprehensive cultural development program that would eventually employ artists of many disciplines – music, drama, dance, visual and literary arts.

The CEDS goal of worthwhile and permanent, long-term employment for Oahu residents would be served, as would the quality of life for residents of Oahu's newest urban community.

Estimated Jobs Generated: Specifically, 14 professionally trained musicians/teaching artists who play brass, string, and wind instruments, and brass musicians with teaching artist qualifications.

Estimated Cost: $60,000. EDA Request: $30,000 one year program.

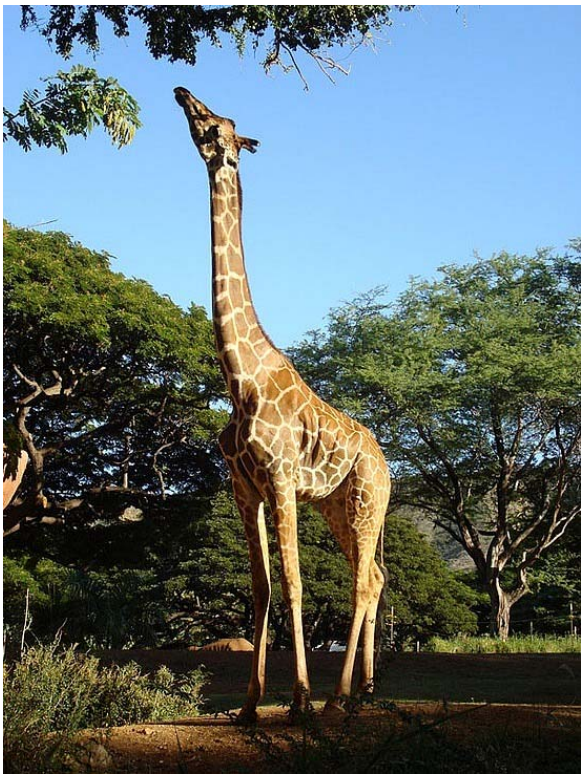
Project Type: Technical Assistance. Immediate: public service. Long range: establishment of community center employing artists of many disciplines (music, theatre, visual arts, etc.) that would provide arts experiences, participation and education for residents of Oahu's fast-growing second city.

Sources and Amounts of Matching Funds: Eventually box office income, education-programming fees, National Endowment for the Arts, other federal arts and humanities development and program and community grants.

CESM08 Honolulu Zoo Outreach Education Animal Annex Feasibility Study

Applicant: Honolulu Zoological Society, a non-profit, tax-exempt educational and charitable organization that raises funds for special projects, community and educational programs, and capital improvements at the Honolulu Zoo.

Additional Cluster That This Project Supports: Visitor Industry
The Honolulu Zoo is designated as a quarantine station and does not permit live animals to be taken off zoo grounds. The Honolulu Zoological Society created an outreach educational program, "Zoo To You," that brings enrichment and natural biofacts into schools and community facilities. Biofact study consists of showcasing the Zoo's collection of skulls (plaster casts) and genuine artifacts of fur, feathers and animal skins to the public-at-large. Because of the quarantine restrictions, live animals are not presently part of the Zoo to You program.



A solution to improving the Zoo To You program experience with the presentation of live animals is the development of a facility, or annex, that will allow selected animals to be cleared to be used for outreach programs. The feasibility study will engage consultants, the Zoo Director and staff, City and County of Honolulu's Department of Enterprise Services management, and other key professionals to clearly outline an efficient and effective plan of work for creation of an annex on Zoo grounds. Matters to be evaluated include the following: the size of the enclosure must allow adequate animal welfare and housing requirements; off-site contact between animals and members of the public for educational purposes; limiting the type and number of species to non-threatening types (turtles, rabbits, etc.); area being fenced and separate/fenced from the "restricted area"; and a long-

term visioning/economic strategic planning process, implementation strategy and action plan, among other tasks.

The benefits/justification would be:

- Increase cognition of educational/conservation messages within the Outreach program as supported by research from the Association of Zoos and Aquariums (AZA). Currently, the Honolulu Zoo is seriously handicapped by its quarantine status. Not being able to take the animals into the community makes the marketing effort to attract people to the zoo more difficult. In this regard, it's not just about an annex; it is about creating passion for the zoo out in the community.

- Provide opportunities for disadvantaged children (i.e., Title 1 schools, etc.) and people of all ages to discover, observe, interact with, and be inspired by animals in an appropriate and educational setting.

- Enhance alignment of the Outreach program to state and federal science standards.

- The more the issues of sustainability, conservation, environmental preservation, animal care and the issues pertaining to endangered species are brought directly into the classroom, and in front of students in their setting, the more likely young people will be interested to pursue study/careers in these and related fields.

- Offer education on proper pet choices and care in Hawaii, especially due to state policies on illegal pets and pests; and help support the invasive species outreach program, "Island Invaders."

- Address the benefits of outreach programs as outlined by the AZA animal contact policies. The Program Animal Position Statement for AZA reads: "The Conservation Education Committee of the Association of Zoos and Aquariums supports the appropriate use of program animals as an important and powerful tool that provides a variety of benefits to zoo and aquarium educators seeking to convey cognitive and affective messages about conservation and wildlife." The AZA is the accreditation body that ensures the Honolulu Zoo provides

excellent care for animals, an educational visitor experience, and a better future for all living things.

- Increase public awareness and involvement in conserving and managing Hawaii's ecosystems.

- The study will also likely seek input from the Hawaii Department of Education, The Hawaii Department of Health, Hawaii Social Service Agencies, City and County of Honolulu's Department of Parks and Recreation, the Hawaii Tourism Authority, major hospitals, private schools, and other non-profit organizations. These entities may benefit from a permanent annex that they could tap into as an audience and purchase services. If built, a permanent annex could create permanent and part time jobs devoted to the care of the specific animals, supervisory and maintenance staff of the facility, outreach educators and animal handlers, schedulers and transport personnel.

Estimated Jobs Generated: 1-2 consultants

Estimated Cost: $60,000 for feasibility study. EDA Request: $30,000

Project Type: Technical Assistance

Sources and Amounts of Matching Funds: $30,000 cash and in-kind

DEFENSE, DUAL USE

DDSM01 Rapid Prototyping and Manufacturing Center

Applicant: City and County of Honolulu

Additional Clusters That This Project Supports: All technology

In Hawaii's emerging technology industry, one of the fastest growing segments is the defense and dual use segment. This cluster of companies have received federal (DoD, DoE, NSF, etc) funding for research and development of innovative technologies, and have commercialized those technologies for their original purpose, or for other uses. An example is Hoana Medical, a spin-off of Oceanit Laboratories which used sensor technology developed for the DoD to create sensor-equipped beds now used in hospitals around the world. The dual use industry, represented by the Hawaii Defense and Dual Use Network, a 501c nonprofit, has identified a gap in the necessary infrastructure required to allow dual use companies to create product prototypes and perform short-run, rapid-response manufacturing. Hawaii-based companies are often forced to perform prototyping and short-run manufacturing on the US mainland or on foreign shores. This situation raises the cost of doing business in Hawaii, and often drives locally developed companies to move operations just as they are beginning to grow. The proposed project is a Hawaii-based rapid prototyping and manufacturing center, modeled on such centers as the Georgia Tech Manufacturing Research Center and the University of Texas Pan American Rapid Response Manufacturing Center. Such a center would provide a shared infrastructure capable of support the needs of dual use companies and other economic clusters. The facility would include advanced technologies as CNC precision machining, PCB layout and printing, 3D printing, and nanomaterial manufacturing. Such a center would allow local companies to quickly develop new products in response to DoD contracts or commercial needs. This shared capability would differentiate Hawaii companies as leaders in developing and producing new technology products, attract new companies to the state, and allow us the effectively compete in the innovation-based, global economy.

Estimated Jobs Generated: 10 center staff, hundreds from increase manufacturing capabilities

Estimated Cost: $6 million

Project Type: Public Works

Sources and Amounts of Matching Funds: state, City and County of Honolulu, private

The Manufacturing Research Center (MARC) at Georgia Tech features a hibay area offering facility space for a variety of prototyping programs.
(Photo by Jonathan Hillyer)

RENEWABLE ENERGY

RESM01 Feasibility Study for Seawater-based Renewable Energy Systems for Waikiki

Applicant: Hawaii Science and Technology Institute (HSTI)

Additional Cluster That This Project Supports: Visitor Industry

Hawaii is geographically isolated, while this is a disadvantage, it may also serve as the primary means for energy self-sustainability. Since, the islands are surrounded by the Pacific Ocean; the ability to tap the ocean resources for energy production must be closely examined. Hawaii has been a leader in ocean-based energy systems beginning with Open-Cycle Ocean Thermal Energy Conversion (OTEC), and currently with wave energy systems and deep ocean seawater cooling.

Waikiki is the flagship of the number one industry in Hawaii, tourism. With 45 percent of the visitor available units in the state, 45 percent of the visitor days spent in the islands, and 72,000 jobs, Waikiki's economic health and stability should be paramount to public policy decisions. Because of the 24/7 nature of the industry, Waikiki is a disproportionate user of many resources, electricity in particular. The largest element of that consumption, 35-45 percent, is attributable to conventional on-site air conditioning. As the industry migrates to a greener environment, alternative sources of air conditioning systems need to be explored.

HSTI will conduct a feasibility study for seawater-based renewable energy systems, including, but not limited to, OTEC, seawater cooling, wave energy, and desalinization, for Waikiki, and determine the beneficial impact for Hawaii's tourism industry.

A seawater-based renewable energy system will offer an innovative, yet proven, approach to significantly reducing the electrical demand and to stabilizing the cost of power to Waikiki (reduction of 170k barrels of oil/year, 75M kWh/year in electrical usage, 80k tons/year in harmful emissions, and potable water usage by up to 250M gallons/year).

Significant private funds have already been spent on preliminary studies, prospective demand and market size, and government permits and requirements. However, a comprehensive regional

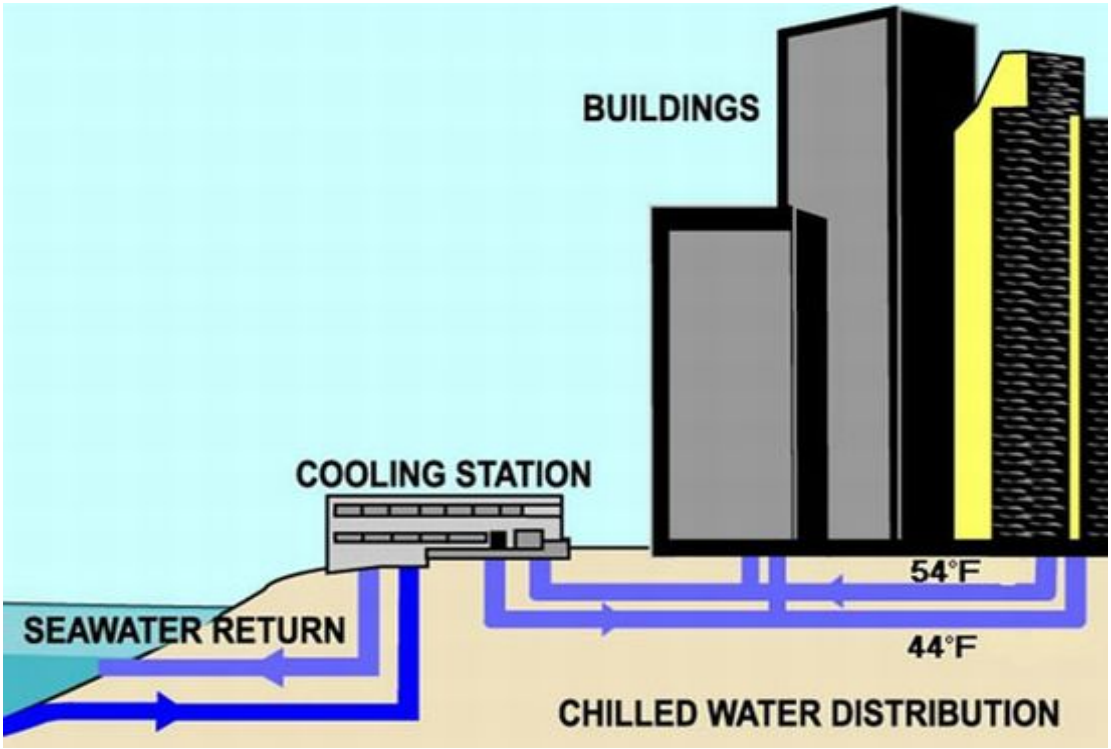
feasibility study examining all ocean energy technology options, as well as combined systems, has not been completed. This study will provide a roadmap for the possible design and construction of ocean-based energy systems to support the Waikiki area. In addition to this straightforward technical challenge, integration of such a system into a fully urbanized area will require significant retrofitting. Like any major infrastructure project, the renewable energy system cannot proceed without public assistance in the early phase of the project.

Estimated Jobs Generated: 20 (1-3 yrs), 100+ (3-5 yrs)

Estimated Cost: $1,000,000 EDA Request: $300,000

Project Type: Technical Assistance

Sources and Amounts of Matching Funds: UH, state of Hawaii (DBEDT, HTA)



FILM and DIGITAL MEDIA

FDS01 Hawaii Film and Creative Media Development Plan

Applicant: state of Hawaii, Department of Business, Economic Development and Tourism, Creative Industries Division

BACKGROUND:

Hawaii is recognized as one of the top U.S. destinations for film and television production, generating on average $150 million per year in expenditures, creating jobs and developing new businesses to support this clean and lucrative industry for our state. The Film Industry Branch (aka The Hawaii Film Office) was established 27 years ago in the Department of Business Economic Development and Tourism (DBEDT), and is mandated by law to handle film permitting, production servicing and co-manage the state's refundable production tax credit with the Department of Taxation.

Since 2003 The Hawaii Film Office has operated under the Creative Industries Division in DBEDT, the state's lead agency tasked with accelerating the growth of Hawaii's creative economy, which encompasses the arts, culture, music, film, television, digital media and performing arts sectors, with an emphasis on self-sustaining industry clusters. Each county in the state has a designated film office located in their respective economic development divisions. The Creative Industries Division, the Hawaii Film Office and the county film offices operate collaboratively as the "Film Offices of the Hawaiian Islands."

The state is seeing a rise in growth of its local creative economy while also managing the accelerated growth of the offshore production industry. In spite of the economic crisis, Hawaii continues to exhibit growth in its creative sectors which collectively contributed $4 billion to Hawaii's GDP in 2008 – up 10% since the DBEDT began tracking the activity of the thirteen creative sectors in 2002. Music, Digital Media and Film and Television Production are identified in the *2010 Hawaii's Creative Industries Report*[1]as key growth sectors. Recommendations by the 2009 and 2010 Legislature explored measures to transfer the film operations to the Hawaii Tourism Authority, an attached agency of DBEDT.

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[1] *April 2010, DBEDT Research and Economic Analysis Division (READ)*

PLAN SCOPE:

With off shore film and television production at an all time high, projected to reach over $250 Million in 2010, in addition to the accelerated growth of locally based film, digital media and music/arts sectors, Hawaii's creative workforce would benefit from a strategic road map for short and long term growth and sustainability.

Examination of the current structure, effectiveness of tax incentives, streamlining of operations, export opportunities, development of infrastructure and funding mechanisms for local projects would be a few of the key areas explored in the Hawaii Film and Creative Media Development Plan.

Working in conjunction with the counties, state and industry sectors from Hawaii, as well as experts outside of the state, a comprehensive strategic plan for the collective creative sectors would address operational structures, policies, infrastructure requirements and synergistic relationship development via best practices and statewide forums conducted with the various industry groups.

BENEFITS:

A statewide road map for the creative sectors in Hawaii would:

- Enhance the existing creative industries mission/plan.
- Provide a cohesive, integrated structure to increase industry growth
- Review and recommend an organizational structure to best serve these growing sectors.
- Enhance the existing DBEDT and county operations designated to support these sectors through a framework for long-term policy for sustainability/stabilization
- Establishes a framework to assist with alternate sources of funding for county and state film, digital media and music programs
- Creates the opportunity for stakeholders, government and industry to work collaboratively to implement a short- and long-range plan.

JUSTIFICATION:

- Creative economy growth in Hawaii ranks it in the top 5 of Hawaii's highest gross domestic product sectors, reaching $4 billion in 2008 with continued growth projected, in spite of the economic downturn.
- The perception of the creative economy is limited to film production, which is an important driver, but not the only sector that is showing its validity.
- Our state policymakers support developing industries that diversify our economy, complement tourism, are clean and deliver high paying jobs.
- Digital media sectors and education/workforce development programs are reaching a critical mass, requiring more focus, resources, infrastructure and fiscal support.
- DBEDT's READ division has provided key data from 2002 to present, providing metrics that support the need to expand creative sector development as a viable investment for Hawaii's future.
- Due to the national economic crisis, Hawaii's financial resources have diminished, prompting reduction in staffing and fiscal resources with which to promote and manage the creative industry programs. A collaborative strategic plan will explore potential resources to ensure sustained creative sector support and growth.

SUMMATION:

By creating a statewide strategic plan for film, television, digital media and creative sector growth and sustainability, Hawaii will enhance production activity, streamline management of the systems and programs that support these creative sectors, develop export opportunities of Hawaii based creative intellectual property products, continue to attract off shore productions to Hawaii, providing the building blocks of Hawaii's creative economy.

Collectively, these important cornerstones of Hawaii's creative identity have exhibited the potential to generate significantly greater income for residents through high paying jobs, fostering entrepreneurship and contributing to the health of Hawaii's overall economy.

SUBMITTING AGENCY:

DBEDT/Creative Industries Division: Established in 2003, the Creative Industries Division (CID) is the state's lead agency dedicated to advocating for, and accelerating the growth, of Hawaii's arts, culture, music, design, film, television and digital media industries. Comprised of the Hawaii Film Office and the Arts and Culture Development Branch (ACDB), CID supports and implements programs that connect creative communities and develops strategic industry alliances to leverage resources to support the growth of Hawaii's creative economy.

Estimated Jobs Generated: 5,000 [2]

Estimated Cost: $65,000 to $85,000. EDA Request: $35-40,0000.

Project Type: Economic Adjustment/Technical Assistance

Sources and Amounts of Matching Funds: state of Hawaii/DBEDT ($15,000), University of Hawaii ($15,000), counties (TBD).

[2] Increase existing total sector base of 44,500 to 49,500 over the course of three to five years

FDS02 Academy for Creative Media Digital Media Production Incubator at UH West Oahu Planning Grant

Applicant: Academy for Creative Media, University of Hawaii System

The Academy for Creative Media (ACM) was approved as a system-wide initiative of the University of Hawaii in 2003 and has successfully incubated our first program at UH Manoa with 350 students, 130 majors, and 39 courses. Numerous graduates have already started digital media production companies in the state of Hawaii such as www.bluewatermultimedia.com and www.hdarsenal.com. ACM is expanding to three new campuses within the UH system, including the new UH West Oahu campus which has the land, resources and strategic direction to build the first full ACM campus. Included in this, will be an incubator for graduating students and other start-ups in the digital media field, including HD production, CGI animation, video games, and visual effects. Our students have demonstrated the talent, business plans, and drive to realize ACM's mission to be the catalyst for the most promising alternative to our tourism industry, generating our own original intellectual property and working globally through broadband. What they need is an alternative location to their homes and apartments as they start up and this incubator will be a vital low cost work environment to build their companies, share ideas, and utilize current ACM students as interns. The incubator plans should also include production facilities for the new companies and student use.

Estimated Jobs Generated: 1,000 over the next decade

Estimated Cost: $300,000

Project Type: University Center

Sources and Amounts of Matching Funds: Academy for Creative Media System, $150,000

FDS03 Hawaii Digital Media Production and Education Center

Applicant: state of Hawaii, Department of Business, Economic Development and Tourism, Creative Industries Division

BACKGROUND:

In 2004 the U.S. Economic Development Administration granted the Department of Business, Economic Development and Tourism (DBEDT) a planning grant for the purposes of determining the feasibility and structure of a Film and Digital Media Education Center. The plans were completed in the summer of 2009 providing the detail necessary to move this project to the second phase: design and construction of a Hawaii Digital Media Production and Education Center. All city and county SMA permits have been obtained to move forward with the planning and construction of this facility at the Hawaii Film Studio site. The main thrust of the facility will be for businesses and instructional/workforce development programs cinematic arts and new media such as 2D and 3D animation, computer generated special effects, computer software design, game design, interactive, mobile and new media applications.

Hawaii is recognized as one of the top U.S. destinations for film and television production, generating on average $150 million per year in expenditures, creating jobs and developing new businesses to support this clean and lucrative industry for our state. An important asset to attracting production is the state of Hawaii's Hawaii Film Studio complex located at Diamond Head adjacent to the University of Hawaii Kapiolani Community College.

In addition to offshore business development, Hawaii's locally based creative media sectors are growing rapidly. With graduates from the University of Hawaii Manoa and community college programs in film production, animation, game design and new media, there is a need to provide a stepping-stone for these entrepreneurs and companies to flourish. In addition, as Hawaii's traditional and emerging production industries move into the 21st century requiring new skill sets, a facility to house medium to large companies, in addition to providing community-based workshops and education programs are key to sustaining this important sector of Hawaii's creative economy.

Development of the Hawaii Digital Media Production and Education Center on or near the Hawaii Film Studio and Kapiolani Community College will provide a home base for nurturing and growing businesses in this clean industry.

PLAN SCOPE:

Based upon the existing feasibility study, and preliminary plans developed for a 27,000 square foot facility, the following next steps would encompass the scope of work:

- Prepare proposal for bid to design and construct a 27,000 square foot facility
- Conduct community focus groups, industry focus groups to finalize the scope of work, industry sectors served and framework for operation/sustainability of the facility
- Secure public/private partners to support matching funds for planning
- Work with state and city and county governments to obtain CIP funding in 2011
- Develop a business plan for operations of the facility

BENEFITS:

- Provides a centralized Honolulu based facility for education, film and digital media support industries housed in proximity to the Hawaii Film Studio and Kapiolani Community College campus.
- Establishes an educational center that can provide workforce development training for film industry labor unions (IATSE, NABET, etc), students and the general public to support employment opportunities in the digital media field.
- Supports creative industries development strategy by providing a dual use facility to house industry and instruction.
- Develops opportunities for new businesses to emerge based on the proximity of affinity production-related businesses/entrepreneurs.

- Screening room available for community use, enhancing understanding of the benefits of the film and digital industries for Hawaii.

JUSTIFICATION:

- Digital media sectors and education/workforce development programs are reaching a critical mass, requiring more focus, resources, infrastructure and fiscal support.
- Hawaii has no centralized facility to support non-University based training programs for the community at large.
- Enhancing the state's offerings of additional new media and film production support businesses helps to grow and sustain this cornerstone of Hawaii's creative economy.
- Creative economy growth in Hawaii ranks it in the top 5 of Hawaii's highest gross domestic product sectors, reaching $4 billion in 2008 with continued growth projected, in spite of the economic downturn.
- The perception of the creative economy is limited to film production, which is an important driver, but not the only sector that is showing its validity.
- Our state policy makers support developing industries that diversify our economy, complement tourism, are clean and deliver high paying jobs.
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SUBMITTING AGENCY:

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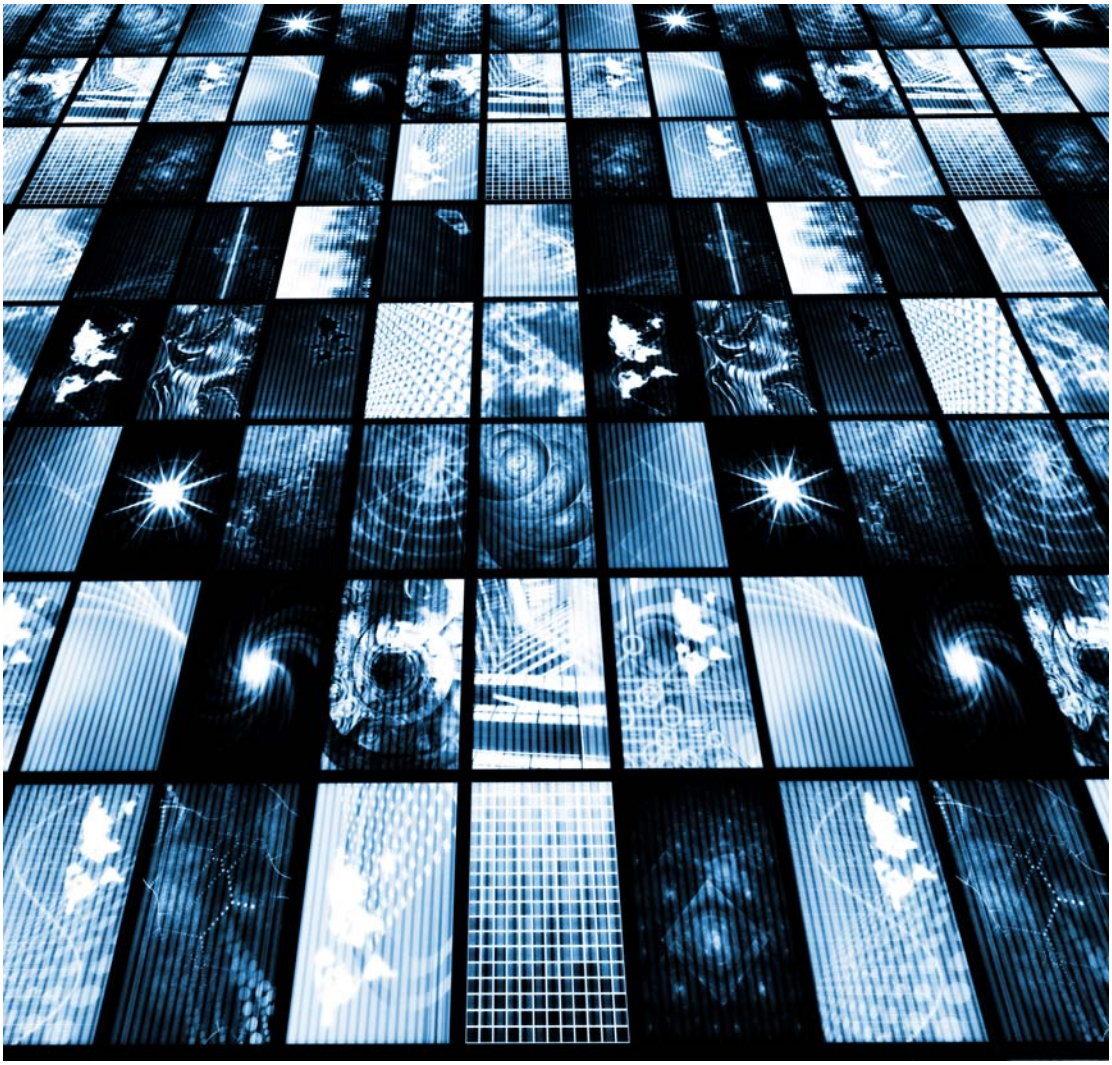
Estimated Jobs Generated: Planning: 25, Design 10, Construction 150, Facility staffing 8, industry-related jobs generated 4000-5000. [3]

Estimated Cost: Design: 250,000 Construction: $2.5 Million

Project Type: Economic Adjustment/Technical Assistance

Sources and Amounts of Matching Funds: TBD - state of Hawaii, City and County of Honolulu, University of Hawaii Foundation, Industry donors.



[3] Increase existing total sector base of 44,500 to 49,500 over the course of three to five years

MULTIPLE ECONOMIC CLUSTERS

MCS01 Economic Development Through Transfer of Technology

Applicant: Hawaii Science and Technology Institute (HSTI)

Additional Clusters That This Project Supports: Defense/Dual Use, Life Sciences, Alternative Energy, Diversified Agriculture, Digital Media, IT/Communications

The President of the University announced in her "State of the University" address in February 2010, an initiative to support the technology transfer of research innovation at UH by accelerating economic activity from research initiatives at UH. A successful transfer of university innovation needs to be an active relationship between UH and industry. A successful relationship will depend on transparency, equitable licensing arrangements, and broad dissemination of information. The spin-off opportunities, licensing arrangements, and MTAs from OTTED are sources of tremendous economic activity and job creation for the state of Hawaii.

HSTI will assist OTTED in building relationships by making the right connections between industry and university technologies. HSTI will complete a SWOT analysis of OTTED, evaluate past performance, and explore best practices nationally. HSTI will interview a wide variety of leaders in technology transfer offices across the nation to better understand how to fill the gap of opportunities here in Hawaii. A report will be generated that will identify near-term goals that will be executable and measurable. HSTI is also supporting HTDV to update the Defense and Dual Use Strategic Plan (DDUSP). One of the action items is to increase technology transfer opportunities.

Universities are known to produce a large amount of inventions every year and are usually considered one of the best sources of intellectual property (IP). Historically, technology cities have spawned in close proximity to Universities, for example, the Bay Area (Stanford, UC-Berkeley), San Diego (Scripps Research Institute, UC-San Diego, Salk Institute), and Boston (Harvard, M.I.T).

University of Hawaii has a technology transfer office similar to the large universities mentioned above. The role of these offices is to be an institutional focal point for the flow of technologies out of the university and into industry. The Office of Technology Transfer and Economic

Development (OTTED) at UH was established more than 20 years ago. (April 1989). Initially, it struggled due to a non-focused very broad offering of economic development objectives. Ten years ago, a permanent Director was hired, and since then, policies and procedures have been established, OTTED was reorganized and is focused on intellectual property protection (patent generation).

The benefits of developing economic development through transfer of technology are many, including job creation (spin-off opportunities), increased licensing opportunities (revenue generation for future R&D), and strengthened research initiatives (work force development). Also, this type of project benefits almost all of the CEDS clusters identified; Defense, Dual Use, Life Sciences, Alternative Energy, Diversified Agriculture, Digital Media, and IT/Communications.

Estimated Jobs Generated: 2 (1-3yrs), 100s (next generation)

Estimated Cost: $500,000

Project Type: Technical Assistance, University Centers

Sources and Amounts of Matching Funds: UH, HTDV

MCS02 Comprehensive Study on Economic Opportunities in West Oahu

Applicant: West Oahu Economic Development Association (WOEDA), City and County of Honolulu

Additional Clusters That This Project Supports: All

The purpose of this project is to conduct a comprehensive 2-year study of the West Oahu region. The study would identify existing and proposed businesses and services in West Oahu, as well as the region's needs and possible business opportunities. The study will also focus on workforce issues, education and training needs, the economic impact of rail and transit-oriented developments, land availability, and infrastructure requirements. The study is needed in order to more effectively plan for the future of this fastest growing region in the state.

Estimated Jobs Generated: 2-3 direct jobs
(The study could also indirectly affect over 10,000 jobs in West Oahu)

Estimated Cost: $300,000

Project Type: Economic Adjustment, Technical Assistance, Information and Research

Sources and Amounts of Matching Funds: Dollar amount undetermined at this time; however, sources could include, but are not limited to: WOEDA, local and other businesses, major landowners, educational institutions, City and County of Honolulu, and various organizations.

MCS03 Innovation Economy Pipeline for Small Businesses ~ Commercialization/Tech Transfer and Energy Roadmap

Applicant: High Technology Development Corporation (state government)

Additional Clusters That This Project Supports: Research institution, small businesses, defense, dual use, and renewable energy

The project will address two areas of challenges identified to better establish an innovation-based economy to successfully diversify Hawaii's traditional industries:

Technical Assistance for Commercialization

Hawaii's major research entity, University of Hawaii, has recently enjoyed a significant increase in federal research dollars. However, it is not clear if the increased level of funding will lead to more economic impact, as regional research entities struggle to establish a successful technology transfer pipeline where economic development goals, such as increased number in quality jobs, can be achieved. Small businesses also do not have access to a clear path for commercialization of their ideas. Defense contractors, for example, do not see the path to see their intellectual property be commercialized for a larger market. Technical assistance will be offered for both the University, and the businesses, as well as bring in national experts to aid us identify ways to establish a strong pipeline for the community.

Energy Case Study
Energy is an identified area for Hawaii's economy. However, there has not been sufficient "meeting of the minds" (from the commercialization pipeline to policy setting in a variety of areas) for Hawaii to truly embrace this new industry.

The project will identify the key gaps as a needs assessment and assist in implementing solutions to these gaps, such as workforce development needed for our community to be energy independent, or meet the goals of Hawaii Clean Energy Initiative, by creating a succinct roadmap that multiple stakeholders can buy into and support, so that their efforts are coordinated.

Benefits / Justification:

- Better leveraging of significant R&D dollars already coming into the state of Hawaii (to UH, in forms of ARRA funds and other federal assistance and programs) and number of entities engaged in working towards Hawaii's energy sustainability to create later stage economic development activities and impact.

- Specific deliverables will include a full range of assistance, from the pragmatic business mentoring for commercialization, to policy making process that will allow small business voices to be effectively heard, so that the industry is ready to blossom as commercialization processes get under way.

Estimated Jobs Generated: No answer

Estimated Cost: $300,000. EDA Request: $150,000.

Project Type: Technical Assistance

Sources and Amounts of Matching Funds: $150,000 (HTDC special fund, other state agencies, EDBs, private foundations, University of Hawaii)

MCS04 Statewide Science and Technology Strategic Plan (STSP)

Applicant: Hawaii Science and Technology Institute (HSTI)

Additional Clusters That This Project Supports: Defense, Dual Use, Life Sciences, Alternative Energy, Diversified Agriculture, Digital Media, IT/Communications

Hawaii Science and Technology Institute (HSTI) will develop a comprehensive statewide science and technology strategic plan (STSP), which incorporates individual technology sectors, including but not limited to, Defense, Dual Use, Life Sciences, Alternative Energy, Diversified Agriculture, Digital Media, and IT/Communications. Once completed, HSTI will continue to track and monitor the implementation of the STSP. To keep current, the STSP will need to be updated on a yearly basis.

The STSP will require collaboration of public (non-profit economic development agencies), private (industry, economic development non-profits), and university (UH and others) leaderships. HSTI will take on the leadership role in the planning effort.

HSTI has strong ties with industry leaders from the Hawaii Science and Technology Council (HSTC), the industry trade organization on technology. Most of HSTC's Board members are the CEO's of the sectors represented in Hawaii – Agricultural Biotechnology, Astronomy, Biotechnology/Life Sciences, Defense/Aerospace, Engineering/Professional Services, Environmental, Film/Digital Media, Information/Communication Technology, Ocean Sciences, and Renewable Energy. These industry leaders will be able to best articulate their sector's needs.

University of Hawaii's President M.R.C. Greenwood, announced on April 5th, her Advisory Council on Hawaii Innovation and Technology Advancement. The purpose of the committee is to advise and make recommendations to the President on how the University may position itself to concurrently enhance the University's research programs and initiatives and collaborate in the creation of an environment within the state of Hawaii that promotes research and technology development and transfer that enables the University to contribute to the satisfaction of the needs of the state and the state's overall economic development. HSTI has been chosen to provide research support services. This allows HSTI to be part of the process, therefore

understanding the University's strategic technology innovation advancement.

HSTI will also include the economic boards from the Neighbor Islands, Maui Economic Development Board (MEDB), Kauai Economic Development Board (KEDB), and Hawaii Island Economic Development Board (HIEDB) in the STSP. It is imperative that they be included in the input process. The Neighbor Islands, in some sectors, have been the industry leaders in innovation and implementation.

HSTI has significant relationships (public, university, and private). As the lead organization, HSTI will determine a process in which all stakeholders will have an input into the STSP. These in person meetings will allow for HSTI to gather information in a systematic manner. The outcome of these meetings will be three to five strategic priorities. Next, a STSP will be developed based on these priorities. The plan will be presented to the stakeholders for feedback. After iteration back to the community, the STSP will be presented to our legislators. If there are policies that need to be developed or changed, collectively HSTI and the state will draft bills to be introduced to help implement the STSP.

To be executed, this initiative needs to be properly staffed and resources allocated accordingly. Initially, this will provide only a few staff positions, possibly two; however it will be the road map for the state in regards to Science and Technology. This road map, if properly developed and implemented, will multiply into many high paying jobs for the next generation in technology.

There has been a multitude of studies completed for the state in regards to a Science and Technology Strategic Plan (STSP). The most recent report on innovation and technology in Hawaii provided a framework for developing a statewide innovation plan, inventoried over a dozen studies on innovation previously completed, and compiled best practices conducted by other states that are addressing key issues that were inventoried from previous studies.

Today, Hawaii finds itself with many economic pressures; investment in innovation is an important strategy for diversifying areas that have significant impact on the state's economic recovery and future. The next step would be to develop a STSP, incorporating the suggested framework. The STSP would include the following CEDS clusters:

Defense, Dual Use, Life Sciences, Alternative Energy, Diversified Agriculture, Digital Media, and IT/Communications. This crossover synergy would make this an important project.

Estimated Jobs Generated: 2 (next year), 1000's (next generation)

Estimated Cost: $500,000

Project Type: Economic Adjustment

Sources and Amounts of Matching Funds: UH, state of HI (DBEDT)

HI SciTech
HAWAII SCIENCE & TECHNOLOGY COUNCIL

MCS05: The "Design Thinking Institute" at the University of Hawaii

Applicant: City and County of Honolulu

Clusters That This Project Supports: University of Hawaii and Honolulu Community College, Defense and Dual Use, Technology, Energy, Sustainable Manufacturing/Light Assembly, Green Industries, and core clusters like Tourism and Construction.

Need: There are over 170 Dual Use technology companies on Oahu. Ninety-nine percent of these companies can be described as "technology-push" vs. "market-pull" oriented because of their strong engineering and science cultures focused on applied research for the federal government. As these companies mature, it is clear that innovativeness and competitiveness based solely on technological superiority, which may be acceptable for federal customers, is unacceptable for the majority of non-federal commercial market customers. What is missing is a human-centered approach to product design. Missing are the product design engineers and the holistic "Design Thinking" approach made famous by David Kelley of IDEO and the Stanford Design School. The current global recession continues to devastate Hawaii's number one industry, tourism, but at the same time has created the opportunity for change. Now is the time to accelerate the growth of globally competitive industries like Science and Technology. Hawaii has a great start in this area, due to the many dual use companies that have started here, and to the support of Hawaii's congressional delegation.

What is dual use? The term "dual use" refers to technology and techniques developed initially for defense or related uses, which are modified or found to be commercially viable to produce for commercial markets. For example, Velcro was made popular with the support and funding of NASA for the space program.

Proposed Solution: To fill the workforce gap for human-centered product designers, and to empower companies with the 'Design Thinking" process and philosophy, this project proposes to establish a multidisciplinary product design school called the "The Design Thinking Institute" associated with the University of Hawaii and the Honolulu Community College and located at the future Oahu Technology Transition and Commercialization Center (OTTCC).

The Design Thinking Institute will expose students to the human-centered design process via design projects, a hands-on rapid prototyping facility, and open-ended problem solving. The design school will be located at the OTTCC, which has at least two major benefits: First, the design school is a 'hands on' experience. David Kelley of IDEO and a professor at the Stanford Design School said it best ""Think with your hands, build something or try something, then talk about it, NOT the reverse." Thus, the new design school will benefit from close proximity to specialized equipment and facilities, and therefore should be located next to the "Rapid Prototyping Facility" at the OTTCC. Second, design students and faculty, along with the technology companies, will benefit from co-location. Though the core curriculum will be based on Stanford's Design School, the culture of human-centered design thinking, mixed with the culture of innovative companies who are skilled at winning and administering federal research contracts, and combined with the native Hawaiian culture, will provide an opportunity to create a uniquely Hawaiian flavor of product design.

The project addresses key EDA requirements as follows:

1. *Be market-based and results-driven:* This proposal provides Hawaii's dual use companies with the opportunity to incorporate "Design Thinking" into their businesses. This proposal exploits Hawaii's competitive strengths in high tech, due to a strong well-organized, and well-funded, dual use industry, but whose companies have lacked a human-centered approach to product development. The industry's 170+ applied research companies have a strong "technology-push" approach yet have been very successful in increasing the number of highly skilled well-paying jobs. The median number of employees per company is 17, with company median revenues of $1.7 million. The average dual use salary is $68,000, compared to the Hawaii state average of $40,300, as reported for Q1 2009 by the U.S. Bureau of Labor Statistics. Bottom-line:

there is a strong need, the companies have the means, and the metrics are revenues, jobs, and salaries.

2. *Have strong organizational leadership:* The team will consist of a public private partnership between the defense dual use technology companies [170+ applied research companies via the Chamber of Commerce of Hawaii], The Hawaii Science and Technology Council [industry], the Hawaii Technology Development Venture [federal], the City and County of Honolulu [city], the University of Hawaii and Honolulu Community College [educational institution], and the High Technology Development Corp [state]

3. *Advance productivity, innovation, and entrepreneurship:* Hawaii's technology industry, possibly like many technology industries across the country, are naturally technology driven versus market driven, yet they are still successful. The opportunity for the technology industry, and what has been missing for Hawaii's 170 applied research companies, is a human-centered approach to product development. Design Thinking is a process – a way of thinking which if made available to Hawaii's high tech companies will focus on the user versus on the technology. Ultimately, greater productivity, innovation, and entrepreneurship will be achieved when a technology driven company can experience life through their customers' use of their products. Bottom-line: Putting the end user at the heart of the technology development process, the incorporation of the Design Thinking Process at a company, industry, university, and government level, has the potential to make a significant impact on Hawaii's global competitiveness.

4. *Look beyond the immediate economic horizon, anticipate economic changes, and diversify the local and regional economy:* As mentioned above in section 3, the Design Thinking Lab or Institute, has the potential to affect many stakeholders because Design Thinking is a philosophy, a way of thinking, a way to see what could not be seen before – a new perspective. It is a process, which everyone can learn and use. Design Thinking is also not a physical building, a person or institution, and thus is not limited in that respect. For Hawaii, the Design Thinking Lab will provide a way to gain new perspectives on value creation so for example, Design Thinking can enlighten a company like a construction company, or a core industry like tourism, or an

institution like the University of Hawaii to become aware of opportunities in their blind spots, and when acted upon, maximize Hawaii's potential to become globally competitive.

5. *Long-term, coordinated and collaborative regional economic development approaches*: Hawaii has the unique advantage of being in proximity to the operational end-user of every branch of the U.S. military – Army, Navy, Marines, Air Force, Coast Guard, and National Guard. Since 1985, the Chamber of Commerce of Hawaii's Military Affairs Council (MAC) has acted on behalf of the state of Hawaii as the official liaison with U.S. Pacific Command (USPACOM). The purpose of the MAC is to insure a mutually beneficial relationship between the U.S. Military and the state of Hawaii. This single point of contact with the U.S. Pacific Command is without equal. In March 2010, the Chamber of Commerce established the Defense Dual Use Committee. This new committee will work closely with the MAC to connect the operational end user with local high tech businesses doing applied research. Therefore, the dual use Industry has an opportunity to be the first industry to apply Design Thinking to address the needs of the U.S. Pacific Command, whose area of responsibility covers almost half of the earth's surface.

GOAL/METRICS: Create 100 x $68K per year average salary or $6,800,000 taxable income base.

Estimated Jobs Generated: 100

Estimated Cost: $600,000. EDA Grant Request: $300,000.

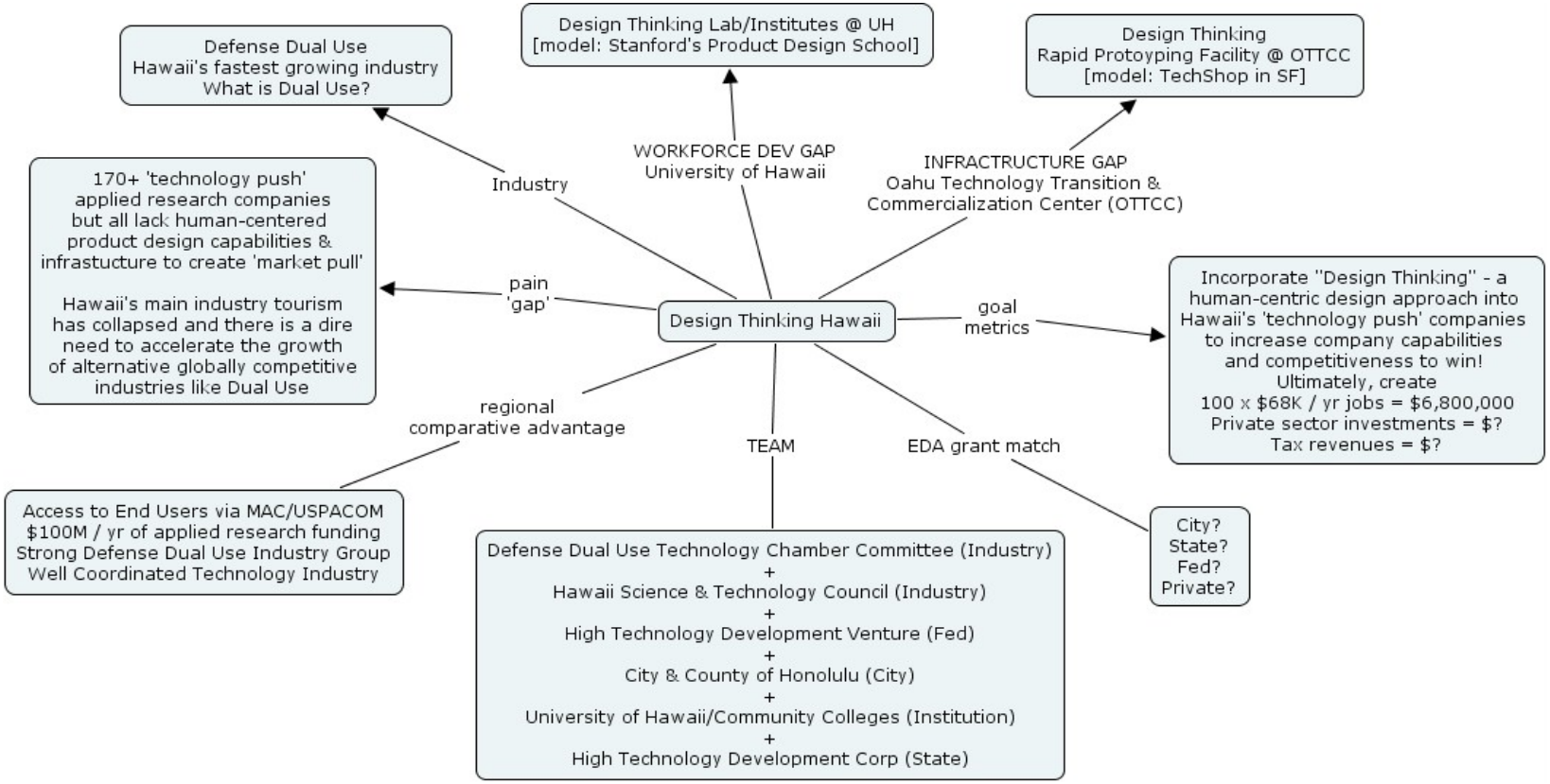
Project Type: University Centers, Technical Assistance

Sources and Amounts of Matching Funds: University of Hawaii, and others, to be determined

- continued -

Design Thinking Hawaii Strategic Road Map

The "Design Thinking" process and a rapid prototyping facility have been key components missing in Hawaii's quest to diversify and build an innovation economy. But innovation has always been a part of the Hawaiian culture – from navigating the Pacific Ocean using the stars, to creating sustainable resource management or the *ahupua'a* system. Through the adoption of the Design Thinking philosophy, combined with a diverse and well-coordinated technology industry, a diverse and accessible global customer base such as U.S. Pacific Command, and a "one" minded team that includes federal, state, city, industry, and education partners, Hawaii can harness its many advantages and focus them on creating a sustainable competitive advantage to solve global problems with innovative human-center designed solutions.



MCS06 Oahu Technology Transition and Commercialization Center

Applicant: City and County of Honolulu

Additional Clusters That This Project Supports: Defense and Dual Use along with Alternative Energy, Sustainable Manufacturing/Light Assembly, Green Industries, and other Technology Sectors

This proposed construction project is based on EDA Financial Assistance Award #07 79 06132, entitled the Oahu Technology Center Master Plan for an Oahu technology transition and commercialization center. The project meets the needs of the community identified over the past 8 years through input sessions conducted with the City and County of Honolulu, Kamehameha Schools, Honolulu Weed and Seed, the Kalihi YMCA public comment intake period, and Kalihi-Palama visioning events and charrette processes. It is a comprehensive mixed-use project that includes, but is not limited, to technology and commercialization space, as it also includes flexible space that can be built out to meet the changing needs and economic trends of the community. Business conference center facilities and business tourism are featured in this project as are office sites, retail, and residential, educational and community recreation space. Flexibility of space is inherent in the design and existing zoning in the area, which is light industrial, mixed-use, office, and residential space. The planned common area and campus-like environment, parking structure, and conference space also offer flexibility to reconfigure and reshape space without major disruption to infrastructure, as changes in space needs arise.

The project addresses key EDA requirements as follows:

1. **Collaborative Regional Innovation**

   The Center collocates existing and growing support services in business planning, small business development, government contracting, and support of innovation clusters based on competitive strengths, as identified by the Economic Development Boards of Oahu, Maui, Hawaii, and Kauai in previous CEDS. The Center Master Plan is currently in process and will produce charrettes and industry intake sessions supporting current monthly sessions that engage stakeholders. The proposed Construction project will facilitate collaboration

among urban, suburban and rural areas through work development and training programs; will accommodate businesses within and outside of the technology field and will support economic development with federal agencies, the City and County of Honolulu, Hawaii Science and Technology Council, industries and the community; and, will house and support the growth of other existing and emerging industries as diverse as light assembly, business tourism and conferences, and the alternative energy sector, as examples.

2. Public/Private Partnerships

The investment integrates public and private sector resources and leverages complementary investments by other government/public entities and/or non-profits by combining resources of the developer, the non-profit landlord, training and support services offered by SBA, PTAC, the Economic Development Boards, HTDV, HREDV, CEROS, and others.

3. National Strategic Priorities

This initiative specifically encourages job growth and business expansion in technology that spans a wide array of priority specialties including sensor applications; new materials; health care technology and information; clean energy; green technologies; sustainable manufacturing; information technology (e.g., broadband, smart grid) infrastructure; natural disaster mitigation and resiliency; access to capital for small and medium-sized and ethnically diverse enterprises; and, innovations in science, health care and alternative fuel technologies

4. Global Competitiveness

This initiative also includes export support services for high-growth businesses and innovation-based entrepreneurs to expand and compete in global markets through onsite support programs with the SBA, SBDC, Export-Import Bank, FTZ, local banks that are international in their composition, and District Export Councils.

5. **Environmentally-Sustainable Development**

   The Center is applying for LEED designation, and the development has a record of LEED certified practices in "environmentally sustainable development".

6. **Economically Distressed and Underserved Communities**

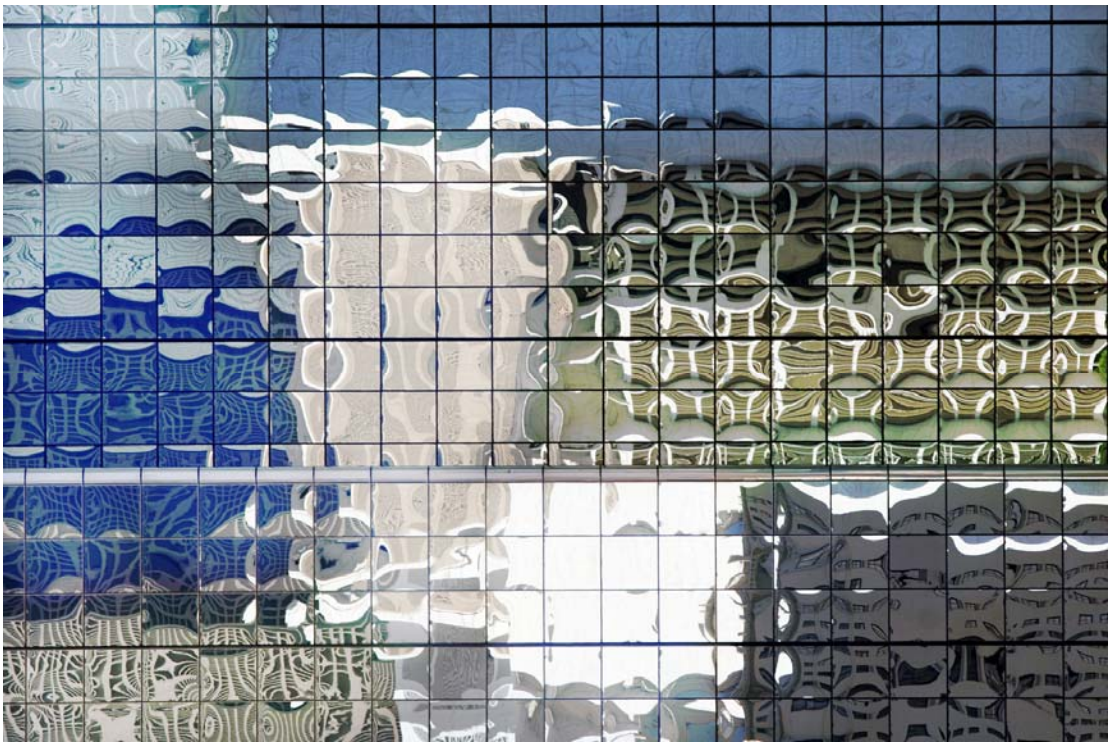
   The Center directly strengthens the Kalihi-Kapalama area and nearby communities that have suffered disproportionate economic and job losses as part of the Community Vision to rebuild and become more competitive in the global economy.

Estimated Jobs Generated: 250

Estimated Cost: $6,000,000. EDA Request: $3,000,000.

Project Type: Public Works

Sources and Amounts of Matching Funds: To be determined: developer and anchor tenants



VISITOR INDUSTRY

VIS01 Oahu Green Map

Applicant: Sustainability Association of Hawaii

Narrative Description of Project and Its Benefits/Justification:

The Sustainability Association of Hawaii (SAH) is a 501(c)(3) non-profit organization dedicated to supporting sustainable practices throughout Hawaii. Members of SAH are recognized for their efforts of sustainability - including, but not limited to, areas of conservation, energy efficiency, recycling and waste management. Oahu, being the most densely populated of all the Hawaiian Islands, uniquely experiences a high volume of foot traffic from all over the world. The knowledge of sustainable practices on Oahu needs to be shared with its 700,000+ yearly visitors, and estimated 1 million local residents, so that the unique culture and environment of Hawaii can continue to be respected and preserved for future generations.

The primary goals of the Oahu Green Map project would be to stimulate the local economy by attracting customers to green businesses and to help alleviate the problem of shipping Oahu's waste to a landfill in Washington. The Oahu Green Map project distinguishes itself from all other maps of Oahu by enticing map users to purchase locally made products (which are deemed priceless souvenirs by visitors), buy local foods, and support the local economy by keeping the dollars on Oahu. Farmer's markets (a main attraction on the map) allow farmers to keep 80-90 cents of each dollar spent by the consumer. Local residents, as well as tourists, will find the Oahu Green Map a resourceful way to navigate around the paradise island of Oahu, while making wise use of its resources.

The Oahu Green Map project highlights businesses that have already met existing credentials as a sustainable or "green" business, either through the SAH member application process or by another credible institution's standards. A "green" business may include: local restaurants that offer locally grown produce or sustainable take-out products, local recycling centers, local retail outlets featuring Hawaii-made items, or hotels and businesses that use renewable energy systems. Oahu green businesses are invited to put themselves on the map for a $20 mention (including business name, address and

website), or they have the option to be a sponsor for $10,000, which includes ad space on the outskirts of the map.

SAH established an Oahu Green Map subcommittee to compile green business mentions and seek out potential sponsors. The subcommittee is also responsible for the project layout, design and printing processes. The estimated cost of printing 400,000 maps (on recycled, FSC-certified paper, using soy inks) is $60,000. The size and fold of the map has also been closely considered so that space is maximized, and minimal waste is created in the making of the Oahu Green Map. Furthermore, Oahu Green Map project requires extensive distribution and marketing. All green businesses featured on the green map will be offered the opportunity to showcase and distribute the Oahu Green Map at their own business location. Additionally, they would be available at the Honolulu Airport and Hawaii Convention Center. We are requesting a total of $100,000 to fund the 1st Edition Oahu Green Map project for 2010.

Estimated Jobs Generated: 2-3 positions within SAH, plus stimulates local economy by directing foot traffic to local businesses.

Estimated Cost: $100,000

Project Type: Economic Adjustment

Sources and Amounts of Matching Funds: Visitor-related businesses

VIS02: Waikiki Circulator Transportation System, Hybrid/Electric Vehicles

Applicant: Hawaii Hotel and Lodging Association—Oahu Chapter

Waikiki is the flagship of Hawaii's number one economic driver—the visitor industry. On a daily basis, there are approximately 45,000 visitors and an additional 20,000 workers in Waikiki.

The mode of transportation used by these people include private cars, private buses, public buses, rental cars, and taxis/limousines—largely gas or diesel vehicles. The goal of this project would be to provide a more efficient and greener circular transportation system for the Waikiki area that would include all major hotels, shopping centers, the Honolulu Convention Center, and other area attractions.

The project would develop a potential operating route, marketing feasibility study, and a detailed cost estimate of the capital and operating cost of the system. The benefits/justification would be:

- Convenient transportation mode for our visitors and local residents in Waikiki;
- Potential reduction of public bus service in and out of Waikiki;
- Marketability of an environmental and user-friendly transportation system for our visitor industry;
- Reduction of gas and diesel-powered vehicles in Waikiki.
- Connectivity to the proposed rail system; and
- ATransportation system should be self-funded by the users and/or the visitor industry.

Estimated Jobs Generated: TBD

Estimated Cost: $500,000

Project Type: Public Works/Economic Adjustment

Sources and Amounts of Matching Funds: Visitor-related businesses

VIS03 A Study to Identify New Tourist Attractions and Activities Appropriate for Waikiki, Oahu, and Hawaii

Applicant: HH&LA (Noel G Trainor past chairman HH&LA dba Savoy Consulting LLC)

New attractions proposed for Hawaii must typically navigate a process of environmental impact statements, special permitting or zoning, cultural concerns, and community issues. A new attraction has a much greater chance of success if it is clearly appropriate for Hawaii (particularly economically and culturally), is sited correctly, and has early buy-in from various constituencies in the community. This is best achieved by involving key decision makers and influencers in project discussions prior to proposal, rather than after the proposal has been made.

It begins with knowing what type of attraction is right for Hawaii. We are recommending that funds be made available for a comprehensive study as to the type of attractions that would be best and most appropriate for the islands, as well as those most likely to be supported by key constituencies. The study would be comprised mostly of focus groups and personal interviews with members of our Hawaiian community, business leaders, industry associations, and community groups in areas where attractions are likely to be sited, such as Waikiki. The purpose of the study would be to identify projects that have support within Hawaii, will attract new, and returning, visitors to the islands, and have a feasible site location.

Generally, our effort should focus on those in the community who are willing to work with us, not only in identifying appropriate projects, but who would also be in a position to help address any resistance to the project. Public perception, and community sentiment, are powerful forces in Hawaii, and resolutions of various issues (e.g., the way in which cultural issues will be acknowledged, etc.) must be identified and addressed early, during the proposal phase, not after project planning or development has begun.

The outcome of the study would be one or more specific project recommendations, which can then be evaluated on the basis of their cost, the number of jobs they would create, tax revenue generation, and their potential as a hub of economic opportunity for suppliers and other vendors.

Estimated Jobs Generated: TBD

Estimated Cost: $40,000

Project Type: Technical Assistance

Sources and Amounts of Matching Funds: TBD

VIS04 Honolulu Zoo Animal Zookeeper Training Program

Applicant: Honolulu Zoological Society

The Honolulu Zoological Society is a non-profit, tax-exempt educational and charitable organization that raises funds for special projects, community and educational programs, and capital improvements at the Honolulu Zoo. The Honolulu Zoo, which is visited by hundreds of thousands of national and international visitors to Hawaii each year, is owned and operated by the City and County of Honolulu. It has a membership of more than 10,000 individuals and families and is visited by more than 550,000 national and international visitors to Hawaii each year.

The current recession has critically impacted advances made at the Honolulu Zoo. Zookeepers are now struggling to do more with dwindling resources and support staff. Important basic duties of zookeepers include daily cleaning and maintenance of animal enclosures and proper feeding of the animals under their care. Zoo-keepers may help design, build, and repair, animal enclosures and care for the plants in, and around, the exhibits. Zookeepers must also be excellent observers, learning habits and behaviors of both individual animals and groups. Professional zookeepers must be able to detect subtle changes in an animal's physical or psychological condition, and then react accordingly. In addition, zookeepers work closely with zoo managers on conservation, reproductive husbandry and research projects.

New zookeeper jobs are not being created, and job openings are not being filled. This, in turn, can have a deleterious effect on the animals. Improving the skills, knowledge and resource value of the current zookeeper staff can go a long way to sustaining the operation and quality of the Honolulu Zoo, especially during this difficult economic period.

Due to economic conditions, the City and County of Honolulu is unable to advance this zookeeper-training project on its own. The Honolulu Zoological Society will provide a mix of matching funds, and in-kind services, for a total of $100,000 to match the request for the additional $100,000 to CEDS needed for this project.

The Honolulu Zoo is likely the most isolated zoo in the United States. In order to keep up with modern techniques and advances in animal science, management, habitat maintenance, and conservation of biological diversity, it is invaluable to send zookeepers to training activities, and conferences at major zoos, and other institutions on the Mainland. These efforts will help to support the Zoo's mission of providing our deserving community with a zoo that proudly represents the stature, "world class zoo."

The benefits/justification would be:

- Improve the professional knowledge and occupational skills of the Honolulu zookeepers to make them more effective in their jobs, as well as position them to be able to train and better supervise new employees and volunteers moving into part-time. and hopefully full-time, employment in the future at the Zoo.

- Improve the quality of life of the animals and the conditions of their environmental habitats.

- Insure the Honolulu Zoo maintains its certification with the Association of Zoos and Aquariums (AZA), which is crucial to future community, corporate and foundation-funding efforts engaged in by the Honolulu Zoological Society.

- Advance the marketability of the Honolulu Zoo as one of the most important cultural assets to the community and the visitor industry in Hawaii. This will enhance the generation of admissions revenue as the economy improves thereby securing the Honolulu Zoo's financial stability.

- Integrate zookeeper training in the future as regular on-going joint program in the budgets of the Honolulu Zoo Society and the City and County of Honolulu.

Estimated Jobs Generated: 6 to 12 or more as the economy improves

Estimated Jobs Impacted: 80 zookeepers and support staff, both full- and part-time

Estimated Cost: $200,000. EDA Request: $100,000.

Project Type: Technical Assistance

Sources and Amounts of Matching Funds: $100,000 would be equally matched by the Honolulu Zoo Society

A Honolulu Zoo resident, the Secretary Bird – Named for its erect nape feathers that are a reminder of a time when secretaries stuck quill pens in their wigs. These birds will walk up to 12 miles (20 km) a day in the savanna. Photo courtesy Honolulu Zoo.

VIS05 Waikiki Beach Nourishment

Applicant: Waikiki Improvement Association

The state of Hawaii Department of Land and Natural Resources (DLNR) proposes to restore, and maintain, the 1,700-foot-long segment of Waikiki Beach between the Kuhio Beach crib wall and the Royal Hawaiian groin. Approximately 24,000 cubic yards of sand would be recovered from offshore deposits, and pumped to the shoreline, where it would be dewatered and placed along the beach. The project would widen the beach by about 40 feet, restoring the beach to its approximate 1982 width. The project would also include an option for a second beach nourishment, after approximately 10 years involving approximately 14,000 cubic yards of sand recovered from the same offshore deposits. Also included in the initial project work, would be the removal of two old deteriorated groin structures at the east end of the project area.

The project will not alter, or affect, presently on-going sand transport and shoreline processes, wave-driven currents, circulation patterns, overall water quality, or offshore wave breaking. Offshore surf sites are primarily influenced by the hard limestone fossil reef formations that are at slightly higher elevation than the intermittent sand channels and pockets, and thus, would not be significantly affected by either, the recovery of sand from offshore, or its migration back offshore over time. Sand recovery operations will be designed to avoid, and minimize, impacts to marine biota so far as practicable, no long-term impacts to marine biota are anticipated. Recovery of offshore sand may actually benefit the offshore ecosystem by creating some additional hard rock bottom area. The beach widening will take place on existing near shore sand bottom, thus there will be no alteration of marine habitat. Construction BMP's will be used to avoid impacts to the protected green sea turtle. No effects on historic, cultural and archaeological resources are anticipated.

Construction can be expected to result in some temporary disruption of beach use and recreational activities, and increased noise and short-term degradation of air quality from the operation of construction equipment. Localized increases in water turbidity will occur in the immediate area of construction activity, however containment barriers and turbidity screens will be in place to control, and minimize, the area of impact.

The proposed beach restoration project would represent a significant improvement to the economic viability of Waikiki. Waikiki Beach has experienced significant erosion over the last 20 years, averaging approximately one foot per year. The Waikiki Improvement Association (WIA) in cooperation with the Hawaii Tourism Authority commissioned a study in 2008 to analyze the economic impact of beach erosion in Waikiki. The study indicated that visitor expenditures in Waikiki would decline by $2 billion per year if Waikiki Beach continued to erode. The City and County of Honolulu and the state of Hawaii would lose $125.5 million in annual tax revenue through the decrease in GET and TAT taxes. Additional economic impacts would include loss of employment in Waikiki estimating that 6,352 hotel jobs would be lost in addition to job losses in retail, construction and ancillary services. The proposed project would be a significant step in restoring Waikiki Beach and ensuring Waikiki's standing as a premier resort destination and one of the most important economic assets for the state's economy.

Estimated Jobs Generated: 10 to 15 construction jobs for a 3 month period, and maintenance of hotel, retail and related jobs in the economy, that would otherwise decline if beach erosion resulted in job losses, as predicted by the WIA study.

Estimated Cost: $3.5 million

Project Type: Public Works

Sources and Amounts of Matching Funds: state of Hawaii $1.5 million, Kyo-ya Hotels and Resorts, LP $500,000. CEDS request $1.5 million.

VIS06 Feasibility Study to Develop Tourism Training Programs as an Export

Applicant: Kapiolani Community College

Hawaii tourism has a reputation around the world as a leading edge industry. This project would develop a plan to use this industry knowledge and the expertise of professionals in the development, marketing, resort management, consulting and other fields, to create training programs for other tourist destinations and resort developments around the world. Evidence of the viability of this project stems from the number of visiting delegations from abroad who travel to Hawaii to learn from Hawaii companies, projects, and managers. In recent years, visiting delegations have come from China, Seychelles, Mauritius, Morocco, Japan, and many other tourism destinations and resorts.

Estimated Jobs Generated: To be determined by the feasibility study, but on judgment 25-50

Estimated Cost: $15,000 for planning

Project Type: Technical Assistance

Sources and Amounts of Matching Funds: Possible sources: Hawaii Tourism Authority, DBEDT, and Hawaii Society of Corporate Planners

VIS07 Visitor Emergency Alert System

Applicant: Hawaii Hotel and Lodging Association

In 2008, the Hawaii Tourism Authority and Convention Television (CTV) set upon a joint project to determine the possibility of a comprehensive **EMERGENCY ALERT SYSTEM** being introduced to the greater Waikiki area, delivered via the already existing CTV Waikiki distribution grid, a hybrid of an Oceanic Cable Television's fiber optic cables, and CTV's IPTV "Black Boxes" (programmable hard drives) located at 6 major hotel partner properties, such as the Hilton Hawaiian Village, The Hawaii Prince, Ala Moana Hotel, etc.

The created team worked closely with Hawaii Civil Defense, city Department of Emergency Management, Honolulu Police Department, HVAS, and developed major civil defense incident warning and directional programming (English and Japanese), including: Day Before Siren Warning, Day of Siren Warning, Tsunami Watch, Tsunami Warning, Hurricane Watch, Hurricane Warning, Flooding Watch, Flood Warning, and Bio-Hazard Bulletins.

All emergency status content was vetted by the appropriate government agency, shot at CTV's green screen digital studios in Honolulu, and archived for use, should the occasion arise.

The current economic downturn prevented implementation of the program, as well as expansion, which was to include expanded content, covering the Honolulu International Airport, Department of Health information, and more. The next phase was to also include a high-speed access line from the CTV Studios located in the Hawaii Convention Center, to the Command Center of Hawaii Civil Defense, enabling Civil Defense to interrupt CTV's regular programing, should they feel it was then necessary to warn our visitors of an impending event, on demand.

Implementation of Visitor Emergency Alert System

The project is intended to implement the Emergency Alert System. Utilizing the programmable "black boxes", the system can be expanded to reach 70 of the major lodging properties on Oahu.

The system will enhance communication with visitors during an emergency and help to ensure guest safety. The primary benefits will include:

- Timely and accurate information to visitors during an emergency;
- Reduce demands on police officers and other emergency personnel during an emergency; and
- Re-enforce Hawaii's reputation as a safe and prepared destination.

Estimated Jobs Generated: System will enhance Hawaii's reputation as a safe destination and help to preserve jobs.

Estimated Cost: $105,000 ($1,500/hotel)

Project Type: Economic Adjustment

Sources and Amounts of Matching Funds: $70,000 ($1,000/hotel)

SUPPORT INDUSTRIES

SIS01 The State of Physical Infrastructure in Hawaii – Phase 2

Applicant: Hawaii Institute for Public Affairs (HIPA)

HIPA is completing Phase 1 of this project, with an infrastructure inventory of the physical infrastructure within the state and the four Counties over the next six years. We have found that there is an estimated $14 billion of infrastructure planned for construction.

Phase 2 of this project will examine longer-range infrastructure needs, including:

- Infrastructure required to meet planned and future growth projections
- Infrastructure required to stimulate future development
- Land use policies, funding mechanisms and other aspects of infrastructure planning and development.

While Phase 1 covers what is planned, Phase 2 will look out into the future for the next 15 years, to determine what needs to be done to ensure that the appropriate infrastructure is in place to meet the economic development challenges.

It is anticipated that this will assist decision makers in helping to set better priorities regarding planning, design and construction of infrastructure.

It will also educate the public in the gap that exists between what is wanted by the residents and what is affordable.

Estimated Jobs Generated: One full-time researcher/consultant and three part-time members of HIPA's staff

Estimated Cost: $400,000 from U.S. Dept. of Commerce Economic Development Administration

Project Type: Economic Adjustment

Sources and Amounts of Matching Funds: $200,000 from the construction, engineering, development and financial communities.

SIS02 Dental Health Expansion

Applicant: Waimanalo Health Center

Cluster That This Project Supports: Healthcare

Narrative Description of Project and Its Benefits/Justification:
Through support from federal, state and private agencies, in February 2009, the Waimanalo Health Center began construction on its newest service to the community, dental health services. Since opening its doors in April 2009, the Waimanalo Health Center's Dental Health Services, named Waimanalo Smiles, has seen over 2,400 visits with one full-time dentist and one full-time dental hygienist and supporting staff. Over 50% of the patients served at Waimanalo Smiles were uninsured, having never received regular dental care and requiring intensive dental treatments. Waimanalo Smiles remains the only dental health provider on the entire windward side of Oahu that provides discounted services to the uninsured. In order to further meet the dental needs of the community, the Waimanalo Health Center is proposing to expand its existing Dental Health facilities by enclosing an outside patio area. Construction would include adding two additional treatment rooms, increasing the size of the waiting room area, and sterilization area, to accommodate more patients and staff and improving the building's infrastructure (i.e. roof renovation). Requested funding would support construction and materials and necessary dental equipment. This project would result in a projected 2,500 increase in patient dental care visits and hiring of 4 additional dental staff, including two dental health providers.

Estimated Jobs Generated: 4

Estimated Cost: $350,000

Project Type: Economic Adjustment and Technical Assistance

Sources and Amounts of Matching Funds: $52,000 from American Recovery and Reinvestment Act of 2009, $25,000 through the HRSA Loan Guarantee Program. Additional funds are still pending.

LONG RANGE PROJECTS

DIVERSIFIED AGRICULTURE

DALM01 Oahu Sun Powered Farms

Applicant: Oahu Resource Conservation and Development Council

Additional Clusters That This Project Supports: Renewable Energy

Electricity costs in Hawaii are among the highest in the nation. About 90 percent of our electricity is produced from fossil fuels, and all of that is imported. At the same time, our islands enjoy year-round sunshine and regular trade wind weather. Many individuals have taken advantage of solar tax credits, and we now boast the highest percentage of solar water heaters in the nation (even though our home ownership rates are below average).

Farmers have not had the same economic or technical encouragement to convert light-duty irrigation pumps, aerators for aquaculture ponds and aquaponic systems, remote security systems and other electrically-powered systems that use solar or wind power. Farmers leasing their property have had an especially difficult time getting loans or financial support for these improvements, which could reduce their expenses and increase their profits dramatically.

In Hawaii today, interest is booming in aquaponic and hydroponic systems for fish and vegetable production, particularly among small farmers. The sun could easily power most of these systems.

We are seeking $300,000 over a three-year period to provide outreach, technical assistance, and financial support to small farmers and agricultural businesses to incorporate small scale solar and wind powered systems into their operations. The Blue Planet Foundation would partner with us on the project to provide un-biased technical expertise and consultation. Approximately, two thirds of the funds would be available as cost share to farmers wishing to install these cost and energy saving systems.

Estimated Jobs Created: 20-35 businesses impacted, jobs supported

Estimated Cost: $300,000 (over 3 years, exclusive of match)

Project Type: Public Works

Sources and Amounts of Matching Funds: $200,000 as cost share from agricultural businesses to install sun-powered systems. There may be in-kind support from other organizations as well.

DALM02 Food Towers

Applicant: Dr. Robert Yonover, CEO and Founder, SEE/RESCUE Corporation

Additional Clusters That This Project Supports: Renewable Energy, Visitor Industry

FOOD TOWERS: Locally grown and other healthy food (vegetarian) cooked by premier chefs (chef training opportunities also). Food is fully subsidized by government/private industry (via advertisements on property and Public Relations credit), resulting in FREE FOOD.

The only catch is that people have to walk to the top of the building (30 floors?) to get the free food (and they only can stay up there for 30 minutes), providing them with a healthy nutritional meal AND aerobic exercise, while promoting local diversified agriculture and saving energy (ultimate green strategy) by eating efficiently grown foods (One meat meal costs 100 vegetarian/grain meals with minimal transportation costs for food or diners).

In a similar fashion to laws in Colorado, the Food Towers would be a no lawsuit zone, in the event people have heart attacks waking up/down the Food Tower. There could be emergency medical technicians on the property for safety purposes.

Estimated Jobs Generated: 20+ jobs per Food Tower Location

Estimated Cost: $250K per Food Tower per year, however could be matched/subsidized by the private sector.

Project Type: Public works

Sources and Amounts of Matching Funds: Private Sector (Advertising and Underwriting opportunities)

DAL03 Aquaculture Technology Innovation Center

Applicant: Oceanic Institute

The proposed Aquaculture Technology Innovation Center (ATIC) is a facility designed to develop the next generation of cultured aquatic animals for the state of Hawaii and the nation. During the past decade, Oceanic Institute (OI) has successfully transferred technologies it has developed for the culture of moi (Pacific threadfin) and kahala (greater amberjack) to the commercial industry. There are now commercial companies in Hawaii that produce these species for sale in local and export markets. However, for the continued expansion of the aquaculture industry in our state, there needs to be additional research that focuses on closing the reproductive cycle of new aquaculture species which have commercial potential. The proposed facility will allow OI researchers, and their research partners, to utilize more recent and sophisticated scientific approaches that will provide the breakthroughs required for development of the technologies needed to produce marine food animals, which are in high demand but in diminishing supply (e.g. ahi, onaga, and opakaka). The ATIC, together with the completed Center for Applied Aquaculture and Marine Biotechnology facilities, will provide OI with the capability to develop and transfer new technologies to the public and private sectors, and to provide training and support to those industry stakeholders who are interested in applying these technologies.

Estimated Jobs Generated: 50

Estimated Cost: $4 Million

Project Type: Public Works

Sources and Amounts of Matching Funds: Oceanic Institute Capital Campaign

CULTURE, ENTERTAINMENT and SPORTS

CELM01 PA'I Native Hawaiian Culture and Arts Center and Affordable Housing Project

Applicant: PA'I Foundation

Additional Clusters That This Project Supports: Visitor Industry, Support Industry

Currently there is no cultural center dedicated to Native Hawaiians anywhere in Hawaii, while most other cultures from Asia are represented by such centers. We propose to use this initiative and the associated funding to complete the pre-development phase associated with building a multi-use Native Hawaiian Cultural Center, focused on affordable housing, working artist studios, and a halau hula. The affordable live/work units would be financed primarily using the federal Low Income Housing Tax Credit (LIHTC). Other federal, state, and local housing and community development programs would be tapped to supplement the balance of the cost. In addition to housing, we anticipate the development of affordable working studios for Hawaii's many artists and creative citizens. These studios will serve multiple purposes: they will provide stable and appropriate working space (ventilation and lighting); they will create a community of artists that will share and collaborate on projects, producing more, and better, art; they will serve as a way to present artwork as any gallery would provide; there will be a draw for tourists and citizens alike; and finally, they will act as a catalyst for economic development, providing a place for the artist to act as entrepreneur, giving them a chance to sell artworks and crafts of both a traditional and non-traditional Hawaiian style. The halau we are proposing to build will be of a permanent nature, with both open-air and enclosed components. There is so much more to hula than dancing – it is also about teaching the correct way to create leis and grass skirts, how to play the ukulele and learn about traditional songs. A halau hula is the life-blood for the preservation of Hawaiian culture. In addition to the art forms surrounding the hula, Hawaiian language, history (oral and written), legend and lore, customs and traditions of an ancient people are all taught at the halau. Our proposal meets multiple guidelines and project goals:

1. Social development and volunteerism by utilizing the artists that will already be living and working at the Native Hawaiian

Cultural Center to teach and instruct Hawaiian cultural traditions and art forms alongside kumu hula Vicky Takamine, using both conventional education methods and technology based instruction;

2. Strengthening and preserving families by creating the first, and only, center dedicated to Native Hawaiians and Hawaiian culture in Hawaii and providing affordable housing for artists and their families; and

3. Creating economic development opportunities by developing working studios, so that both traditional and non-traditional Hawaiian artists can create and sell their work, fostering them as micro-enterprises, and capturing tourists, as has been done in places like the Torpedo Factory in Alexandria, VA. Estimated Number of People to be Served by the Project Award: 1,250,000+ (the entire population of Hawaii as well as visitors to Hawaii will be able share in the experience of the Native Hawaiian Cultural Center)

Estimated Jobs Generated: 25

Estimated Cost: $25 million. EDA Grant Request: $1,000,000

Project Type: Technical Assistance

Sources and Amounts of Matching Funds: Artspace $500,000 Ford Foundation $250,000 Leveraging Investments in Creativity $100,000.

CELM02 Interactive Digital Arts Center

Applicant: Hawaii Arts Alliance

Additional Cluster That This Project Supports: Technology (Digital Arts)

The Interactive Digital Arts Center (IDAC) advances the future of the arts and technology in Hawaii as a vehicle for economic development and job creation. Just as Hawaii's melting pot of cultures creates a diverse and vibrant local community, the IDAC brings together ideas, people and organizations in a creative synergy for the greater good of all. As a flourishing site of learning and creativity, the IDAC will catalyze economic development in the surrounding Kalihi-Palama-Chinatown locality. The IDAC Outreach Program fosters collaboration between businesses, developers, artists and students to create, promote and build commerce within the neighborhood. The four primary priorities of the facility are Business Development, Technology Acceleration, Creative Industries and Arts Education.

Estimated Jobs Generated: 300

Estimated Cost: $1,200,000

Project Type: Economic Adjustment

Sources and Amounts of Matching Funds: City and County of Honolulu, private foundations, both local and national

CEL03 Chinatown Revival: Act II

Applicant: Hawaii Theatre Center

Hawaii Theatre Center plans a major cultural project in Chinatown/Downtown Honolulu that will have the same marked economic impact on the area as the Theatre's initial $32M restoration project. Planning has already begun for the expansion of our historic venue on adjacent Theatre-owned property. $1.5M in funding from the Economic Development Administration now for the Theatre's expansion planning, would result in round-the-clock entertainment, artistic and educational activities that will spark continued growth in the area and lead to the creation of scores of high-level, high-salaried jobs over time.

Initially, planning and construction of the Theatre's $21M expansion will provide employment for approximately 36 local architects, engineers, building contractors, tradesmen, and laborers. When completed, expansion will result in the creation of 8 new full time and 24 part-time positions at the Theatre alone. Expansion will enable the Theatre to double the number of productions on its stage, which will create jobs for actors, musicians and technical theatre professionals each year. The addition of classroom space will provide job opportunities for artists and teachers. And, as happened after the initial restoration of the venue, additional activities at the Theatre will attract new businesses – businesses that will need to hire staff – to the neighborhood. We estimate that at least 15 new businesses – restaurants, bars/lounges, retail stores and art galleries – will be opened and employ at least 45 employees. Large-scale Productions Backstage expansion will enable the Theatre to present large popular shows that will attract thousands of people to the neighborhood. Built in I922, the Hawaii Theatre's shallow stage was designed for vaudeville performances, and it lacks the depth necessary to mount larger, more elaborate productions.

Expanding the backstage, and adding set storage space, will enable Hawaii Theatre to present the kinds of long-run shows that will keep eager audiences coming for weeks on end.

High Quality Musical Performances – In order to present full-scale orchestral performances the Hawaii Theatre needs to purchase an orchestra shell. It will enable the Theatre to host higher quality and

more varied musical experiences like concerts by the Honolulu Symphony and local choral groups.

Studio Theatre – The addition of a black box theater will provide a home for small scale plays and other intimate performances and will address the critical need of other arts groups for rehearsal and performance space. A black box theatre also will allow Hawaii Theatre to mount two productions – a large production on the main stage and a small experimental show in the black box – simultaneously.

Support for Non-profit Arts Organizations – The addition of rehearsal space will provide rehearsal and six classroom spaces that can be rented by other non-profit arts organizations. The expansion also will provide storage space for costumes and sets and include a property shop. Rehearsal space will enable the theatre to continue offering performances on-stage while rehearsals for future shows are taking place simultaneously off-stage. When not in use by the Theatre, these much needed rental rehearsal halls will attract performing arts groups, and their artists, to the area.

Educational Activities – Hawaii Theatre Center needs space for its expanding educational offerings. The Hawaii Young Actors Ensemble offers theatre education to a group of 16 young people, ages 13 to 18, who learn classical acting methodology during the school year and cap their experience by presenting a performance at the Hawaii Theatre at the end of the school year. Currently, these young actors must meet and rehearse elsewhere, because the Theatre lacks studio space and rehearsal halls. A second group of students is participating in the Hawaii Theatre Center technical apprenticeship program. This job-training program gives select Oahu high school students the hands-on opportunity to learn technical aspects of theatre production from Theatre staff mentors.

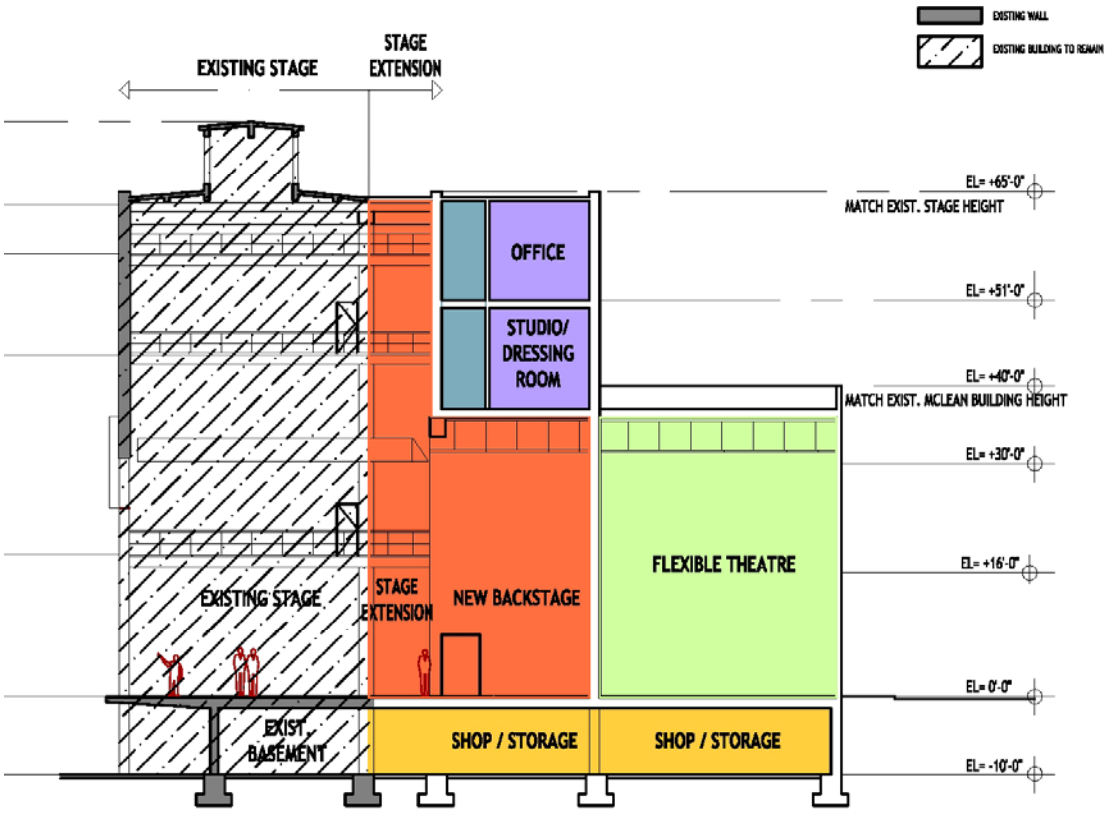
Just as renewed activity at the Hawaii Theatre jump started the revival of its neighborhood in 1996, completion of the Theatre's expansion will fuel economic activity in the downtown Chinatown neighborhood and create a wide variety of employment opportunities for Oahu residents.

Estimated Jobs Generated: 89

Estimated Cost: $3M. EDA Request: $1.5M

Project Type: Public Works/Economic Adjustment planning grant

Sources and Amounts of Matching Funds: $1.5M from Foundations, Corporations, Individuals, state of Hawaii Capital Improvement Grant-in-Aid



BUILDING SECTION

SCALE: 1/16"=1'-0"

CEL04 Athletic Training and Recreation Complex

Applicant: Michael Story (HTA)

The complex is proposed to serve as a major pro facility and recreation center, and a venue for local, regional, national and international athletic competitions in a variety of sports. The benefits of the complex are:

- Preserve the mission, vision as a private facility for professional athletes.
- Provide a large-scale community recreation facility to serve local kids.
- Provide an opportunity for cultural presentations and demonstrations.
- Provide an educational opportunity for health advancement.
- Provide a therapeutic environment for the training and facilitating of athletics.
- Create a training center for athletes and teams and a high quality competition venue for local, regional, national and international athletic competitions.
- Create secondary benefits to the economy through attraction of athletic events and visitors.
- Be part of the solution for maintaining and promoting school sports in the state of Hawaii.

Estimated Jobs Generated: 56

Estimated Cost: $104,000,000.00. EDA Request: $4,000,000

Project Type: Public Works

Sources and Amounts of Matching Funds: Sponsor underwriting $20,000,000.00, total land cost $1,990,000.00

DEFENSE, DUAL USE

DDLM01 City of Innovation Fund and Showcase

Applicant: Hawaii Tourism Authority, Hawaii Technology Development Corp.

Additional Clusters That This Project Supports: Technology, Visitor Industry

In Hawaii's emerging technology industry, one of the fastest growing segments is the defense and dual use sector. These firms have shown the ability to attract federal (DoD, DoE, NSF, etc) research dollars and to commercialize technologies developed through these research activities. Hawaii's defense and dual use industry has the capability to produce world-class technologies. Many of these technologies have potential uses in public safety, communications, transportation, medicine and energy. For Hawaii companies, one of the obstacles to commercialization of dual use technologies is lack of access to a large base of customers due to Hawaii's remote geographic location. The City of Innovation Fund and Showcase would match municipal technology needs with technology capabilities of Hawaii-based firms. Using a competitive proposal process, firms would be asked to provide suggested technology solutions to municipal problems. Winners would receive product development grants to work with municipal departments to implement the selected solutions in demonstration projects. The results of the projects would be featured in an interactive showcase at a high traffic venue, such as Honolulu International Airport or Waikiki. With several million visitors from around the world coming to Hawaii, the showcase would provide visibility for Hawaii-based technologies and companies, and improve the perception of Hawaii as a center for technological innovation while solving difficult government problems.

Estimated Jobs Generated: 4 staff, potentially hundreds of jobs from increased revenues to companies.

Estimated Cost: $1 million. EDA Request: $500,000

Project Type: Economic Adjustment

Sources and Amounts of Matching Funds: city, state, and private

FILM and DIGITAL MEDIA

FDL01 Digital Media Business Incubator

Applicant: Ocean Network, Kama'aina Kids

We will integrate human planning in the service of Economic Development:

1. We will adapt to global conditions utilizing our region's unique advantages
2. We will attract private investment that creates jobs
3. We will solve economic development problems and clearly define the metrics of success and useful evaluative benchmark(s)

Our project to support industry is in the Digital Media cluster, and is intended to strengthen Hawaii's sagging economy, which is trying to recover from the recession. It plugs nicely into a film and digital video cluster that:

1. Has huge credibility, because we are located in the middle of the Pacific Ocean
2. Are interrelated through alliances, competition and buyer/supplier linkages
3. Are drawing upon common talent, technology and support bases

Ocean Network would like to help strengthen our key cluster, not just help for our specific company, because by sharing resources we enjoy Economy of Scale. Plus, we receive more usable content this way – not only for our local TV channel but also for our worldwide export, which helps the economy with taxes to our city and state.

With the help of this grant we will be a business incubator in the Applicable EDA Investment Program of Economic Adjustment; and to some degree, Trade Adjustment Assistance. This latter category means that as a producer, we are affected by increased imports and have to prepare and implement strategies to guide our economic recovery.

This investment will assist our community in:

1. Attracting private capital investment
2. Attracting higher-skilled, higher wage job opportunities; and

3. Promoting long-term economic recovery

Ocean Network would like to participate in a Public works, public service or economic development facility, such as the remodeling of the aged Diamond Head Studio, which will need: Design and Engineering, Construction, Rehabilitation, Alterations, Expansion, and Improvements. The state already owns the land, and we assume a separate grant will be obtained for the remodeling, but we can probably raise the matching funds for the addition of an office space to accommodate our company there as a new tenant/partner.

Our Business Incubator at that Diamond Head Studio facility will focus on producing and aggregating ocean-related programming and building a network of Franchisees around the Pacific Rim, who will be replicas of what we do in Hawaii. We already have solid contacts in Hong Kong, and Vancouver B.C., and a first contact in Australia and South Korea. The first two contacts have come from the Hawaii Venture Capital Association; and the U.S. Dept of Commerce has helped us with the latter two contacts, and is standing by to assist further when we are ready.

Our Business Model is very solid, we've already raised over $1 million from 33 very *akamai* investors, and achieved Proof of Concept during our 3-year Seed Round. Now we grow!

Investment Policy Guidelines:

We are more than willing to be evaluated on our ability to meet or exceed the guidelines:

Be market-based and results-driven: Capitalize on a region's competitive strengths and positively move a regional economic indicator measured on EDA's Balanced Scorecard, such as: an increased number of higher-skill, higher-wage jobs; increased tax revenue; or increased private sector investment.

Have strong organizational leadership: Strong leadership, relevant project management experience, and a significant commitment of human resources talent to ensure a project's successful execution.

Advance productivity, innovation, and entrepreneurship: Embrace the principles of entrepreneurship, enhance regional clusters, and leverage and link technology innovators, and local universities to the

private sector to create the conditions for greater productivity, innovation, and job creation.
Estimated Jobs Generated: 24

Estimated Cost: $200,000. EDA Request $100,000

Project Type: Public works, economic adjustment

Sources and Amounts of Matching Funds: Private investors

Ocean Network showcases hands-on experiences by hosts that film and document life over and under the ocean.

VISITOR INDUSTRY

VIL01 Gray's Beach Restoration

Applicant: Gray's Beach, LLC

Gray's Beach, LLC is proposing to restore and stabilize a sand beach fronting the Sheraton Waikiki property. If the required land use approvals, and environmental permits are granted, Gray's Beach will:

- Construct three rock T-head groins along the shoreline fronting the Sheraton Waikiki, with the eastern-most groin replacing the existing Royal Hawaiian groin. The groins would be spaced 230 feet and 270 feet apart from east to west. The stems would extend 160 feet from the existing seawall (all groin dimensions are measured along the crest), with the east and west groins originating at the seawall, and the middle groin beginning 30 feet seaward of the seawall.

- Emplace sand fill between the groins to create a beach with a minimum horizontal crest width of 30-feet at the +6.5 to +5.5 foot elevation extending from the seawall, and a 1V:10H slope from the crest to the sea bottom. Approximately one-half of the groin stem would be covered by sand, with the groins gradually emerging from the beach slope. Sand fill would also be placed on the west side of the groins to transition into the adjacent shoreline. Sand fill is expected to be obtained by recovery of offshore sand from the Halekulani Channel, seaward of the 20-foot depth contour. The total dry beach width, i.e. above the high tide line, would be approximately 75 feet, and the total dry beach area would be about 45,000 square feet (1 acre). Assuming 75 square feet per person, the beach would accommodate about 600 persons.

The key objectives of the project are as follows:

(1) Restore and stabilize the public beach fronting the Sheraton Waikiki to provide for recreational and aesthetic enjoyment for local residents and visitors to Waikiki Beach.

(2) Facilitate public lateral access along the shore for local residents, visitors, and public safety officials.

(3) Maintain and enhance protection for the backshore area.

(4) Increase the variety of, and access to, water-oriented recreational activities along Waikiki Beach.

(5) Minimize the potential for environmental harm and risks to public health and safety during construction and operation.

(6) Minimize or eliminate potential adverse impacts on coastal processes.

The proposed project would extend the sandy portion of Waikiki Beach in the 'Ewa direction by approximately 500 feet (a substantial increase) and add nearly 1 acre of dry beach area for public use.

In addition to the public benefits discussed above, the proposed beach restoration project would represent a material improvement to the recreation amenities in Waikiki and maintain Waikiki's status as a world-class resort destination. Waikiki Beach has experienced significant erosion in the last 20 years. The Waikiki Improvement Association (WIA) recently commissioned a study to analyze the economic impact of beach erosion in Waikiki. The study indicated that visitor expenditures in Waikiki would decline by $2 billion per year if Waikiki Beach continued to erode to the condition experienced at Gray's Beach. Furthermore, the City and County of Honolulu, and the State of Hawaii would lose $125.5 million in annual tax revenue through the decrease in GET and TAT taxes. Additional economic impacts would include loss of employment in Waikiki, estimating that 6,352 hotel jobs would be lost in addition to job losses in retail, construction and ancillary services.

The proposed project would be a significant step in maintaining the attractiveness and usefulness of Waikiki Beach, while ensuring Waikiki's standing as a premier resort destination and one of the most important economic assets for the state's economy.

Modeling and analyses of near shore conditions conducted in the project area indicate that the project will not alter wave patterns in a manner that will disrupt existing surf breaks. Rather, it will decrease wave reflection by replacing the existing vertical seawall with more energy dissipating beach sand and groins. It will also enhance offshore recreational opportunities by facilitating access to the shoreline.

Estimated Jobs Generated: 20 to 30 construction jobs for a 6 to 9 month period and maintenance of hotel, retail and related jobs in the economy that would otherwise decline if beach erosion resulted in job losses as predicted by the WIA study.

Estimated Cost: $5 million

Project Type: Public Works

Sources and Amounts of Matching Funds: Kyo-ya Hotels and Resorts, LP has contributed approximately $600,000 to-date to fund the Environmental Impact Statement. Kyo-ya would be willing to commit an additional $400,000 for a total of $1.0 million. Additional funding will be sought from HTA, state of Hawaii, WBIDA, and other private businesses.

Above, Gray's Beach as it is now and below
in an artist's rendering after the restoration

VIL02 Waikiki Visitor Information Center

Applicant: Waikiki Business Improvement District Association

In November 2007, the Waikiki Business Improvement District Association (WBIDA)—with the assistance of a team of research, design, and technology consultants—completed a plan and design for state of Hawaii Visitor Information Centers (VICs) using Waikiki as a sample destination for consideration by the Hawaii Tourism Authority.

WBIDA believes that a VIC can benefit a destination such as Hawaii by:

1. Providing a positive impression of hospitality and service quality
   - Enabling the assembly of a comprehensive, current guide to Hawaii and its individual destinations, and extend its availability to visitors, potential visitors, and residents.
2. Enriching the visitor experience
   - Providing interpretation of the local region and culture.
   - Highlighting activities that convey the history and culture of Hawaii, and promote interaction between visitors and residents.
3. Promoting awareness and patronage of tourism businesses
   - Increasing expenditures by visitors during current trip through enhancing on-site awareness of goods and services available.
   - Encouraging travel to additional places by visitors during current trip, and promoting longer future trips by highlighting other destinations throughout the state of Hawaii.
   - Encouraging resident expenditures through the year-round promotion of local destinations as an accessible, high-value (not high cost) venue for entertainment, celebrations, and getaways.

Based on this exercise, recommendations for establishing VICs in Waikiki and other destination areas throughout Hawaii were developed, including: proposed operating parameters; leasing costs for proposed locations; proposed design concepts; and projected construction and operating costs.

The report concluded that although the services that an official VIC would provide in Hawaii destinations would enhance the experience of visitors, the development and operation of physical VIC facilities—stand-alone structures, storefront or walk-in spaces, or kiosks—clearly represents a major financial commitment. The development and operation of a physical VIC facility under market-rate conditions for leasing facility space and employing staff would likely significantly exceed any revenue the center might generate from ticket sales, retail sales, and other sales. Thus, establishing a VIC facility in any Hawaii destination area would certainly require significant public and/or private subsidy in some form.

In Waikiki, discussions have been held regarding siting a VIC on government-owned property at the police substation at Kuhio Beach Park. This option would significantly reduce operating costs by eliminating or reducing the rent, and take advantage of the fact that the substation is a highly visible and well-known site that is already used by visitors as a source of information. The city Administration did not support WBIDA's proposal to expand the substation, relocate police facilities closer to the concession area, and house a VIC and city store in the existing substation space fronting Kalakaua Avenue. The city, however, was open to further discussions of expanding the substation to allow a VIC and city store to be sited behind the current substation; however, it would not fund construction of that facility.

Waikiki businesses remain interested in exploring public-private sector partnerships in the development of a storefront VIC adjacent to the police substation at Kuhio Beach Park or in street-level retail space in areas planned for redevelopment along Kalakaua Avenue.

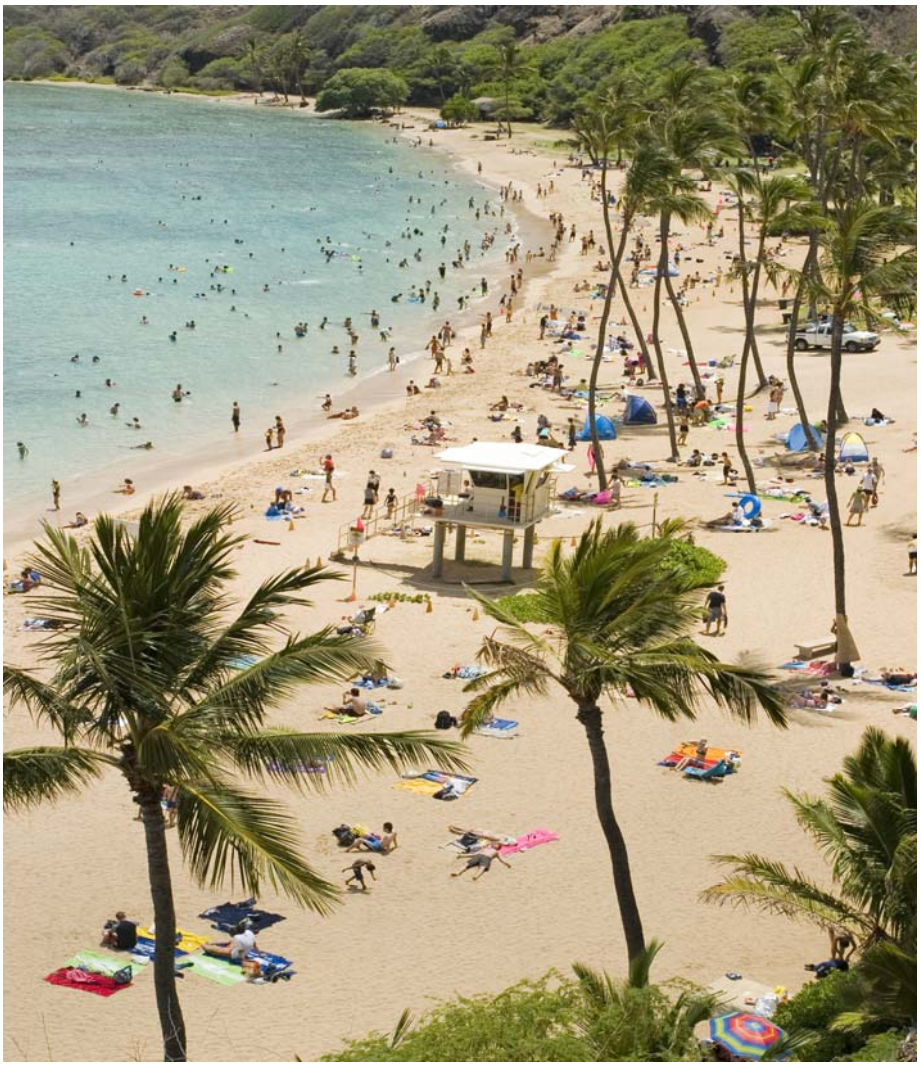
For either location, the VIC could be constructed with private and/or federal or state resources; maintained and repaired using city and/or private monies; and operated by a private entity, such as WBIDA, using a combination of private funds and federal or state grants. For a private retail space, creative approaches to reduce or share lease and operational costs with private companies by leveraging the potential for the VIC to generate visitor traffic and goodwill would also be pursued.

Estimated Jobs Generated: Design and construction jobs, VIC Ambassadors daily thereafter, and maintenance of 37,000 jobs in Waikiki as the services that a VIC provides would enhance the overall visitor experience in the District.

Estimated Cost: $500,000 construction; $400,000 annual operations

Project Type: Public Works

Sources and Amounts of Matching Funds: CEDS request is $500,000 for construction; long-term operational funding would be provided by private sector



VIL03 Waikiki Sidewalk Paving

Applicant: Waikiki Improvement Association

The physical appearance of Waikiki is critical to the health and success of Honolulu and Hawaii's visitor industry. In recent years, $100 million in public money has been spent on improving Waikiki's public spaces. Private sector spending over the same period is over $3.5 billion spent by various business interests to improve Waikiki's lodging and retail space. An important next step in this upgrade process is to improve the public sidewalks along Kalakaua Avenue, Waikiki's main visitor pedestrian corridor. The installation of a consistent paving treatment that reduces the danger of slips and falls, and meets ADA requirements, is being proposed. Currently the City and County of Honolulu (City) has budgeted $6.7 million over two years, but it is estimated that the total project cost is $15 million for the public portion of the sidewalk and an additional $4.5 million for the adjoining private sidewalk space. This project would be utilized to provide matching EDA funds to supplement public and private investments to improve the sidewalk space on Kalakaua Avenue to ensure a consistent look and treatment.

Estimated Jobs Generated: 20 construction jobs for one year and job retention in hotel and retail estimated at 500, avoiding a one percent loss in the work force.

Estimated Cost: $19.7 million, 15.2 public and $4.5 million private

Project Type: Public Works

Sources and Amounts of Matching Funds: City and County of Honolulu $6.7 million and WIA Members $4.5 million, CEDS request $8.5 million.

SUPPORT INDUSTRIES

SIL01 Ke'ehi Community Resource Center (KCRC)

Applicant: The Pacific Gateway Center

Cluster That This Project Supports: Support Industry

Narrative Description of Project and Its Benefits/Justification:

The Pacific Gateway Center is developing a 64,000 SF Ke'ehi Community Resource Center (KCRC) facility that will be located on 13.2 acres of vacant land at Ke'ehi Lagoon. This proposed facility would serve a long-standing need as a central community resource center for existing Oahu community service agencies, which are currently located and operated in different sites through Honolulu. In the next five years, the Center will focus on expanding and strengthening its workforce services to assist populations under-presented in the labor force, immigrants with limited English proficiency, and homeless individuals and families. The Oahu work force training programs address education and employments needs through a high school diploma course, occupational training, employment services, and wraparound case management services. These programs will also focus on preparing out-of-school youth to be a part of a new workforce "supply pipeline" to serve the local high growth/high demand industries (e.g., construction and renewable energy) through intensive alternative education and remedial services, occupational skills training, and employment services. The KCRC Center qualifies as a Support Industry Project, which centralizes the services and resources of Oahu work force training programs to develop job skills for immigrants, refugees, and low-income residents of Hawaii. As such, it would play an important part in creating new jobs and manpower necessary for the economic development of the state of Hawaii, as well as provide a much-needed resource for the community.

Estimated Jobs Generated: 300

Estimated Cost: $8,000,000

Project Type: Public works

Sources and Amounts of Matching Funds: $3,000,000 from state; $1,000,000 from county

SIL02 Lake Wilson Repair and Clean Up for the Safety of the North Shore Residents

Applicant: 4AgHawaii / HDOA / ADC / Dole / North Shore Chamber

Lake Wilson, located in Wahiawa, Oahu is the state's largest reservoir with a 3 billion gallon capacity. This reservoir was built by the sugar plantation as a resource for irrigating their crops. However, with the closure of Waialua Sugar, the needs of diversified agriculture are different and less, since R2 water can be used for only certain crops.

The earthen dam built over 100 years ago now poses a threat to the community with the possibility of breeching during heavy rain. Shoring of the earthen walls of the dam is necessity. The repair to the spillway (which has been noted by inspectors as a threat) will also be needed.

All parties are concerned, since breeching of the dam will cause danger to the towns of Haleiwa and Waialua. The remembrance of the breeching of Kaloko on Kauai causes major concerns for all residents and businesses on the North Shore.

Estimated Jobs Generated: 30, with additional farms and actual repair crews

Estimated Cost: $3.2 million

Project Type: Public Works, Health and Safety

Sources and Amounts of Matching Funds: $1 million

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Pg.4, NASA Worldwind-globe

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Pg. 105, Sustainability Association of Hawaii

Pg. 110, Honolulu Zoo

Pg. 112, Kyo-ya Hotels and Resorts, LP, via Communications Pacific

Pg. 125, Culinary Institue of the Pacific, at Kapiolani Community College.

Pg. 129, Hawaii Theatre

Pg. 142, Kyo-ya Hotels and Resorts, LP, via Communications Pacific

CHAPTER 3

KAUAI

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Mahalo

Kaua`i, the nation, and the world have undergone many changes since the ***Kauai Economic Development Plan*** was written in 2004. A global economic recession, high fuel prices, and downturn in Hawai`i's major economic driver, tourism, have led to business closures, high unemployment, and reduced government revenues. It is therefore timely that we update our economic roadmap for Kaua`i.

On behalf of the Kaua`i Economic Development Board (KEDB) and County of Kaua`i Office of Economic Development (OED), we would like to acknowledge the leadership from Mayor Bernard Carvalho and Kaua`i County Council for supporting this update. Funding from the Department of Commerce, Economic Development Administration, Office of State Planning, and County of Kaua`i allowed us to retain the services of 3Point Consulting to analyze industry cluster data and NKN Project Planning to facilitate meetings and prepare this update.

We would like to thank the Comprehensive Economic Development Plan (CEDS) Committee for their guidance in this process. Members who served on this committee included:

Bill Arakaki
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We would like to acknowledge the more than 45 individuals who participated in industry cluster focus group discussions. The names and affiliations of all participants are listed in **Appendix A**. All of these meetings would not have been possible without the coordination and direction provided by Susan Tai, KEDB Economic Development Plan Director.

We hope that individuals and organizations representing public, private, and community interests will work together to implement priority projects listed in this report. Focused action, collaboration, and commitment will go a long way toward strengthening and diversifying Kaua`i's economy.

Matilda Yoshioka
President & CEO
Kaua`i Economic Development Board

George Costa
Director
Office of Economic Development
County of Kaua`i

1.0 EXECUTIVE SUMMARY

A major global recession and dramatic increases in fuel prices contributed to a decrease in visitor arrivals to Kaua`i by 10% between 2008 and 2009.[1] Aloha Airlines and ATA went out of business in 2008, and Gay and Robinson harvested its last sugar crop in 2009. Kaua`i's unemployment rate was 9.2% as of November 2009.

1.1 Accomplishments since 2004

In spite of the gloomy economic picture since the last Kaua`i Economic Development Plan/Comprehensive Economic Development Strategy (CEDS) was written in 2004, there have been many accomplishments:

Food & Agriculture

- The County of Kaua`i developed a "Kaua`i Made" brand
- A deluxe farmer's market opened at Kaua`i Community College
- The seed industry doubled its acreage on Kaua`i
- Kaua`i Coffee Company has the highest acreage of coffee grown in the nation

Health & Wellness

- Wilcox Hospital opened a new imaging center and added six new operating rooms
- The first assisted living facility on Kaua`i, The Regency at Puakea, opened with 100 units
- Mahelona Hospital opened an emergency room serving East and North Kaua`i
- Kauai Health and Wellness Association formed and has over 60 members

Sports & Recreation

- Phases 1 & 2 of the multi-use path have been completed
- Nawiliwili Harbor improvements have been completed
- Lydgate and Koloa/Po'ipu soccer fields have been completed

[1] The Garden Island, "Visitor arrivals up, but 2009 trends down," January 31, 2010, p. C1.

Culture & Arts

- There has been a steady increase in the number and variety of visual art, performing art, music, and dance exhibits and performances on Kaua`i
- The ARTS newsletter is now a 8-page color insert in the Kaua`i People magazine with a circulation of 33,300 copies with an on-line presence

Science & Technology

- KEDB-sponsored Aloha `Ike program has sponsored 67 Science, Technology, Engineering and Math (STEM) projects totaling $330,000 in direct grants to teachers island-wide
- In partnership with the Hawai`i Space Flight Laboratory, Kaua`i Community College will be home to a telemetry and weather station to support educational opportunities and commercial satellite downlinks

Sustainable Technologies & Practices

- A biodiesel plant is in operation, converting used cooking oil to diesel for farm equipment
- KIUC's Energy Efficiency programs are promoting solar water heating and energy efficient appliances
- The Kaua`i Energy Sustainability Plan has been drafted and is currently undergoing public review

1.2 Guiding Principles

There is a general recognition that to improve Kaua`i's economy over the next 10 years, we must be guided by the following principles:

- *Economic Diversification*: to strengthen selected industry clusters to minimize dependence on a single industry

- *Economic Self-Sufficiency*: to minimize imports and promote import substitution

- *Economic Opportunity for all*: to offer an appropriate K-20 education and adequate training opportunities to give workers choices and to promote living wages

1.3 Approach to Economic Development

To address these concerns, a three-prong approach is recommended in this plan.

1. Pursue goals and objectives common to all businesses on Kaua`i

2. Identify key projects that will strengthen Kaua`i's visitor industry

3. Focus on priority projects of six industry clusters:

   - Food & Agriculture
   - Health & Wellness
   - Sports & Recreation
   - Culture & Arts
   - Science & Technology
   - Sustainable Technologies & Practices

1.4 Economic Development Goals

In response to the critical issues impacting economic development, five goals have been established.

1. To assist new and existing businesses create new jobs

2. To facilitate career planning for students

3. To expand and train the workforce to meet the needs of employers

4. To promote affordable housing

5. To improve the skill level and work readiness of students to achieve career and college success

1.5 Visitor Industry Priorities

Visitor Industry leaders prioritized key strategies:

1. Effectively address crime and burglaries affecting visitors

2. Protect air routes and gateways to ensure consistent airlift to Kaua`i
3. Effectively address infrastructure improvements

Visitor industry leaders also identified their priority infrastructure improvements:

1. Wailua Emergency Bypass Road (between Hanamaulu & Wailua River)
2. Lihue Airport Runway Expansion
3. Kuhio Highway Relief Route (between Hanamaulu & Kealia)

1.6 Priority Projects

Some of the priority projects for each industry cluster are listed below.

Food & Agriculture

- Improve and upgrade agricultural water irrigation systems throughout the island
- Renovate the Kaua`i Tropical Fruit Disinfestation facility
- Build a modular slaughterhouse, processing, and chilling facility

Health & Wellness

- Conduct a feasibility study for a Health & Wellness Retreat Center
- Advocate for policies to improve the health and wellness of citizens
- Increase the diversity of health care education and training

Sports & Recreation

- Conduct a feasibility study on a multi-use arena and multi-use regional parks
- Build and maintain athletic facilities and community centers
- Restore beach at Po'ipu Beach Park

Culture & Arts

- Aggregate, disburse, and maintain a consolidated calendar of arts and cultural events that is accessible to residents and visitors
- Offer skill-building technical assistance workshops
- Develop a Kaua`i Center for Culture and the Arts to include exhibit, retail, classrooms, and offices

Science & Technology

- Continue to support STEM learning opportunities for students
- Advocate for government incentives to support science and technology businesses in Hawaii
- Conduct a feasibility study for a film, digital media, and production center

Sustainable Technologies & Practices

- Promote residential solar water heating
- Plan, construct, and maintain a biomass facility
- Promote the use of energy efficient products

1.7 Plan Implementation

Successful implementation of this plan will require empowering several established organizations to be "lead cluster entities" on Kaua`i.

Industry Cluster	Lead Cluster Entity
Food & Ag	Kaua`i County Farm Bureau
Science & Technology	Kaua`i Economic Development Board
Culture & Arts	Garden Island Arts Council
Sports & Recreation	County Department of Parks and Recreation
Sustainable Technologies & Practices	Office of Economic Development

One industry cluster, Health & Wellness, would like to begin meeting to discuss one specific project, a Health and Wellness Retreat Center. Wilcox Hospital will serve as the lead organization to bring stakeholders together to facilitate discussions.

Funding is needed to facilitate cluster discussions around priority projects. Capacity building, technical assistance, and capital improvements funds are also needed. The County of Kaua`i should aggressively pursue New Market Tax Credits, federal, and private funding.

With the above components in place, the Kaua`i community can work together to shape its economy in alignment with its values, vision, and guiding principles. A stronger and diverse economy will benefit future generations and help create opportunities for all.

2.0 INTRODUCTION

The Kaua`i Economic Development Board (KEDB) and the County of Kaua`i Office of Economic Development (OED) present the ***Kaua`i Economic Development Plan Update/Comprehensive Economic Development Strategy (CEDS), 2010-2015***.

This plan is intended to serve as Kaua`i's economic development "road map" for the next 5 years. It is intended to guide all stakeholders who have an influence on Kaua`i's economic future.

2.1 Definition & Values

Economic Development is defined in this plan as the process of positive change in the production, distribution, or consumption of goods and services. This update identifies key assets, resources, and action needed to increase wealth and prosperity on Kaua`i.

Key community values, articulated in the ***Kaua`i General Plan,*** 2000, form the foundation of this plan:

- Caring for our lands and waters
- Preserving our rural character
- Supporting culture and a vibrant, healthy community
- Providing opportunities for all in a strong, diverse economy

2.2 Background and Process

In 2009, the **Office of State Planning** contracted the **Kaua`i Economic Development Board (KEDB**) to update Kaua`i's Comprehensive Economic Development Strategy (CEDS) Report, 2005-2015. The **County of Kaua`i Office of Economic Development (OED)** contributed additional funds to ensure that the plan addressed capacity issues within industry clusters. 3Point Consulting was retained to analyze cluster industry data. NKN Project Planning was retained to facilitate meetings and write this update.

In September 2009, the **KEDB** and **OED** launched a joint planning process with the formation of the **Kaua`i Comprehensive Economic Development**

Strategy (CEDS) Committee. The CEDS Committee met three times over a five month period to provide guidance and to review the CEDS update.

The CEDS committee agreed that the six industry clusters were still relevant and should be pursued to help diversify and strengthen Kauai's economy. These clusters include:

- Agriculture & Food
- Culture & Arts
- Healthcare & Wellness
- Science & Technology
- Sports & Recreation
- Sustainable Technologies & Practices

Between October 2009 and January 2010, **focus group** meetings were organized for each cluster. Each industry cluster met three times to discuss opportunities and threats, industry cluster vision, priority projects, and implementation issues. Individuals who participated in cluster focus group discussions are included in **Appendix A.**

2.3 Economic Development Administration

The U.S. Department of Commerce, Economic Development Administration (EDA), funds economic development initiatives throughout the country. As described earlier, this plan serves as Kaua`i's Comprehensive Economic Development Strategy, the official document that EDA uses to screen projects for funding consideration.

3.0 ISLAND-WIDE VISION

A 20-year vision for the island is described in the ***Kaua`i General Plan***, 2000. Highlights of the island-wide vision include:

- A "garden island" of unsurpassed natural beauty
- A rural environment of towns separated by broad open spaces
- A vital modern society formed by the people and traditions of many cultures
- An island of distinctly individual towns and communities, each with its own unique history and character
- A rural place whose population size and economy have been shaped to sustain Kauai`s natural beauty, rural environment, and lifestyle

3.1 Changes since 2004 CEDS

Since the 2004 CEDS was written, there have been significant changes on Kaua`i, the nation, and the world. Some of these changes include:

- Strong economic growth from 2005 through 2007
- Global economic downturn beginning in late 2008
- Unemployment has increased from 4% to 10%
- Cost of oil has increased
- Aloha Airlines and ATA went out of business (March, 2008)
- Gay & Robinson shut down sugar operation (October, 2009)
- A total of 1,030,647 visitors flew to Kaua'i in 2008, 20.7 percent lower than 2007
- Pacific Missile Range Facility funding and employment has increased

3.2 Economic Development 2020 Vision

- Economy is strong, stable, and diversified
- While the visitor industry still provides the largest number of jobs, new businesses in agriculture, health and wellness, sustainable technologies & practices, art & culture, science & technology, and sports & recreation provide an increasing proportion of total jobs
- There are many job opportunities with higher wages
- Wages allow people to comfortably support their families
- Unemployment is low (3-5%)
- Kaua`i Island Utility Cooperative (KIUC) is robust and is a leader in promoting energy conservation and renewable energy
- We have decreased energy consumption and increased our use of renewable energy
- We have preserved Kauai`s special environment and culture
- Locally-grown products are consumed locally and exported. We have become more food self-sufficient.

Education Vision

- A strong education system prepares Kaua`i's children, teens, college students and adults to work in the diversified economy
- Kaua`i Community College is accessible and affordable with certificates and degrees that prepare our residents to earn livable wages
- KCC has housing for students, faculty, and international students.

Housing Vision

- There is a continuum of housing (from homeless shelters, transitional, rental housing, and for-sale multi- and single-family homes) to meet the needs of Kaua`i's residents
- County government funding is used to leverage private and other government funding to create affordable housing
- There are lands zoned with adequate infrastructure for residential development
- Families are prepared for and understand the responsibilities of homeownership

Small Business Vision

- Small businesses are the foundation of Kaua`i's economy
- Employs the largest percentage of the population
- County, State, and Federal governments support business by:
  - Providing needed infrastructure to towns and urban centers
  - Minimizing regulations and making them understandable
  - Providing limited tax incentives
- Government funds business start-up and technical assistance programs
- Access to start-up and expansion capital is available to qualified businesses

Airport Vision

- Lihue Airport is continually upgraded to support the desired level of economic development
- Airport facilities have been improved to facilitate direct shipment of cargo to the mainland
- Fuel storage facilities have been expanded and adequately support air travel

Harbor Vision

- Nawiliwili Harbor and Port Allen are continually upgraded to accommodate modern shipping requirements
- Small boat harbors are upgraded and managed to accommodate resident fisherman, recreational boating, boat tours, and rentals for visitors

Separate visions have been written for six industry clusters and are found in Chapter 8.

4.0 ECONOMIC DEVELOPMENT APPROACH

4.1 Strategy

This plan presents a three-pronged economic development strategy:

- Address critical issues that impact all businesses on Kaua`i. Identify goals and objectives that will improve all businesses on Kaua`i. (Chapter 5)
- Identify key projects that will strengthen Kaua`i's largest industry, the visitor industry (Chapter 6)
- Focus on the priority projects of six industry clusters that will help to diversify Kaua`i's economy (Chapter 7)

4.2 Guiding Principles

Three guiding principles of this plan are:

Economic Diversification: To strengthen selected industry clusters so that Kaua`i is less dependent on a single industry.

Economic Self-Sufficiency: To minimize imports from State, nation, and the world by substituting imports with locally produced goods and services, reducing intermediaries, and promoting local purchasing.

Expand Economic Opportunities for all: To promote jobs that pay living wages, provide training and skills to create and upgrade employment choices, and reduce poverty on the island

5.0 Economic Development Goals and Objectives

This section describes several indicators of Kaua`i's economy and critical issues affecting Kaua`i's future economic growth.

5.1 Critical Issues

Economy

- Unemployment rate was 9.2% as of November 2009[2]
- Only 22% of the jobs paid a living wage in 2008[3]
- Industry mix on Kaua`i has not changed since 2000[4]

Education

- Public High School graduation rate is decreasing[5]
- High School graduates entering KCC test below college transfer levels[6]
- 25% of 10th Graders and 48% of 3rd Graders did not meet Hawai`i State Assessment (HSA) standards of proficiency in 2008[7]

Housing

- The median single-family home sales price was $442,000 in November 2009[8]
- The median rent for a two-bedroom home increased to $1,183 per month in 2008[9]
- Over 740 individuals, or 1.2% of the population, are homeless[10]

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[2] Department of Labor, State of Hawai`i, "Unemployment Rates-Not Seasonally Adjusted," http://www.hiwi.org/admin/uploadedPublications/1019_URATE_current.pdf, accessed on January 17, 2010.
[3] 3Point Consulting, "Economic Needs & Industry Clusters, CEDS Data Update," October 26, 2009.
[4] Ibid.
[5] "Measuring What Matters for Kaua`i, Community Indicators Report 2008," Kaua`i Planning & Action Alliance, July 2009, p. 34.
[6] Ibid, p. 36.
[7] Ibid, p. 33.
[8] "Home sales surge on Big Isle, Kaua`i," The Honolulu Advertiser, December 8, 2009, p. B5.
[9] "Measuring What Matters for Kaua`i, Community Indicators Report 2008," Kaua`i Planning & Action Alliance, July 2009, p. 31.
[10] Ibid, p. 40.

5.2 Infrastructure Improvements

The Comprehensive Economic Developments Strategy (CEDS) Committee identified and ranked critical infrastructure improvements that are needed to support existing and future economic growth. These improvements are ranked in order of priority and slightly differ from visitor-industry priorities listed in *Section 6*.

A. Kūhio Highway Relief Route, between Hanamaulu and Keālia
B. Waimea Wastewater Treatment Plant
C. Kaumuali`i Highway widening, between Līhu`e and Maluhia Rd.
D. Electrical transmission & distribution
E. Līhu'e Airport Fuel Storage Expansion
F. Līhu'e Airport Parking Expansion
G. Līhu'e Airport Runway Expansion
H. Kilauea Water Improvements
I. Traffic Circulation Improvements in Kōloa/Po`ipū
J. Waimea – Kekaha water improvements (8)
K. Wailua Emergency Bypass Road, between Hanamaulu and Wailua River
L. Wailua Wastewater Treatment Plant
M. Līhu'e, Hanama`ulu, Puhi
N. Hanapēpē & Waimea River Levees
O. Kapaia to Wailua Emergency Bypass Road
P. Po`ipū-Kōloa Wastewater Treatment Plant
Q. Nāwiliwili to Anahola bike path completion
R. Hā`ena State Park

It should be noted that while the CEDS Committee identified key road widening improvements listed above, they also recognize the need to plan for multi-modal alternatives, smart growth, and pedestrian-oriented town centers.

5.3 Goals and Objectives

The top five economic development goals and corresponding objectives are as follows:

1.0 **To assist new and existing businesses create new jobs**

1.1 To provide access to business planning assistance, including market research

1.2 To assist with permitting, licensing, and regulatory issues
1.3 To facilitate access to start-up and expansion capital
1.4 To develop an entrepreneurship center/business incubator facility

2.0 **To facilitate career planning for students**

2.1 To expose teachers, counselors, and parents to work places and opportunities on Kaua`i
2.2 To expose students to various career paths
2.3 To encourage/require middle and high school students to develop post-high school plans
2.4 To give students "hands-on" experience in the workplace through internships, mentoring, and partnerships with prospective employers

3.0 **To expand and train the workforce to meet the needs of employers**

3.1 To obtain data on the workforce needs and skills of Kaua`i's employers
3.2 To design and provide training to meet specialized needs
3.3 To seek new and untapped sources of employment to meet labor needs

4.0 **To promote affordable housing**

4.1 To develop new affordable single- and multi-family housing
4.2 To rehabilitate single- and multi-family housing
4.3 To increase homeownership through self-help housing, first-time homebuyer loan programs, and homebuyer education and counseling
4.4 To fund homeless, transitional, and special needs housing with supportive services

5.0 **To improve the skill level and work readiness of students to achieve career and college success**

5.1 To have all children reading at grade level by third grade[11]
5.2 To strengthen the rigor of high school curriculum[12]
5.3 To teach volunteerism and citizenry

Lead Agencies A lead entity or entities is assigned to each objective. In some cases, lead agencies have yet to be identified or there are multiple lead agencies. The role of KEDB and OED in the next phase of work is to identify and gain commitments from lead agencies responsible for implementing objectives.

Action Plans Action plans have not been developed and will require further collaboration between various lead agencies in the next phase of work.

[11]The P-20 Partnerships for Education goal is to have 55% of Hawaii's working age adults to have a 2- or 4-year college degree by the year 2025. This objective is consistent with one of the four P-20 objectives.

[12] Ibid.

Kaua`i Economic Development Plan Goals and Objectives

Goal 1.0	To assist new and existing businesses in targeted clusters create new jobs	
Objectives		**Lead**
	1.1 To provide access to business planning assistance, including market research services	Small Business Development Center (SBDC) Kaua`i Chamber of Commerce Kaua`i Community College (KCC) DBEDT, High Tech Development Corp.
	1.2 To assist with permitting, licensing, and regulatory issues	Office of Economic Development (OED) SBDC
	1.3 To provide entrepreneurial training/business incubator	KCC SBDC OED
	1.4 To facilitate access to start-up, micro-enterprise, and expansion capital funds	State DBEDT Small Business Administration Private Venture Capital Agencies

Kaua`i Economic Development Plan Goals and Objectives

Goal 2.0	To facilitate career planning for students	
Objectives		**Lead**
	2.1 To expose teachers, counselors, and parents to work places and opportunities on Kaua`i	Kaua`i Economic Development Board OED/Kaua`i Workforce Investment Board Department of Education Kaua`i Community College
	2.2 To expose youth to various career paths through career days, speakers bureau, etc.	Same as above
	2.3 To encourage/require middle and high school students to develop post-high school plans	Department of Education
	2.4 To give youth "hands-on" experience in the workplace through internships, mentoring, and partnerships with prospective employers	Kaua`i Economic Development Board OED/Kaua`i Workforce Investment Board Department of Education Kaua`i Community College

Kaua`i Economic Development Plan Goals and Objectives

Goal 3.0	To expand and train the workforce to meet the needs of employers	
Objectives		**Lead**
	3.1 To obtain data on the workforce needs of Kaua`i's employers	OED/Kaua`i Workforce Investment Board
	3.2 To fund, design, and provide training to meet specialized needs	Kaua`i Community College WorkWise! Kaua`i Chamber of Commerce OED/Kaua`i Workforce Investment Board
	3.3 To seek new and untapped sources of workers to meet labor needs	OED/Kaua`i Workforce Investment Board WorkWise!

Kaua`i Economic Development Plan Goals and Objectives

Goal 4.0	To promote affordable housing	
Objectives		**Lead**
	4.1 To develop affordable single- and multi-family housing	For-profit & non-profit housing developers County Housing Agency State Housing Finance Development Corp.
	4.2 To rehabilitate single- and multi-family rental housing	County Housing Agency For-profit & non-profit housing developers Hawai`i Public Housing Authority (HPHA) State Housing Finance Development Corp.
	4.3 To increase homeownership through self-help housing, first-time homebuyer loan programs, and homebuyer education and counseling	County Housing Agency Non-profit housing organizations
	4.4 To fund an emergency shelter, increase transitional housing units, special needs housing, and fund supportive services	County Housing Agency Nonprofit housing developers Nonprofit social service providers State Department of Human Services

Kaua`i Economic Development Plan Goals and Objectives

Goal 5.0	To improve the skill level and work readiness of students entering the work force	
Objectives		**Lead**
	5.1 To have all children reading at grade level by third grade	Department of Education Parents
	5.2 To strengthen the rigor of high school curriculum	Department of Education
	5.3 To teach volunteerism and citizenry	Department of Education PTSAs, SCC, Parents

6.0 Visitor Industry

6.1 Background and Composition of Visitor Industry

The visitor industry is the largest industry on Kaua`i and includes transportation, accommodations, catering, recreation, and services to visitors. The visitor industry workforce is employed in hotels, restaurants, airlines, car rental companies, airport operations, security, retail stores, entertainment, and many other businesses that provide services to travelers.

In a typical year, the visitor industry generates about one-third of Kaua`i's real income.[13] One in every three jobs Statewide is generated by the visitor industry.[14]

6.2 Visitor Industry 2015 Vision

Tourism on Kaua`i will:

- Honor the people and heritage of Kaua`i
- Support and enhance the quality of life for residents
- Value and perpetuate the natural and cultural resources of Kaua`i
- Support a vital and sustainable economy; and
- Provide a unique, memorable, and enriching visitor experience

6.3 Visitor Industry Plan

***The Kaua`i County Tourism Strategic Plan: 2006-2015*** outlines goals, objectives and strategies to meet the vision for tourism on Kaua`i. The plan prioritizes strategies and identifies responsible entities.

6.4 Key Visitor Industry Strategies

A survey of visitor industry leaders was conducted in January 2010 to identify priority strategies. Strategies are listed below in order of priority:

[13] University of Hawai`i, Economic Research Organization, *Kaua`i Economic Outlook*, prepared for the County of Kaua`i, June 14, 2004.
[14] Department of Labor & Industrial Relations, State of Hawai`i, *Career Directions in Travel & Tourism*, June 2004.

1. Effectively address crime and burglaries affecting visitors
2. Protect air routes and gateways to ensure consistent airlift to Kaua`i
3. Effectively address the infrastructure improvements to improve the quality of life on Kaua`i
4. Increase the number of rental cars
5. Support the development and promotion of community-driven programs that reinforce the unique sense of place of communities, such as those with historical or cultural significance
6. Increase the awareness of Hawaiian culture among residents and the visitor industry
7. Encourage two-way communications between residents and the visitor industry

6.5 Infrastructure Improvements

Industry leaders were also surveyed to identify priority infrastructure projects. Priority projects are listed below in order of priority:

1. Wailua Emergency Bypass Road (between Hanamaulu & Wailua River)
2. Lihue Airport Runway Expansion
3. Kuhio Highway Relief Route (between Hanamaulu & Kealia)
4. Kapaia to Wailua Emergency Bypass Road
5. Kaumuali'i Highway Widening (between Lihue & Maluhia Road)
6. Lihue Airport – Fuel Storage Expansion
7. Haena State Park – Plan and Improvements
8. Wailua Wastewater Treatment Plant
9. Lihue Airport – Parking Expansion
10. Electrical Transmission & Distribution

6.6 Industry Clusters

Each of the six industry clusters described in ***Chapter 7*** include priority projects that could strengthen visitor industry niche markets. These clusters include:

- Health & Wellness
- Food & Agriculture
- Culture & the Arts
- Sports & Recreation
- Science & Technology
- Sustainable Technologies & Practices

7.0 KAUA`I'S TARGET INDUSTRY CLUSTERS

This section describes six target clusters that are considered "good investments" for the Kaua`i economy.

- Food & Agriculture
- Health & Wellness
- Sports & Recreation
- Culture & the Arts
- Science & Technology
- Sustainable Technologies & Practices

Each sub-section includes a description of the cluster, challenges and opportunities, priority projects that would strengthen the cluster, and performance measures.

7.1 Food & Agriculture

7.1.1 Cluster Background and Composition

The Food & Agriculture Cluster is comprised of Kaua`i industries involved in the production, processing, distribution, and wholesale and retail sale of food and food products. The goal of this industry cluster is to create agricultural and food enterprises that create jobs and are profitable by replacing imports and exporting products to markets beyond Kaua`i.

Table 7-1: Industries on Kaua`i Comprising Food and Agriculture Cluster[15]

Industry	2001 Jobs	2007 Jobs	Δ2001-2007 Jobs	2001 Wages	2007 Wages	Δ2001-2007 Wages
Agricultural Production	778	680	-98	$ 29,016	$ 39,078	$ 10,062
Food Manufacturing	128	128	0	$ 15,860	$ 22,048	$ 6,188
Agricultural Wholesale	220	278	58	$ 32,131	$ 31,356	$ (775)
Farm & Garden Supply	66	62	-4	$ 25,995	$ 31,356	$ 5,361
Grocery & Food Stores	834	947	113	$ 19,344	$ 21,516	$ 2,172
Food Services & Restaurants	3,058	3,383	325	$ 13,295	$ 18,148	$ 4,853
	5,084	5,478	394			
				Average Kaua'i Wage Δ:		**$ 8,580**

In 2007, the Food & Ag cluster supported an estimated 5,478 jobs. More than half of the cluster's jobs are in the Food Services Industry. Between 2001 and 2007 there was a total loss of 98 jobs in agricultural production. The loss of jobs as a result of Lihue Plantation's closure was offset by the increase in seed corn and coffee production on Kaua`i. Since 2007, additional agricultural production jobs have been loss due to the closure of Guava Kai Plantation and Gay and Robinson sugar operation.

In addition to being "good investments" from an economic perspective, industries in the cluster also contributed to non-economic goals such as preserving open space and maintaining the rural character of Kaua`i.

[15] Jobs data from U.S. Bureau of Labor Statistics, Covered Employment @ Wages, supplemented by County Business Pattern data. Wage date from U.S. Bureau of Labor Statistics, Covered Employment & Wages. Living Wage data from the State Department of Business and Economic Development and Tourism Family Economic Self Sufficiency Study.

7.1.2 Food & Agriculture 2020 Vision

Agriculture enterprise helps to keep Kaua`i green and economically healthy through a variety of crops, including food, fiber, and fuels. Kaua`i is exporting coffee, seed crops, papaya and exotic fruits, and seafood, as well as and other value-added food products. In addition, small farmers grow a variety of unique crops such as herbs, nutraceuticals, exotic flowers, plants, and perfume ingredients. The taro industry is the largest in the state and a major supplier to O`ahu and to the mainland markets. Many taro products are produced on Kaua`i, including chips and poi. Agricultural lands are also used to develop renewable energy.

***Kaua`i residents*** see the value of supporting farmers by buying locally-grown fruits, vegetables, taro, plants, flowers and other basic foods. The market for organically-grown crops is increasing. In place of imported meat, Kaua`i residents purchase primarily grass-fed beef from cattle raised on Kaua`i's pasturelands and prepared in local processing facilities. As a result, Kaua`i produces more of its own food, reducing food imports and keeping more money within the community.

Farmers on Kaua`i are thriving and profitable. They are known for their high-quality products. They are supported by high local demand and exports to Asia and the Mainland. Many farmers work directly with restaurants and the visitor industry. Local agricultural products are an important attraction for visitors. The visitor industry showcases Kauai agricultural and aquacultural products, and collaborates in the promotion of exports.

Small farmers work cooperatively together, collaborating to control costs and market their products. By developing strong local demand, they minimize their vulnerability to fluctuations in oil prices, transportation costs, and markets.

Corporate agriculture and aquaculture businesses are volume exporters for worldwide markets. Locally-managed, they offer opportunities to work with small independent producers, help to preserve agricultural infrastructure, and provide a range of employment opportunities. Their ability to weather varying market conditions lends stability to the Kaua`i economy.

The forest products industry is growing hardwoods, including teak, mahogany, bamboo, albizia, and eucalyptus, in a number of locations throughout the island. Kaua`i sawmills cut the rough timber to provide local building materials and renewable energy. Fine tropical hardwoods are cut for local craftspeople making and exporting wood bowls, musical instruments, furniture and other products.

Former sugar plantation land, facilities, and systems are used primarily for farming, forestry, renewable energy, and aquaculture. Viable irrigation systems are maintained and enhanced by local water cooperatives. Through government-private landowner partnerships, an inventory of small agricultural lots, with irrigation water, is maintained for lease to individual farmers and small cooperatives. This public-private partnership is supported by innovative tax incentives and zoning regulations.

***Kaua`i Community College***, as well as other organizations, help farmers to acquire business skills essential for success. There are specialized programs for tropical agriculture and aquaculture. Many of Kaua`i's youth are finding careers in these fields.

Federal, State and County government support diversified agriculture by offering tax incentives; maintaining the agricultural irrigation and road infrastructure on State-owned lands; and providing State lands for agricultural use at affordable lease rents. They promote cooperatives and partnerships for central processing; provide facilities for disinfestations and shipping; and offer technical and marketing support. Airport facilities and aircraft have been improved to facilitate the direct shipment of Kaua`i agricultural products to the mainland. State and county government maintain rights to irrigation water, oversee shared usage and maintenance of irrigation systems, and purchase locally-grown products.

The keys to the success of the food and agricultural industry on Kaua`i include the strong collaboration that exists between growers, retailers, and restaurants; centralized coordination of the food and agricultural cluster activities; and growing interest in the wide variety of employment opportunities in food and agricultural industry. As a result, Kaua`i's economy is more diversified, green open spaces are preserved, and we have maintained a rural lifestyle and experience enjoyed by residents and visitors alike.

7.1.3 Cluster accomplishments since 2004

- The County of Kaua`i developed a "Kaua`i Made" brand
- The Garden Island Resource Conservation & Development, Inc. has collaborated with Kaua`i Community College to offer business training for small farmers and certification training for landscapers

- The Kaua`i County Farm Bureau and Kaua`i Community College have initiated a weekly "deluxe farmers' market" on Saturdays at Kaua`i Community College for Kaua`i grown agricultural and value-added products

- The Kaua`i County Farm Bureau and County of Kaua`i are in the process of launching a "Kaua`i Grown" brand

- A staging area for cattle headed for the harbor has been established at Ma`alo Road

- Kaua`i Community College is developing a Bioscience Certificate program

- Kaua`i Coffee Company has the highest acreage of coffee in the nation

7.1.4 Trends

- Increase in food safety regulations

- Increase interest in food sustainability

- Agricultural operations are using existing resources to be more energy efficient

- Seed industry has doubled its acreage on Kaua`i

7.1.5 Challenges

- Lack of collaboration and cooperation between the food industry and farmers

- Cost of freight has doubled in price

- Cost of materials have increased

- People don't know where to go to buy local products

- People are not educated on the value of buying local (i.e., healthy, fresh, superior products, and value of keeping money circulating in our local economy)

- Customer wants to buy cheapest product available, which in most cases is not locally produced

- State courts are now determining interim in-stream standards requiring 50% diversion back to streams. Minimum flow standards will be established for every stream.
- Farmers need to be flexible and adapt to meet global market demands
- Wholesalers control the local market
- State Department of Agriculture (DOA) is charging fees for services (inspections)
- State Department of Agriculture has added new procedures to certify shipments (California has stopped accepting shipments into their state)
- Affordable housing for farmers and farm workers is lacking. Many farmers are not able to live and work on agricultural lands due to zoning restrictions.
- There is an absence of good market information flowing between consumers (restaurants, grocers) and producers (farmers). This hampers growth on both ends of the supply chain.
- Physical infrastructure for agriculture, particularly irrigation systems and roads are in need of repair and maintenance.
- Farmers need training in business and marketing, one-on-one assistance.
- The high cost of freight is a barrier to exporting many food products and bringing in materials and supplies.
- Long term leases (over 10 years) are needed by growers if they are to continue in farming.
- The industry faces a shortage of farmers.
- The industry faces a shortage of agronomists, botanists, and bioengineers.
- Students are not interested in farming as a career.
- Investment in new crop and new food product research and development is needed.

7.1.6 Opportunities

- Federal government has a mandate to convert 20% of fuels to biofuel. Renewable energy is a growing component of agriculture

- Aloha Air Cargo will provide a 35% inter-island discount to farmers if plane is filled. A freight consolidator is needed.

- More than two-thirds of all produce is shipped into Hawai`i, creating opportunities for import substitution. These opportunities are concentrated in select crops, seasonal produce, and specialty items.

- Export potential also exists: agricultural exports increased 23% from 1997 to 2001, ranking Hawai`i 7th among 50 states in export growth. The export potential for tropical fruits, tropical flowers and plants, and seed corn is high.

- There is a growing consumer interest in organic products, quality branded produce, and exotic varieties.

- Kaua`i has good agronomics for many crops – year-round growing season, good soils, climate, etc.

- Agricultural lands with water are available to farmers.

- Innovative production/distribution models are available to learn from, e.g., KTA's Mountain Apple Brand on the Big Island, but requires a special person to form relationships with farmers, market the brand, and commit to the model.

- Energy crops create opportunities for linkage between Food & Agriculture and Renewable Energy clusters, e.g., biomass, ethanol and sugar production.

- Kaua`i Community College is eager to partner to support agriculture. KCC is planning a Sustainable Living Center that will include an agricultural demonstration and training site. The Center will also showcase alternative energy, and waste management systems that could be applied to farms across the island.

7.1.7 Priority Projects

Organization

- Increase the capacity of the Kaua`i County Farm Bureau to bring together stakeholders, promote networking, and monitor priority projects within the Food & Agriculture Cluster

Agricultural Irrigation Systems

- Save, preserve, and upgrade irrigation systems, electrical systems, and roads critical to agricultural production

  1. Kilauea Agricultural Park
  2. Kekaha ditch improvements (Black Pipe Siphon, Pali Wooden Flume)
  3. Kekaha ditch renovations
  4. Kapa`a stream diversion at Kahuna Road
  5. East Kaua`i Main Transmission Line/Lateral 6 Diversion Gate (Pani structure)
  6. East Kaua`i Lateral 8 Discharge Control Gate Structure
  7. Kaloko Irrigation System improvements
  8. Hanalei Stream Improvements

Production

- Renovate the Kaua`i Tropical Fruit Disinfestation Facility for exports including produce and value-added products

- Increase research and development to improve the quality of agricultural production

- Build a modular slaughter, processing, and chilling facility for livestock industry, after studying Honolulu, Maui, and Molokai facilities

Human Resource

- Establish additional business training and technical assistance programs for farmers, or enhance existing programs to reach more small producers

- Improve recruitment and mentoring for agriculture students and others entering the field

Marketing

- Conduct market studies, including data on worldwide demand, and distribute to growers
- Conduct market study on locally grown cattle
- Create entities to coordinate marketing and distribution in collaboration with growers, following the model being used by KTA, Alluvion, and others
- Produce a local farm/crop directory and distribute to buyers and retailers (including local restaurants and markets)
- Hold food industry events to promote Kaua`i agriculture and food products

7.1.8 Other Projects

- Inventory the number of planned and proposed certified, commercial community kitchen for food product development, testing and production by local farmers and new entrants to the food industry. Assess level of committed users.
- Create a web-based portal for value-added and agricultural products from Kaua`i.
- Amend current land use ordinance to allow for seasonal or dormitory housing for farm workers.
- Construct a staging area at the harbor for agricultural exports.
- Obtain community development "quotas" from the Western Pacific Fisheries Management Council for fisheries resources allocated to the State of Hawai`i.

7.1.9 Implementation

The Food & Agriculture focus group agreed that the Kaua`i County Farm Bureau should lead this industry cluster. To increase the capacity of the Kaua`i County Farm Bureau, the following recommendations are made:

- Increase membership by including non-farmers, restaurants, and hotels
- Increase revenues by exploring alternative revenue sources, re-examining membership dues structure, expanding membership, and increasing fair admissions
- Hire a full-time staff, beginning with an Executive Director. Hire a marketing director or contract out this service.
- Help commodity groups to organize and develop strategies around shared concerns (see ***Attachment A***)
- Develop statewide, national, and international strategies to promote Kaua`i products, via trade shows, partnering with commodity groups and other islands
- Obtain a capacity building grant to develop a Kaua`i County Farm Bureau Strategic Business Plan
- Increase efforts to recruit new board members

To increase the capacity of the Food & Agriculture Cluster:

- Clarify roles and responsibilities of the numerous groups and organizations in implementing priority strategies to avoid duplication of goals (see ***Attachment A***)
- The Kaua`i County Farm Bureau should facilitate quarterly discussions with key stakeholder representatives to review the progress of priority projects, help to problem-solve, and strengthen communications within the cluster.

7.1.10 Performance Measures

- Increase in the number of jobs created
- Increase in average annual wages in the cluster that exceed the rate of inflation, moving it toward the living wage for Kaua`i
- Reduction of imported produce and food products from other islands, the U.S. mainland, and other countries.
- Increase in Kaua`i exports of agricultural and food products to other islands, the U.S. mainland, and other countries.
- Progress in increasing the Kaua`i County Farm Bureau to oversee implementation priority projects.

HAWAII STATEWIDE COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY

COUNTY OF KAUAI PRIORITY PROJECTS LIST

TARGETED INDUSTRY CLUSTER: FOOD & AGRICULTURE

Short-Range: 1-3 Years

ID Number	Project	Applicant	Meets EDA Criteria	Project Type	Estimated Jobs	Total Estimated Cost/Est. Federal Cost	Potential Source of Matching Funds
FA-1	Increase capacity of Kaua`i County Farm Bureau	Kaua`i County Farm Bureau	No				
FA-2	Kilauea Agricultural Park	County Office of Economic Development	Yes	Public Works	100	$4,000,000	County Private
FA-3	Kekaha Ditch Improvements (Black Pipe Siphon, Pali Wooden Flume)	Kekaha Agricultural Cooperative	Yes	Public Works	25-50	$1,050,000	State Private New Market Tax Credits (NMTC)
FA-4	Kapa`a Stream Diversion at Kahuna Road	East Kauai Water Users' Cooperative	Yes	Public Works	5-10	$215,000	State NMTC
FA-5	Main Transmission Line/Lateral 6 Diversion Gate (Pani) Structure	East Kauai Water Users' Cooperative	Yes	Public Works	5-10	$160,000	State NMTC
FA-6	Lateral 8 Discharge Control Gate Structure	East Kauai Water Users' Cooperative	Yes	Public Works	5-10	$75,000	Private NMTC

ID Number	Project	Applicant	Meets EDA Criteria	Project Type	Estimated Jobs	Total Estimated Cost/Est. Federal Cost	Potential Source of Matching Funds
FA-7	Kaloko Irrigation System Improvements	Kilauea Irrigation Company	Yes	Public Works	10-20	$1,500,000	Private NMTC
FA-8	Hanalei Stream Improvements	Kaua`i Taro Growers Association	Yes	Public Works	30-50	$1,500,000	State U.S. Fish & Wildlife
FA-9	Renovations to Kaua`i Tropical Fruit Disinfestation Facility	Agriculture Development Corp.	Yes	Public Works	5-10 full-time 5-10 part-time	$1,000,000	State
FA-10	New product research and development	UH-CTAHR	No				
FA-11	Market study on the consumer acceptance of local cattle	Kaua`i Cattleman's Assoc.	Yes	Technical Assistance	1-2		
FA-12	Business and Technical Assistance	UH-CTAHR KCC SBDC SDOA	No				
FA-13	Recruit and mentor students to enter ag industry	DOE	No				
FA-14	Coordinate marketing and distribution	Commodity groups	No				

FA-15	Produce a local farm/crop directory	Kaua`i County Farm Bureau	No				
FA-16	Hold food events to promote Kaua`i ag	Kaua`i Ag. Initiative (KAI)	No				

Long-Range: 4-5 Years

ID Number	Project	Applicant	Meets EDA Criteria	Project Type	Estimated Jobs	Total Estimated Cost/Est. Federal Cost	Potential Source of Matching Funds
FA-16	Modular slaughterhouse, processing, and chilling facility	Kaua`i Cattleman's Association	Yes	Public Works	50-100	$2,500,000	Private NMTC
FA-17	Kekaha Ditch renovations	Kekaha Agricultural Cooperative	Yes	Public Works	100+	$10,000,000 - $13,000,000	State Private NMTC

Attachment A
Food and Agriculture Cluster

1.0 Organizations and groups involved in Food and Agriculture

- Kaua`i Landscape Industry Council
- Hawai`i Flowers and Nursery Association
- Farmers Union
- Kaua`i Agricultural Advisory Committee (KAAC)
- KEDB Food & Agriculture Committee
- Kaua`i Agriculture Initiative (KAI)
- Kaua`i County Farm Bureau
- Food Industry Forum
- Kaua`i Agriculture Tour Operator Alliance
- Malama Kaua`i
- Apollo Kaua`i
- Kaua`i Farmers Association
- Hawai`i Hotel and Lodging Association
- Po'ipu Beach Resort Association
- Hawai`i Food and Beverage Association
- Kaua`i Community College

2.0 Commodity Groups

There are many commodity groups with a range of organizational capacity and networking opportunities.

- Hawai`i Tropical Flowers & Foliage Association, Kaua`i Chapter
- Hawai`i Crop Improvement Association
- Hawai`i Papaya Industry Association
- Kaua`i Cattleman's Association
- Garden Island RC&D, Forestry Committee
- Commercial fisherman
- Kaua`i Bee Keepers Association
- Kaua`i Taro Grower's Association
- Hawai`i Tropical Fruit Growers Association, Kaua`i Chapter
- Hawai`i Organic Farmers Association
- West Kaua`i Boater's Association

7.2 Health & Wellness

7.2.1 Cluster Background and Composition

The Health & Wellness Cluster includes a range of health services providers and practitioners, traditional and non-traditional. The cluster includes hospitals, and doctors' and dentists' offices as well as chiropractors, nutritionists, nursing homes, mental health services providers, naturopaths, physical therapists, home healthcare providers and others.

Table 7-2: Industries on Kaua`i Comprising Health & Wellness Cluster[16]

NAICS	Industry	2001 Jobs	2007 Jobs	Δ'01-'07 Jobs	2001 Wages	2007 Wages	Δ2001-2007 Wages
44610	Health & personal care stores	175	238	63	$ 30,437	$ 35,412	$ 4,975
62110	Offices of physicians	435	314	-121	$ 56,832	$ 90,792	$ 33,960
62121	Offices of dentists	143	156	13	$ 34,008	$ 44,824	$ 10,816
62130	Offices of other health practitioners	48	61	13	$ 30,940	$ 40,300	$ 9,360
62140	Outpatient care centers	40	56	16	$ 44,772	$ 44,512	$ (260)
62151	Medical & diagnostic laboratories	NA	NA	NA	NA	$ 43,650	NA
62161	Home health care services	85	49	-36	$ 19,448	$ 19,084	$ (364)
62200	Hospitals	620	810	190	*$ 35,512*	$ 45,680	$ 10,168
62310	Nursing care facilities	250	350	100	*$ 35,000*	$ 39,780	$ 4,780
NA	Other Health & Well. (estimated)	682	780	98		NA	NA
Cluster Total		2,478	2,814	336			
					Average Kaua'i Wage Δ:		**$ 8,580**

Between 2001 and 2007, there was a decrease in the number of jobs in the physician offices and home health services. However, there was an overall increase in the total number of jobs in the health and wellness cluster. Health & Wellness focus group participants expressed a concern that the number of jobs in two categories, hospitals and nursing care facilities, appear to be under-represented.

Key strengths of the Health & Wellness cluster include strong projected growth and the fact that most industries in the cluster pay well above the Kaua`i living wage (e.g., Offices of Physicians, $90,792; Hospitals, $45,680; and Outpatient

[16] Jobs data from U.S. Bureau of Labor Statistics, Covered Employment @ Wages, supplemented by County Business Pattern data. Wage date from U.S. Bureau of Labor Statistics, Covered Employment & Wages. Living Wage data from the State Department of Business and Economic Development and Tourism Family Economic Self Sufficiency Study.

care centers, $44,512). Industries in healthcare and wellness also draw upon a common pool of skilled labor requiring similar types of knowledge and training.

7.2.2 Health and Wellness 2020 Vision

Mālama kou kino, e nā `ohana, e nā `āina
Take care of yourself, the families and the land

The people of Kaua`i are committed to leading a healthy lifestyle based on wellness for themselves, their families, and our beautiful island of Kauai. Residents and visitors are equally enjoying professional care and services for their well-being, resulting in the economic revitalization, growth and stability for the Health and Wellness Industry on Kaua`i.

7.2.3 Health and Wellness 2020 Descriptive Vision

The most important results are that people are aware of and have access to professionals to help them lead a healthy life and are taking personal responsibility for their health. Residents are receiving specialized treatment on island.

Health professionals and practitioners (e.g., doctors, nurses, physical therapists, and occupational therapists) are accessible, affordable, and have long-term relationships with clientele. Health care professionals receive training locally to upgrade skills and learn new technology. There is adequate funding to support this training. Health professionals and practitioners are working in collaboration with wellness practitioners.

Wellness practitioners (e.g., personal trainers, massage therapists, aestheticians) are accessible, affordable, and provide integrated services to individuals. They are working in collaboration with health care professionals. Preventive services are designed for youths and adults and are paid for by insurance companies and/or employers.

Hospitals provide affordable universal care, emergency services, and critical care services. Hospitals actively promote wellness, have up-to-date medical technology that is financially sustaining, and have expanded services into specialty areas. Hospitals have been upgraded to provide for and meet community health care needs.

Assisted living facilities are available, affordable, and flourishing. Facilities are able to meet the diverse needs of residents, are well managed, and provide a high quality of care.

Long-term care facilities/nursing homes are affordable and meet the needs of the frail elderly and their families. There are facilities around the island to meet the growing elderly population, with highly trained staff.

Home health services are abundant as demand has increased. Home health services are covered by private insurance and there is an increase in reimbursements to service providers. There are more nurse aides who are well trained and who consistently deliver a high quality of care.

Residents have access to health care that fits their individual needs. They are wiser consumers of health and wellness services. As a result, they are healthier, happier, and able to enjoy the island lifestyle.

Visitors are attracted to Kaua`i to access wellness services that are world renowned. They come and often return to Kaua`i for relaxation and rejuvenation. They are educated to safely enjoy the beaches and attractions on Kaua`i.

The community is focused on health and wellness. Streets are well lit and designed for walking and biking. The multi-purpose shoreline path is complete. We are enjoying a high quality of life.

The keys to our success are collaboration among members of the Health and Wellness cluster, dedication to the vision and plan, consistent message, and adequate funding.

7.2.3 Cluster Accomplishments since 2004

- The Kaua`i Health and Wellness Association (KHWA), a non-profit, membership-based organization, was established in 2005. The KHWA is open to healthcare professionals and anyone with a vested interest in the wellness of Kaua'i residents and visitors. There are over 60 members.

- Two high schools have Health Academy and internship programs

- Wilcox Memorial Hospital opened a new imaging center, added six new operating rooms, and converted medical records to electronic form

- Mahelona Hospital opened an emergency room serving north and east Kaua`i
- Workforce Development, Wilcox Memorial Hospital, and Hawai`i Health System Corporation (KVMH and Mahelona) list job openings on their websites
- The first assisted living facility on Kaua`i, The Regency at Puakea, opened with 100 units

7.2.4 Trends

- Increase in managed care for Medicaid recipients
- Increase in home health services
- Increase in residential adult care facilities, as an alternative to nursing homes
- Decrease in stand-alone physician offices due to the high overhead costs
- Increase in the number of uninsured residents

7.2.5 Challenges

- Government and nonprofit service providers have fewer resources resulting in reduced services
- Reduction in government reimbursements for health care (Medicare, Medicaid). Physicians are getting a 21% cut from current Medicare reimbursements. As a result, there will be fewer physicians willing to service the most vulnerable.
- Reduction in insurance reimbursement (or at least reimbursement not keeping pace with rapidly rising costs of health care delivery)
- There is an illegal drug and prescription drug problem on Kaua`i.
- There is a shortage of psychologists and an acute shortage of psychiatrists.
- There is a need for greater access to on-island substance abuse treatment.
- There has been an increase in obesity, eating disorders, and diabetes.

- The cluster faces a shortage of skilled healthcare workers including social workers, physical therapists, occupational therapists, speech therapists, ultrasound technicians, imaging technicians, coders, and nurse aides.

- Students must go to the mainland for degrees in occupational and physical therapy.

- Specialized healthcare education and training are not available on Kaua`i (start at KCC, then complete program in Honolulu).

- More educational options are needed for those who wish to enter or transition into healthcare from other fields. Scholarships and modular courses are needed for those who are working, have family obligations, and are pursuing their education.

- Nursing home admittance criteria have changed, making it difficult to accept clients with certain physical, emotional, and mental conditions.

- 30 additional beds for long-term care are needed on Kaua`i.

- Building confidence and pride in existing healthcare institutions on island.

- National policies may impact the economic feasibility of operating nursing homes.

- Traditional and non-traditional health and wellness practitioners do not normally communicate and work with each other.

- There are limited services and facilities for individuals with severe disabilities.

7.2.6 Opportunities

- The elderly population is large and growing, requiring additional products and services

- Prevention and wellness services are needed to address obesity, eating disorders, diabetes

- Need for youth and adult residential treatment facilities

- Blending Western medicine with Native Hawaiian, Asian, and holistic healing will produce an attractive mix of services for health and wellness visitors

- Wilcox Health has developed a women's center, offers chemotherapy, and cardiac services. The Kaua`i Medical Clinic has a health maintenance program.

- Kaua'i residents and visitors undergo approximately 400 of 7,900 (5%) in-patient procedures or visits on O'ahu which could potentially be provided on Kaua`i.

- More collaboration could occur among health and wellness providers

7.2.7 Priority Projects

Short-term

- **Advocate for policies to improve the health and wellness of Kaua`i citizens**

- **Increase the diversity of health care education and training at Kaua`i Community College**

  Specifically offer courses in the following areas: social work, speech therapy, ultrasound technician, imaging technician, health information technicians/coders. Deliver training in different venues, not just in the classroom, using non-traditional formats to accommodate working hours. Split training between KCC and O'ahu institutions.

- **Develop prevention and wellness services to address obesity, eating disorders, diabetes**

  Assess current programs, collaborate among service providers, support programs, increase public awareness

- **Promote complete streets, walking and bike paths**

  Support and assist organizations promoting healthier communities such as Get Fit Kaua`i, Kaua`i Health and Wellness Association, State Department of Health, Lihu`e Business Association

- **Increase collaboration among health and wellness providers**

- **Provide stipends and scholarships for health care training covering a combination of tuition <u>and</u> lost wages for those who must forgo employment to pursue education**

  Increase public awareness of training resources and scholarships that are available

- **Develop and encourage wellness programs for employers (public, private, nonprofits)**

  Find sources of funding to market employee wellness programs to employers by making the case of economic benefits (long term savings) to employers who invest in employee wellness (positive return on investment).

- **Expand mental health and drug abuse services**

- **Build residential substance abuse treatment facilities**

Long-term

- **Build affordable assisted living facilities**

- **Plan and construct a community-based Health & Wellness Retreat Center**

  The facility would integrate Hawaiian, traditional, and non-traditional healing arts. The retreat center would serve residents and a worldwide audience and include a conference room, lodging, and treatment rooms

- **Wilcox Hospital improvements**

  Develop a 200-stall parking structure, expand solar farm, and install a 256 slice CT Scanner

Other Projects

- Promote physical education in schools

- Build skilled nursing facilities for long-term care (dependent on pending health care reform)

7.2.8 Cluster Collaboration

Health & Wellness focus group participants believe that, given the diversity within the cluster, collaboration should focus around one priority project: a health and wellness retreat center. Wilcox Memorial Hospital will take the lead to initiate discussions with stakeholders.

7.2.9 Performance Measures

- Increase in the number of jobs created
- Average annual wages among industries in the cluster that continue to exceed the Kaua`i living wage
- Progress in bringing together stakeholders, completing a feasibility study, and developing a health and wellness retreat center

HAWAII STATEWIDE COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY

COUNTY OF KAUAI PRIORITY PROJECTS LIST

TARGETED INDUSTRY CLUSTER: HEALTH & WELLNESS

Short-Range: 1-3 Years

ID Number	Project	Applicant/Lead	Meets EDA Criteria	Project Type	Estimated Jobs	Total Estimated Cost/Est. Federal Cost	Potential Source of Matching Funds
HW-1	Conduct a feasibility study for a Health & Wellness Retreat Center	Wilcox Hospital	Yes	Technical Assistance	1-2 (short-term)	$150,000	Private County State
HW-2	Advocate for policies to improve the health and wellness of citizens	SDOH, Hospitals	No				
HW-3	Increase diversity of health care education and training	Kaua`i Community College	No				
HW-4	Develop prevention and wellness services to address obesity, eating disorders, and diabetes	Kaua`i Medical Clinic HMSA Health Pass Ho`ola Lahui SDOH Nonprofits	No				
HW-5	Promote complete streets and walking paths	Kauai Path County of Kaua`i	No				
HW-6	Increase collaboration among health and wellness providers	tbd	No				Foundations

HW-7	Provide stipends and scholarships for health care training	Private businesses Nonprofits	No				
HW-8	Develop and encourage wellness programs for employers	HMSA	No				
HW-9	Expand mental and drug abuse services	State Nonprofits	No				

Long-Range: 4-5 Years

ID Number	Project	Applicant	Meets EDA Criteria	Project Type	Estimated Jobs	Total Estimated Cost/Est. Federal Cost	Potential Source of Matching Funds
HW-10	Build residential drug and alcohol treatment facilities	State of Hawaii Nonprofits	No				
HW-11	Build affordable assisted living facilities	Private businesses	No				
HW-12	Wilcox Hospital improvements to develop 200-stall parking structure, expand solar farm, and install CT Scanner	Wilcox Hospital	Tbd				

7.3 Sports & Recreation

7.3.1 Cluster Background and Composition

The Sports & Recreation Cluster includes a range of industries providing recreational services and attractions to residents and visitors. Included within this cluster are industries such as golf courses, recreational instruction (surfing, windsurfing, parasailing, etc.), campsites, recreational sports centers, equipment rentals, and supportive services like tour operators, travel agencies, and others.

Table 7-3: Industries on Kaua`i Comprising Sports & Recreation Cluster[17]

NAICS	Industry	2001 Jobs	2007 Jobs	Δ'01-07 Jobs	2001 Wages	2007 Wages	Δ2001-2007 Wages
451110	Sporting goods stores	82	69	-13	$ 15,488	$ 19,864	$ 4,376
487900	Scenic & sightseeing transportation	153	132	-21	$ 35,877	$ 29,952	$ (5,925)
532292	Recreational goods rental	35	55	20	$ 30,098	$ 38,745	$ 8,647
561510	Travel agencies	57	75	18	$ 22,579	$ 24,232	$ 1,653
561520	Tour operators	86	162	76	$ 22,579	$ 38,120	$ 15,541
611620	Sports & recreation instruction	20	34	14	$ 10,764	$ 27,610	$ 16,846
713910	Golf Courses & Country Clubs	147	215	68	$ 24,958	$ 24,300	$ (658)
713940	Fitness & recreational sports centers	59	79	20	NA	$ 28,760	NA
713990	All other amusement & recreation	112	173	61	$ 17,624	$ 29,000	$ 11,376
721210	Recreational, vacation camps	NA	NA	NA	*$ 32,912*	$ 33,800	$ 888
Cluster Total		847	994	147			
						Average Kaua`i Wage Δ	**$ 8,580**

Between 2001 and 2007, 147 new jobs were created in this cluster, driven by golf courses, tour operators, and other amusement and recreation. Wages in sports and recreation instruction and tour operators increased higher than the average Kaua`i wage between 2001 and 2007.

The Sports & Recreation Focus Group noted that the number of jobs in the "sports and recreation instruction" category seems unusually low, given their knowledge of existing businesses in this industry.

[17] Jobs data from U.S. Bureau of Labor Statistics, Covered Employment @ Wages, supplemented by County Business Pattern data. Wage date from U.S. Bureau of Labor Statistics, Covered Employment & Wages. Living Wage data from the State Department of Business and Economic Development and Tourism Family Economic Self Sufficiency Study.

7.3.2 Sports & Recreation 2020 Vision

The most important results are that Kaua`i has parks and facilities that meet the needs in every community. Facilities are well-maintained. The multi-use path is complete. Kaua`i's sporting venues attract state, national, and international events.

Sport and recreational facilities are updated, well-maintained, and well-used. A 7,500 seat multi-purpose arena is built next to multi-purpose fields in Lihu`e. There are regional parks with multi-use facilities in East, West, and South Kaua`i.

Sport and recreational events are well-run, well-attended, and well-marketed. There is an increased mix of local, state, national, and international events and tournaments that expose youth and adults to higher levels of competition. Events are world renowned, attract annual followers, and are an increasing part of the island's economic base.

Golf courses are the best in the world. They are financially healthy and use environmentally-friendly practices. There are different tiers of courses that are attractive and affordable to residents and visitors.

Fitness centers are located throughout the island. Centers have updated equipment, a variety of programs, are affordable, and well-attended.

Recreational tours and rentals are respectful of the land and the host culture. They are offered in areas that are safe and work in harmony with resident enjoyment and use. Management systems are in place so that both residents and visitors can safely enjoy and appreciate Kaua`i's world-class beauty and natural resources.

Sports and recreational instructors are trained and certified. As a result of increased business development and experience, businesses are growing and employers are paying livable wages. Instructors are the catalysts for a "Healthy Kaua`i."

As a result of improved facilities, events, and motivational instructors, ***residents*** are more physically active and are using paths, parks, and facilities. Adults value fitness and encourage their kids to exercise, eat right, and be fit. Visitors have easy on-line access and plan their trips around sports and recreational opportunities on Kaua`i.

The Sports and Recreation working group represents a cross-section of the sports and recreation interests on Kaua`i. They are putting time, effort, and resources into implementing priority projects. They are using their networks and

are marketing strategically to promote events. They are collaborating with the Health and Wellness working group.

The keys to our success include creating a strategic thinking working group, committed leadership, champions at the local, state, and federal levels, adequate funding, and on-going collaborations and partnerships.

7.3.3 Accomplishments

- County parks have been improved and are well-maintained
- Nawiliwili Harbor improvements have been completed
- Phases 1 & 2 of the multi-use coastal path have been completed
- County Park Master Plan is being updated
- Lydgate and Koloa/Po`ipū soccer fields have been completed
- Kikiaola Small Boat Harbor improvements are underway
- There are many sporting and recreational events and tournaments, such as the Kaua`i Marathon, golf tournaments, and canoe races, that attract visitors throughout the year

7.3.4 Trends

- Decrease in State funding to maintain parks and facilities
- Net airlift to Kaua`i has increased with more non-stop flights and flights to key gateways
- Increase in family vacations involving multiple generations
- Higher spending visitors have higher expectations in service and quality

7.3.5 Challenges

- Kaua`i's State parks require improvements and better maintenance. State funding is inadequate

- Additional improvements are needed at small boat harbors
- The limited market and high cost of liability insurance for recreational businesses is an impediment to cluster growth
- Kaua`i's roads are inadequate to meet the needs of residents and visitors
- Land use and water permitting processes are complex and lengthy
- Lack of communication between public and private sectors on the use of beaches (unencumbered State lands)
- Workers compensation and surcharge is extremely expensive
- Visitors do not understand and appreciate the local culture, creating a disconnect between visitors and residents
- The cost of living is high, making it difficult to pay a livable wage

7.3.6 Opportunities

- Kaua`i's natural beauty and recreational areas are unparalleled
- Some areas hold untapped potential for controlled recreational and educational use
- There are opportunities for limited recreational uses on agricultural lands, providing supplemental income to private land owners
- Host statewide sporting events throughout the year, such as volleyball, soccer, tennis, and track
- Host national and international events, such as the Kaua`i Marathon.

7.3.7 Priority Projects

- Conduct a feasibility study to identify key sporting events, meetings, conventions, concerts, cultural and art events that could be accommodated on Kaua`i (considering both current and future facilities). The study would also assess alternative sites for the two facilities listed below and prepare development and operating budgets for each venue.

  1. 7,500 seat multi-use arena in Lihu`e for volleyball, basketball, tennis, hula, and other athletic and cultural events. The facility could also serve as an emergency shelter.

  2. Multi-use regional park in Lihu`e sized to host statewide tournaments such as soccer, baseball, tennis, football, and island-wide fairs.

- Build, renovate, and maintain athletic facilities (such as gymnasiums, soccer fields) and community centers in communities throughout the island, consistent with the updated County Park Plan

- Restore beach at Po`ipū Beach Park

  1. Short-term: add 500 cubic yards of sand, conduct shoreline certification survey

  2. Long-term: develop and implement long-term beach restoration plan

- Complete the multi-use path from Nawiliwili to Anahola

- Address water safety issues with monitoring, community education, additional lifeguards, and equipment (Kipu Falls, Queens Bath, beaches)

<u>State Projects</u>

- Complete and implement the Ha`ena State Park Master Plan

- Complete and implement the Koke`e State Park Master Plan

- Develop Master Plan for Wailua State Park

- Develop the Wailua Reservoir Education Center, combining fishing and camping areas, a native plant reforestation project, and an environmental education center located at the Wailua Reservoir.

7.3.8 Implementation

The Sports & Recreation focus group recommends the formation of a Sports & Recreation Working Group to include representatives from the following organizations:

- County Office of Economic Development
- County Department of Parks and Recreation
- Kaua`i Visitor Bureau
- Kaua`i Economic Development Board
- Department of Education, Kaua`i Superintendent
- Po'ipu Beach Resort Association
- Hawai`i Hotel and Lodging Association
- North Shore Business Council
- West Kaua`i Business and Professional Association
- Hanapepe Economic Alliance
- Hanapepe Business and Professional Association
- Kapa`a Business Association
- Lihue Business Association
- AYSO
- Pop Warner
- Baseball Association
- Junior Golf
- Garden Island Arts Council
- Kaua`i Concert Association
- Kumu Hula

The County Department of Parks and Recreation will serve as the lead entity to bring together stakeholders and to oversee implementation of priority projects. Funding is needed to secure a group facilitator to bring together the above organizations, develop a vision for a multi-use arena, raise funds for a feasibility study, and secure a project manager and/or consultant to conduct the feasibility study.

As the need for a multi-use center was a priority for the Culture & Arts Cluster focus group, a joint meeting should be held to discuss whether one facility could accommodate the needs of both clusters or whether separate facilities should be pursued.

7.3.9 Performance Measures

- Increase in the number of jobs created
- Increases in average wages in the cluster's industries that exceed inflation, moving the average cluster wage toward living wage levels
- Progress in bringing together stakeholders to address priority projects
- Progress in completing feasibility study and developing a multi-use arena

HAWAII STATEWIDE COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY

COUNTY OF KAUAI PRIORITY PROJECTS LIST

TARGETED INDUSTRY CLUSTER: SPORTS & RECREATION

Short-Range: 1-3 Years

ID Number	Project	Applicant	Meets EDA Criteria	Project Type	Estimated Jobs	Total Estimated Cost/Est. Federal Cost	Potential Source of Matching Funds
SR-1	Feasibility study on multi-use arena and multi-use regional parks.	County of Kaua`i	Yes	Technical Assistance	2-5	$500,000	Private County
SR-2	Build and maintain athletic facilities and community centers, consistent with updated Park Plan	County of Kaua`i	Yes	Public Works	tbd	tbd	tbd
SR-3	Restore beach at Po`ipū Beach Park	County of Kaua`i	Yes	Public Works	tbd (job preservation)	$1,500,000	County State (HTA) Po`ipū Beach Resort Assoc.
SR-4	Complete the multi-use path from Nawiliwili to Anahola	County of Kaua`i	Yes	Public Works	30	Phase III tbd Phase IV tbd	federal

ID Number	Project	Applicant	Meets EDA Criteria	Project Type	Estimated Jobs	Total Estimated Cost/Est. Federal Cost	ID Number
SR-5	Address safety issues with monitoring, education, lifeguards, equipment	Kaua`i Visitors Bureau County of Kaua`i	Yes (signage & equipment)	Public Works	tbd	tbd	tbd

Sports & Recreation
Long-Range: 4-5 Years

ID Number	Project	Applicant	Meets EDA Criteria	Project Type	Estimated Jobs	Total Estimated Cost/Est. Federal Cost	Potential Source of Matching Funds
SR-6	Develop multi-use arena in Lihu`e	County of Kaua`i	Yes	Public Works	50	tbd	New Market Tax Credits
SR-7	Develop multi-use regional park in Lihu`e	County of Kaua`i	Yes	Public Works	10	tbd	tbd

7.4 Culture & Arts

7.4.1 Cluster Background and Composition

The Culture & Arts Cluster includes a variety of industries engaged in artistic and cultural activities. Music, film, writing, publishing, graphic design, hula, crafts, photography and performing arts as well as educational and cultural attractions like museums, historical sites, botanical gardens, theatres, and cultural education programs are all included. The cluster is comprised of both for-profit and non-profit entities engaged in these activities. The cluster supported 734 jobs in 2007.

Table 7-4: Industries on Kaua`i Comprising Culture & Arts Cluster[18]

NAICS	Industry	2001 Jobs	2007 Jobs	Δ'01-07 Jobs	2001 Wages	2007 Wages	Δ2001-2007 Wages
451100	Hobby, musical instrument store	110	79	-31	$ 17,383	$ 19,350	$ 1,967
451200	Book, periodical & music stores	68	41	-26	$ 18,900	$ 22,390	$ 3,490
453920	Art dealers	82	39	-43	*NA*	NA	NA
512100	Motion Picture & Video Industries	NA	36	NA	$ 17,212	$ 29,432	$ 12,220
711110	Theater companies & dinner theaters	NA	NA	NA	*NA*	$ 32,450	NA
711120	Dance companies	NA	NA	NA	*NA*	$ 27,640	NA
711130	Musical groups & artists	24	30	6	*$ 34,670*	$ 45,890	$ 11,220
711500	Indep. artists, writers & performers	22	28	6	*$ 32,220*	$ 42,830	$ 10,610
712110	Museums, historical sites	205	202	-3	$ 24,958	$ 32,136	$ 7,178
712130	Zoos & botanical gardens	118	94	-24	$ 21,943	$ 36,500	$ 14,557
NA	Others Culture & Arts (estimated)	59	59	0	NA	NA	NA
Cluster Total		779	734	-116			
						Average Kaua'i Wage Δ:	**$ 8,580**

Firms and industries in the cluster are unified by their reliance on a mix of cultural, natural and historic assets unique to Kaua`i including a similar workforce of creative individuals. Industries in the cluster also draw upon a common customer base: visitors and residents with an interest in arts and culture. Those cluster companies that draw visitor traffic depend on shared physical infrastructure to maintain attendance. Finally, these industries all play an important role in defining the cultural character of Kaua`i.

Between 2001 and 2007 the Performing Arts industry added 49 jobs on Kaua`i. However, there was a net loss in jobs in this cluster. Over the past two years,

[18] Jobs data from U.S. Bureau of Labor Statistics, Covered Employment @ Wages, supplemented by County Business Pattern data. Wage date from U.S. Bureau of Labor Statistics, Covered Employment & Wages. Living Wage data from the State Department of Business and Economic Development and Tourism Family Economic Self Sufficiency Study.

further decreases in employment occurred due to the global recession, reduction in visitor travel, and reduced revenues of both for- and non-profit organizations.

7.4.2 Culture & Arts 2020 Vision

The most important result is that we have worked together to provide quality culture and arts events, performances, and attractions on Kaua`i.

The Kaua`i Center for Culture and Arts is a reality, with a performing arts theatre, exhibit, retail, classroom, and office space. The Center is self-supporting, fully staffed, and is accessible to the community. The Center is a gathering place for youth and adults, offers world-class workshops and events, and serves both residents and visitors year round.

Cultural and Art festivals and events have a world-wide reputation, attracting residents and visitors. Festivals and events are well-organized and well-attended, with venues around the island. Visitors are aware of cultural and art offerings before they arrive on Kaua`i. They are exposed to the Hawaiian and other cultures during they stay. As a result of these authentic and unique experiences, visitors choose to return to Kaua`i.

Artists, musical groups, performing artists, and media producers are supported and nurtured. They are increasing in numbers and are making a living wage. We have developed new talent from our youth. Kaua`i is a magnet for world-class artists who inspire, teach, and raise the bar to new levels. Artists perform in venues throughout the island where their particular art can be shared, displayed, and taught.

Hula hālau continue to grow with interest from all age groups and are a critical part of the Kaua`i experience. Visitors from around the world come to Kaua`i to learn the hula and Hawaiian culture.

Botanical gardens and museums share Kaua`i's history, culture, and unique resources to resident and visitors from around the world. Botanical gardens and museums are working with other events and organizations to enhance programs and offerings.

Residents have an increased awareness of their ancestral and cultural roots and incorporate their culture into their daily lives and routines. The community takes great pride in and supports activities, events, performances, and venues. They are involved in supporting events through their involvement and financial contributions. The culture and history of Kaua`i is documented for future generations. Youth have a place to learn and appreciate the culture and the arts. They have opportunities to intern with various culture and art organizations. The Kaua`i Bus has convenient routes to transport our youth to island cultural and art events.

The Culture and Arts cluster working group is a synergistic collaboration in support of artistic and cultural communities. The working group meets regularly, is well-organized, and well-funded. The head of this cluster has a range of skills to lead, educate, and improve community awareness of events.

The keys to our success are passionate leaders, mutual respect, and consistent funding. We have implemented programs for our youth that entice them to learn, understand, and perpetuate the culture and the arts.

7.4.3 Trends

- Internet purchases of musical instruments, books, and artwork have reduced cluster jobs on Kaua`i
- Performing arts have increased due to strong community interest, more sophisticated marketing, and stronger organizations sponsoring events
- Hula hālau business models are evolving from traditional, to competition- and teaching-oriented
- Worldwide interest (especially in Japan) in hula and Hawaiian culture creates business opportunities

7.4.4 Accomplishments

Visual Arts

- Kauai Society of Artists have maintained a relatively steady venue with regular and new exhibitions throughout the year. They developed an Artists Guide, put fliers into the airport racks, and maintain a website.
- Art Galleries have managed to keep their doors open in spite of the economic downturn. Art walks in Hanapepe continue; art walks in Kapa`a have just started. These are economic drivers.
- Community art workshops have been happening quietly in many small semi-private venues despite the lack of workshop space.
- Garden Island Art Council's (GIAC) Van Go offers a steady stream of activities for youth and families island-wide. GIAC will create 24 ceramic murals inside the Kamalani Pavilion.

- GIAC has been doing the Airport Window Displays since 2007, which is enjoyed by both interisland travelers and airport employees.

Marketing and Outreach

- Since 2005, GIAC's Art and Culture calendar is sent out two to three times a month to promote Arts and Culture events. With over 4,000 recipients, attendance at events has increased steadily.

- The ARTS newsletter went from a stapled legal size copy machine document numbering 250 in 1982 to a stunning 8 page color tabloid insert in the Kauai People magazine with circulation of 33,300 copies and on-line presence on GIAC and Honolulu Advertiser websites.

Performance Arts and Theatre Productions

- Hawai`i Children's Theatre and Kaua`i Community Players have joined forces to develop and maintain their KAPA space in Puhi which also doubles as the Puhi Playhouse. They store costumes, have rehearsals and lessons, build sets, and put on sell-out productions.

- KPAC is DOE connected but they work closely with the other theatre groups for all their resources and talents.

- Women in Theater has been rounding out the theatre offerings with serious dramatic productions.

- Hawaii Children's Theatre conducts a Summer Stars program that trains young actors and actresses for productions. Some theater classes are also offered by the Kauai Academy of Creative Arts.

- Kauai Sings, a fundraiser for Malama Pono, has been successfully growing their fan base and offers music events throughout the year.

- St Michaels and All Angels Episcopal Church offers and annual Jazz Festival featuring local and national talent.

Music

- Over the past 10 years, music events and offerings have increased dramatically.

- Many musicians appreciate Kaua`i as a place to perform.

- E Kanikapila Kakou in its 27th year promotes Hawaiian music artists and brings locals and visitors audiences together to appreciate and support Hawaiian music.

Dance

- Over the past 10 years, the number of excellent dance schools, each unique in the way they train and present their students, have grown in numbers. Dance instructors put on recitals, hold classes, train students for theatre productions, and offer adult classes.

Collaboration

- There is an increase in collaboration between various non-profits to maximize their own and each other's events.

Other

- Niihau Shell Lei Cooperative has been established
- County of Kaua`i purchased a large mobile stage that can be rented for community festivals and events
- Programs have been established to teach Hawaiian language, protocol, place names, etc. to workers in Kaua`i's visitor industry
- Interpretive walking trails have been established in Koloa-Po'ipu, Hanapepe, Wailua, Lihue, Waimea, and Historic Kapa`a Town

7.4.5 Challenges

- Hawai`i Tourism Authority, during this economic downturn, is focusing efforts on marketing rather than on culture and supporting cultural practitioners
- State Foundation on the Culture and Arts funding has been dramatically reduced
- Lack of venues to display local art, hold events
- Expensive to operate and maintain exhibit space
- No funding exists to administer exhibit space

- There are many local art and cultural events that sometimes conflict with each other
- There are limited opportunities for youth to learn and perpetuate the culture
- Youth have competing interests (e.g., electronic games, sports). Traditional culture and arts may not appeal to youth
- Cultural resources are being degraded by unauthorized or inappropriate use (e.g., weddings held on cultural sites, proposed tour to "activate" heiau)
- Road improvements are needed to maintain and improve resident and visitor access to cultural and historic attractions (roads in Koke`e)
- There is a lack of adequate/equitable access to capital for firms in the cluster
- Many firms in the cluster are nonprofit organizations facing the unique challenges of that sector including: reduced public funding and financial stability
- Expensive for independent studios to film on Kaua`i and as a result Kaua`i is considered a boutique location
- There is a need for a 200-seat theatre to accommodate smaller productions

7.4.6 Opportunities

- Marketing hula and Hawaiian culture to the Asian market, specifically Japan and China
- Kaua`i has many unique cultural assets including a voyaging canoe, Hawaiian Studies Program, Niihau shells, and cultural and historic sites
- Cultural tourism is a niche with promising demand and customer characteristics. Cultural and heritage tourists tend to stay longer, spend more, and treat the destination with greater respect than other tourists
- Marketing to foreign groups and audiences can increase sales and attendance (especially for museums)

- There is proven demand for cultural tourism from Kaua`i's museums, botanical gardens, events, and festivals

- There is a growing number of contemporary artists in visual arts and dance

- Targeted marketing to youth

- Hold events where youth naturally congregate (e.g., Kukui Grove)

7.4.7 Priority Projects

- Aggregate, disburse, and maintain a consolidated calendar of arts and cultural events on Kaua`i that is accessible to residents and visitors

- Offer skill-building technical assistance workshops (quarterly training) to nonprofit organizations engaged in arts and culture enterprises, including grant writing, event planning, and strategic planning

- Develop a Kaua`i Center for Culture and the Arts to include exhibit, retail, classrooms, and offices

- Support programs that teach our youth Hawaiian language, music, and arts

- Create affordable space for hālau, exhibitors, and practitioners

- Improve communications between business (e.g., hotels) and art & culture organizations

- Create an Culture & Arts working group to improve communication and coordination within cluster

- Develop interpretive trails and walking tours in communities across Kaua`i, highlighting historic and cultural sites, with appropriate Native Hawaiian place names, interpretive signage and protocols

- Acquire land for and establish permanent fair grounds for cultural festivals throughout Kaua`i (see *Sports & Recreation Cluster*)

- Acquire, rehabilitate, adapt and re-use existing historic facilities (e.g., Haraguchi Rice Mill) for new commercial purposes

- Create exhibit space alternatives, such as "Art on the Street" (using storefront window space)

7.4.8 Other Projects

- Provide marketing assistance programs targeting arts and culture enterprises with particular attention to marketing overseas to visitors and customers

- Adapt and use Kaua`i's Voyaging Canoe for cultural education excursions for visitors and residents

- Acquire and maintain a mobile, high-quality, tent-structure for large cultural festivals

- Establish community-based, experiential and cultural learning centers on Kaua`i

- Create a consolidated directory of art and culture businesses, programs and attractions

- Provide additional funding and support for the film industry on Kaua`i

7.4.9 Implementation

The Culture & Arts focus group recommends that the Garden Island Arts Council take the lead in guiding the Culture & Arts Industry Cluster. The following organizations could be invited to participate:

- Garden Island Arts Council
- Kaua`i Concert Association
- Kaua`i Society of Artists
- Kaua`i Academy of Creative Arts
- Hula Halau/Kumu Hula
- Hawaiian Agencies and Organizations of Kaua`i (HAO)
- Association of Hawaiian Civic Clubs
- Hawaiian Societies
- Na Mea Hawaii
- Hawaiian Children's Theatre
- Kaua`i Community Players
- Kaua`i Music Festival
- County of Kaua`i
- Kaua`i Visitor Bureau
- Kaua`i Museum
- Kaua`i Community College
- Kaua`i Japanese Cultural Society
- Chinese Heritage Society

- Hui Alu Okinawan Club
- Kaua`i Filipino Chamber of Commerce
- Kaua`i Chamber of Commerce
- Hawai`i Community Foundation
- West Kauai Community Assn (Town Celebration)
- Waimea Visitor Center
- Waimea Heritage Days
- Hui O Laka/ Koke'e Museum
- Grove Farm Homesteads
- Storybook Theatre/Keiki Storybook Festival
- Hanapepe Town Art Walk Group
- Mokihana Club (Music)
- Inspiration Magazine (Health & Wellness)
- KKCR Community Radio
- Women in Theatre
- Hale Opio
- Orchid Society
- Bonsai Society
- Gardens - NTBG, Limahuli, Lawai, McBryde, Na Aina Kai, etc
- Music - Kauai Chorale, Sunshine Express, bands, orchestras, ensembles, choral groups, youth groups, recording studios, etc.
- Dance Schools -- Janie Crane, Jenn Schwartz, Aloha-Tiffany Dodge, Rebecca Owen, Carol Culver, KUGA
- Prince Kuhio Celebration planners
- Heiwa I Kauai (Tahitian)
- Polynesian Cultural Festival
- Lawai International Center - 88 Shrines
- Malie Foundation - Kauai Mokihana Festival
- American Indians group - Powwow Festival
- Taro Festival
- Coconut Festival
- Homegrown Festival
- Malama Ola Festival
- Koloa Plantation Days

Funding is needed to secure a group facilitator to bring together the above organizations. The Garden Island Arts Council would help to move the cluster to a new level, by improving communications within the cluster, increasing and coordinating marketing, and addressing priority projects.

The focus group also recognized the critical role of the Garden Island Arts Council in promoting Art and Culture on Kaua`i. Several recommendations to improve the capacity of the organization include:

- Complete strategic plan
- Expand membership to include hotels and timeshares
- Partner with Kaua`i Visitor Bureau to promote events, artists, concerts

7.4.10 Performance Measures

- Increase in the number of jobs created

- Increases in average wages in the cluster's industries that exceed inflation, moving the average cluster wage toward living wage levels

- Increases in visitor satisfaction with the cultural, natural, and historical experiences on Kaua`i.

- Increases in the number of visitors who travel to Kaua`i because of its cultural, natural, and historic attractions.

- Progress in bringing together stakeholders and forming a cluster working group to address priority issues.

HAWAII STATEWIDE COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY

COUNTY OF KAUAI PRIORITY PROJECTS LIST

TARGETED INDUSTRY CLUSTER: CULTURE & ARTS

Short-Range: 1-3 Years

ID Number	Project	Applicant	Meets EDA Criteria	Project Type	Estimated Jobs	Total Estimated Cost/Est. Federal Cost	Potential Source of Matching Funds
AC-1	Consolidate calendar of art & cultural events	County of Kaua`i	No		.5	$40 – 50,000 to maintain	Private
AC-2	Skill-building technical assistance	Art & Culture Cluster Working Group	No			tbd	
AC-3	Conduct a feasibility study for the Kaua`i Center for Culture & Arts	Art & Culture Cluster Working Group	Yes	Technical Assistance	2.0	$100,000	Private, Foundations
AC-4	Support programs that teach our youth Hawaiian language, art, and culture	tbd	No			tbd	Kamehameha Schools, OHA, HTA
AC-5	Create affordable space for hālau, exhibitors, practitioners	tbd	Yes	Public Works	5-10	tbd	

AC-6	Improve communications between businesses & arts and culture orgs.	Art & Culture Cluster Working Group	No			tbd	
AC-7	Create an Culture & Arts Cluster Association	tbd	Yes	Technical Assistance	.5	$100,000	Foundations, Private
AC-8	Develop interpretive trails and walking tours	tbd	No				State HTA
AC-9	Conduct a feasibility study for permanent fair grounds around island	tbd	Yes	Technical Assistance	2-3		
AC-10	Create exhibit space alternatives	tbd	?				

Long-Range: 4-5 Years

ID Number	Project	Applicant	Meets EDA Criteria	Project Type	Estimated Jobs	Total Estimated Cost/Est. Federal Cost	Potential Source of Matching Funds
AC-11	Acquire, rehab, adapt existing historic facilities for new commercial purposes	tbd	Yes	Public Works	tbd	tbd	New Market Tax Credits
AC-12	Construct Kaua`i Center for Culture & Arts	tbd	Yes	Public Works	tbd	tbd	New Market Tax Credits

7.5 Science & Technology

7.5.1 Cluster Background and Composition

The Science & Technology Cluster includes firms in information technology, life sciences, scientific research and development, digital media, and related service industries. Kaua`i firms in the cluster supported an estimated 344 jobs in 2007.[19]

Table 7-5: Industries on Kaua`i Comprising Science & Technology Cluster[20]

NAICS	Industry	2001 Jobs	2007 Jobs	Δ'01-07 Jobs	2001 Wages	2007 Wages	Δ2001-2007 Wages
325410	Medicinals, Botanicals, Pharma	NA	NA	NA	NA	$ 78,970	NA
339112	Surgical & Medical Instruments Mfg	80	114	34	NA	$ 43,272	NA
511210	Software Publishers	20	20	0	*$ 36,400*	$ 65,575	$ 29,175
513320	Wireless telecom carriers	272	30	-242	$ 49,041	$ 47,424	$ (1,617)
514191	On-Line Information Services	NA	NA	NA	NA	NA	NA
514210	Data Processing Services	12	25	13	NA	$ 24,908	NA
541500	Computer systems design & related	17	50	33	$ 37,366	$ 79,761	$ 42,395
541700	Scientific Research and Development Svc	17	225	208	$ 46,540	$ 56,940	$ 10,400
541900	Other professional, scientific, tech	55	73	18	$ 20,135	$ 29,824	$ 9,689
NA	Other High Tech (estimated)	50	50	0	NA	NA	NA
Cluster Total		506	344	162			
						Average Kaua'i Wage Δ:	**$ 8,580**

The industries within the cluster are diverse. Rather than being grouped together due to horizontal or vertical linkages, these industries were grouped because they share many needs and challenges. For instance, biotechnology, information technology, and research companies all would benefit from a trained workforce, assistance with start-up or expansion, and investment in research and development.

There was a total decline in this industry cluster based on the reduction of wireless telecommunication carrier services on Kaua`i. This was slightly off-set

[19] Two additional NAICS industries, *Scientific Research and Development* and *Other Professional and Technical Services* were added to this cluster based on feedback from the CEDS Committee.

[20] Jobs data from U.S. Bureau of Labor Statistics, Covered Employment @ Wages, supplemented by County Business Pattern data. Wage date from U.S. Bureau of Labor Statistics, Covered Employment & Wages. Living Wage data from the State Department of Business and Economic Development and Tourism Family Economic Self Sufficiency Study. NA is used where an industry had too few firms to register in data collected by the U.S. Census Bureau County Business Patterns (CBP) survey. Estimated figures in the "Other" category represent conservative estimates of total jobs in industries where CBP data was unavailable.

by the increase in jobs in Scientific Research and Development Services. Average wages in this cluster are well above the Kaua`i living wage.

The Science & Technology focus group raised concerns that the job numbers in this cluster are underestimated. There are about 850 non-military jobs at the Pacific Missile Range Facility that are not reflected in the above table. Further research is needed to determine how military contractors are reporting data to the United States Bureau of Labor Statistics.

7.5.2 Science & Technology 2020 Vision

**Kaua`i's infrastructure, workforce, and higher education** attract knowledge-based businesses working in science and technology enterprises. These businesses are linked with the college and the high schools, providing internship, fellowships, and training opportunities for Kaua`i students. After attending college, students are able to find well-paying jobs on Kaua`i. All parts of the island are served by high-speed and high-bandwidth communications.

Many **residents** have been trained in science and technological skills. A large number of them have their own businesses. Many work from their homes and service a world-wide market through global computer communications systems.

New businesses include digital media, film, renewable energy, and bioscience companies. A new digital media, film, and production facility is located on the Kaua`i Community College campus. Science and technology businesses not only provide high paying jobs, but help to sustain a high quality of life on Kaua`i.

The **Pacific Missile Range Facility** (PMRF) is the largest fleet training, testing, and evaluation range in the world. It attracts tech businesses to locate on Kaua`i. PMRF remains a federal installation, with substantial federal funding. Scientific and commercial research is an important part of PMRF activities. With a proactive program to hire current and returning residents, PMRF and its associated companies provide training and work in cooperation with the college and the high schools.

State government supports science and technology through funding research and development, providing renewable energy tax credits and other tax incentives, making land and infrastructure available, and providing appropriate subsidies to attract science and technology firms to Hawai`i. The State provides assistance in reaching global markets, in encouraging local employment and business ownership, and educating Kaua`i students so that they can fill science and technology jobs.

County government supports science and technology businesses by zoning appropriately located land for commercial uses and by providing adequate County infrastructure.

The keys to success are continued collaboration, government incentives, resources to promote STEM activities from K-20, and an increased awareness of career opportunities in science and technology on Kaua`i.

7.5.3 Cluster Accomplishments since 2004

- KEDB successfully facilitates the Science and Technology Industry Cluster through two committees, Education and High Technology.
- Kaua`i Community College science and math faculty are working in collaboration with State Department of Education high school teachers to align STEM curriculum. The partnership is designed to build a seamless transition for students to successfully progress without remediation.
- Through a partnership with the Hawai`i Space Flight Laboratory, Kaua`i Community College will be home to a telemetry and weather station that will support both educational opportunities and educational and commercial satellite downlinks.
- Kaua`i Community College has provided structured training for this industry cluster.
- KEDB-sponsored Aloha `Ike program has sponsored 67 projects totaling $330,000 in direct grants to teachers island-wide.
- KEDB-sponsored Lego Robotics program has engaged the majority of schools on Kaua`i.
- Hawai`i Space Grant Consortium has provided fellowships at Kaua`i Community College and internships at the Pacific Missile Range Facility and local industry.

7.5.4 Trends

- Pacific Missile Range Facility operations and reach has grown dramatically
- The seed corn industry jobs statewide has grown 17% per year and many of these jobs are science and technology jobs

- Increase in the number of small (50-75 employee) information technology businesses

- China and India continues to directly compete with lower wages and qualified employees

7.5.5 Challenges

- It is difficult to retain qualified employees who have moved from the mainland due to the high cost of living, travel distance, and rural lifestyle.

- Electricity is unstable, especially for PMRF-related projects. Back-up power is a necessity and is expensive.

- Agricultural biotechnology faces opposition throughout the State.

- There are no incentives for science and technology firms to relocate to Hawai`i, much less Kaua`i.

- Dependence on federal funds is a risk factor. Kaua`i needs to plan for sustainability beyond federal funding.

- Many states (and nations) are competing for growth of their high tech industries including biotechnology and information technology. It is less expensive to do business in China and India.

- Students are entering Kaua`i Community College with low levels of math and science.

- Kaua`i Community College training and degrees do not always translate into an actual job. The percentage of students that pursue advanced degrees is low.

- Since Kaua`i Community College's overall student enrollment is low, it's financially difficult to offer specialized courses.

- Act 221 has not had an impact on Kaua`i

7.5.6 Opportunities

- Biotechnology on Kaua`i has a large presence, with potential for expansion.

- There is robust hiring/job creation projected by PMRF and seed corn industry.

- Kaua`i has many advantages that could be used to attract businesses e.g., strategic location in the Pacific, strong agricultural infrastructure, coordinated federal, state, and county regulatory framework, year round growing season, diverse renewable energy sources, and strong intellectual property laws.

- Kaua`i Community College has 12-15 acres that could be used to train and teach the community about renewable energy, green building design, and sustainable agriculture.

- Kaua`i Community College is a "University Center," that offers Bachelor and Master Degrees in selected areas.

- Kaua`i Community College supports collaborative efforts to provide training to meet the needs of Kaua`i employers.

- Retirees and part-time residents may be an untapped source of expertise for high tech companies, and the educational institutions who train tech workers.

7.5.7 Priority Projects

Workforce Development

Existing Programs

- Continue to develop training and distance learning opportunities at Kaua`i Community College to meet the needs of science and high technology businesses on Kaua`i

  -Associate of Arts, Bachelor of Science (nursing, engineering), and Certificate programs in Biosciences
  -Associate of Science degree in Process Management (applicable to radar, optics, telemetry, environmental process, and risk assessment)

- Continue to support the Aloha `Ike and other programs to strengthen Science Technology Engineering and Math (STEM) learning opportunities for grades K-12

- Continue to support robotics programs island-wide and create linkages with KCC, State, University of Hawai`i at Manoa, and industry

- Continue to provide STEM training and exposure to K-12 teachers and counselors

- Continue to expand youth internship opportunities by strengthening partnerships between KCC and other programs with local businesses and industries.

- Continue dialogue and coordination between KCC and K-12 teachers to align science and math curriculum and expectations

New Programs

- Get parents excited and motivated about career opportunities on Kaua`i and to encourage their children to pursue STEM career paths by working with employers

- Develop age-appropriate DOE career messages and empower career counselors to deliver consistent career messages

Advocacy

- Advocate for government incentives to create a business-friendly climate to support science and technology businesses in Hawai`i

Business Opportunities

- Conduct a feasibility study for a film, digital media, and production center

- Conduct a feasibility study for a Sustainability Center (see *Sustainability Cluster, Project STP-9*)

- Conduct a feasibility study for a business incubator

7.5.8 Tactics

- Expand educational funding programs (e.g., Aloha `Ike program)
- Give KCC students school credit for assisting schools in STEM-related programs

7.5.9 Implementation

The Kaua`i Economic Development Board (KEDB) serves as the lead organization of the Science & Technology Cluster. KEDB has two active committees, *Education* and *Science & Technology*, that will continue to implement many of the priority projects listed in this plan. It is recommended that the KEDB Education Committee be expanded to include County Office of Economic Development Director, Kaua`i Community College Chancellor, and PMRF representative.

Kaua`i Community College will continue to develop training, learning opportunities, and internship programs. HSGC will continue to offer fellowships, internships, and training programs.

A partnership between the County Office of Economic Development and Kaua`i Community College is needed to develop the film, digital media and production facility, Sustainability Center, and Business Incubator.

7.5.10 Performance Measures

- Increase in the number of jobs created
- Increases in the proportion of cluster jobs filled by local residents (versus imported labor)
- Average annual wages within the cluster that continue to exceed the Kaua`i living wage
- Progress in bringing together stakeholders, completing feasibility studies, and developing digital media facility and sustainability center
- New partnerships between educational institutions and cluster companies working to assure that education and training meets the needs of the cluster and its workers.

HAWAII STATEWIDE COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY

COUNTY OF KAUAI PRIORITY PROJECTS LIST

TARGETED INDUSTRY CLUSTER: SCIENCE & TECHNOLOGY

Short-Range: 1-3 Years

ID Number	Project	Applicant/Lead	Meets EDA Criteria	Project Type	Estimated Jobs	Total Est. Cost/Est. Federal Cost	Potential Source of Matching Funds
ST-1	Develop training and learning opportunities at KCC	Kaua`i Community College (KCC)	No				
ST-2	Support Aloha `Ike, STEM, and other programs	Kaua`i Economic Development Board (KEDB), Science & Tech and Education Committees	No				Private Dept. of Labor Dept. of Educ.
ST-3	Support robotic programs	Dept. of Education (DOE) KEDB S&T Comm. Educ. Comm.	No				
ST-4	Provide STEM training and exposure to K-12 teachers & counselors	DOE KEDB S&T Comm.	No				
ST-5	Expand and fund KCC internship program	KCC Hawai`i Space Grant Consortium	No				Private Federal

ST-6	Coordinate science and math curriculum between KCC and K-12 teachers	KCC DOE	No				
ST-7	Excite and motivate parents about STEM career opportunities on Kaua`i	KEDB S&T Comm. Educ. Comm. Kaua`i Chamber of Commerce	No				
ST-8	Develop DOE career messages and empower counselors to deliver messages	KEDB Educ. Comm. DOE KWIB	No				
ST-9	Advocate for government incentives	KEDB S&T Comm. Kaua`i Chamber	No				
ST-10	Conduct a feasibility study for a film, digital media, and production center	OED KCC	Yes	Technical Assistance	2-3	$200,000-$300,000	private
ST-11	Conduct a feasibility study for a Sustainability Center	OED KCC	Yes	Technical Assistance	2-3	$200,000-$300,000	private
ST-12	Conduct a feasibility study for a Science & Technology business incubator facility	OED KEDB	Yes	Technical Assistance	2-3	$200,000-$300,000	private

Long-Range: 4-5 Years

ID Number	Project	Applicant	Meets EDA Criteria	Project Type	Estimated Jobs	Total Estimated Cost/Est. Federal Cost	Potential Source of Matching Funds
ST-13	Develop film, digital media, and production facility	OED KCC	Yes	Public Works	10-50	$8,000,000 - $10,000,000	private
ST-14	Develop Sustainability Center	OED KCC	Yes	Public Works	tbd	tbd	tbd

7.6 Sustainable Technologies & Practices

7.6.1 Cluster Background and Composition

The Renewable Energy cluster has been renamed ***Sustainable Technologies & Practices*** cluster to encompass renewable energy, waste reduction, reuse, recycling, and green building practices and materials. This cluster includes a variety of industries that generate, distribute, and build technology for renewable energy. Types of renewable energy include wind, solar, ocean, biomass, hydro-electric, hydrogen fuel cells, and photovoltaic energy.

There is little data available to analyze this cluster on Kaua`i. However, focus group meetings confirm that there is growth potential in this cluster. While the federal government does not have separate industrial classification codes for green and clean technologies and practices, a conservative estimate on the current employment in the cluster is about 135. Jobs in this cluster include research, skilled manufacturing, and engineering to labor intensive jobs at recycling centers and retail jobs at thrift stores. Average wages may be at or slightly above the living wage for Kaua`i.

7.6.2 Sustainable Technologies & Practices 2020 Vision

The most important results are that through renewable energy production and conservation, we have significantly reduced out dependence on fossil fuels. Local and state governments have fully integrated sustainability into their planning and operations.

Renewable energy is locally generated for local use, has created new businesses and living wage jobs, and has helped to diversify Kaua`i's economy. Renewable sources are running on a smart grid.

Conservation is part of Kaua`i's residents' normal practices. Some of these practices include the use of energy efficient appliances, solar hot water use, public transit use, reuse, and recycling. Conservation measures have reduced the demand for energy island-wide.

Recycling is implemented island-wide and is supported by a Material Recovery Facility and curbside pick-up. As a result, we have significantly diverted the amount of solid wastes entering our landfill.

Green technologies seamlessly blend into our daily lives in areas such as food production, renewable energy, and construction. Green technologies are flourishing as a result of a trained work force, economic opportunities, and new building products on the market.

Regulations with aggressive mandates and incentives for energy efficiency, transportation efficiency, and diversion of waste have been the foundation for achieving this vision. Regulations reflect the shared values of the community and are enforced.

The County of Kaua`i is a leader in energy efficiency. The County supports the creation of green jobs, sponsors needed legislation, incorporates sustainable practices into County facilities and operations, and streamlines the permitting process for renewable projects.

The Sustainable Technologies & Practices Committee is a public-private collaboration that successfully identifies and addresses challenges to implementing sustainable technologies and practices.

The keys to our success was our foresight and commitment to move toward sustainability, a shared sense of responsibility, broad participation across the community, collaboration, teamwork, hard work, follow-through, and accountability.

7.6.3 Accomplishments

- KIUC's Energy Efficiency programs promote solar water heating and energy efficient appliances
- Kaua`i has the highest penetration of photovoltaic energy onto the KIUC grid per capita in the nation
- A biodiesel plant is in operation, converting used cooking oil to diesel for farm equipment
- Phase I of a pilot research and development facility that converts algae to jet fuel plant is in operation
- The County Integrated Solid Waste Management Plan was completed in 2009; and approved in 2010
- The Kaua`i Planning & Action Alliance held conferences on the "Greening of Kaua`i's Visitor Industry" in 2006 and 2007

- Niihau School became the first school in the nation to have a 100% photovoltaic system. The county secured federal funding, worked with the State Dept. of Education, and coordinated with the private landowner

- KIUC received four letters of intent for renewable energy projects, with one project moving forward

- KIUC completed a Renewable Energy Technology Assessment report by Black and Veatch in 2005

- County Energy Sustainability Report was completed in March 2010

- KEDB Energy Conferences were held in 2008 and 2009

- KEDB formed a Renewable Energy Committee in 2005

- Apollo Kaua`i was formed in 2005

- Malama Kaua`i was formed in 2006

- The 2009 International Energy Conservation Code was adopted for new construction by the County of Kaua`i

- Zero Waste Kaua`i was formed

7.6.4 Challenges

- Federal and State laws and regulations regarding impacts to native species (e.g., birds, snails) from certain kinds of renewable energy generation (e.g., wind, hydro) impacts the feasibility of projects.

- It is costly to build and operate renewable energy facilities. In 2010, renewable energy sources are more expensive than oil.

- Federal funds and champions are not permanent.

- There is a lack of federal, state, and county funds for implementation.

- The loss of knowledge and understanding of Kaua`i's agricultural water and irrigation systems.

7.6.5 Opportunities

- County of Kaua`i adoption of the new energy efficient building code (IECC)
- County of Kaua`i adoption and implementation of the Kaua`i Energy Sustainability Plan (KESP)
- Develop models for alternative housing methods and materials
- Promote conservation by highlighting community-based models and solutions
- County of Kaua`i could initiate an energy efficiency program that targets large consumers with large carbon footprints
- Implement an island-wide mandatory recycling program
- Change zoning to allow micropower generation
- Develop community-based energy plans based on resources and needs in each community
- Preserve surface water systems for food, energy, and potable water
- Volatile oil prices, concerns over energy security, and growing interest among utilities, developers, and government are all likely to increase demand for renewable energy technology and services.
- Public education efforts are ongoing and awareness is growing of the need to invest in renewable energy technology, generation, and distribution.
- Federal and State mandates that 30% of Hawai`i's energy supply must be from alternative sources by the year 2020 will drive implementation of renewable energy.
- Kaua`i has the ability to tap many sources of renewable energy (wind, hydro, solar, ocean, etc.).
- Funding is available for renewable energy projects, e.g., from the Department of Energy, USDA, the National Renewable Energy Laboratory, the Small Business Innovation Research program, and other sources.
- Biomass and biofuels offer Kaua`i opportunities for cross-industry benefits between alternative energy producers and agricultural producers.

7.6.6 Criteria

In selecting priority projects, the Sustainable Technologies & Practices focus group identified key criteria:

- Technologically feasible
- Financially feasible
- Doesn't limit future choices
- Scalable: ability to ramp up or down based on success
- Creation of livable wage jobs
- Capacity to implement
- Relative dependence on oil and off-island resources
- Conform to sustainable principles

7.6.7 Priority Projects

- Form a Sustainable Technologies & Practices (STP) Committee
- Promote residential solar water heating, wherever practical
- Plan, construct and maintain a Kaua`i biomass generation facility
- Promote the use of energy efficient products
- Build a materials recovery facility/expand curbside recycling (incl. green waste)
- Advocate for regulations to promote energy efficiency (recycling, building codes, land use policies)
- Promote distributed electricity generation tied to a smart grid
- Develop a carpool/rideshare program
- Develop a model to demonstrate green building materials and techniques (see *Science & Technology Project, ST-13*)
- Develop concentrated solar power
- Incorporate renewable energy at public facilities
- Develop large-scale photovoltaic projects
- Develop hydroelectric projects

7.6.8 Other Projects

- Plan for shift to electric vehicles
- Increase public transit routes/frequency
- Change law to allow micropower generation (e.g., small windmills)
- Plan, construct, and maintain a Kaua`i liquid biofuel plant
- Plan, construct, and maintain a waste to energy plant
- Develop community-based energy plans, based on needs and resources of each community
- Develop a composting facility/program

7.6.9 Implementation

The County Office of Economic Development will take the lead in bringing stakeholders together to oversee implementation of priority projects. The focus group unanimously recommended the formation of a Sustainable Technologies & Practices (STP) Committee. The group will develop a clear mission, be results-driven, and have meetings that are well-designed and facilitated. All focus group members indicated an interest in participating in the STP Committee and identified others who should be invited to participate:

- Large landowner
- County council representative
- Philanthropist
- Representative of Senator Inouye

It was pointed out that there are many related groups, including the Hawai`i Clean Energy Initiative, Sustainability Working Group, KIUC Strategic Planning Committee, and KEDB Renewable Energy Committee that involve similar players. The goals of these groups should be clearly understood before proceeding to avoid duplication and to encourage collaboration.

In addition to forming the STP Committee, success in this industry cluster will require:

- Political will, leadership, and risk-taking
- Public support and a shared sense of urgency
- Legislation for dedicated funding
- Consensus among key stakeholders with clear commitments and responsibilities
- Key County government personnel (energy efficiency coordinator, facilities energy manager, and policy manager)
- Follow-through and timely action
- A long-term commitment
- A crisis, such as sustained high oil prices, that impacts people
- Positive return on investments
- County fast-tracking of viable projects

7.6.10 Performance Measures

- Increase in the number of jobs created
- Average annual wages among industries in the cluster that continue to exceed the Kaua`i living wage
- Progress in bringing stakeholders together in forming the Sustainable Technology and Practices Committee

HAWAII STATEWIDE COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY
COUNTY OF KAUAI PRIORITY PROJECTS LIST

TARGETED INDUSTRY CLUSTER: SUSTAINABLE TECHNOLOGIES & PRACTICES

Short-Range: 1-3 Years

ID Number	Project	Applicant/Lead	Meets EDA Criteria	Project Type	Estimated Jobs	Total Est. Cost/Est. Federal Cost	Potential Source of Matching Funds
STP-1	Form a Sustainable Technology & Practices Committee	County of Kaua`i Office of Economic Development	No				
STP-2	Advocate residential solar water heating	KIUC- retrofits Private-new homes	No				
STP-3	Develop Biomass facilities	KIUC Private	Yes	Public Works	Tbd	Tbd	New Market Tax Credit
STP-4	Promote use of energy efficient products	KIUC	No				
STP-5	Build Material Recovery Facility/expand curbside recycling	County of Kauai	Yes	Public Works	Tbd	**$5,000,000**	County of Kaua`i New Market Tax Credit
STP-6	Advocate for regulations to promote energy efficiency	KIUC County State	No				

STP-7	Promote distributed generation tied to grid	KIUC Private	No				
STP-8	Develop a carpool/ Rideshare program	County	No				
STP-9	Develop a model to demonstrate green building materials and techniques	KCC Contractor's Assoc.	No				
STP-10	Develop large-scale photovoltaic projects	Private	Yes				

Long-Range: 4-5 Years

ID Number	Project	Applicant	Meets EDA Criteria	Project Type	Estimated Jobs	Total Estimated Cost/Est. Federal Cost	Potential Source of Matching Funds
STP-11	Develop concentrated solar power	Private	Yes				
STP-12	Incorporate renewable energy at public facilities	County of Kaua`i State of Hawaii	Yes				
STP-13	Develop hydroelectric projects	Private KIUC					

8.0 PLAN IMPLEMENTATION

8.1 Lead Entities

To successfully implement this plan, the County of Kaua`i should empower several established organizations to be "lead cluster entities." The role of a Lead Entity is to bring together the various representatives of each cluster to address common concerns, network, and oversee implementation of cluster priorities listed in this plan.

Cluster	Lead Entity	Follow-up
Food & Agriculture	Kaua`i County Farm Bureau	Encourage completion of strategic business plan and hiring of full-time staff
Science & Technology	Kaua`i Economic Development Board	Expand KEDB Education committee membership
Culture & Arts	Garden Island Arts Council	Encourage completion of strategic business plan; met with Sports & Recreation cluster to discuss multi-use arena
Sustainable Technologies & Practices	County Office of Economic Development	Meet with other groups to clarify roles and to avoid duplication of efforts, bring diverse stakeholders together
Sports & Recreation	County Department of Parks and Recreation	Bring diverse stakeholders together, meet with Culture & Arts cluster to discuss multi-use arena

The Health & Wellness Cluster will focus on one initiative, the creation of a Health & Wellness Center. Wilcox Hospital will be the lead entity to bring stakeholders together to begin the discussion.

8.2 Funding

Capacity-building funds are needed to strengthen existing nonprofit organizations on Kaua`i that could serve as lead entities for industry clusters.

Technical Assistance funds are needed to determine the feasibility of numerous projects, including a modular slaughterhouse, multi-use arena, health & wellness retreat center, sustainability center, cultural and arts center, and film, digital media, and production center.

Capital/public works funds are needed to implement improvements that have been identified by existing organizations, including agricultural irrigation system improvement projects and projects listed above.

Given limited State and County resources, the County of Kaua`i should aggressively pursue New Market Tax Credits, federal, and private funding.

8.3 Tracking Progress

To ensure that progress is being made, the County Council Economic Development Committee and Office of Economic Development should convene the CEDS Committee annually to track the status of priority projects. The purpose of this review is to share accomplishments, address road blocks, and to update priorities until the next Plan update.

With the above components in place, we can begin to shape Kaua`i's economy in alignment with our values and vision. A stronger and diverse economy will benefit future generations and create opportunities for all.

Appendix A: Cluster Focus Group Participants

Culture & Arts

Fred Aki	Musician & Composer
Katherine Brocklehurst	Garden Island Arts Council/The Brocklehurst Group
Nalani Brun	County Office of Economic Development (Tourism)
Chris Faye	Artist and Kaua`i Museum
Sally French	Kaua`i Society of Artists
Leina`ala Pavao-Jardin	Kumu Hula
Sue Kanoho	Kaua`i Visitors Bureau
Tony Kilbert	Kaua`i Community College Performing Arts Center
Ron Margolis	Kaua`i Concert Association
Kaliko Santos	Office of Hawaiian Affairs
Art Umezu	County Office of Economic Development (Film Commission)
Carol Yotsuda	Garden Island Arts Council

Food & Agriculture

Laurie Ho	USDA Resource Conservation & Development Program
Steven Kai	Pioneer Hi-bred International
Arryl Kaneshiro	Grove Farm Company
Wayne Katayama	Kaua`i Coffee
Jerry Ornellas	East Kaua`i Water Users' Cooperative/Kaua`i County Farm Bureau
Roy Oyama	Kaua`i County Farm Bureau
Liz Ronaldson	Growing Greens Nursery
Bill Spitz	County Office of Economic Development Agriculture
Roy Yamakawa	UH College of Tropical Agriculture and Human Resources

Health & Wellness

Kurt Akamine	Ohana Pacific Management Company
Dr. Dileep Bal	Hawai`i State Department of Health
Kathy Clark	Wilcox Memorial Hospital
Bill Grier	Dept. of Labor & Industrial Relations (Workforce Dev't)
Eugene Jimenez	County Housing Agency
John Latkiewicz	Hawai`i Small Business Development Center (Kaua`i)
Kelly Liberatore	Makai Properties/Kaua`i Board of Realtors
Jan Miyamoto	County Office of Economic Dev't (Workforce Investment)
Char Ravelo	Kaua`i Health & Wellness Association
Kaliko Santos	Office of Hawaiian Affairs
Leila Ventar	NurseFinders – Kaua`i

Jerry Walker	West Kaua`i Medical Center

Science & Technology

Jack Benzie	Pacific Missile Range Facility
Jerry Brockelhurst	KKCR/The Brocklehurst Group
Stu Burley	Strategic Theories Unlimited LLC
Tom Cooper	General Dynamics - AIS
Helen Cox	Kaua`i Community College
Clarence Ishida	Wilcox Memorial Hospital
Dave Kane	Trex Enterprises
John Latkiewicz	Hawai`i Small Business Development Center (Kaua`i)
Sarah Styan	Syngenta Seeds

Sports & Recreation

Bev Brody	Get Fit Kaua`i
Rick Haviland	Outfitters Kaua`i
Paul Ito	Puakea Golf Club
Sue Kanoho	Kaua`i Visitors Bureau
Jody Kjeldsen	Po`ipū Beach Resort Association
Elliott Mills	Kaua`i Marriott Resort & Beach Club
Lenny Rapozo	County Department of Parks & Recreation

Sustainable Technologies & Practices

Walt Barnes	AT&T
Jack Benzie	Pacific Missile Range Facility
Stu Burley	Strategic Theories Unlimited LLC
Bill Cowern	Hawaiian Mahogany
Randall Hee	Kaua`i Island Utility Cooperative
Wayne Katayama	Kaua`i Coffee
Keone Kealoha	Mālama Kaua`i
Nick Michaels	Virtual Power Plant
Ben Montgomery	Virtual Power Plant
State Rep. Mina Morita	Hawai`i State Legislature
Glenn Sato	County Office of Economic Development (Energy)
Ben Sullivan	Mobius Designworks
Diane Zachary	Kaua`i Planning & Action Alliance

CHAPTER 4

MAUI COUNTY

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Maui County CEDS Process: Strategy Committee and Cluster Focus Groups

The Comprehensive Economic Development Strategy (CEDS) for Maui County was coordinated by the Maui Economic Development Board, Inc. (MEDB). As mandated by the Economic Development Administration of the U.S. Department of Commerce, a Strategy Committee was formed to develop, guide, and review the CEDS process. As required, MEDB enlisted a cross-section of all major interests in the community to take advantage of local skills and resources in strategy formulation and implementation.

The Strategy Committee therefore includes representatives of local government, business, industry, finance, agriculture, organized labor, utilities, education, community organizations, public health agencies, minorities, and women. Composition of the Maui County CEDS Strategy Committee, which convened on five occasions between November 2009 and March 2010, is as follows:

Gene Awakuni, University of Hawaii, West Oahu College
Gene Bal, Maui High Performance Computing Center
Sandy Baz, Maui Economic Opportunity, Inc.
Roy Catalani, Young Brothers, Ltd.
Grant Chun, A&B Properties, Inc.
Jud Cunningham, Aloha House/Malama Family Recovery Center
Pam Farnsworth, ECM, Inc.
Jackie Haraguchi, Maui Contractors Association
G. Riki Hokama
Bill Kamai, Carpenters Union
Ron Kawahara, Ronald A. Kawahara & Co. CPAs, Inc.
Greg Kawakami, General Growth Partners
Kyoko Kimura, Hotel Wailea
Jerry Kunitomo, BJ's Chicago Pizzeria
Todd Lawson, Akimeka
Wesley Lo, Maui Memorial Medical Center
Kristina Lyons Lambert, Fred Baldwin Memorial Foundation
John McKee, UH-Maui College
Helen Nielsen, Starr Equities, Inc.
Ed Reinhardt, Maui Electric Co., Ltd.
Suzette Robinson, UH-Maui College
Bill Russell, American Savings Bank
Clyde Sakamoto, UH-Maui College

Jeanne Skog, Maui Economic Development Board, Inc.
Barry Spanier, Maui Sails
Barry Takahashi, Maui Economic Development Board, Inc./Golden Baseball League
Deidre Tegarden, County of Maui, Office of Economic Development
Hilton Unemori, ECM, Inc.
Warren Watanabe, Maui County Farm Bureau
Leslie Wilkins, Maui Economic Development Board, Inc.
Lester Wong, County of Maui, Maui Police Department
Chubby Vicens, A&B Properties (Retired)
Randy Yamanuha, Maui High School
Kalbert Young, County of Maui, Finance Department

In the process of formulating an in-depth analysis of the economic challenges and opportunities for Maui County, the Strategy Committee identified the main economic clusters, or sectors, considered to be economic drivers, for Maui County's economy. These clusters are:

- Agriculture
- Arts and Entertainment
- Government
- Healthcare
- Recreation and Sports
- Renewable Energy
- Research and Development (R&D)
- Visitor Industry

The construction, retail, and education sectors were also considered; the Strategy Committee concluded that, like small business, they are fundamental to all clusters and are threaded through them. They can in large part be seen as a by-product of initiatives in other clusters.

The Strategy Committee recognized that economic development priorities in more geographically distant communities were likely to be different compared to the rest of the County. The Committee therefore deferred to local Focus Groups for the identification of clusters in:

- Hana (East Maui)
- Lanai
- Molokai.

As part of the CEDS process, all of the Focus Groups representing each of the identified clusters and geographical locations were convened to gather input on economic development challenges, opportunities, actions, and projects relevant to the formulation of the CEDS for Maui County. Invitations were extended to representatives from the public, private, and nonprofit spheres in each cluster. In the case of Lanai and Molokai, the Focus Groups were convened twice in order to adequately discuss issues, identify clusters that best reflected their unique circumstances, and incorporate information contributed by the communities. All of the Focus Group meetings were held in December 2009 and January 2010.

Focus Group meeting participants were presented with an overview of the CEDS process and a brief economic background and history for Maui County, including demographic trends and sectoral labor force and wage data, where available. Participants were asked for input on a draft Vision Statement that had been prepared by the Strategy Committee, and guided in a SWOT exercise (analysis of Strengths, Weaknesses, Opportunities, and Threats). Each Focus Group then defined and prioritized goals and objectives, and identified action steps and projects that aligned with these. A total of 116 Focus Group participants contributed, and their input is incorporated into this CEDS.

It is estimated that the Strategy Committee devoted a total of over 350 hours to CEDS meetings. MEDB staff coordinated and staffed the entire process.

Vision Statement

The economy of our three-island community -- Maui, Molokai, and Lanai -- progressively diversifies, with emphasis on self-sufficiency and sectors that offer rewarding careers for our residents. Lifelong, quality education is a priority to position residents for 21st century opportunities.

Core Values Statement

Broad-based, inclusive community needs and participation lead to policies and actions that recognize our islands' finite resources and support an innovative, thriving economy. Responsible economic growth continues to be balanced by the high fundamental value our community places on its cultural heritage, the natural environment, and regional equity.

Maui County celebrates a nurturing, sustainable quality of life that encourages individuals—especially our young people—to live, work, raise their families here and contribute to the wellbeing of our community for generations to come.

Cluster Analysis

The CEDS Strategy Committee and Focus Groups considered and analyzed the significance of each cluster in the context of economic development for Maui County. The rationale for inclusion of each selected cluster is as follows:

AGRICULTURE

- ✓ contributes to economic diversity and balance;
- ✓ provides significant employment;
- ✓ provides fresher, on-hand food supply from known sources;
- ✓ increases food independence and (potentially) energy security;
- ✓ replaces imports in agricultural commodities;
- ✓ increases potential for exports;
- ✓ capitalizes on established niche market presence.
- ✓ capitalizes on natural assets and competitive advantages (climate, growing seasons);
- ✓ promotes biosecurity (protection from biological harm) and lowers risk of invasive species;
- ✓ preserves productive, green vistas and a working agricultural viewscape;
- ✓ provides supply of tropical and exotic products;
- ✓ maintains historical legacy, identity, and lifestyle;
- ✓ upholds public interest priority as expressed in State Constitution;

ARTS AND ENTERTAINMENT

- ✓ continues proven source of income generation, especially from visitor sector that spends more per capita;
- ✓ capitalizes on Maui's thriving and emerging art community and gallery business;
- ✓ provides significant employment;
- ✓ contributes to competitive advantage over other destinations;
- ✓ capitalizes on Maui's reputation for culinary excellence;

- ✓ Pacific Regional Cuisine supports agriculture sector;
- ✓ maintains multi-faceted nature of Maui Nui arts and entertainment resources;
- ✓ enhances and complements existing cultural assets;
- ✓ perpetuates host culture and continues historical and cultural legacy;
- ✓ represents uniqueness of Hawaiian culture on global stage (hula, etc.);
- ✓ stimulates the imagination and feeds the soul for residents and visitors;
- ✓ nurtures home-grown talent;
- ✓ informs and educates residents and visitors about each other;
- ✓ builds tolerance and understanding of diverse groups;
- ✓ encourages free expression of ideas.

GOVERNMENT

- ✓ important economic driver that promotes economic growth, providing funding for projects and programs;
- ✓ sets direction of public policy (health, safety, welfare, zoning, land use, etc.);
- ✓ allocates tax resources;
- ✓ provides education and training opportunities;
- ✓ provides access to information;
- ✓ capitalizes ability to secure outside funding and forge public-private partnerships;
- ✓ implements polices which affect other sectors;
- ✓ acts as source of incentive for legislation to spur economic development;
- ✓ provides leadership.

HEALTHCARE

- ✓ provides well-paid jobs, offers a wide variety of career opportunities, and represents a significant and stable part of economy;
- ✓ retains healthcare money in the County;
- ✓ provides necessary service and supports business development goals;
- ✓ provides alternative employment opportunities to the visitor industry in times of economic downturn;
- ✓ utilizes health care dynamics that are positioned for exporting successful services to other communities;
- ✓ facilitates expansion of specialty health care services;
- ✓ explores use of new technology;
- ✓ capitalizes on existing sector strength and offers world class potential;
- ✓ supports health care services that emphasize cultural values and traditions;
- ✓ provides for comprehensive continuum of care, including the ageing population;
- ✓ fulfills the need for additional long-term care infrastructure;
- ✓ provides the greatest opportunities in alternative health care in the State, despite having the fewest primary care practitioners.

RECREATION AND SPORTS

- ✓ develops demonstrated income generation potential (Hula Bowl, PGA Kapalua Golf tournament, Xterra etc.);
- ✓ utilizes climate and natural setting, putting land to productive use (golf courses, parks, ocean activities) while maintaining open space;
- ✓ utilizes established and existing premier venues;
- ✓ develops Maui County's marketing image as a desirable destination;
- ✓ enhances existing reputation as global gathering place;

- ✓ enables cost of facility maintenance to be defrayed by visitor industry;
- ✓ encourages development of related video and media sector;
- ✓ encourages diversity of sporting facilities and events;
- ✓ supports community organizations and resident population;
- ✓ reflects and supports healthy outdoor lifestyle and cultural roots;
- ✓ utilizes expertise gained from lifestyle;
- ✓ provides educational avenues to skill-based scholarships; complements other sectors.

RENEWABLE ENERGY

- ✓ supports the local economy by retaining part of the $1 billion (approx.) currently exported from Maui economy for non-renewable fossil fuels;
- ✓ accords with Maui County Energy Alliance goal endorsed by Mayor of achieving 95% energy from renewable sources by 2020 (up to 40% via efficiencies);
- ✓ provides new business development opportunities for local businesses;
- ✓ promotes path towards self-sufficiency in energy production and efficiencies (instead of 90% dependence on foreign sources);
- ✓ provides new job opportunities and career growth paths;
- ✓ supports other sectors of the economy (e.g. agriculture -- biomass and biofuel, and R&D);
- ✓ utilizes abundance of natural assets (solar, wind, ocean, geothermal, etc.);
- ✓ improves standard of green workforce through education and training programs.
- ✓ promotes energy security for other sectors;
- ✓ promotes healthier environment (lower greenhouse gas emissions);
- ✓ reflects cultural values and engages the host culture.

RESEARCH & DEVELOPMENT (R&D)

- ✓ provides high-skill, high-paying employment;
- ✓ has a high potential growth rate;
- ✓ capitalizes on geographic advantage (mid-Pacific) and East-West time zones;
- ✓ utilizes funding sources;
- ✓ maintains, expands, and promotes existing significant Department of Defense, other government, and academic research assets;
- ✓ supports and spurs innovative education (and vice-versa);
- ✓ provides hands-on experience, mentoring, and internship opportunities;
- ✓ enhances existing connectivity infrastructure;
- ✓ seeks business solutions both locally and globally;
- ✓ builds on visitor industry brand with scientific-content conferences;
- ✓ benefits environment as a clean, non-polluting sector;
- ✓ promotes conservation and prudent use of precious natural resources;
- ✓ minimizes geographic challenges;
- ✓ builds upon demonstrated viability;
- ✓ develops natural and man-made assets;
- ✓ enhances cultural ties to existing and prospective Asian markets.

VISITOR INDUSTRY

- ✓ Maui County's largest economic "driver" and largest employer;
- ✓ attracts billions of "outside" dollars per year into the County;
- ✓ attracts conventions and conferences, with potential for growth;
- ✓ exerts considerable multiplier effect on rest of the economy as the industry transcends all other sectors;

- ✓ supports relatively higher wages because high-end market and promotes career development;
- ✓ promotes real estate development and sales;
- ✓ can be diversified;
- ✓ provides infrastructure that is available to the resident community; and contributes significantly to community through nonprofit work, in-kind donations, use of facilities, etc.).
- ✓ spurs cultural renaissance and recognition/appreciation of the host culture;
- ✓ provides a platform for multicultural exchange and supports visitor attraction;
- ✓ provides a positive global "brand";
- ✓ spurs premier amenities and service;

ADDITIONAL COMMUNITY CLUSTERS

In addition to the industry clusters identified and analyzed above, the Strategy Committee determined that the more geographically isolated communities within Maui County – Hana (East Maui), and the islands of Lanai and Molokai – face a sufficiently different set of economic circumstances that they warrant their own consideration in terms of economic development strategies. As a result, Focus Groups representing these communities were convened and the clusters most relevant, and those identified as the main sectors for driving the economic development strategy of the region, were determined as follows:

(Note that clusters differing from the previous sectoral analysis for the rest of Maui County are in italics.)

HANA (East Maui)

Agriculture
Government
Healthcare
Recreation and Sports
Renewable Energy
Research & Development
Visitor Industry *(including Arts and Entertainment)*

LANAI

Agriculture *and Aquaculture*
Construction
Culture and Environment
Education (including R & D and Healthcare)
Government
Healthcare
Information Systems
Public Transportation
Recreation and Sports
Renewable Energy
Small Business
Visitor Industry

MOLOKAI

Agriculture *and Aquaculture*
Arts and Culture
Education
Government
Healthcare
Infrastructure (repair and maintenance, environmental integrity)
Renewable Energy
Research & Development
Subsistence Economy
Visitor Industry *(incl. entertainment, recreation and sports).*

HAWAII STATEWIDE COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY

COUNTY OF MAUI PRIORITY PROJECTS LIST

Targeted Industry Cluster: **Agriculture**

Short-Range: 1-3 Years

ID #	Project	Applicant	EDA *	Project Type	Est. Jobs	Total Est. Cost	Est. Federal Cost	Potential Source of Matching Funds
101	Composting Feasibility Study	County of Maui: Office of Environmental Management	Y	Technical Assistance (Feasibility Study)	TBD	$151,340	$90,000	County of Maui, Maui County Farm Bureau
102	Produce Processing Facility Improvements	Maui County Farm Bureau	Y	Public Works (Expansion)	29	$915,291	$457,645	Maui County Farm Bureau
103	Development of the Millennium T-21 Computer-Generated Planning Software for Evaluation of Planning Decisions	Maui Economic Development Board, Inc.	Y	Economic Adjustment/ Technical Assistance	TBD	$500,000	$350,000	Private Sources
104	Development of Organic Agricultural Park in Haiku	County of Maui: Office of Economic Development (OED)	Y	Public Works (Land Development)	30	$1.0m.	$500,000	USDA, State Department of Agriculture
105	Establish Revolving Fund for New Agricultural Park Businesses	County of Maui	Y	Economic Adjustment	150	$4.0m.	$2.0m.	County of Maui, USDA
106	Development of Central Maui Agricultural Park	County of Maui (OED)	Y	Public Works (Land Acquisition)	TBD	$2.0m.	$1.2m.	County of Maui
107	UH-MC Research Greenhouse	UH-Maui College	Y	University Center (Expansion)	TBD	$200,000	$100,000	TBD
108	Feasibility Study for Value-Added Agricultural Production Facility	Maui Farm Bureau and UH-MC	Y	Technical Assistance (Feasibility Study/Market Analysis)	TBD	TBD	TBD	TBD

Long Range: 4-5 Years

ID #	Project	Applicant	EDA *	Project Type	Est. Jobs	Total Est. Cost	Est. Federal Cost	Potential Source of Matching Funds
109	Development of West Maui Agricultural Park	County of Maui	Y	Public Works (Land Acquisition)	15	$900,000	$500,000	TBD
110	Expansion of Kula Agricultural Park	County of Maui	Y	Public Works (Expansion)	10	$800,000	$500,000	TBD
111	Expand Upcountry Water Storage - New Reservoir	County of Maui: Department of Water Supply	Y	Public Works (Expansion, Design & Engineering)	TBD	TBD	TBD	TBD
112	Upcountry Watershed Improvements	County of Maui: Department of Water Supply	Y	Public Works	TBD	TBD	TBD	TBD
113	Develop West Maui Irrigation Storage System	County of Maui: Department of Water Supply	Y	Public Works	TBD	TBD	TBD	TBD
114	Dual Water Line System	County of Maui: Department of Water Supply	Y	Public Works	TBD	TBD	TBD	TBD
115	Maui Food Technology Center	Maui Food Technology Center	Y	Technical Assistance	TBD	TBD	TBD	TBD

Other Projects (Lower Priority)

116	Develop Prototype Technology for Small-Scale Potable Water Systems	TBD	Y	Technical Assistance	TBD	$500,000	$250,000	USDA, MCFB, TBD
117	Develop Bio-Char Facility	TBD	Y	Public Works	TBD	TBD	TBD	USDA – RC&D Program, County of Maui, MECO, CTAHR, USDA, NRCS
118	Feasibility Study for Increase in Legal Graywater Use for Agriculture	TBD	Y	Technical Assistance (Feasibility Study)	TBD	TBD	TBD	TBD

EDA* Y : Yes, Meets EDA Criteria

AGRICULTURE

Short-Range Priority Projects

101. Composting Feasibility Study
Feasibility Study to Implement Pilot Composting Projects for Green Waste and Food Waste in Rural Agricultural Communities (serving the communities of Kula, Haiku, Hana, and Molokai). Maui's agricultural sector must deal with elevated transportation and input costs due to the County's isolated location. These costs are further increasing, threatening farm viability and employment. The project will assist producers by developing a convenient, affordable, and local source of organic compost.

102. Produce Processing Facility Improvements (Kula Vacuum Cooling Facility)
Improvements to the vacuum cooling plant are essential to continue and expand commercial vegetable production in the Upcountry area. The removal of field heat by vacuum cooling greatly increases shelf life of produce and enables small farmers to export to Oahu as well as provide top-quality produce to local Maui markets. The improved facility will also offer centralized food safety processing conforming to food safety regulations. The project involves repair and replacement of existing plant.

103. Development of the Millennium T-21 Computer-Generated Planning Software for Evaluation of Economic, Social, and Environmental Impacts of Planning Decisions
The opportunity exists, through the application of scenario-analysis tools, to provide informed input and tested trade-offs into the decision-making process. These tools will be provided by means of simulated planning model (T-21) developed with the Millennium Institute; the model can continue to be applied in responding to the timelines of key water decisions. The model will also form the basis of a forum and mechanism that provides real-time analysis about scenarios related to water and fosters consensus building among diverse stakeholders related to water.

104. Development of Organic Agricultural Park in Haiku
The proposed Park, which is supported by the County of Maui, will comprise approximately 20 acres and accommodate 20 farmers. Existing farmers, and especially young farmers, are constantly looking for suitable land with infrastructure to farm organically. The Park will be located on County land also designated as the site for a new Fire Station.

105. Establish Revolving Fund for New Agricultural Park Businesses
Seed money for Revolving Fund for bona-fide farmers seeking to establish new businesses in a County Ag Park.

106. Development of Central Maui Agricultural Park
Proposed 300-acre Ag Park would include designated areas for biofuel crops and aquaculture.

107. UH-MC Research Greenhouse
Expansion of state-of-the-art, controlled greenhouse facility for plant research.

108. Feasibility Study for Value-Added Agricultural Production Facility
While traditional elements of the agriculture sector (especially sugar and pineapple) have faced challenges over recent years, the increase in value-added products has been a growth area. CTAHR notes that there are several high-value products for which Hawaii has a competitive advantage. A feasibility study will assess the logistics involved in establishing a production facility, as well as the market for value added products.

Long-Range Priority Projects

109. Development of West Maui Agricultural Park (TBD)

110. Expansion of Kula Agricultural Park (TBD)

111. Expand Upcountry Water Storage -- New Reservoir (TBD)

112. Upcountry Watershed Improvements
Improve efficiency of watershed and develop high stream-flow catchment system.

113. Develop West Maui Irrigation Storage System (TBD)

114. Dual Water Line System
Secure additional funding for creation of a dual water line system for untreated water to agricultural operations.

115. Maui Food Technology Center
Programs to spur collaboration between the food products industry and agricultural producers. The Center will engage in new product R&D, assist in market research, and market new and existing agricultural and food products.

Other Projects

116. Develop Prototype Technology for Small-scale Potable Water Systems (for processing and washing)
Many Maui farms (especially in Kula Ag Park) have only non-potable water available to them. To meet the need to become Food Safety Certified, farms must have a source of potable water to wash vegetables and for worker cleanliness. All major food companies are already requiring vendors to conform to Safety Certification. Existing technology exists (e.g. Mountain Slope Water purification systems) to develop systems tailored to farms for less than $5,000 per unit.

117. Develop a Bio-char Facility
Development of a bio-char ("biological charcoal") facility that gasifies green waste for energy, and produces low-volatile charcoal as an agricultural amendment/additive (by-product). Testing for efficacy shows dramatic improvement in yields and soil health with 10 to 20% application of charcoal.

118. Feasibility Study for Increase in Legal Graywater Use for Agriculture (TBD)

HAWAII STATEWIDE COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY

COUNTY OF MAUI PRIORITY PROJECTS LIST

Targeted Industry Cluster: **Arts & Entertainment**

Short-Range: 1-3 Years

ID #	Project	Applicant	EDA *	Project Type	Est. Jobs	Total Est. Cost	Est. Federal Cost	Potential Source of Matching Funds
201	Center for Hawaiian Culture and Arts	Maui Arts & Cultural Center (MACC)	Y	Technical Assistance (Feasibility Study)	62‡	$120,000	$80,000	Hawaii Tourism Authority, Maui Visitors Bureau (suggested)
202	Restoration of Historic Iao Theater	Maui Community Theater	Y	Public Works (Facility Improvements)	20	$2.5 m.	$2.0m.	HUD, CDBG grants, capital campaign (suggested)
203	Feasibility Study for a Multi-Media Production and Training Center	Talking Stories (nonprofit)	Y	Technical Assistance (Feasibility Study/Market Analysis)	30‡	$100,000	$50,000	TBD
204	Maui Music Makers	Maui Arts & Cultural Center (MACC)	Y	Technical Assistance (Feasibility Study)	15‡	$70,000	$40,000	Hawaii Tourism Authority, State Creative Industries Division (DBEDT), Maui Visitors Bureau (suggested)
205	Maui Film Festival Marketing	Maui Film Festival	Y	Technical Assistance (Market Analysis)	TBD	$100,000	$50,000	MVB, HVCB and others TBD
206	Market Study/ Industry Analysis for Promotion of Maui Arts	Maui Arts & Cultural Center (MACC) (suggested)	Y	Technical Assistance (Market Study)	TBD	$150,000	$75,000	TBD
207	Feasibility Study for Development of Natural Science Museum Maui	TBD	Y	Technical Assistance (Feasibility Study)	TBD	$200,000	$100,000	Administration for Native Americans (DHSS), National Academy of Sciences (suggested)
208	Feasibility Study for the Restoration of Moku'ula (West Maui)	Friends of Moku'ula	Y	Technical Assistance (Feasibility Study)	TBD	TBD	TBD	OHA, Administration for Native Americans (DHSS), Kamehameha Schools (suggested)

209	Development of IMAX Theater	Maui Film Festival	Y	Public Works (Construction of Facilties)	TBD	$3.5m	$2.0m.	Maui Ocean Center (suggested) and others TBD
ID #	**Project**	**Applicant**	**EDA ***	**Project Type**	**Est. Jobs**	**Total Est. Cost**	**Est. Federal Cost**	**Potential Source of Matching Funds**
210	Community Theater/ Oral History Project	Talking Stories (non-profit)	Y	Economic Adjustment (Innovative Development)	TBD	$20,000	$10,000	HTA, ticket sales, private sources

Other Projects (Lower Priority)

211	The Pearl: A Mobile/Traveling Arts Resource (Maui	Creative Arts Academy	Y	Technical Assistance (Feasibility Study)	TBD	$330,000	$165,000	TBD
212	Building Communities through the Arts Partnership	Maui Academy of Performing Arts (MAPA)	Y	Public Works	85	$12.0m.	$6.0m.	Coffees of Hawaii and other private and public sources
213	Develop Native Hawaiian Crafts Center	Montana Beach	Y	Public Works	TBD	TBD	TBD	TBD
214	Artist in Residence Program	Akaku	Y	TBD	TBD	TBD	TBD	TBD
215	Planning Grant to Explore Formation of Maui Arts Alliance	Maui Arts Alliance	Y	Technical Assistance (Planning Grant)	TBD	TBD	TBD	TBD

EDA* Y : Yes, Meets EDA Criteria
‡ Estimate based on full project completion

ARTS AND ENTERTAINMENT

Short-Range Priority Projects

201. Center for Hawaiian Culture and Arts

Feasibility study/planning grant for the development of a center for Hawaiian cultural education to ensure the perpetuation of authentic knowledge and skill. CHCA will also support goals/objectives of Visitor Industry cluster as there are currently few quality encounters between “guest” and “host”. It will enhance Maui’s competitive advantage over other travel destinations through the perpetuation of authentic cultural experiences.

202. Restoration of Historic Iao Theater
A recent Community Needs Assessment conducted by the County of Maui concluded that Iao Theater is a 'tremendous asset and is going to be one of the anchors of Wailuku development". Proposed renovations include interior remodeling, repainting, seat replacement, creation of additional space (including storage), upgraded lighting and sound equipment, etc.

203. Feasibility Study for a Multi-Media Production and Training Center
The proposed Center would house state-of-the-art facilities for film, video, broadcast, audio, and theater production. The facility would attract more arts and entertainment projects to Maui and encourage local talent to remain in Hawaii. There would also be linkage to the R&D sector. Further project phases include acquisition of land, construction cost, and job training.

204. Maui Music Makers
Feasibility study/planning grant for showcase for Hawaiian music and performance based on Austin City Limits model. Broadband distribution will capture national and international audience. Project will serve the dual purpose of promoting Maui as a cultural destination and nurturing budding talent.

205. Maui Film Festival Expansion
Marketing study to determine how best to expand coverage and dissemination of information for the Film Festival, and to enhance publicity across the country and beyond.

206. Market Study/Industry Analysis of Potential for Promotion of Maui Arts
The study will analyze strategies for promoting activities and schedules of the Maui arts community to the widest possible audience. Mirroring the broad promotional efforts of HVCB, for example, the intent is to create multiple platforms to inform and provide updates on Maui arts events, shows and initiatives. Outreach and promotion will include nationally- and internationally-respected critics, so that news of the arts in Hawaii will reach a global market through appropriate publications such as Artforum, NY Times, LA Times, and other art publications that cater to serious art collectors.

207. Feasibility Study for Development of Natural Science Museum Maui
Highlighting the uniqueness of the entire Hawaiian archipelago, a museum would attract tourists and students alike. Along with the physical creation of a facility, an interactive, state-of-the-art online interface will be built to provide global access to the museum. The museum will also provide a home for cultural artifacts, stored for safekeeping, while highlighting the geological, environmental and historical aspects of the Islands. Students will be encouraged to participate in natural science projects through interactive programs.

208. Feasibility Study for the Restoration of Moku'ula (West Maui)
An archeological study conducted by the Bishop Museum in 1993 confirmed that an island lies buried beneath a park in Lahaina, a home to Ali'i -- Hawaiian royalty -- and believed to contain the remains of King Kamehameha III's family. Plans for the future include restoring the King's compound and creating an interactive learning center and showcasing local kupuna in oral tradition.

209. Development of IMAX Theater
Construction of mini-IMAX theater proposed at Ma'alaea, possibly in collaboration with Maui Ocean Center. Theater would screen marine-themed films as well as other genres, and feature in the program of the successful Maui Film Festival.

210. Community Theater/Oral History Project
The preparation and production of "Half Dozen Long Stem" community theater project is one of several performances that promote the perpetuation and preservation of Hawaii's local language and culture. Other projects by Talking Stories, such as "Ai! You Stay Hapai!, Koi, Like the Fish, and Ulua: The Musical likewise serve as collections of oral histories as well as performance pieces.

Other Projects

211. The Pearl: A Mobile/Traveling Arts Resource (Maui Creative Arts Academy)
A "youniversity" incorporating cinema, dance, music, visual arts, design, "mathletics", and culinary arts. Service group of 20, initially, growing to 100+ high school students working with mentors.

212. Building Communities through the Arts Partnership
Construction of an educational performing arts complex at the new Waikapu Country Town. Project is a partnership between a MAPA and a private developer. Maui Tropical Plantation will be site of 250-seat performance venue with classrooms and studios (Phase I). Phase II includes a 350-seat theater, classrooms and offices. Phase III includes establishment of a high school for performing arts.

213. Develop Native Hawaiian Crafts Center at Montana Beach, Paia/Baldwin Beach (TBD)

214. Artist in Residence Program at Akaku (TBD)

215. Planning Grant to Explore Formation of Maui Arts Alliance (TBD).

HAWAII STATEWIDE COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY

COUNTY OF MAUI PRIORITY PROJECTS LIST

Targeted Industry Cluster: **Government**

Short-Range: 1-3 Years

ID #	Project	Applicant	EDA *	Project Type	Est. Jobs	Total Est. Cost	Est. Federal Cost	Potential Source of Matching Funds
301	County Management Review Study	County of Maui (suggested)	Y	Technical Assistance (Organizational Development)	TBD	$375,000	$200,000	TBD
302	County Energy Efficiency Audit	County of Maui/Mayor's Office (suggested)	Y	Economic Adjustment	TBD	$200,000	$100,000	County of Maui (suggested)
303	Upgrade County Fire Stations and Police Stations	County of Maui (suggested)	Y	Public Works (Infrastructure Improvement)	20	$2.5m.	$1.25m.	TBD
304	Improvements to County Bus System	County of Maui	Y	Public Works (Expansion)	TBD	$900,000	$500,000	TBD
305	Wailuku Municipal Parking Lot	County of Maui	Y	Public Works (Construction of Facilities/Revitalization)	10	$2.0m.	$1.0m.	Private Sector
306	Upgrade R-1 Water Transmission and Distribution System	County of Maui Department of Environmental Management	Y	Public Works (Infrastructure Improvement)	20	$3.61m	$1.8m.	County of Maui
307	PV Installation Retraining Program for Carpenters	Carpenters Union	Y	Economic Adjustment (Job Training)	TBD	TBD	TBD	TBD
308	Create Alternative High School Teaching Programs	Maui High School (suggested)	Y	Economic Adjustment (Job Training)	TBD	$200,000	$100,000	Department of Education (suggested)
309	Market Analysis of Small Towns as Economic Drivers	TBD	Y	Economic Adjustment (Market Analysis)	TBD	$300,000	$150,000	TBD

Long-Range: 4 to 5 Years

ID #	Project	Applicant	EDA *	Project Type	Est. Jobs	Total Est. Cost	Est. Federal Cost	Potential Source of Matching Funds
310	Build New Haiku Fire Station	County of Maui (suggested)	Y	Public Works (Design, Engineering, Construction)	10	$3.0m.	$1.5m.	TBD
311	Evaluation Study of County of Maui Office Technology Needs	County of Maui (suggested	Y	Technical Assistance (Organizational Development)	TBD	TBD	TBD	TBD

EDA* Y : Yes, Meets EDA Criteria

GOVERNMENT

Short-Range Priority Projects

301. County Management Review Study

Organizational study of government and management structure and operations. Study will specifically review of entitlement process. Conduct survey of IT systems for streamlining and improving the review process.

302. County Energy Efficiency Audit

Energy Efficiency Audit of all County buildings and facilities to assess actual energy consumption, identify potential energy conservation measures, and determine methods and extent of potential energy savings. Audit will include recommendations for economically viable projects with Internal Rate of Return, simple payback data, and financing options.

303. Upgrade County Fire Stations and Police Stations

Upgrade Napili, Paia, and Lanai Fire Stations, and Kaunakakai Police Station.

304. Expand Infrastructural Improvements to County Bus System

The bus system has experienced phenomenal growth over the last few years, with ridership of 2.2 million boarding in FY 2010, compared with 292,000 in FY 2006. Since 2007, the County has added 15 high-capacity buses to meet demand, but higher capacity buses (89-passenger double deckers) are needed to address ridership growth and maximize system efficiency. Also required are additional bus shelters, bus stop turn-outs, and comprehensive new route planning.

305. Wailuku Municipal Parking Lot
Redevelopment of municipal parking lot to expand parking for Wailuku businesses, and allow for increased consumer traffic, benefitting the entire community. Urban revitalization project already has design funds allocated. The parking lot will be leased to a private-sector entity that will provide management function.

306. Upgrade R-1 Water Transmission and Distribution System
R-1 water is tertiary-treated recycled water that can be used without restrictions. Currently, R-1 wastewater reclamation facilities are located in Kihei and Lahaina, and on Lanai, and produce an average of almost 6 million gallons per day. Project would initiate three projects identified by the County of Maui Department of Environmental Management to replace approx. 480 million gallons a day of potable water in Kihei, South Maui by extending the R-1 system. This expansion would benefit 13 properties including the proposed Kihei High School.

307. PV Installation Retraining Program for Carpenters
Retrain Carpenter union members to install PV panels and siding.

308. Create Alternative High School Teaching Programs
Programs aligning education credentials with high-growth business and industry areas. Alternative teaching licenses to be offered to attract specialty teachers (for example in automotive trades and agriculture). Best practices from other States incorporated into pilot program to be tested at Maui High School.

309. Market Analysis of Small Towns as Economic Drivers
Analysis of contribution of small towns to the economy. Study will include commercial redevelopment opportunities, other market opportunities, and development of marketing plan. Existing Wailuku study will serve as a template. Initial analysis will study Makawao, Paia, and Kaunakakai (cost estimate is based on $100,000 per town).

Long-Range Priority Projects

310. Build New Haiku Fire Station
Develop land for creation of new fire station facility.

311. Evaluation Study of County of Maui Office Technology Needs
Efficiency study to evaluate need for technology enhancement within County offices. Project to recommend extent and inventory of updated equipment and technology to County departments to achieve goals.

HAWAII STATEWIDE COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY

COUNTY OF MAUI PRIORITY PROJECTS LIST

Targeted Industry Cluster: **Healthcare**

Short-Range: 1-3 Years

ID #	Project	Applicant	EDA *	Project Type	Est. Jobs	Total Est. Cost	Est. Federal Cost	Potential Source of Matching Funds
401	Development of STD Clinic for Maui County	Maui AIDS Foundation	Y	Technical Assistance (Feasibility Study/Planning Grant/Program Design)	5	$350,000	$200,000	Department of Health, private foundations and individual donors
402	Establish a Health Careers Academy	UH-Maui College and/or Maui Memorial Medical Center (MMMC)	Y	University Center	TBD	$2.5m	$1.25	TBD
403	Demonstration Project for Electronic Medical Records	Maui Memorial Medical Center (MMMC) and/or Community Health Centers	Y	Economic Adjustment Assistance	TBD	$1.0m	$500,000	TBD
404	Maui Healthcare Summit	MEDB (suggested)	Y	Technical Assistance	TBD	$90,000	$50,000	TBD

Long-Range: 4-5 Years

405	Expansion of Healthcare Education/Service programs	UH-Maui College	Y	University Center	TBD	TBD	TBD	TBD
406	Center of Excellence on Aging with Aloha	Coalition on Aging with Aloha	Y	Public Works	TBD	TBD	TBD	TBD
407	Acquire/develop property for Greenhouse Project (Hale Makua)	Hale Makua	Y	Public Works (Site Development)	65	$340,000	$200,000	Hale Makua Foundation

Other Projects (Lower Priority)

ID #	Project	Applicant	EDA *	Project Type	Est. Jobs	Total Est. Cost	Est. Federal Cost	Potential Source of Matching Funds
408	Complete ADRC Project: Aged and Disabled Resource Center	TBD	Y	Technical Assistance (Organizational Development)	TBD	TBD	TBD	TBD
409	Establish a Life Fest Event: Health and Wellness Festival	TBD	Y	Technical Assistance	TBD	TBD	TBD	TBD

EDA* Y : Yes, Meets EDA Criteria

HEALTHCARE

Short-Range Priority Projects

401. Planning and Implementation Grant for Development of STD Clinic for Maui County

Maui AIDS Foundation is the sole comprehensive provider of HIV/AIDS prevention, care and housing services for Maui County. Currently, no other comprehensive sexually transmitted disease (STD) services are provided in the County. This project is a partnership between Maui AIDS Foundation and Malama I Ke Ola Health Center (formerly Community Clinic of Maui), with the goal of providing comprehensive prevention, testing, immunization (Hepatitis A & B) and case management services for people infected or affected by HIV, STDs and/or viral hepatitis. Project includes feasibility study, market analysis of target population(s), clinic plan and design, service delivery platform strengthening (organization and policy development) and program design and preparation, building remodeling, and implementation of the project.

402. Establish a Health Careers Academy

The Academy will provide a link between secondary and post-secondary education, especially for new entrants to the labor force. It will also provide opportunities for rotation in higher education and for further education for institutions statewide. The Health Careers Academy will focus on health careers, medical technology, and science and will offer career laddering (CNA, bachelors, masters, etc.).

403. Demonstration Project for Electronic Medical Records

Project to include rural area outreach via technology.

404. Maui Healthcare Summit
Funding of conference primarily directed at healthcare providers to determine the potential and feasibility of integration. Presentations will include studies of best practices.

Long-Range Priority Projects

405. Expansion of Healthcare Education/Service Programs at UH-Maui College
Program expansion will integrate Education and Service using the model developed with the Campus Health Center and Maui Oral Health Center. The intention of the programs is to focus services in areas of high demand on Maui, including primary care and services to the elderly, uninsured, Medicaid eligible, and those with mental health or substance abuse treatment needs. UH-MC currently has programs in Nursing, Dental Assisting, Dental Hygiene, and Human Services.

406. Establish Center of Excellence on Aging with Aloha
Aging with Aloha Coalition is a coalition of more than 150 people, representing older adults, people with disabilities, consumers, caregivers, the community at large, and an array of organizations including the provider service industry, business development, community action, government, and education. The Coalition's mission is to establish and sustain a comprehensive, coordinated home and community-based model of services for all and to pioneer a social change about what it means to age well. The proposed Center will be located at UH-Maui College and will aim to fulfill this mission.

407. Acquire/develop property for Hale Makua Greenhouse Project (TBD)
Acquisition/development of land for a facility. Project of Maui Long-Term Care Partnership to create a long-term residential care center with a home-like setting, fitted with latest medical technology.

Other Projects

408. Complete ADRC project: Aged and Disabled Resource Center (TBD)
ADRC provides assistance for aging, disability and caregiving, such as with nutrition, housing, transportation, and financing.

409. Establish a Life Fest Event: Health and Wellness Festival (TBD)

HAWAII STATEWIDE COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY

COUNTY OF MAUI PRIORITY PROJECTS LIST

Targeted Industry Cluster: **Recreation & Sport**

Short-Range: 1-3 Years

ID #	Project	Applicant	EDA *	Project Type	Est. Jobs	Total Est. Cost	Est. Federal Cost	Potential Source of Matching Funds
501	Planning Grant for West Maui Marina Complex	TBD	Y	Technical Assistance (Market Analysis)	200‡	$300,000	$150,000	DLNR, DoT (suggested)
502	Sports Sector Market Analysis and Strategic Plan	MEDB (suggested)	Y	Technical Assistance (Market Analysis)	20‡	$150,000	$100,000	MHLA and HTA (suggested)
503	Feasibility Study for Central Maui Sports Complex	County of Maui (suggested)	Y	Technical Assistance (Feasibility Study)	TBD	TBD ($15m.)‡	TBD	TBD
504	Olympic-Quality or Spring Training Facility Feasibility Study	TBD	Y	Technical Assistance (Feasibility Study)	TBD	TBD	TBD	TBD

Long-Range: 4-5 Years

505	Haul-Out Facility at Ma'alaea Harbor	Ocean Tourism Coalition	Y	Public Works (Site Improvement)	50	$3.0m.	$1.5m.	DLNR (Division of Boating and Ocean Recreation

Other Projects (Lower Priority)

506	Ocean Tourism Coalition Market Research Program	Ocean Tourism Coalition	Y	Technical Assistance (Market Analysis)	TBD	TBD	TBD	TBD

EDA* Y : Yes, Meets EDA Criteria
‡ Estimate based on full project completion

RECREATION AND SPORTS

Short-Range Priority Projects

501. Planning Grant for West Maui Marina Complex
The Marina Complex will be developed to serve the recreational and sporting needs of the community and the visitor industry. It will guarantee an emergency wharf in the event that the North Shore harbor, airport and infrastructure are affected by a natural disaster. The land-locked, protected marina (similar to Oahu's Ko 'Olina model) is planned to feature a haul-out facility, several hundred slips, chandlery, restaurants, fueling station, yacht club, and a youth sailing center. The project will fund a market and industry analysis for the design and construction of facilities.

502. Sports Sector Market Analysis and Strategic Plan
In the absence of tracked data relating to the local sports industry and its economic impacts by DBEDT or other agencies, no substantive study has been completed on how the industry contributes to the well-being of the County. A market analysis will be conducted to determine the extent of the sector. A focused strategic plan will be developed for Sports as an economic development driver for Maui County. Facilities, target audiences, funding opportunities, and trends relating to sports will be evaluated.

503. Feasibility Study for Central Maui Sports Complex
Description: Maui County lacks a centrally located sports complex, such as the Central Oahu Regional Park where facilities for several sports are focused. A central location such as Pu'unene or North Kihei would be ideal; both options would involve acquisition of land from HC&S. The complex would include much-needed fields for softball, soccer, and baseball. The feasibility study will assess the possible options.

504. Olympic-Quality or Spring Training Facility Feasibility Study
Study to examine feasibility of creating either Olympic-level training facilities and multi-purpose sports facilities, or a multi-field facility for professional baseball training. Criteria include required investment, economic impacts, and financial sustainability.

Long-Range Priority Projects

505. Haul-Out Facility at Ma'alaea Harbor
Expand ramp per HCR No. 163 (3/13/2002), to enable ocean recreational tour operators to dry dock on Maui.

Other Projects

506. Ocean Tourism Coalition Market Research Program (TBD)

HAWAII STATEWIDE COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY

COUNTY OF MAUI PRIORITY PROJECTS LIST

Targeted Industry Cluster: **Renewable Energy**

Short-Range: 1-3 Years

ID #	Project	Applicant	EDA *	Project Type	Est. Jobs	Total Est. Cost	Est. Federal Cost	Potential Source of Matching Funds
601	MEO Energy Transportation Center with Renewable Energy System	MEO, Inc.	Y	Public Works (Construction of Facilities)	35	$1.3m.	$500,000	County of Maui (suggested); State of Hawaii and Alexander & Baldwin have already committed funds
602	Renewable Energy Resource Center (MEDB) Programs	MEDB	Y	Economic Adjustment (Climate Change Funds)	100 (long-term)	$300,000	$150,000	County of Maui
603	Aligned Sustainable Energy Curriculum and Articulated Career Pathways	Partnership of MEDB, DOE, UH-Maui College, and Department of Labor (suggested)	Y	Economic Adjustment (Job Training)	250 (long-term)	$600,000	$300,000	DoE (suggested)
604	Creation of Sustainable Energy Facility at UH-MC	UH-MC/SLIM (suggested)	Y	University Center/Public Works (Design and Construction of Facilities)	TBD	$1.0m.	$300,000	TBD
605	Algae to Biofuel	TBD	Y	Technical Assistance (Feasibility Study)	40‡	$200,000 ($5m.)‡	$100,000	HC&S (suggested)
606	Develop an Internet-based Renewable Energy Dashboard for Consumer Education	MCEA, County of Maui	Y	Economic Adjustment (Climate Change Funds)	TBD	$90,000	$45,000	TBD
607	Upgrade MECO Grid Infrastructure	TBD	Y	Public Works (Infrastructure Development/Improvement)	TBD	TBD	TBD	MECO
608	Innovative Financing Programs for Small-Scale Energy Projects	MEDB, County of Maui	Y	Economic Adjustment (Industry Analysis)	TBD	$30,000	$15,000	TBD
609	Multi-purpose Renewable Energy Incubator Facility	MEDB (suggested)	Y	Public Works (Construction of Facilities)	50	$2.0m.	$1.0m.	State, County
610	Design and Establish a Network of County Plug-In Parking Lots	County of Maui (suggested)	Y	Public Works (Construction of Infrastructure)	10	$1.5m.	$750,000	TBD

Other Projects (Lower Priority)

ID #	Project	Applicant	EDA *	Project Type	Est. Jobs	Total Est. Cost	Est. Federal Cost	Potential Source of Matching Funds
611	Creation of Maui Sustainable Business Council at SLIM (UH-MC)	Sustainable Living Institute of Maui (SLIM)	Y	University Center	TBD	TBD	TBD	TBD
612	County of Maui Revolving Credit Facility	County of Maui	Y	Economic Adjustment Assistance	TBD	TBD	TBD	TBD
613	Community Bicycle Program	County of Maui	Y	Public Works (Feasibility Study)	TBD	TBD	TBD	TBD
614	Incentive Programs for Companies Installing Solar PV	TBD	Y	Climate Change Funds	TBD	TBD	TBD	TBD
615	Hawaii-Oriented LEED Standards for Energy Efficiency	TBD	Y	Climate Change Funds	TBD	TBD	TBD	TBD
616	Develop Hotel/ Resort Electric Vehicle Program	TBD	Y	Climate Change Funds	TBD	TBD	TBD	TBD

EDA* Y : Yes, Meets EDA Criteria
‡ Estimate based on full project completion

RENEWABLE ENERGY

Short-Range Priority Projects

601. MEO Energy Transportation Center with Renewable Energy System

Maui Economic Opportunity, Inc. (MEO) is developing a new LEED certified Transportation Center to ensure the continuation and improved delivery of needed specialized transportation services on Maui. The incorporation of an alternative energy system – including both PV and wind – is an integral part of the project. The PV system (total cost $1m.) will be 100kW generating approx. 150,000kWh per year and saving $40,500 in energy costs at current rates. The 50kW wind turbine (total cost $300,000) will generate 90,000kWh for a saving of $24,300.

602. Renewable Energy Resource Center (MEDB) Programs

This Center will increase business development and expansion in the sector. The success of Maui County in realizing its competitive advantage in renewable energy initiatives depends on having the infrastructure and the support in place to develop the sector and the Renewable Energy Resource Center is a vital part of the solution. The Center's programs will be developed with relevant partners with the purpose of assisting Renewable Energy initiatives, including small business incubation, research, and projects.

603. Develop Aligned Sustainable Energy Curriculum and Articulated Career Pathways for K-12 Science and CTE (Career and Technical Education)

The Maui County Energy Alliance (MCEA) 2009 report on strategies for implementation of sustainable energy initiatives recommended that aligned sustainable energy curricula be developed that build articulated career pathways through secondary, post-secondary and apprenticeship training. Current best practices and sustainable energy skill sets will be identified, industry partnerships developed, and job-shadowing and experiential field-based and science learning activities offered. Established programs such as Tech Careers and Project East provide cost-effective platforms for the proposed program.

604. Creation of Sustainable Energy Facility at UH-MC

Course offerings to include 4-year Sustainable Science program, retrofit and maintenance courses, in collaboration with MEDB. The facility will be located in the former student housing building, which will be renovated. The Sustainable Living Institute of Maui (SLIM) is currently implementing a number of energy related training programs (certification training programs in energy management and PV) funded by DLIR and ARRA.

605. Algae to Biofuel

Development of a demonstration large-scale, high-output algae farm using a vertical growth system and water recycling system.

606. Develop an Internet-based Renewable Energy Dashboard for Consumer Education

By utilizing innovative web technologies, residents will be involved in the innovative adoption of renewable energy paradigms and conservation measures. Individuals will be encouraged to report life-style changes they have made involving renewable energy and increased conservation. It is proposed that these individual contributions are collected and the totals made available on the web. Discussion groups will be supported to create a forum for sharing individual innovations and strategies. This initiative is based on a recommendation made by a Working Group of the Maui County Energy Alliance (MCEA).

607. Upgrade Maui Electric (MECO) Grid Infrastructure

Upgrades to grid and circuits will accommodate more Renewable Energy and limit curtailments.

608. Innovative Financing Programs for Small-Scale Energy Projects
Best Practices study of municipalities' creative financing mechanisms for renewable energy initiatives (e.g. Berkeley program that allows homeowners to finance their PV systems through the municipality and to then repay the loan as an add-on to their property tax). It is important to help stakeholders understand that a well-designed and well-built clean energy project can be a safe and reliable investment.

609. Construction and Development of Multipurpose Renewable Energy Incubator Facility
This facility will spur the development of renewable energy in Maui County. As an example of use, companies have expressed interest in developing the manufacturing and assembly side of the PV business in Maui County. Intel and SolarWorld own large PV panel manufacturing facilities in Oregon and represent ideal partners for potential on-island second phase assembly. A local plant would provide a reliable source of locally-assembled PV panels. Other renewable technologies would be likewise encouraged.

610. Design and Establish a Network of County Plug-In Parking Lots (TBD)

Other Projects

611. Creation of Maui Sustainable Business Council at SLIM (UH-MC) (TBD)

612. County of Maui Revolving Credit Facility (TBD)

613. Community Bicycle Program. Feasibility Study to assess best practices, options, costs, etc.

614. Incentive Programs for Companies Installing Solar PV (TBD)

615. Develop and Implement Hawaii-Oriented LEED Standards for Energy Efficiency (TBD)

616. Develop Electric Vehicle Program in Partnership with Hotels and Resorts (TBD)

HAWAII STATEWIDE COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY

COUNTY OF MAUI PRIORITY PROJECTS LIST

Targeted Industry Cluster: **Research & Development**

Short-Range: 1-3 Years

ID #	Project	Applicant	EDA *	Project Type	Est. Jobs	Total Est. Cost	Est. Federal Cost	Potential Source of Matching Funds
701	Expand Solar PV Installation at R&T Park	MEDB	Y	Public Works (Improvement)/Climate Change Funds	12	$2.0m.	$1.0m.	Department of Energy (suggested)
702	Incentive Program to Stimulate Academic/ Business Collaboration	TBD (IUE -- International Underwater Explorations)	Y	Economic Adjustment	20	$1.5m.	$1.0m.	DBEDT, ARRA funds (suggested)
703	Longitudinal Study of Maui County STEM students	MEDB	Y	Economic Adjustment (Industry Analysis)	TBD	$75,000	$37,500	County of Maui, private sources
704	Feasibility Study for Incubator and Business Center to Support Native Hawaiian Businesses	TBD	Y	Technical Assistance (Feasibility Study)	TBD	$150,000	$75,000	TBD
705	Marketing Plan for Attracting Science and Tech Meetings to Maui	MEDB	Y	Technical Assistance (Marketing Plan)	TBD	$75,000	$37,500	County of Maui

Long-Range: 4-5 Years

706	Feasibility Study for Solar Desalination/ Water Purification Plant in R&T Park	TBD	Y	Technical Assistance (Feasibility Study)	TBD	$125,000	$100,000	County of Maui Dept. of Water Supply, ARRA funds (suggested)
707	Feasibility Study for New STEM School in the R&T Park	TBD	Y	Technical Assistance (Feasibility Study)	TBD	TBD	$100,000	Department of Education, ARRA (suggested)

ID #	Project	Applicant	EDA *	Project Type	Est. Jobs	Total Est. Cost	Est. Federal Cost	Potential Source of Matching Funds
708	Multimedia Conference Center	TBD	Y	Public Works (Design and Construction)	TBD	TBD	TBD	TBD
709	Support Relocation of Solar Scientists to Maui	TBD	Y	Economic Adjustment	TBD	TBD	TBD	TBD
710	Study: Development of Ultra-High Speed Broadband	TBD	Y	Technical Assistance (Industry Analysis)	TBD	TBD	TBD	TBD

Other Projects (Lower Priority)

711	Establish Science and Technology Museum	TBD	Y	Public Works	TBD	TBD	TBD	TBD
712	Kama'aina Come Home Program (MEDB)	MEDB	Y	Economic Adjustment	20	$80,000	$40,000	County of Maui, private sources
713	Establish a Cafeteria/ Social Space for the R&T Park	TBD	Y	Public Works	TBD	TBD	TBD	TBD
714	Feasibility Study: Leveraging UARC Status	County of Maui (suggested)	Y	Technical Assistance (Feasibility Study)	TBD	TBD	TBD	TBD
715	Expand University-Level Programs at R&T Park	TBD	Y	Technical Assistance	TBD	TBD	TBD	TBD

EDA* Y : Yes, Meets EDA Criteria
‡ Estimate based on full project completion

RESEARCH & DEVELOPMENT

Short-Range Priority Projects

701. Expand Solar PV Installation at Research & Technology Park

The MEDB *Ke Alahele* Building in the R&T Park in Kihei has one of the largest rooftop PV systems in Maui County. Additional PV installation in the Park will reduce energy costs and defray business incubation costs for start-up R&D companies. The project will

include a large-scale PV storage component to test power conditioning and spinning reserve capacity and a research component to demonstrate the capabilities of a smart grid within the Park that supplies MECO with firm power.

702. Incentive Program to Stimulate Academic/Business Collaboration
Currently, there is a lack of sufficient incentive for higher education institutions such as UH to collaborate with small business. R&D projects involving an ongoing process (e.g. undersea cable/permitting) will be incentivized to encourage collaboration, benefiting all sides and resulting in improved information and job creation.

703. Longitudinal Study of Maui County STEM students
Study would follow cohorts of high-school students as they graduate and pursue college opportunities or enter the workforce. There is significant out-migration of Maui residents in the 18-29 age group, and data on their location, occupation, and sectoral activity, as well as those remaining on-island, would be beneficial in assessing educational provision and needs, and workforce preparation. Data would also assist in business attraction and retention.

704. Feasibility Study for Incubator and Business Center to Support Native Hawaiian Businesses
Conduct feasibility study.

705. Develop Marketing Plan for Attracting Science and Technology Meetings to Maui
Plan will seek to increase the number of strategic business and science/technology meetings in Maui County. Sectors targeted will align with those identified as priorities in the CEDS.

Long-Range Priority Projects

706. Feasibility Study for Solar Desalination/Water Purification Plant in Research & Technology Park
Feasibility Study will assess logistics, design considerations, supply data, and costs for an innovative solar water system to supply the R&T Park and allow for expansion. The system could also supply surrounding areas (for example, including the planned adjacent High School). The innovative system will follow the precedent set by the Point Paterson desalination plant in South Australia (designed to supply a community of over 30,000).

707. Feasibility Study for New STEM (Science, Technology, Engineering, Math) School in the Research and Technology Park
Feasibility study including possible integration with proposed new Kihei High School on adjacent property.

708. Multimedia Conference Center
Center will provide connectivity between Economic Development Boards in Hawaii and mainland and serve as a Classified Meeting Facility offering security to DoD contractors. The Center could incorporate functions proposed for the Multi-Media Production and Training Center (see Arts and Entertainment projects), and provide incubation space.

709. Support Relocation of Solar Scientists to Maui
The Advanced Technology Solar Telescope (ATST), a project of the National Science Foundation, will be located on the summit of Haleakala on Maui. ARRA funds will be used in part to fund the project. Assistance is sought to support the relocation of scientists to Maui to work on the project.

710. Study for Development of Ultra-High Speed Broadband
To enhance the ability of Maui County to develop a state-of-the-art Research & Development sector, a study will determine strategies for improving connectivity, including feasibility of locating a demonstration project by servers such as Google, etc.

Other Projects

711. Science and Technology Center Museum
Museum for community education, for visitors and residents.

712. Kama'aina Come Home Program (MEDB)
Outreach program to recruit and network with kama'aina (those of Hawaiian heritage) located on the mainland and beyond.

713. Establish a Cafeteria Space for the Research & Technology Park (TBD)

714. Feasibility Study: Leveraging UARC (University Affiliated Research Center) Status
Study to determine how County of Maui can leverage UARC status.

715. Expand University-Level Programs at Research & Technology Park (TBD)

HAWAII STATEWIDE COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY

COUNTY OF MAUI PRIORITY PROJECTS LIST

Targeted Industry Cluster: **Visitor Industry**

Short-Range: 1-3 Years

ID #	Project	Applicant	EDA *	Project Type	Est. Jobs	Total Est. Cost	Est. Federal Cost	Potential Source of Matching Funds
801	Visitor Industry Training	Maui Hotel & Lodging Association (MHLA)	Y	Economic Adjustment (Job Training)	ψ	$60,000	$30,000	TBD
802	Market Research Study of High-Spending Visitors	Maui Visitors Bureau (suggested)	Y	Technical Assistance (Industry/Market Analysis)	TBD	$30,000	$15,000	TBD
803	Analysis of the Role of the Visitor Industry in Economic Development	County of Maui (suggested) and Maui Hotel & Lodging Association (MHLA)	Y	Technical Assistance (Industry/Market Analysis)	ψ	$190,000	$100,000	TBD
804	Marketing Development for China and Korea	MVB (suggested)	Y	Technical Assistance (Market Analysis)	TBD	$150,000	$75,000	TBD
805	Kahului Airport Improvement	TBD	Y	Public Works (Construction/ Infrastructure)	800	$3.0m.	$1.5m.	State and Federal DoT
806	Market Analysis of Maui's Tourist Attractions and Visitor Sites	County of Maui (suggested)	Y	Technical Assistance (Market Analysis)	TBD	TBD	TBD	TBD

Other Projects (Lower Priority)

807	HOST Lab Work Experience Program	UH-Maui College (suggested)	Y	Economic Adjustment (Job Training)	TBD	TBD	TBD	TBD

EDA* Y : Yes, Meets EDA Criteria
‡ Estimate based on full project completion
Ψ Net Job Retention

VISITOR INDUSTRY

Short-Range Priority Projects

801. Visitor Industry Training
There is a strong need for authentic Host Culture training for managers and employees in the visitor industry. The Maui Hotel & Lodging Association (MHLA) proposes to launch a workforce development leadership training program with the Native Hawaiian Hospitality Association (NaHHA). This program honors NaHHA's mission to promote Hawaiian culture, values, and traditions in the workplace through consultation and education, and to provide opportunities to shape the future of tourism.

802. Market Research Study of High-Spending Visitors
Given Maui's reputation as a high-end visitor destination, and with a limited inventory of airline seats and hotel rooms, it is imperative to gather data on the market segment of visitors that spend an above-average amount per day/per visit. Data will include region or place of origin, spending patterns, resort/hotel/activity preferences, etc. and how to better market Maui to increase visitors by 5%.

803. Analysis of the Role of the Visitor Industry in the Economic Development of Maui County
The analysis will strive to establish the role of the visitor industry within our community's economic, social, and environmental structure, and evaluate its values and goals. It will develop strategies for the sustainability of the industry, taking into account public perceptions, thereby enhancing community support and participation and developing a seamless flow of communication with stakeholders. The analysis will also include strategies for increased industry involvement in community initiatives.

804. Marketing Development for China and Korea
Two-part project to (a) develop website in Korean and Chinese for destination marketing, and (b) conduct marketing analysis to attract more visitors from Korean and China.

805. Kahului Airport Improvement
Construct adequate facilities for Customs and Immigration (Border Protection) to accommodate direct flights to Maui from Asia.

806. Market Analysis of Maui's Tourist Attractions and Visitor Sites
Analysis will include an inventory of natural attractions and sites and recommend renovations and improvements where appropriate. For example, improving access, signage, and bathroom facilities, and improving safety.

Other Projects (Lower Priority)

807. HOST Lab Work Experience Program (UH-Maui College)

Program to provide students with "live" hotel operations experience, to be better prepared to meet workforce needs. Program will work with industry partners and will be located in former student housing facility, *Hale Haumana*.

HAWAII STATEWIDE COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY

COUNTY OF MAUI PRIORITY PROJECTS LIST

Targeted Industry Cluster: **Hana**

Short-Range: 1-3 Years

ID #	Project	Applicant	EDA *	Project Type	Est. Jobs	Total Est. Cost	Est. Federal Cost	Potential Source of Matching Funds
901	Planning Grant for Development of Mahele Farm	Kahanu Garden (National Tropical Botanical Garden)	Y	Public Works (Site Improvement), Job Training	3	$250,000	$125,000	Grant award (Social Currency, pending); In-kind (Kahanu Gardens, Ma Ka Hana Ka 'Ike), and others TBD
902	Hana Commercial Fishing Processing Facility	TBD	Y	Public Works (Construction of Facilities)	TBD	$1.5m.	$750,000	USDA, and others TBD
903	Medicinal Plant Project	TBD	Y	Technical Assistance	TBD	TBD	TBD	TBD
904	Installation of Solar Domestic Hot Water Systems	County of Maui (suggested)	Y	Climate Change Funds/ Public Works (Improvements)	12	$375,000	$187,500	MECO and others TBD
905	Expand Hale Hulu Mamo (Senior Care)	Hale Hulu Mamo	Y	Public Works (Construction of Facilities)	TBD	$1.0m.	$500,000	TBD
906	Job Training for Youth in PV Solar Installation and Related Trades	Ma Ka Hana Ka 'Ike ("In Working, One Learns")	Y	Climate Change Funds/ Economic Adjustment	7 F-T plus 30 P-T	$667,000	$250,000	Hau'oli Mua Loa Foundation ($150,000 secured), Hawaii Community Foundation/ Cannon Fund ($15,000 secured); Kamehameha Schools, Boys and Girls Club
907	Development and Implementation of Authentic Cultural Performance	Hana Arts	Y	Economic Adjustment (Innovative Economic Development)	45 P-T	$80,000	$40,000	County of Maui (suggested), MVB

Long-Range: 4-5 Years

ID #	Project	Applicant	EDA *	Project Type	Est. Jobs	Total Est. Cost	Est. Federal Cost	Potential Source of Matching Funds
908	Demonstration Forestry Projects	TBD	Y	Economic Adjustment	TBD	TBD	TBD	TBD
909	Hana Processing Plant	TBD	Y	Public Works (Construction of Facilities)	TBD	TBD	TBD	TBD
910	Wastewater System for Hana Town Center	County of Maui (suggested)	Y	Public Works (Construction)	TBD	TBD	TBD	TBD
911	Hana Medical Center Expansion	Hana Health	Y	Public Works (Construction of Facilities)	20	$15.0m	TBD	State and CDGB (Community Development Block Grants)
912	Demonstration Ethanol Fuel Plant and Filling Station	Kipahulu Ohana (nonprofit)	Y	Public Works (Land Acquisition and Development)	10	$1.0m.	$500,000	TBD
913	Development of Hana Market Place	TBD	Y	Public Works	TBD	TBD	TBD	TBD

EDA* Y : Yes, Meets EDA Criteria
‡ Estimate based on full project completion

HANA

Short-Range Priority Projects

901. Agriculture: Planning Grant for Development of Mahele Farm
Mahele Farm is located on the 170-acre property belonging to Kahanu Garden. The project is a partnership between Kahanu Garden, Ma Ka Hana Ka ʻIke (non-profit), Hana High School, and Hana Elementary School, with the goals of providing farming and life skills for youth, promoting self-sufficiency and sustainability, perpetuating rural traditions, and benefiting the community through local food production. Project includes farm plan and design, land clearing and preparation, infrastructure installation, and planting.

902. Agriculture: Hana Commercial Fishing Processing Facility
Storage facility including refrigeration and processing plant for commercial fishermen.

903. Agriculture: Medicinal Plant Project
Equipment and technical assistance for production of medicinal plant and herb products, including kawa.

904. Government: Pilot Project for Installation of Solar Domestic Hot Water Systems
Purchase and installation of 100 passive solar 50-gallon hot water collectors in Hana's main residential subdivision. Cost of units is substantially reduced by bulk purchase (up to $1,000 per $4,500 unit). Installation to be done by students enrolled in the Trade Program at Hana High School. Program will allow residents to purchase reduced-cost units outright or repay in small monthly installments. A 60% savings in energy costs will be realized by the program.

905. Expand Hale Hulu Mamo
Development of additional senior housing units utilizing State property.

906. Renewable Energy: Job Training for Youth in PV Solar Installation and Related Construction Trades
Renewable energy installation and sustainable construction skills training program for at-risk youth. Applicant agency has proven track record in community projects and youth training (for example, 12 on-campus facilities, 9 collaborative building projects with other non-profits,18 kapuna cottages, over 30 ramps and handicap-access improvements, etc).

906. Visitor Industry (Arts and Entertainment): Mo'olelo O Maui
Development and implementation of a high-quality weekly authentic performance aimed at visitors. Hana Arts, a local nonprofit organization, has created an original script, derived from Hawaiian legends, to be performed by Hana's youth and Hawaiian families, in an outdoor venue in Hana. This 1½-hour performance can be presented on a weekly basis, to support economic opportunity in creating jobs for cast, crew and staff members of an ongoing "Polynesian Show". This project also addresses the needs of education and entertainment opportunities for tourism.

Long-Range Priority Projects

907. Agriculture: Demonstration Forestry Projects
Demonstration forestation and reforestation initiatives especially for sustainable and/or native woods (bamboo, koa, jatropha, etc.).

908. Agriculture: Hana Processing Plant
Development of processing plant for noni, awa, and other value-added agricultural products.

909. Government: Wastewater System for Hana Town Center
Construction of central sewer system for future Town Center development.

910. Healthcare: Hana Medical Center Expansion

Construction of a modern medical facility designed to meet the primary healthcare needs of the Hana district population, a majority of which is low- and moderate-income. The facility will house medical and urgent care services, dental, behavioral, and mental health services, as well as enabling and support services. Assessment is currently being made to determine whether the existing medical center building can be renovated and expanded or whether a new facility will be required. Hana Health is the only medical center in the district of Hana which hosts 600,000 visitors a year. It is expected the Center will serve approx. 1,700 patients annually, who will account for approx. 8,000 visits.

911. Renewable Energy: Demonstration Ethanol Fuel Plant and Filling Station

Design and construction of a demonstration ethanol distillation plant that will convert locally-grown bio-feedstock into alcohol fuel. Hana is the ideal test-bed location because of its geographic isolation, high biomass productivity, and existing cost of fuel. Small and medium-scale ethanol distillation systems (30 to 400 gallons per day) are now available (e.g. Blume Distillation). Land acquisition and site development will precede development of plant.

912. Visitor Industry: Development of Hana Market Place

Design and construction of facility in Hana Town Center that offers local arts and crafts vendors a location to market their products.

HAWAII STATEWIDE COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY

COUNTY OF MAUI PRIORITY PROJECTS LIST

Targeted Industry Cluster: **Lanai**

Short-Range: 1-3 Years

ID #	Project	Applicant	EDA *	Project Type	Est. Jobs	Total Est. Cost	Est. Federal Cost	Potential Source of Matching Funds
1001	Lanai Agriculture Project	TBD	Y	Economic Adjustment (Technical Assistance)	TBD	$500,000	$250,000	TBD
1002	Lanai Farm Meat Processing and Inspection Facility	TBD/Filipino Council Association or Lanai Vision Club (suggested)	Y	Public Works (Construction of Facilities)	10	$500,000	$250,000	USDA, Rural Business Development Grants, ARRA, SBA
1003	Lanai Agricultural Strategic Plan	TBD	Y	Technical Assistance (Market Analysis)	TBD	$150,000	$75,000	USDA, Rural Business Development Grants (suggested)
1004	Cultural Enhancement Planning	TBD	Y	Technical Assistance (Planning Grant)	50	TBD	TBD	TBD
1005	Visual, Craft, Performing and Digital Arts Center	TBD	Y	Public Works	TBD	TBD	TBD	TBD
1006	High Capacity Broadband	TBD	Y	Public Works (Infrastructure Improvement)	15	$1.0m.	$500,000	TBD
1007	Tri-Lanai (Off-Road Sprint Triathlon)	Tri Lanai (nonprofit)	Y	Economic Adjustment (Innovative Economic Development)	3	$50,000	$25,000	Corporate sponsorship (e.g. Castle & Cooke) and others TBD
1008	Solar Hot Water Heater Program	TBD	Y	Climate Change Funds/Public Works	20	$2.5m	$1.25m.	Castle & Cooke and others TBD
1009	Paid Student Internships and Work Experience	TBD	Y	Economic Adjustment (Job Training)	20	$300,000	$150,000	TBD

Long-Range: 4-5 Years

ID #	Project	Applicant	EDA *	Project Type	Est. Jobs	Total Est. Cost	Est. Federal Cost	Potential Source of Matching Funds
1010	Highway Construction	TBD/County of Maui (suggested)	Y	Public Works (Infrastructure)	50	$20.0m	$10.0m.	Castle & Cooke, DoT
1011	Land Acquisition and Development for College Campus	TBD	Y	Public Works (Land Acquisition and Development)	TBD	TBD	TBD	TBD
1012	Development of New Federally Qualified Health Center	TBD	Y	Technical Assistance (Planning Grant)	TBD	$200,000	$100,000	TBD
1013	Commercial Harbor Improvements	TBD	Y	Public Works (Infrastructure)	20	$4.0m.	$2.0m.	Castle & Cooke, State and Federal DoT
1014	Airport Runway Expansion	State DoT (suggested)	Y	Public Works (Infrastructure)	50	$20.0m.	$10.0m	DoT, Castle & Cooke (suggested)

EDA* Y : Yes, Meets EDA Criteria
‡ Estimate based on full project completion

Short-Range Priority Projects

1001. Agriculture: Lanai Agriculture Project
Open up existing agricultural lands to local growers and value-added agricultural producers, providing technical assistance and training to support business development.

1002. Agriculture: Lanai Farm Meat Processing and Inspection Facility
Development of needed sustainable local nonprofit business to supply local economy and to market off-island. Processing and inspection will include venison, beef, and lamb products. Project will include an educational component to educate youth in agriculture and farming.

1003. Agriculture: Lanai Agricultural Strategic Plan
Preparation of a comprehensive agricultural plan including identification of priorities will help further self-sufficiency and economic development in this sector.

1004. Culture and Environment: Cultural Enhancement Planning
Development and implementation of comprehensive community plan to preserve and restore land for specific cultural projects. These will include canoe building, construction of traditional structures to serve as cultural venues, restoration of UNESCO Heritage sites and National Register sites, and development of Lanai Culture and Heritage Museum.

1005. Culture and Environment: Visual, Craft, Performing and Digital Arts Center
Development of film, video and production center on Lanai using the natural environment and existing structures on Lanai for sets. These resources have already been accessed for the recent filming of "The Tempest" (Helen Mirren) and various oral histories and advertising projects. Several residents have previously worked with major film studios or have completed the Manoa Creative Arts Degree.

1006. Information Systems: High Capacity Broadband
Fund "last mile" submarine fiber optic cable at Manele Boat Harbor to connect Lanai City, Manele and all areas of Lanai served by WaveCom Solutions (formerly Pacific LightNet). **Note: This is regarded by the community as a top priority.**

1007. Recreation and Sports: Tri-Lanai (Off-Road Sprint Triathlon)
Establish the premier athletic event for Lanai on a regular basis (the inaugural event was held in October 2009). The purpose of the event is to stimulate the local economy; promote fitness and active lifestyles; and to serve as a fundraiser for local charitable organizations.

1008. Renewable Energy: Solar Hot Water Heater Program
Install solar water heaters in every home on Lanai.

1009. Small Business: Paid Student Internships and Work Experience
Provide paid internships and employment opportunities for high school youth, especially over the summer and during Spring/Fall break.

Long-Range Priority Projects

1010. Construction: Highway Construction
Build paved 17-mile highway along northeast coast of Lanai, providing access to beaches and potential residential areas.

1011. Education: Land Acquisition and Development for College Campus
The community has expressed great concern over the lack of educational opportunities locally and the resulting out-migration of Lanai youth. A college campus would also spur desirable economic development in this cluster.

1012. Healthcare: Planning Grant for Land Acquisition and Development for New FQHC (Federally Qualified Health Center)
Study will recommend acquisition of property and develop strategic plan for a new Federally Qualified Health Center on Lanai.

1013. Transportation: Commercial Harbor Improvements
Improvements to include: Repair of condemned sections of harbor and seawall; underpin nonbearing piles; upgrade fender system; install winches; post load limits; dredge channel bottom.

1014. Transportation: Airport Runway Expansion
Extend runway to accommodate larger jets to fly directly to Lanai.

HAWAII STATEWIDE COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY

COUNTY OF MAUI PRIORITY PROJECTS LIST

Targeted Industry Cluster: **Molokai**

Short-Range: 1-3 Years

ID #	Project	Applicant	EDA *	Project Type	Est. Jobs	Total Est. Cost	Est. Federal Cost	Potential Source of Matching Funds
1101	Molokai Agricultural Strategic Plan	TBD	Y	Technical Assistance (Market Analysis)	TBD	TBD	TBD	USDA, Rural Business Development Grants (suggested)
1102	Reforestation: Windbreak Planting	TBD	Y	Public Works (Land Development)	10	$2.0m.	$1.0m.	USDA – Rural Development
1103	Molokai Apprenticeship Programs	TBD	Y	Economic Adjustment (Job Training)	TBD	$250,000	TBD	RDP
1104	Pala'au Park Planning Study	TBD	Y	Technical Assistance (Planning Study)	TBD	TBD	TBD	TBD
1105	Transportation Alternatives	TBD	Y	Technical Assistance (Market Analysis)	TBD	TBD	TBD	TBD
1106	Waikolu Valley Restoration	Homesteaders Association	Y	Public Works (Site Improvement)	TBD	$400,000	$200,000	TBD
1107	Fishpond Restoration	TBD	Y	Public Works (Site Improvement)	TBD	$125,000	$250,000	TBD
1108	Molokai Shoreline Management Plan	TBD	Y	Public Works (Site Improvement/Land Development)	TBD	TBD	TBD	TBD
1109	Malama Park Cultural Center	TBD	Y	Public Works (Site Improvements/Construction of Facilities)	TBD	$3.0m.	$1.5m.	TBD

Long-Range: 4-5 Years

ID #	Project	Applicant	EDA *	Project Type	Est. Jobs	Total Est. Cost	Est. Federal Cost	Potential Source of Matching Funds
1110	Aka'ula School Small Business Incubator and Enterprise Facility	Aka'ula School	Y	Economic Adjustment (Technical Assistance)	TBD	TBD	TBD	TBD
1111	Job Training Programs	TBD	Y	Economic Adjustment (Job Training)	TBD	TBD	TBD	DOL, RDP
1112	Molokai Brownfield Cleanup and Redevelopment	Molokai Community Service Council	Y	Public Works (Land Acquisition/Development of Land for Facility)	TBD	$3.0m.	$1.5m.	EPA, USDA—RD, RED.

EDA* Y : Yes, Meets EDA Criteria
‡ Estimate based on full project completion

Short-Range Priority Projects

1101. Agriculture: Molokai Agricultural Strategic Plan
Agriculture is a key driver of Molokai's economy with at least 300 individuals working in the sector. The community is in accord that the sector offers economic development opportunities. This project involves the preparation of a comprehensive agricultural plan for Molokai and implementation of priority short-term projects. Planning process will include a community conference to consider options and articulate recommendations.

1102. Agriculture: Reforestation: Windbreak Planting
Windbreak planting on Molokai's central plains to control the heavy winds affecting the productivity of prime agricultural lands.

1103. Education: Molokai Apprenticeship Programs
Fund apprenticeship programs in construction, clerical, agriculture, basic computer, maintenance, hospitality, etc. to build capacity that can support workforce needs in these sectors.

1104. Infrastructure: Pala'au Park Planning Study
Planning process to develop this 250-acre Department of Hawaiian Homes forest overlooking Kalaupapa (North Shore peninsula and location of settlement for Hansen's Disease survivors). The Kalaupapa Lookout is located in this park. The DLNR lease expires in 2012, and Molokai homesteaders have put the park in their regional plan. It is proposed to design cultural activities as well as tourist activities pertaining to Kalaupapa as part of the regional plan. This would give a much needed funding stream to Molokai Homesteaders, as well as the advancement of their culture.

1105. Infrastructure: Transportation Alternatives
Study to explore new alternatives for transportation links (air and sea) between Molokai and other areas and markets.

1106. Subsistence: Waikolu Valley Restoration
Waikolu Valley is part of the Kalaupapa National Park, and part of KNP's planning process. This restoration project allow homesteaders to live in the valley to clear the invasive species, document historic sites, restore the taro terraces and plant taro. The National Park Service has given verbal support for this project, as they are leasing DHHL lands for the park, and need to show benefits to Hawaiian Homesteaders. Plans and proposals have been submitted to NPS for approval.

1107. Subsistence: Fishpond Restoration
Molokai has the longest contiguous reef system in the United States with over 60 Hawaiian Fishponds averaging 20 acres per pond. These are cultural treasures, some of which are over 700 years old, in need of restoration. The fishponds are the only ocean leases allowed on the shoreline of Hawaii, and each pond has a tax map key number. These ponds can be used to raise fish, limu (edible seaweed), clams, oysters, live rock etc. and represent a great aquaculture potential. Besides income, these ponds are great educational tools to teach land stewardship, math, and science to future generations.

1108. Subsistence: Molokai Shoreline Management Plan
Subsistence is an important component of the economy on Molokai, and the need to keep the resources such as fish and deer sustainable is a priority. Molokai is a statewide leader in shoreline management demonstration projects. An Island-wide shoreline management plan is needed, and this project would help to guarantee subsistence resources for future generations.

1109. Visitor Industry/Subsistence: Malama Park Cultural Center
Malama Park, located on the ocean in Kaunakakai between the downtown commercial area and the wharf, has existing basic infrastructure. This second-phase project, which is supported by the community, would create a living cultural park and visitor center for Molokai. It would include construction of a canoe *hale*, *hula halau*, a space to accommodate arts and crafts vendors, and a visitor center. Plans have already been drawn up by DBEDT.

Long-Range Priority Projects

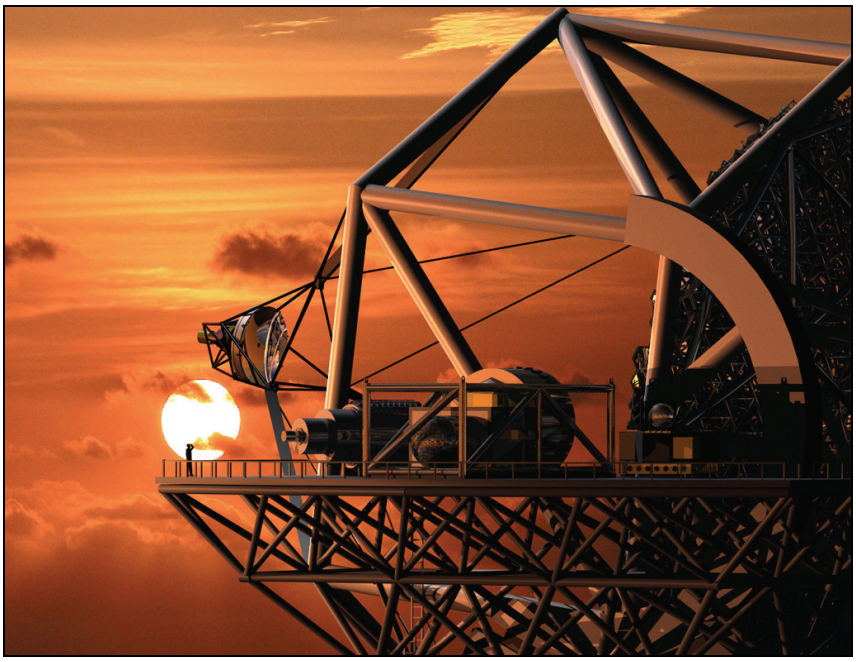
1110. Education: Aka'ula School Small Business Incubator and Enterprise Facility
The purpose of the project is to provide funding, technical assistance, and training for student-designed private business enterprise. The project will support development of small and emerging private business enterprises in the rural Molokai economy. Technical assistance and training will be provided to Aka'ula School to build the school's capacity to engage in enterprise activities to support the school's educational program.

1111. Education: Job Training Programs
Provision of job training programs and demonstration projects to train (or retrain) workforce for jobs in environmental restoration, aquaculture, agriculture, soil remediation, and alternative energy production.

1112. Infrastructure: Molokai Brownfield Cleanup and Redevelopment
Acquisition and redevelopment of a 1.5-acre site in downtown Kaunakakai. The site was formerly used for over 50 years by Molokai Electric for an electricity generation plant until relocation in 1983. In 2001, the EPA funded a Brownfield Site Assessment that showed ground contamination. Remediation will be necessary. This project will be redeveloped as a community gathering place, incorporating renovated existing buildings, with landscaping and car park space. Buildings will house small businesses, a flexible market space, meeting rooms, offices, a media incubator, and a commercial kitchen.

CHAPTER 5

HAWAII ISLAND



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COUNTY OF HAWAI`I

The preparation of the Hawai`i Island component of the Statewide Comprehensive Economic Development Strategy (CEDS) was done concurrently with the update of the Hawai‘i County CEDS.

We would like to take this opportunity to thank the following persons, organizations, and businesses for their contribution in the CEDS process. Contributors to the Hawai‘i County CEDS report include and are not limited to:

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COUNTY OF HAWAI`I CEDS PROCESS

The Hawai`i County CEDS report demonstrates the county's strategic planning process to provide a framework for recommending projects for Economic Development Administration (EDA) funding. The 2010 update of the CEDS is offered by the Hawai'i Island Economic Development Board (HIEDB). HIEDB is a 501(c)(3) membership-based private sector nonprofit organization whose mission is to provide and promote private sector support and expertise for balanced growth in Hawai'i County in partnership with Federal, State, County and private resources.

In developing this update, HIEDB worked closely with the County of Hawai`i Department of Research and Development, community and business leaders, and other stakeholders

Community Participation in the CEDS Process

Community input into the development of the Hawai`i County CEDS was achieved through the incorporation of past planning efforts, community advisory groups, interviews and focus groups. A series of public workshops and discussion sessions in all quadrants of the county were held to receive the most expansive input from businesses, organizations and community leaders. Emerging industries and cluster industries for strategic economic development include:

- Agriculture
- Visitor Industry (Heritage Tourism, Cruise Industry, Eco-Tourism)
- Science and High Technology
- Education
- Health and Wellness
- Energy Development, Efficiency and Renewables
- Housing and Resort Development

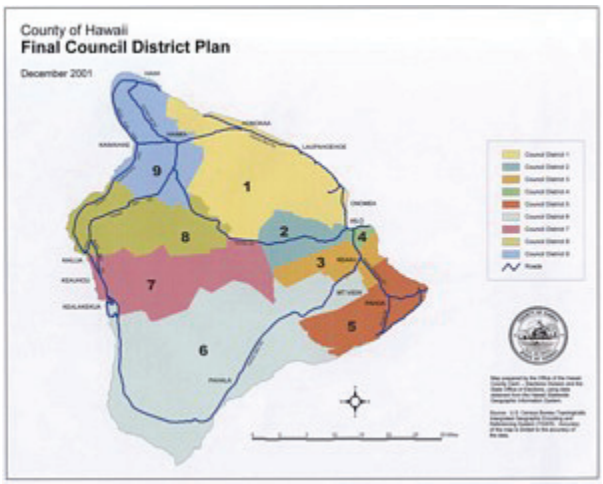
CEDS Focus Groups and Interviews

Focus and stakeholder group meetings and individual interviews included community and business leaders, students, kupuna, elected officials, representatives of County, State, and Federal agencies. Twelve meetings were convened during January through June of 2010. In addition to input from focus groups, twenty-five (25) interviews with targeted and emerging industry and community leaders were conducted to receive valuable input into the CEDS process. Jacqui Hoover, Executive Director and Jacqueline "Skylark" Rosetti, Senior Program Manager of HIEDB also made presentations and spoke with numerous civic, professional and community groups, and also attended and participated in workshops, seminars, and other professional venues to stimulate discussion of economic development for Hawai`i County.

HAWAI`I COUNTY ECONOMIC BACKGROUND & HISTORY

County Profile

The County of Hawai`i is the largest county, by land area, in the State of Hawai`i. Hilo is the government seat with satellite offices in Kailua Kona and Waimea. However, population growth, construction projects, and tourist activity is higher in the Kailua Kona-South Kohala corridor. Since 2007, Hawai`i County has experienced a downturn in tourism that was beginning to show signs of recovery in mid-2010.



Source: County of Hawai`i: Maps updated 05/29/2009

Population, Education and Economic Composition

In 2009, the US Census Bureau estimated the Hawai`i County population at 177,835. From 2000 to 2009, the Hawai`i county population increased 19.6%. The main population centers within the county include Hilo, Kona, Waimea, Kohala, and Puna.

Hawai`i County boasts a multi-ethnic population. The county has a plurality of Caucasian (38.6%), Asian (23.5%), Native Hawai`ian and other Pacific Islander (11.2%), Hispanic or Latino origin (11.7%), persons reporting two or more races (25.0%), White persons not Hispanic (33.9%)

Eighty-four per cent (84%) of persons 25 years and older are high school graduates. Twenty-two percent (22.1%) of the same population hold a Bachelor's degree or higher. Approximately 20% of households speak at least two languages, English included, in the home.

Approximately 13.3% of the population of Hawai`i County lives below the poverty level compared to 9.3% for the state of Hawai`i. The median household income, in 2008, was $51,402.00 compared to the state of Hawai`i, $66,701.00. In 2009, the unemployment rate in Hawai`i County was 10.9% compared 9.3% for the state of Hawai`i.

Hawai`i County economy is comprised of over 4,200 businesses supporting approximately 58,000 jobs.

EXECUTIVE SUMMARY

The global recession and increases in fuel prices are major factors contributing to the decrease in tourism and visitor arrivals to Hawai`i Island. The increase in air fuel prices directly impacted visitor arrivals. In 2008 both ATA and Aloha Airlines ceased operations. In 2009 GO! and Mokulele Airlines merged operations and Japan Airlines announced its proposed discontinuation of flights to Kona International Airport. Hawai`i County unemployment ballooned to 12% in September 2009 and in April 2010 the unemployment rate was 9.5%.

Accomplishments since 2004

Although Hawai`i County has been profoundly affected by the loss in tourism, construction jobs, high unemployment and economics-driven elimination of programs to support vulnerable populations, numerous accomplishments have taken place which can be built upon to create jobs and a brighter future for the island's population.

Visitor Industry (Heritage Tourism and Cruise Industry)

- Cultural events continue to enhance the life of Hawai`i County residents while simultaneously attracting and broadening understanding by visitors as demonstrated in part by high attendance and participation in events such as Merrie Monarch, Haili Volleyball tournament, State of Hawai`i Canoe Paddling Championship (2009)
- While visitor numbers have decreased during the recession, 61.8% were repeat visitors
- Visitors staying exclusively on Hawai`i Island increased 2.3%

Agriculture

- Diversified agriculture and aquaculture
- An increase in Farmer's Market business in each quadrant of the county providing affordable fruits, vegetables, plants and health products for local residents
- The coffee industry is growing throughout Hawai`i County with national and international awards being received
- Continued dairy production

Health & Wellness

- West Hawai`i Comprehensive Health Center opened in 2008
- Increased health and wellness fairs targeting groups with special needs and those with potential health challenges

Science and High Technology

- In July 2009, the board of directors of the TMT Observatory Corporation selected Mauna Kea as the preferred site for the Thirty Meter Telescope. In June 2010, another benchmark bringing the TMT project closer to fruition was achieved when the University of Hawai`i, Board of Regents voted unanimously to approve TMT to build on Mauna Kea.
- Increased and diverse tenancy at the Natural Energy Laboratory of Hawai`i Authority (NELHA) site at Keahole Point

Education

- University of Hawai`i at Hilo Science and Technology Center construction began in early 2009 with a completion date set for Spring 2011
- University of Hawai`i at Hilo opened its Pharmacy School and the first class will graduate in 2011
- Substantial enrollment (20% increase) at both UH Hilo and Hawai`i Community College including individuals who are returning from the work force seeking to learn new skills for the job market

Energy Development, Efficiency and Renewables

- Alternative energy consumption increased with 35% of Hawai`i Island's electricity produced by renewable sources
- Research and Development of numerous alternative and renewable energy technologies

Guiding Principles

There is a general recognition that Hawai`i County must be guided by principles to improve Hawai`i County's economy including and not limited to:

- Sustainability and Self-Sufficiency – minimize imports and increase exports
- Economic Accessibility for all Hawai`i County residents to secure employment and earn a living wage
- Diversification that strengthens industry clusters without dependence primarily on agriculture and tourism
- Realistic and consistent approach to industry, economic development, visitor industry and education

AGRICULTURE

The Agriculture industry is a major economic driver in Hawai`i County. The economic impact exceeds $500 million a year in goods and services. The majority of the agriculture industry is grown and processed on the island. The mild tropical climate allows for year-round production without the influence of adverse weather patterns.

In the past five years, the agriculture industry has focused much of its strategy on food security. Food security is defined as: "when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life" (World Health Organization 2009). Simultaneously the agriculture industry has strengthened its efforts in diversification and resource management.

<u>Strengths</u>

- Hawai`i County Agricultural Development Plan
- Diverse food and other crops
- Forestry is one of the Big Island's fastest growing diversified agricultural activities.
- Koa wood and its products has placed it among the most highly valued woods worldwide.
- Food security is a major topic of discussion and action in Hawai`i County
- Hawai`i County has a long and vibrant history and success in the beef and dairy industry
- The only state in the nation where coffee is grown commercially with coffee growing regions in Kona, Ka'u, Hamakua and Puna with national and international awards for coffee produced in Ka`u and Kona in 2009
- International market for local products including papaya and other food crops, and floral crops
- High percentage of residents and businesses choose local produce over imported (Buy Local; Eat Local)
- Resources to boost agriculture (including aquaculture and offshore fishery): land, ocean, climate, water, and technology
- School and community gardens

Challenges

- Floral and food crops are vulnerable to the ongoing volcanic eruption emissions (VOG) which began in 1983
- Physical isolation to transport goods to other parts of the state and to the mainland
- Drought conditions in the leeward sections of Hawai`i County
- Workforce able to fulfill the new technology demands
- Slow recovery from the global economic recession
- Next generation farmers
- Adverse weather changing patterns
- Volcanic emissions
- Invasive Species
- Delivery systems (land, air, and sea)
- Sufficient and efficient power distribution
- Sufficient supply of both potable and irrigation water
- Energy intensive and aging water transmission systems
- Available funding to stimulate economic growth

Opportunities

- Increase natural farming and using green waste for multiple end-uses including and not limited to food for piggeries and renewable energy production.
- Maximizing the dairy and cattle industry for the island and the state – the only dairies in the State are now on Hawai`i island – include upgrading and modernizing of existing livestock processing (slaughterhouse) facilities and develop new slaughterhouses and rendering facilities
- Creation of regional cooling facilities to aid in the storage and distribution of food products
- Upgrade the harbors in Hilo and Kawaihae for efficient delivery system
- Creation of food security zones in the county
- Use of available federal funds to stimulate targeted industries: aquaculture, beef and dairy, poultry
- Collaboration with the UH Hilo College of Agriculture and Forest Management
- Conversion to biofuels, a renewable energy to 20% of fuel consumption
- Export potential for tropical fruits and flowers and plants is high
- Organic products is growing in consumer interest
- Education opportunities for farmers (both current and future) to learn up-to-date mechanisms for greater yield

- Education for K-12 and general public in food security, resource protection and management

Conclusion:

The Agriculture cluster has many opportunities and challenges in its near future. A comprehensive strategy includes the following foci:

1. Rendering and solid waste plant(s) across the island
2. Renewable energy will be important and purchase power agreements will need to be generated for efficiency
3. Public and private partnerships will bring increased economic gains to the county; both must work together
4. Creating food production through local production results in an overall healthy community
5. The creation of food security zones and creation of innovative models
6. Efficient water management working with state, county, private and trust entities
7. Continued efficiency in the floral industry; especially the orchid and anthurium sector. Private growers continue to develop new species of orchids and anthuriums for product sale within the state of Hawai`i and delivery to the continental USA international markets, especially the Pacific Rim.
8. Create a staging harbor for refrigeration for agricultural products at the Hilo and Kawaihae harbors
9. Create an air cargo hub at Kona and Hilo International Airports
10. Create a web-based portal for agricultural products from Hawai`i County
11. Collaborate with the Western Pacific Fisheries Management Council for resources allocated to the State of Hawai`i and, in particular, to Hawai`i County
12. Public outreach and education on food security, water security, energy security
13. Collaboration with public and private sector to address land use issues
14. Identify and implement opportunities for complementary versus competitive use of resources

Performance Measures

1. Increase number of jobs created
2. Increase the wages of farmers and their workers to a livable, comfortable wage and lifestyle for their families
3. Reduce the amount of products imported to Hawai`i County
4. Increase exports within the state and to continental U.S. and international markets

Strategies

- Work with landowners to develop and promote strategies that encourage sustainable / self-sufficient agriculture
- Coordinate regionally on a strategy for water supply and use
- Continue to develop and implement a comprehensive, long-term regional multi-modal transportation plan for moving people and freight that addresses the needs of residents, visitors, and businesses

TOURISM

Approximately 20,000 of Hawai`i County's jobs are based on Tourism.

In 2008, 1.6 million people visited the Island of Hawai'i. Visitors stayed on average 7 days, spent about $157 dollars a day and the overall industry generated $1.4 billion dollars. Of those visitors 63.8% were repeat visitors returning to the island. The visitor industry plays a critical role in employment and economic growth for the island.
(Source: Stephanie Donoho – County of Hawai'i Tourism Specialist, Department of Research and Development. Original Source: DBEDT, *Annual Visitor Research Report).*

In 2009, visitor arrivals dropped however, targeted efforts in existing markets and expansion into new markets helped stabilize the decrease while simultaneously attracting new business and confirming room nights for 2010 and 2011.

In November, 2006 the *Hawaii Island Tourism Strategic Plan* was created by stakeholders from the private sector, government, visitors' bureaus, non-profits and the general community. The plan establishes a pathway for tangible tourism development across sectors from 2006 – 2015. The Tourism Strategic Plan Oversight Committee meets annually while other committees including and not limited to, safety & security and marketing meet more frequently to ensure that the plan is fluid and adjusted as necessary. The plan can be found online at http://www.hawaiicountyrandd.net/tourism/tourism-key-resources/HawaiiIslandTSP.pdf

Between 2005 and 2010, there have been numerous infrastructure improvements and updates at Hawaii Island harbors, airports, hotels, and attractions. These include and are not limited to, additional parking, waiting (cell phone) lots, improvements to air traffic control towers, runway surfaces, lighting, and other infrastructure at both Hilo and Kona International Airports; earthquake damage repairs at Hulihe`e Palace; and major renovations at various hotels and resorts including the Mauna Kea Beach Hotel. The island has also seen an increase in edu-tourism programs including the popular EdVentures program run by the University of Hawaii Conference Center.

Strengths:

- *Hawaii Island Tourism Strategic Plan*
- Strong collaborations between public and private sectors
- Natural resources of land, ocean, water and climate makes Hawai`i County an ideal setting for tourism
- Ag-Tourism is building and creating a niche market for visitors to become educated in the resources of Hawai`i island
    - Ag Tourism Bill 148 to allow and streamline permit process for ag-tourism operations on agricultural lands is expected to be executed in late 2010 to early 2011
- Eco-Tourism is building and creating a niche market for visitors to become educated in the resources of Hawai`i island
- Edu-Tourism including and not limited to the aforementioned and health & wellness has been gaining momentum
- Skilled local workforce to accommodate diverse visitor industry
- Diverse price-range of accommodations for visitors
- Diverse and extensive year-round events unique to Hawaii
- Restaurants with food products grown locally
- Land and ocean experiences with education and environmental themes
- Hiking trails more extensive than other islands
- Highways that encircle the entire island
- Continued volcanic eruption draws visitors to the Volcanoes National Park to see Kilauea and Halema'uma'u activity and surrounding area
- Hawaii State Department of Transportation designated Hawaii Scenic Byway – Mamalahoa Highway from Keauhou through Holualoa spearheaded by Pulama Ia Kona and Kona Historical Society
- Focus on specific improvement areas such as the Kailua Village Business Improvement District formed in late 2007 as one example of a vehicle for tangible and substantial change in visitor infrastructure and visitor satisfaction for the Kona region.

Challenges

- Cost of air travel
- Proposed discontinuation of direct flights from Japan to Hawaii Island
- Lack of urban activity for young adults
- Continued global recession impact
- Coqui frog and other invasive species
- Cost of stay may be prohibitive for certain economic groups
- Emissions (Vog) from volcanic eruption

Opportunities:

- Hosting conventions for organizations in science and research
- Capitalize on host culture historical sites and events
- Focus on green initiatives including and not limited to food and energy self-sufficiency
- Extend visitor stay by 2-3 days and combine education and relaxation activities
- Additional flights from continental U.S. cities and international points
- Increased number of visitors from China and Korea
- Supporting film production that focuses on Hawaii as a tourist and travel destination
- KVBID nomination of Ali`i Drive as a storied and treasured place
- Revitalized hotel/resort accommodations in Hilo/East Hawaii
- "Rebranding" of Hawai`i Island

Performance Measures:

1. Increase in jobs created
2. Increase in arrivals, room nights and length of visitor stays
3. Increase in visitor per capita spending
4. Increase of activities offered in edu/eco/ag-tourism, and wellness visits

Conclusion and Observations

In November, 2006 the *Hawaii Island Tourism Strategic Plan* was created by stakeholders from the private sector, government, visitors' bureaus, non-profits and the general community. The plan establishes a pathway for tangible tourism development across sectors from 2006 – 2015. The Tourism Strategic Plan Oversight Committee meets annually while other committees including and not limited to, safety & security and marketing meet more frequently to ensure that the plan is fluid and adjusted as necessary. The plan can be found online at http://www.hawaiicountyrandd.net/tourism/tourism-key-resources/HawaiiIslandTSP.pdf

SCIENCE AND TECHNOLOGY

The Science and Technology Cluster consists of firms in information technology, life sciences, scientific research and development, engineering, technical consulting services, medical and diagnostic testing, energy, digital media and other related services. This cluster also boasts above average wages for those persons choosing these careers. This sector supports over a thousand employees who are employed in businesses, education institutions, military and non profit organizations. Science and technology greatly impacts energy development in Hawai`i County. A new initiative is an island-wide broadband project to bring telecommunications to rural areas in Hawai`i County.

The industries in this cluster are tied together because they share many needs and challenges. A trained workforce is able to offer assistance in start-up, expansion, and investment in research and development. Average salaries in this cluster are well compensated.

Strengths:

- Technology centers such as University of Hawai`i at Hilo Science & Technology Park and the Hawai`i Gateway Energy Center at the Natural Energy Laboratory of Hawai`i at Keahole Point
- Digital media is a certificate course at Hawai`i Community College
- Higher education institutions have GIS and GPS courses and capabilities and using these learning systems in construction projects, USGS at Hawai`i Volcanoes National Park, mapping for large land areas, and county planning
- World class observatories on Mauna Kea with headquarters based in Hilo and Waimea
- Site selection of Mauna Kea for the Thirty Meter Telescope (TMT) and international collaboration between United States, Japan, China and India on TMT project
- Numerous renewable energy projects established and attracting international interests such as Cellana and Sopogy
- Unique natural resources support a living laboratory
- Increased penetration of STEM curriculum in K-12 including successful robotics program with international recognition as well as, success of students at State and International Science and Engineering Fair
- Numerous technology companies recently established including and not limited to Liquid Robotics, Inc. (Wave Glider CO_2 and Ocean Acidification Observation Program) and Big Island Carbon (production of premium grade, granular activated carbon from macadamia nut shells).

- A competitive tax incentive program (Act 221) to support technology industry
- A competitive tax incentive program (Act 88) to support film production in the state
- A long history of island locations used to film production, and a sizeable trained workforce able to support high level production
- Community supportive of new opportunities for education, workforce development, and jobs in science and technology

Challenges:

- There are shortages in key areas of technology and education
- Many educational institutions have inferior technology equipment that needs to be updated
- There are rural areas where wireless communication is unavailable
- Upgrading of technology can be cost intensive for residents and small businesses
- Difficult to retain qualified employees who have moved from the mainland due to the high cost of living, travel distance, and rural lifestyle.
- Expensive back-up power, a necessity for stable power usage
- Low level math and science scores for students entering both University of Hawai`i at Hilo (UHH) and Hawai`i Community College (HCC)
- Agricultural biotechnology faces opposition in Hawai`i County from host culture groups
- International and domestic competition to grow high technology industries is difficult with countries such as China and India who have lower wages and a larger workforce. High cost of doing business in Hawai`i County means
- The high cost of living in Hawai`i make it difficult to attract high quality technicians
- Importing highly trained technicians, scientists, researchers, and businesses contribute to the economic gap between new and kama`aina residents

Opportunities:

- Build incentives for science and technology firms to relocate to Hawai`i County
- Biotech industry has a presence on Hawai`i Island with a potential for expansion
- Scientific research such as data analog, robotics, space exploration through the PISCES has an opportunity to grow. International space agencies are open to perform experiments and provide K-12 education activities while they conduct their research on Mauna Kea
- Diversify economy by increasing knowledge-based industries
- Expand the distance learning opportunities to Pacific Rim countries and communities
- Expanded export opportunities (both product and intellectual)
- Develop a program for parents who can advocate for careers in STEM disciplines at UHH and HCC
- Expansion of the film industry
- Creation of business incubator and research facility
- Expansion of the ʻImiloa Astronomy Center for K-12 education and specialized camps
- Build infrastructure to support film production

Performance Measures

1. Increase the number of jobs in the science and technology industry for local residents and new graduates in higher education institutions
2. Increase the number of jobs created
3. Increase the number of science & technology companies and facilities established on Hawai`i Island
4. Increase partnerships between educational institutions and private sector companies to meet the demand of the global economy

Conclusion and Observations

Hawai`i Island has established a critical mass of science and technology with strong foundations in research, development and deployment. In addition to facilities and companies based in the University Science & Technology Park and the Natural Energy Laboratory, there are existing and developing hubs of science and technology in other areas including and not limited to, Waimea, Keaukaha, Keaau, and Kawaihae.

- Support various technologies companies and micro/small businesses engaged in science and technology

EDUCATION

There are thirty-nine (39) public schools in the County with a total enrollment of 27,557 students from kindergarten through the 12th grade. The schools range in size from 169 students at Haaheo to 2,180 students at Waiakea High School. There are 17 licensed private regular education schools serving a total of 2,216 students from kindergarten through the 12th grade. The number of students from kindergarten through the 12th grade on the island, public and private school complexes combined, total 30,209 or approximately 20% of the population. Additionally there are twelve (12) charter schools on the island.

The University of Hawai`i system has three campuses in Hawai`i County: University of Hawai`i at Hilo, Hawai`i Community College Manono Campus and Hawai`i Community College West Hawai`i Campus. The University of Hawai`i at Hilo (UHH) has experienced an increase in student population with an increase of 13% in the past five years.

Hawai`i Community College's student population has increased almost 20% since 2007, the beginning of the recession. Many students are either learning new trade skills or earning their pre-requisites for study to a baccalaureate degree. In FY 2006-07 Hawai`i Community College employed 182 full time and 11 part-time faculty and staff. Its payroll was $13.2 million and its operating budget was $21.9 million.

At the University of Hawai`i at Hilo, over 500 persons are employed through general and extramural (grant) funds. A new science and technology center at UHH is expected to be completed in January, 2011. The Pharmacology College was opened in 2008 and will graduate its first class of 91 candidates in 2011. The college has been granted candidate accreditation status and is expected to receive its accreditation by the first class' graduation in 2011. Dr. Rose Tseng, Chancellor since 1998, retired in June 2010. After a comprehensive search and recruitment process including community input, Dr. Donald O. Straney, Dean of Science at California State Polytechnic University in Pomona was named as successor to Dr. Tseng as Chancellor of University of Hawai`i at Hilo.

Building a new Hawai`i Community College at Palamanui campus in West Hawai`i will encourage new businesses, assist existing businesses and create long-term economic growth. Dr. Rockne Freitas, the present Chancellor at Hawai`i Community College, has been named Vice Chancellor of Student Affairs and will be focused on the Palamanui campus and the Thirty Meter Telescope Project. Hawai`i Community Center at Palamanui will enhance worker skills and provide workforce training to local businesses and industry.

Strengths

- Hawai`i County is a "learning laboratory" and faculty members take students outside the traditional classroom into the local environment for hands-on learning.
- Hawai`i County comprises environments ranging from coastal strand to desert to tropical rainforest to alpine conditions.
- The diversification of the food, agriculture, energy, science and technology, and energy environments means Hawai`i County is able, through its institutions of high learning, able to raise up a more educated workforce
- Strong, hard-working faculty at both UH Hilo and Hawai`i Community College
- Over 90% of faculty at UH Hilo have doctorates.
- K-12 teachers continue to increase their knowledge and pedagogy by taking advantage of professional development courses and workshops
- Huiana and other internship opportunities

Challenges

- Following a statewide trend, low rate of high school graduates in certain geographic areas
- Only 22.4% of adults over the age of 25 years on island hold bachelor's degrees or higher
- Lack of state of the art technology and infrastructure in (some) public schools
- Cutbacks in social services for vulnerable population who have dropped out of high school
- Lack of living wages to support self-sufficiency and a healthy lifestyle for Hawai`i Island residents and to entice "kama'aina" to return to work in Hawai`i
- Remoteness in the Pacific presents challenges to developing relationships with continental U.S. and other learning and knowledge center.

Opportunities

- Expansion of distance learning technology to areas on the island that are long distances from learning center
- Education and Intellectual Transfer as an export
- Research and intern opportunities for undergraduate and graduate students in both trade and STEM (Science, Technology, Engineering and Mathematics) disciplines
- A broadband technology to the rural areas of Hawai`i County – education of residents, maintenance, and in public schools
- Upgrading of curriculum beyond the "entry level" job focus

Performance Measures

1. Increase the number of high school graduates and number of students who secure post-high school education (documented studies reflect direct correlation between positive impacts on earnings, quality of life, and life expectancy; and each year of education beyond 12th grade).
2. Increase the number of qualified applicants for higher-skilled base, higher earnings positions
3. Workforce development pipeline that tracks placements and earnings

Additional Strategies

- Educational priorities include keeping pace with changes in technology, responding to employer needs, and developing new workforce development alliances
- Work with Hawaii Community College and others to develop more curriculum and vocational programs that allow workers to gain job specific skills in a shorter period of time
- Promote effective local planning processes that coordinate the location of school sites with associated land uses (especially parks and recreation) and transportation services (Community Development Plans)
- Support early childhood education
- Support lifelong learning

HEALTH AND WELLNESS

The Health and Wellness Cluster includes a broad range of services providers and resources. These providers include practitioners both traditional and non-traditional. Services in this cluster include doctors, hospitals, chiropractors, massage therapists, nursing homes, nutritionists, naturopaths, physical therapists, home health care providers, and services that meet the cultural needs of the island population.

In interviews and surveys with the Hawai`i County Department of Research and Development, residents indicate that a happy community is a healthy community. The community members want to be safe, enjoy the outdoor activity available on the island, participate in activities that are healthy and emotionally fulfilling and live their lives without fear.

Specialty health care grew jobs faster than the statewide average for all job growth.

Description	**2008 Jobs**	**Job Growth**	**County Average Earnings**
Pharmacies	396	21%	$42,098
Hospital & Nursing Facilities	1137	16%	$54,825
Specialty Health Care	620	17%	$20,929
Health Practitioners	2519	15%	$54,514

Source: DBEDT – *Benchmarking Hawai`i's Industries*

<u>Strengths:</u>

- Medical facilities are located in each quadrant of Hawai`i County
- Pharmacology Colleges at UH Hilo will graduate its first class in Spring 2011
- Increase in hospital and nursing facilities
- Competitive nursing program for RN's (Hawai`i Community College) and BSN at (University of Hawai`i at Hilo)
- Availability of traditional and non-traditional health and wellness practitioners who collaborate with mainstream practitioners
- Ideal climate for year-round, outdoor physical activity
- Occupations in this cluster typically offer good earnings potential
- Health care professionals are able to receive training locally to upgrade their skills and learn new technology
- Upgrade and capital improvement of Hilo Medical Center allows for greater and better medical care
- Health fairs are offered free to the public throughout the year
- Newly instituted on-line doctor visits and care

Challenges:

- Illegal substance and prescription drug abuse
- Alcohol and drug abuse and correlation to increased domestic violence
- Obesity, eating disorders and diabetes
- Limited services for persons with severe disabilities; must seek services on O'ahu
- Increased costs for healthcare, especially for vulnerable population groups
- Nursing home admission have changed and it is becoming increasingly difficult to receive care for persons with emotional, physical and mental conditions
- There are no specialized education opportunities for persons seeking careers in occupational and physical therapy
- Some specialized care education is not available on Hawai`i Island; students must go to Honolulu or the continental U.S. for training
- Develop and offer incentives to health care professionals to practice/reside on Hawai`i Island

Opportunities:

- Wellness education and services are needed to address obesity, diabetes and eating disorders as well as, to the aging Baby Boomer population
- Blending of traditional Western, Native Hawai`ian and Asian practices will serve Hawai`i County's multicultural population
- Well-care visitor industry – persons visit Hawai`i for healing and recuperation
- Scholarships, internships and stipends for health care training to allow individuals to pursue employment in health care
- Incentives to health care
- Expansion of drug addiction services
- Construction of affordable assisted living facilities throughout the island
- Aid in the development of healthy school lunches and physical activity

Performance Measures

1. Increase the number of jobs in the Health and Wellness Cluster
2. Increase the number of qualified residents securing jobs in the Health and Wellness Cluster
3. Development of health and wellness retreat center

ENERGY DEVELOPMENT

The Energy Development goal for Hawai`i County is the development of diversified energy products that produce clean, efficient, responsible energy for use by its customers. The primary motivation is recognition of the need to reduce reliance on fossil fuels. To this end companies in the public and private sector are working, both collectively and respectively, to realize this goal. In 2010, numerous conferences including the Asia Pacific Clean Energy Summit which is being hosted on Oahu, along with workshops and seminars statewide have been offered to businesses and homeowners to discuss, and put into practice, emerging energy technologies and wise-use practices.

Strategy focus includes both broad-base and specific subject matter such as:

- renewable energy
- alternative energy
- energy efficiency
- production, transmission and distribution of reliable electric energy
- clean energy technologies
- energy storage systems
- increase geothermal production and distribution
- biomass to biofuel
- algae to biofuel
- marine and shoreline consideration

The strategic planning for energy development will result in job growth, sustainable energy and responsible use of energy resources.

<u>Strengths</u>

- Hawai`i Island has the largest renewable energy portfolio in the state
- Hawai`i ranks third in the nation (after Maine and California) in use of renewable energy relative to the state's total electricity production (2006 EIA data) with an increase, in 2008, to nearly 20% in the state and 38% on Hawai`i Island (HELCO)
- No plans to add fossil fuel generation on Hawai`i island
- Geothermal generated electricity availability – currently the only one in the State with exploratory opportunities in West Hawai`i and on Maui
- Lead-by-example initiative by adopting sustainable practices in state and county buildings
- Hawai`i Community College community-wide education workshops on residential energy saving practices

- Retrofitting or installation of energy efficient systems such as street lights for immediate savings.
- Energy audit of multiple County buildings.
- Continued research and development of energy saving resources for Hawai`i County
- Established Hawai`i County Mayor's Energy Advisory Commission
- Established Geothermal Working Group

Challenges

- Reliance on imported fossil fuels for over 65% of Hawai`i County energy needs
- Hawai`i Island's physical isolation requires the expenditure of energy for transporting many of the goods consumed and produced
- Hawai`i County spends approximately 16% of its Gross County Product on imported fossil fuels. The national average is 8%.
  (Source for above: County of Hawai`i Research and Development Department, Energy Program)
- Competition for resources (land, water) between renewable energy (biomass) and traditional agriculture (food and floral crops, ranching cattle and other livestock)
- Increased load requirement needed to increase penetration of renewable energy into grid

Opportunities

- Innovation
- Participation in Recovery Act Energy Efficiency and Conservation Block Grant submitted in 2009 which includes:
  - Residential Green Retrofit and Energy Efficiency Training Program
  - Hawai`i County Street Light Retrofit to Energy Efficient LED Lamps
  - Government Operations Energy Sustainability Management System
  - County of Hawai`i Financing Package for Energy Efficiency and Renewable Energy Projects
- Acquiring new licensing agreements for geothermal resource to be converted to usable energy for businesses and households
- Use of biomass for biofuel (note that a farm in East Hawai`i has begun cultivating jathropha on commercial scale)
- Development of algae to biofuel
- Construction of a biodiesel production plant in Keaau to produce, 2.64 million gallons per year with the goal of providing 10 percent

- Increased penetration of renewable energy both on and off the grid
- Identifying complementary use of resources
- Hawai`i's isolated grid provides opportunities for enhanced research, development and deployment of new technologies
- Alternative Transportation utilizing electric vehicles, hydrogen vehicles (including buses) and bio-fuel vehicles
- Waste to Energy
- Showcase Hawai`i Island's combination of natural assets that support renewable, clean energy
- Showcase Hawai`i Island's diverse energy portfolio
- Showcase high level of competence in energy arena

The following are project background information for inclusion in economic development strategies:

Hawai`i Clean Energy Initiative (HCEI)

The Hawai'i Clean Energy Initiative (HCEI) was started by a partnership between the state of Hawai'i and the U.S. Department of Energy launched in 2008 and aims to transform Hawai'i into a world model for energy independence and sustainability. The goal is to meet 70% of Hawai'i's energy needs with clean energy by 2030 by bringing together business leaders, policy makers, and concerned citizens committed to leading Hawai'i to energy independence.

Hawai`ian Electric Light Company (HELCO)

Hawai`ian Electric Light Company in Hawai`i County is the leader in energy production and distribution. The company also works with its partners in the research and accumulation of energy that is lessening its dependence on fossil fuels.

HELCO's strategy is to:

- Create a sustainable clean energy future
- Providing excellent service to its customers
- Initiate a safe and best place to work for its employees
- Partner with community organizations, both public and private, to make Hawai`i a better place to live
- Remain a financially successful company for its shareholders (HELCO 2010-2013 Strategic Plan)

HELCO is developing and implementing corporate strategies to:

1. Reduce its contribution to global warming by reducing emission to include biofuel as an alternative pollution control device,

2. Maintain excellent environmental compliance by meeting and exceeding environmental protection requirements,
3. Promote engineering research and development of renewable energy initiatives by partnering with private groups and learning institutions, i.e., University of Hawai`i College of Engineering
4. Develop and implement a company-wide recycling program
5. Reduce company electricity use and employ efficient design(s) for new construction, thereby
6. Become a model for new construction and initiatives in Hawai`i County
7. Increase collaboration with Puna Geothermal Ventures (PGV) and other independent power producers

Renewable Energy

Research for efficient use of renewable energies is important for Hawai`i County. Renewable energy sources such as wind, solar and geothermal resources continue to be a priority for sustainable life in the Big Island. Biomass resources assessment is a priority for both public and private sector interests who are assessing biomass resources supplied by resources including and not limited to, managed tree plantations in Hawai`i County to carefully plan long-term deliberate development with careful consideration of community, conservation and agricultural concerns. They are also researching thermal conversion technologies suitable for the production of a renewable bio-oil to power electrical generation plants. Potential feedstocks include wood chips, municipal sludge and green waste.

Hawai`i Island Economic Development Board (HIEDB) and others have developed and offered numerous public outreach and education opportunities as well as, industry-focused workshops and continuing education programs for individuals and companies engaged in renewable energy research, development, and deployment. In February 2010, HIEDB conducted the Hawaii Island Renewable Energy Solutions Summit (HIRESS) in partnership with Hawaii Renewable Energy Development Ventures (HREDV) a program of the Pacific International Center for High Technology (PICHTR). Points made during discussions at the HIRESS are integrated into the CEDS.

The County of Hawai`i has adopted green building code technologies and has established a “Green Team” amongst the County departments to enhance outreach, education, and retrofit efforts internally. The Mayor’s Energy Advisory Commission is comprised of a diverse group of individuals working with the County to execute its energy plan.

Geothermal

Puna Geothermal Ventures (PGV) a subsidiary of ORMAT Technologies produces approximately 31% of the renewable energy in the State of Hawai`i (second only to waste to energy at 58%). This geothermal energy accounts for approximately 20% of Hawai`i Island's energy. PGV plans to expand and increase production by 30 megawatts in Hawai`i County and has also received federal funding to explore geothermal resources on Maui. In recognition of the critical role of geothermal in reducing the State of Hawai`i's dependence (currently at 99%) on imported fossil fuels, the legislature during its regular 2010 session, passed Senate Resolution 99 which called for the formation of a geothermal working group. Mayor Kenoi convened this working group in June 2010 and action items such as analyses including and not limited to cost-benefits have begun.

Algae to Biofuel

The long-term strategy is the establishment of a local algae-biofuel industry utilizing Hawai'i's natural elements of saltwater, sunlight and carbon dioxide. The economic development in this industry results in a stimulated economy with increased employment, scientific research and less dependence on fossil fuels. Funding for this project will be through appropriate federal, state, county and private ventures. Hawai`i County, with the State of Hawai`i, is committed to fully integrate sustainability into its planning and operations.

Cellana, LLC Consortium based at the Natural Energy Laboratory of Hawai`i at Keahole Point, in Kailua-Kona is examining large-scale production of fuels and feed from microalgae grown in seawater. Their work includes integrating new algal harvesting technologies with pilot-scale cultivation test beds, and developing marine microalgae as animal feed for the aquaculture industry. Partners include Dutch Shell and the University of Hawai`i. On June 28th 2010, the U.S. Department of Energy announced Cellana as one of three groups nationwide selected to receive multi-million dollar funding to conduct research leading to the commercialization of algae-based biofuels.

Biomass to Biofuel

In 2010, Pacific Biofuels broke ground for a new facility in Keaau. Close to the upcoming biofuels facility, jathropha is being grown commercially as a feedstock for conversion to biofuels.

Several other companies in Hawaii County are involved in converting biomass to biofuels for both stationary and mobile applications.

Additional Strategies:

- Assist with the public planning initiatives including the Clean Energy Resource Teams (CERTS) and the Rural Energy Development Initiative
- Assist private development groups in the creation of partnerships or cooperatives for local energy businesses including both energy production and manufacture of production equipment and services.
- Assist in planning efforts related to bio-mass related energy production including and not limited to, bio-mass harvesting, bio-mass pelletization/processing, direct burning, gasification, and cellulosic ethanol.
- Assist in planning efforts related to increasing geothermal energy production and use.

HOUSING AND RESORT DEVELOPMENT

This important cluster seeks to create, build, and maintain a housing supply that allows for a variety of choices. Hawai`i County is working to make affordable housing available in reasonable proximity to employment centers. Viable communities possess a variety of housing and suitable living environments thereby accommodating the needs and desires of families and individuals. Persons of all ages, ethnic backgrounds, income, sex, marital status are ensured housing availability. Housing in resort areas for both part- and full-time residents provide increased revenue base for the County.

Strengths:

- Hawai`i County General Plan and Community Development Plans
- Scenic vistas for housing development
- Variety of communities
- Comfortable and even climate
- Choice of elevation to construct a residence
- Adequate workforce to construct both very simple and very complex residences
- Hawai`i Leeward Planning Conference (HLPC) a member-based organization focused on sound-planning and wise use of resources including land use
- Kamakana at Keahuolu Village (Kona), a mixed-use, affordable housing development on state land by Forest City in partnership with the State of Hawaii Housing Finance and Development Corp.

Challenges

- High construction costs
- Currently there are long distances between home and employment center
- Many homes are not adequately equipped for multi-generational living
- Economic volatility and Home loans are still difficult for many to obtain
- Families living near resort developments compete with the visitor market for rental of apartment and condominium units.
- High land costs and market have been influenced by investor and resort/residential markets may preclude purchase of house and lot packages by many households in the district.
- Availability and transmission of potable water

Opportunities:

- Many homes built during the sugar plantation era are aging and will need to be renovated, replaced or rebuilt thereby creating jobs in the construction industry
- Provide workforce housing for the coastal resort developments in South Kohala
- Development of State lands for housing for all socio-economic levels through leasehold or purchase
- Housing programs for low and moderate income, "gap groups" and the elderly
- Update HLPC study of *PROPERTY TAX REVENUES FROM PREMIUM RESORT-RESIDENTIAL HOMES AND CONDOMINIUMS IN WEST HAWAI'I*

Performance Measures:

- Increased jobs including and not limited to construction in the housing and resort development industry
- Increased workforce and affordable housing opportunities in the Kailua-Kona area
- Increased workforce and affordable housing opportunities in South Kona
- Increased availability and diverse inventory of housing in all regions of the island

Strategies:

- Collaborations between public and private sector to ensure adequate increase housing inventory for all socio-economic groups.
- Analyze existing housing needs and forecast housing objectives (rental and ownership as well as, elder housing). This analysis will assist in identifying policies and actions to provide a balance of local housing opportunities for all residents.

STATE OF HAWAI`I COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY (CEDS)
COUNTY OF HAWAI`I PRIORITY PROJECTS LIST

ID Number	Project	Applicant	Meets EDA Criteria	Project Type	Est. Jobs	Estimated Total Cost	Est. EDA or Other Federal Funding	Potential Sources of Matching Funds
AGRICULTURE + subcategories AGED (Ag-Education), AGEN (Ag-Energy) and AGHW (Ag-Health & Wellness)								
AGRICULTURE-SHORT TERM: 1 - 3 YEARS								
AG01	Sustainable open ocean mariculture research facility and commercial fish farm project pilot phase will involve installation and evaluation of a pilot system, including permit application, baseline investigation, mooring of empty cages, monitoring of empty cases and environment, Environmental Assessment for simple multi-trophic system, monitoring of cage with multi-trophic organisms and Environmental Assessment for expansion to commercial scale.	Keawaiki Hui, a consortium of representatives from the aquaculture industry, research community, and environmental advocacy non profits.	Y	Technical Assistance	5	$390,000	$195,000	University of Hawai'i System; County of Hawai'i Department of Research and Development; State of Hawai'i Department of Agriculture; NOAA
AG02	Feasibility and management plan for two State, County, and Privately shared Agricultural Consolidation, Inspection, Disinfestations, and Distribution Centers at Hilo International Airport/Hilo Harbor and at Kawaihae Harbor.	County of Hawai'i Department of Research and Development	Y	Technical Assistance	5	$350,000	$175,000	State of Hawai'i Departments of Agriculture, Health and Transportation;
AG03	Feasibility Study and Management Plan for Consolidated food and distribution center including commercial kitchen(s.)	Hawaii Island Economic Development Board, Consortium	Y	Technical Assistance Short Term Planning	4	$300,000	$250,000	Private; USDA Rural Development;
AG04	Architecture and Engineering Design for Hilo and Kawaihae Agricultural Consolidation, Inspection, Disinfestations, and Distribution Centers.	State of Hawai'i Department of Transportation	Y	Technical Assistance	50	$2.7 million	TBD	State of Hawai'i Departments of Agriculture and Health; County of Hawai'i Department of Public Works

STATE OF HAWAI`I COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY (CEDS)
COUNTY OF HAWAI`I PRIORITY PROJECTS LIST

ID Number	Project	Applicant	Meets EDA Criteria	Project Type	Est. Jobs	Estimated Total Cost	Est. EDA or Other Federal Funding	Potential Sources of Matching Funds
AG05	Expansion of existing Hilo International Airport 60,000 sq ft hold cargo facility into an agricultural consolidation, inspection, disinfestations, and distribution center. Facility will help farmers establish and expand market share by marketing to large consumers such as the Defense Commissary Agency West. Facility will serve Hilo's airport, harbor, and other surface transportation needs. The project will offer cargo consolidation and storage housing up to 50 containers, and provide refrigerated storage, frozen storage, disinfestations, rinsing and packing areas for both imports and exports.	Consortium, County of Hawai'i Department of Research and Development; Hawai'i Farm Bureau; State of Hawai'i Departments of Agriculture, Health and Transportation	Y	Public Works	2000	$16.9 million	TBD	State of Hawai'i Department of Transportation; Private
AG06	Feasibility study on agricultural park development island wide; analyses to include access to water, proximity to transportation and markets; alternatives to include farmers markets, agricultural worker housing, commercial kitchens and business incubators for value-added product development and marketing. Develop and implement a comprehensive, long-term regional multi-modal transportation plan for moving people and freight that addresses the needs of residents, visitors, and businesses	County of Hawai'i Department of Research and Development	Y	Technical Assistance	TBD	$350,000	$175,000	State of Hawai'i Department of Agriculture
AG07	Pa`auilo slaughterhouse modernization and rendering facility.	Public/Private Consortium	Y	Public Works	100	$4.1 million	$2.1 million	State of Hawai'i Capital Improvement Project Fund; Private
AG08	Kohala comprehensive slaughterhouse and rendering facilities.	Public/Private Consortium; Cattle Industry	Y	Public Works	TBD	TBD	TBD	State of Hawai'i Department of Agriculture; USDA Rural Development; Private
AG10	Map and designate important agricultural lands for policy development.	COUNTY OF Hawai'i: Planning Department, Data Services Department, Department of Research and Development; Department of Finance;	Y	Technical Assistance	2000	$250,000	$125,000	County of Hawai'i; State of Hawai'i; Private

STATE OF HAWAI`I COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY (CEDS)
COUNTY OF HAWAI`I PRIORITY PROJECTS LIST

ID Number	Project	Applicant	Meets EDA Criteria	Project Type	Est. Jobs	Estimated Total Cost	Est. EDA or Other Federal Funding	Potential Sources of Matching Funds
AG11	Develop and adopt County of Hawai'i Important Agricultural Lands Policy and Implementation Plan.	County of Hawai'i Planning Department, Department of Research and Development; Department of Finance	Y	Technical Assistance	2000	$500,000	$250,000	State of Hawai'i
AG12	Potting Media Sterilization Infrastructure Pilot Study: test and establish mobile electric-powered steam generator sterilization systems with capacity to treat 30-cubic-yard loads of cinders to be used as growing media for the floriculture industry. Treatment of potting media that harbors a plant-parasitic reniform nematode is critical in retaining the important California export market.	County of Hawai'i Department of Research and Development	Y	Technical Assistance	800	$250,000	$125,000	State Department of Agriculture
AG13	Commercialization of Technology to disinfect growing media.	University of Hawai'i System; HENA	N	N/A	800	$200,000	TBD	Private, State of Hawai'i; County of Hawai'i
AG14	Ka'u water transmission Ka'u Agricultural Water System Improvements: Design and construct improvements to rehabilitate 30 former sugar plantation agricultural water source tunnels, transmission systems and storage facilities on state lands.	County of Hawai'i Department of Public Works; Ka'u Water Cooperative; State of Hawai'i Department of Agriculture	Y	Public Works	500	$12 million	$8.1 million	State of Hawai'i
AG15	Puna District support services for truck farming, papaya production, floriculture production.	County of Hawai'i Department of Research and Development; Hawai'i Papaya Industry Association; CTAHR; PBARC; HFNA	Y	Technical Assistance	1000	TBD	TBD	USDA Rural Development
AG16	Water Infrastructure for development of a multi-use County Agricultural Park in Kapulena dedicated to sustainable community-based agriculture, school-based agricultural projects to educate future farmers, and research and production to assist the grass-fed beef industry to increase the industry's market share in Hawai'i County.	County of Hawai'i Office of the Mayor	Y	Public Works	1000	$3.9 million	TBD	State of Hawai'i Department of Agriculture; Hamakua Farm Bureau; County of Hawai'i: Department of Public Works, Research and Development and Finance; Private

STATE OF HAWAI`I COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY (CEDS)
COUNTY OF HAWAI`I PRIORITY PROJECTS LIST

ID Number	Project	Applicant	Meets EDA Criteria	Project Type	Est. Jobs	Estimated Total Cost	Est. EDA or Other Federal Funding	Potential Sources of Matching Funds
AG17	Kohala Ditch System Improvements to reduce water losses in delivering water to agricultural operations in North Kohala. Improvements include planning, design and construction of repairs to open ditch sections; installation of 12-inch pipe between Reservoir #3 and Puakea terminus; construction of Kaneaa Falls stream bridge; design and concrete work for outlet and control structures; and pipe intake structures and screens.	Hoʻea Agricultural Park	Y	Public Works	1000	$695,000	TBD	Private; State of Hawaiʻi; USDA Rural Development
AG18	Processing and packaging facility for value-added agricultural products.	Big Island Farm Bureau	Y	Public Works	400	$2 million	TBD	Private; State of Hawaiʻi Department of Agriculture
AG19	Feasibility Study for mobile livestock slaughter facilities including disposal of offal, resource management and community outreach	State of Hawai`i Department of Agriculture	Y	Public Works Economic Adjustment	TBD	TBD	TBD	State of Hawai`i Department of Agriculture; Private
AGED01	Design and Construction of a Natural Farming Institute for education in and demonstration of natural farming systems.	Consortium: County of Hawaiʻi Department of Research and Development; CGNA; CTAHR; University of Hawaiʻi CAFNRM	Y	Technical Assistance / Public Works	800	$3 million	TBD	Private, County of Hawaiʻi, State of Hawaiʻi
AGEN01	Installation of energy-efficient photovoltaic system at the Kamuela Vacuum Cooling Processing Facility.	Big Island Farm Bureau	Y	Public Works	400	$500,000	TBD	Private; State of Hawaiʻi Department of Agriculture
AGHW01	Island wide green waste recycling program for production of agricultural inputs.	County of Hawaiʻi Departments of Environmental Management and Research and Development	Y	Technical Assistance / Public Works	500	$5 million	TBD	Private, Non-profit, State of Hawaiʻi, US Environmental Protection Administration
AGHW02	Development of County of Hawaiʻi Food Security study and plan; for integration into the Hawaiʻi County Disaster Management Plan.	County of Hawaiʻi Department of Research and Development and Civil Defense	Y	Technical Assistance	TBD	$100,000	TBD	State of Hawaiʻi Departments of Agriculture, Health and Transportation;

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ID Number	Project	Applicant	Meets EDA Criteria	Project Type	Est. Jobs	Estimated Total Cost	Est. EDA or Other Federal Funding	Potential Sources of Matching Funds
AGRICULTURE-LONG TERM: 4 - 5 YEARS								
AG20	Sustainable open ocean mariculture research facility and commercial fish farm project commercialization phase will involve construction of a commercial system, staff training in preliminary operations, stocking of first crop, monitoring construction and start of commercial production and monitoring program.	Keawaiki Hui, a consortium of representatives from the aquaculture industry, research community, and environmental advocacy non profits.	Y	Public Works	40	$360,000	TBD	University of Hawai'i System; County of Hawai'i Department of Research and Development; State of Hawai'i Department of Agriculture; USDA Rural Development; NOAA; US Fish & Wildlife
AG21	Construction of Agricultural Consolidation, Inspection, Disinfestations, and Distribution Center at dedicated Kawaihae Harbor site. Facility will help farmers establish and expand market share by marketing to large consumers such as the Defense Commissary Agency West. Facility will serve Kawaihae Harbor Hilo and other surface transportation needs. The project will offer cargo consolidation and storage housing up to 50 containers, and provide refrigerated storage, frozen storage, disinfestations, rinsing and packing areas for both imports and exports.	Consortium, County of Hawai'i Department of Research and Development; Hawai'i Farm Bureau; State of Hawai'i Departments of Agriculture, Health and Transportation	Y	Public Works Economic Adjustment	2000	$10 million	TBD	State of Hawai'i Department of Agriculture; Federal; USDA Rural Development
AG22	Construction of Consolidated food and distribution center including commercial kitchen(s) .	Hawaii Island Economic Development Board; Consortium	Y	Tech Assistance	150	TBD	TBD	State of Hawai`i; Private; USDA Rural Development
AG23	Agricultural products marketing facility	Private	Y	Public Works	TBD	$12 million	TBD	Private; State of Hawai'i; USDA Rural Development
AG24	Mountain View Agricultural Park.	County of Hawai'i Planning, Finance, and Research and Development Departments	Y	Public Works Economic Adjustment	TBD	TBD	TBD	Private; State of Hawai'i; USDA Rural Development
AG25	Growth and expansion of native plants for pharmaceuticals.	University of Hawai'i at Hilo, College of Pharmacology; County of Hawai'i ; CTAHR, PBARC	Y	Tech Assistance	TBD	TBD	TBD	University of Hawaii; Private; Pharmaceutical Companies; Foundations

STATE OF HAWAI`I COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY (CEDS)
COUNTY OF HAWAI`I PRIORITY PROJECTS LIST

ID Number	Project	Applicant	Meets EDA Criteria	Project Type	Est. Jobs	Estimated Total Cost	Est. EDA or Other Federal Funding	Potential Sources of Matching Funds
AG26	Cultivation and harvest of plant and animal life forms as natural energy alternative through biomass conversion.	NELHA, private sector, County of Hawai'i	Y	Tech Assistance	TBD	TBD	TBD	Private; State of Hawaii; US Dept of Energy
EDUCATION + subcategories EDEN (Education-Energy), EDSCI (Education-Science High Tech) and EDVI (Education-Visitor Industry)								
EDUCATION-SHORT TERM: 1 - 3 YEARS								
ED01	Film Production grant program to build local production capacity.	County of Hawai'i Department of Research and Development	Y	Economic Adjustment (Training)	500	$75,000	TBD	Private; State of Hawai'i Foundation on Culture and the Arts; Federal
ED02	Film Student and Faculty Exchange program with mainland schools.	University of Hawai'i System; State of Hawai'i Department of Education; Independent School Association	Y	Economic Adjustment (Education	50	$30,000	TBD	County of Hawai'i Department of Research and Development; Hawai'i Tourism Authority; State Foundation on Culture and the Arts
ED03	Advocacy and support program to upgrade and expand film and digital media arts programs at the junior college and university level.	County of Hawai'i Department of Research and Development; Private Nonprofit Organizations	N	N/A	1000	$10,000	TBD	University of Hawai'i System; State of Hawai'i Foundation on Culture and the Arts
ED04	Early Childhood Education Conference	Private Nonprofits – Baby Steps to Stronger Big Island Families (Friends of the Future); Hawaii Island Economic Development Board	Y	Technical Assistance	TBD	$50,000	$40,000	Private Nonprofits; Foundations; OHA;
EDEN1	Photovoltaic system installation and solar water heater installation training program for building trades.	University of Hawai'i Systems; Private	Y	Economic Adjustment (Education)	5000	$1 million	TBD	Private; State and County of Hawai'i ; US Depts of Energy and Agriculture Rural Development
EDVI1	Conference to promote film and tourism synergies.	County of Hawai'i Department of Research and Development	N	N/A	TBD	$50,000	N/A	Private; State

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COUNTY OF HAWAI`I PRIORITY PROJECTS LIST

ID Number	Project	Applicant	Meets EDA Criteria	Project Type	Est. Jobs	Estimated Total Cost	Est. EDA or Other Federal Funding	Potential Sources of Matching Funds
EDSCI01	STEM training for K-12 teachers and counselors.	State of Hawai'i Department of Education and University of Hawai'i System; Private Schools	Y	Economic Adjustment (Education)	TBD	TBD	TBD	Private; State of Hawai`i Dept of Education; University of Hawai`i; National Science Foundation
EDSCI02	Expand internships at higher education institutions and private companies for scientific research and STEM disciplines.	University of Hawai'i System; Hawaii Island Economic Development Board; Workforce Investment Board	Y	Tech Assistance Economic Adjustment	TBD	TBD	TBD	Private; University of Hawaii; Non-Profit Foundations
EDSCI03	Support internships for robotic programs.	University of Hawai'i System; County of Hawai`i Workforce Investment Board; Private Sector	Y	Tech Assistance	TBD	TBD	TBD	Private; UH and HCC; US Dept of Labor
EDUCATION: LONG-TERM: 4 - 5 Years								
ED05	Palamanui West Hawai'i Campus.	University of Hawai'i System; Palamanui;	Y	Public Works	100+ during construction	$22 million	TBD	Private; University of Hawai`i; US Dept of Education; USDA Rural Development
ED06	Coordinate science and mathematics curriculum between University of Hawai'i at Hilo teaching faculty and K-12 teachers.	State of Hawai'i Department of Education and University of Hawai'i System	Y	Tech Assistance	TBD	TBD	TBD	State of Hawai`i Dept of Education; University of Hawai`i; Private
ENERGY DEVELOPMENT + subcategories ENAG (Energy-Ag), ENED (Energy-Education) and ENHSG (Energy-Housing)								
ENERGY DEVELOPMENT-SHORT TERM: 1 - 3 YEARS								
EN01	Feasibility and cost-benefit analysis for new development of geothermal, including an analysis of community, environmental and economic benefits.	Geothermal Working Group; Hawaii Island Economic Development Board	Y	Technical Assistance	200	$150,000	$75,000	Puna Geothermal Venture; Hawai'i Electric Light Company; US Dept of Energy; USDA Rural Development - Utilities
EN02	Public Sector Facility Energy Audits and Energy-Efficiency and Renewable Energy Installation/Retrofit projects.	County and State of Hawai'i	Y	Public Works	5	$7.1 million	TBD	County and State of Hawai'i; Federal; Private

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COUNTY OF HAWAI`I PRIORITY PROJECTS LIST

ID Number	Project	Applicant	Meets EDA Criteria	Project Type	Est. Jobs	Estimated Total Cost	Est. EDA or Other Federal Funding	Potential Sources of Matching Funds
EN03	Lalamilo Wind Farm Installation, smart micro-grid, and electric vehicle charging and hydrogen refueling stations.	County of Hawai'i Departments of Water Supply, Public Works and Mass Transit; Private	Y	Public Works	30	$5,000,000	TBD	County of Hawai`i; Private; US Dept of Energy; USDA Rural Development
EN04	Hualalai Geothermal Feasbility (test drill).	Private	N	N/A	10	$3,000,000	TBD	Private; County and State of Hawai'i; US Dept of Energy
EN05	Broadband Renewable Energy Smart Grid	Consortium of State of Hawai'i, County of Hawai'i, and Private	Y	Public Works	TBD	$10 million	TBD	Private; State and County of Hawai'i ;Utilities; US Department of Energy
EN06	Micro-Smart Grids for Water Systems	Consortium of State of Hawai'i, County of Hawai'i, and Private	Y	Public Works	TBD	$10 million	TBD	Private; State and County of Hawai'i; US Dept of Energy
EN07	Electric Vehicle Infrastructure	Consortium of State of Hawai'i, County of Hawai'i, and Private	N	N/A	TBD	$5 million	TBD	County of Hawai'i; Private; USDA Rural Development; US Dept of Energy
EN08	Hydrogen Fuel Stations	State of Hawai'i and County of Hawai'i ; Private	N	N/A	TBD	$5 million	TBD	Private; State and County of Hawai'i ; US Dept of Energy
EN09	Vehicle to Grid Networks	Consortium of State of Hawai'i, County of Hawai'i, and Private	N	N/A	TBD	$3 million	TBD	Private; State and County of Hawai'i
EN10	Refueling vans for hydrogen- and electric-vehicles	Consortium of State of Hawai'i, County of Hawai'i, and Private	N	N/A	2500	$3 million	TBD	Private; State and County of Hawai'i
EN11	Hydrogen Bus Network	Consortium of State of Hawai'i, County of Hawai'i, and Private	N	N/A	1000	$10 million	TBD	Private; State and County of Hawai'i
ENAG01	Economic impact analysis of biofuel production specifically on the local agriculture industry in addition to the local economy on the whole.	University of Hawai'i Systems; Hawaii Island Economic Development Board	Y	Technical Assistance	500	$150,000	$75,000	Private; State and County of Hawai'i ; USDA Rural Development; US Dept of Energy

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COUNTY OF HAWAI`I PRIORITY PROJECTS LIST

ID Number	Project	Applicant	Meets EDA Criteria	Project Type	Est. Jobs	Estimated Total Cost	Est. EDA or Other Federal Funding	Potential Sources of Matching Funds
ENED01	Renewable Energy Research Institute at the West Hawai'i Innovation Center at NELHA Feasibility Study and Program Design to include consideration of the following: Grid Reliability Institute; Food-Water-Energy Institute; US-Japan Energy Institute; Oceans Resources Institute; Oceans Health Institute; and Algae to Biofuel Institute.	County of Hawai'i Department of Research and Development	Y	Technical Assistance	TBD	$300,000	$150,000	State of Hawai'i; Private
ENED02	Energy Storage and Battery Testing Sites	University of Hawai'i Systems; Private	Y	Public Works	TBD	$5 million	TBD	Private; State and County of Hawai'i ; US Dept of Energy
EN12	Net Zero Kona (Keahole) International Airport via sea water air conditioning	State of Hawai'i Department of Transportation Airports Division; University of Hawai'i Systems	N	N/A	250	$2 million	TBD	State of Hawai'i; Private; US Dept of Energy
EN13	Algae to biofuel.	Consortium	Y	Tech Assistance	TBD	$10 million	TBD	Private; US Dept of Energy
ENERGY DEVELOPMENT-LONG TERM: 4 - 5 YEARS								
EN14	Development of alternate energy resources.	Private/Public Consortium	N	N/A	TBD	TBD	TBD	U.S. Department of Energy
ENHSG01	Net Zero Community Centers	Private Nonprofit Organizations	N	N/A	500	$5 million	TBD	Private
HOUSING & RESORT DEVELOPMENT + subcategories HSGHW (Housing-Health &Wellness), HSGSCI (Housing-Science) and HSGVI (Housing-Visitor)								
HOUSING & RESORT DEVELOPMENT-SHORT TERM: 1 - 3 YEARS								
HSG01	Kaloko Housing Project construction: Project includes a 96-unit complex with transitional housing apartments and apartments for low-income residents, a wastewater treatment plant, a 15,000-sq ft warehouse, a 3,600-sq-ft community center, and education center for job training, budgeting, and child care assistance.	County of Hawai'i Office of Housing and Community Development	Y	Public Works	500	$12.4 million	$4.9 million	County of Hawai'i Capital Improvement Project Fund
HSG02	Kamakoa Workforce Housing project in Waimea.	County of Hawai'i Department of Housing and Community Dev	Y	Public Works	1000	$28 million	TBD	County of Hawai'i Capital Improvement Project; HUD

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HSG03	Saddle Road resurfacing 43-56 MP (RTE 200), design and construction.	County of Hawai'i Department of Public Works	Y	Public Works	12	$15 million	TBD	County of Hawai'i, State of Hawai'i Capital Improvement Project Funds
HSG04	Completion of Department of Hawaiian Home Lands Target and Safeway Stores development in Hilo.	Department of Hawaiian Homelands, Safeway and Target Corporations	Y	Public Works	3000	$50 million	N/A	DHHL; Private; USDA Rural Development
HSG05	Analyze existing housing needs and forecast housing objectives (rental and ownership as well as, elder housing).	County of Hawai`I; Hawaii Island Community Development Corp; Hawaii Island Economic Development Board	Y	Technical Assistance	TBD	TBD	TBD	Private; State of Hawai`i
HSG06	Completion of the West Hawai'i Civic Center.	County of Hawai'i	Y	Public Works	5000	$56 million	N/A	County of Hawai'i Capital Improvement Project Fund
HSG07	Feasibility study for a business incubator.	Private; Hawaii Island Economic Development Board	Y	Technical Assistance	4	$100,000	$75,000	Private, State
HSGHW01	Feasibility study on multi-use arena and parks on the island.	Private	Y	Technical Assistance	TBD	TBD	TBD	Federal, County, Private
HSGHW02	Engineering and Construction design for Hilo Bayfront Trails, a multi-modal recreation and transit system.	County of Hawai'i Department of Public Works	Y	Public Works	500	$1 million	$500,000	County of Hawaii and State of Hawaii Capital Improvement Project Funds
HSGHW03	Feasibility study and management plan for Elder Housing with transition to On-Site Assisted Living in Keaukaha and Kailua-Kona	Private; Non-Profit	Y	Technical Assistance	5	TBD	TBD	DHHL; Administration for Native Americans (DHHS); Private
HSGHW3	Eco-Industrial Park Feasibility Study.	County of Hawai'i Department of Research and Development	Y	Technical Assistance	5	$150,000	$75,000	State and County of Hawai'i
HSGSCI1	Business Innovation Program: 6-8 months strategic sustainability development initiative with up to 15 large and medium size businesses.	County of Hawai'i Department of Research and Development	Y	Economic Adjustment	5	$150,000	$130,000	Private Nonprofit; Private Industry

STATE OF HAWAI`I COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY (CEDS)
COUNTY OF HAWAI`I PRIORITY PROJECTS LIST

ID Number	Project	Applicant	Meets EDA Criteria	Project Type	Est. Jobs	Estimated Total Cost	Est. EDA or Other Federal Funding	Potential Sources of Matching Funds
HSGVI1	Connector Roads and bypass highways; Ane Keohokalole (Kona Mid-level) Road and Phase II Queen Kaahumanu project.	State of Hawai'i Department of Transportation	Y	Public Works	2000	$35 million	$35 million	County, State, Federal, Private
HOUSING & RESORT DEVELOPMENT-LONG TERM: 4 - 5 YEARS								
HSG08	Population Center Master Plans.	County of Hawai'i Planning Department, Department of Research and Development; Department of Finance	N	N/A	TBD	$400,000	TBD	County of Hawai'i, State of Hawai'i, Federal, Private
HSG09	Construction of a business incubator.	Private	Y	Public Works Economic Adjustment	TBD	TBD	TBD	Private, State,
HSGHW04	New 7.9-acre park development at Machado Acres Subdivision.	County of Hawai'i Department of Parks and Recreation	Y	Public Works	25	$ 4 million	TBD	County CIP, Federal
HEALTH & WELLNESS + subcategories HWEN (Health & Wellness-Energy) and HWHSG (Health & Wellness-Housing)								
HEALTH & WELLNESS-SHORT TERM: 1 - 3 YEARS								
HW01	Comprehensive Health Information Technology Project.	Consortium--University of Hawai'i Systems, County of Hawai'i Office of the Mayor, Community Collaboration for Health and Healthcare on Hawai'i Island	N	N/A	3000	$20 million	$16 million	Private
HWEN01	The BEST Business Center (Business for an Environmentally Sustainable Tomorrow): a "one-stop shop" for businesses in Hawai'i County that want to become greener and more profitable.	County of Hawai'i Department of Research and Development	Y	Technical Assistance	500	$500,000	TBD	State of Hawai'i - NELHA and SBDC; Private Nonprofit Organizations;

STATE OF HAWAI`I COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY (CEDS)
COUNTY OF HAWAI`I PRIORITY PROJECTS LIST

ID Number	Project	Applicant	Meets EDA Criteria	Project Type	Est. Jobs	Estimated Total Cost	Est. EDA or Other Federal Funding	Potential Sources of Matching Funds
HWHSG01	Development of East Hawai'i landfill alternative.	County of Hawai'i Department of Environmental Management; State of Hawai'i Department of Health; Private	Y	Public Works	TBD	TBD	TBD	Private, County, State, Federal
HWHSG02	Reconstruction of Pahoa Recycling and Transfer Station; includes retaining walls, refuse chutes, drainage improvements and recycling enhancements.	County of Hawai'i Department of Environmental Management	Y	Public Works	50	$4 million	TBD	County, State, Federal
HWHSG03	Reconstruction of Volcano Recycling and Transfer Station; includes retaining walls, refuse chutes, drainage improvements and recycling enhancements.	County of Hawai'i Department of Environmental Management	Y	Public Works	50	$4 million	TBD	County; State; Private
HWHSG04	Construction of a Waiohinu Regional Transfer and Recycling Station.	County of Hawai'i Department of Environmental Management	Y	Public Works	80	$8 million	TBD	TBD
HWHSG05	Queen Lili`uokalani LCC Replacement.	County of Hawai'i Department of Environmental Management	Y	Public Works	200	$13 million	TBD	County CIP; Private; USDA Rural Development; HUD
HWHSG06	Honokaa LCC Replacement.	County of Hawai'i Department of Environmental Management	Y	Public Works	150	$4 million	TBD	County CIP; USDA Rural Development; HUD
HWHSG07	Komohana Heights LCC Replacement.	County of Hawai'i Department of Environmental Management	Y	Public Works	50	$4 million	TBD	County CIP; USDA Rural Development; HUD
HWHSG08	North Kona sewer and reuse infrastructure installation.	County of Hawai'i Department of Environmental Management	Y	Public Works	150	$7 million	TBD	County CIP; USDA Rural Development; HUD
HWHSG09	Makalei Fire Station.	County of Hawai'i Fire Department	Y	Public Works		$9 million	$4 million	County CIP, State of Hawai`i, Private

STATE OF HAWAI`I COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY (CEDS)
COUNTY OF HAWAI`I PRIORITY PROJECTS LIST

ID Number	Project	Applicant	Meets EDA Criteria	Project Type	Est. Jobs	Estimated Total Cost	Est. EDA or Other Federal Funding	Potential Sources of Matching Funds
HWHSG10	Sanitary sewer system for Puako Beach Lots.	County of Hawai'i Department of Environmental Management; Department of Health	Y	Public works	TBD	$10 million	TBD	TBD
HWHSG11	Master plan concept and financing for new natural system wastewater treatment facility and relocated transfer station/recycling center - West Hawai'i.	County of Hawai'i Department of Environmental Management	Y	Technical Assistance	5	$500,000	$250,000	State of Hawai'i, Federal
HEALTH & WELLNESS-LONG TERM: 4 - 5 YEARS								
HW02	New waste transfer stations throughout the County.	County of Hawai'i Department of Environmental Management; State of Hawai'i Department of Health	Y	Public Works	TBD	TBD	TBD	TBD
HW03	Diversion of organic waste from landfill.	County of Hawai'i Department of Environmental Management; Hawai'i Island Economic Development Board	Y	Public Works Technical Assistance	TBD	TBD	TBD	County of Hawai`i; State of Hawai`i; Private; USDA Rural Development and Environmental Protection Administration
HW04	Feasibility study for a health and wellness center.	Consortium	Y	Technical Assistance	TBD	TBD	TBD	TBD
HW05	Develop services to address obesity, eating disorders and obesity.	Consortium	N	N/A	TBD	TBD	TBD	TBD
SCIENCE & HIGH TECHNOLOGY + subcategories SCIED (Science-Education) and SCIHSG (Science-Housing)								
SCIENCE & HIGH TECHNOLOGY-SHORT TERM: 1 - 3 YEARS								
SCI01	West Hawai'i Innovation Center at NELHA: Phase I Feasibility study; Phase II A&E/Master Plan; Phase III Construction.	County of Hawai'i	Y	Technical Assistance, Public Works	1000	$25,000,000	TBD	County of Hawai'i, State of Hawai'i, Federal, Private

STATE OF HAWAI`I COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY (CEDS)
COUNTY OF HAWAI`I PRIORITY PROJECTS LIST

ID Number	Project	Applicant	Meets EDA Criteria	Project Type	Est. Jobs	Estimated Total Cost	Est. EDA or Other Federal Funding	Potential Sources of Matching Funds
SCI02	Film Production Sound Stage and Training Center: (1) Feasibility study; (2) Architecture and Engineering plan; (3) Construction.	Consortium of County, State and Private	Y	Technical Assistance and Public Works	1000	(1) $150,000; (2 and 3) TBD	(1) $75,000	University of Hawai'i System
SCI03	Feasibility Study to assess island wide capacity and resources for tele- and videoconferencing.	County of Hawai'i Department of Research and Development	Y	Technical assistance	TBD	$25,000	$10,000	University of Hawai'i System; Private
SCI04	CO_2 and Ocean Acidification Research including building of Observation Platforms	Consortium, Liquid Robotics	Y	Technical Assistance,	10	$1.9 million	TBD	Private, State, Federal
SCI05	Development and utilization of by-products from alternate energy conversion projects including development of new exportable products.	Consortium, Big Island Carbon, Cordon Technologies	Y	Technical Assistance, Public Works		$37 million	$32 million	Private - $5million; County, State, Federal
SCI06	Small business programs to support science and technology businesses in Hawai'i County.	Private, County	Y	Economic Adjustment	TBD	TBD	TBD	Private
SCI07	Feasibility study for the expansion of film and digital media.	County of Hawai'i Department of Research and Development	Y	Technical Assistance	TBD	TBD	TBD	TBD
SCI08	Feasibility study for the development of a repository and regional laboratory for terra and marine extremophiles – including study and protection of lava tube/cave systems	University of Hawai`i; Hawaii Island Economic Development Board	Y	Technical Assistance	25-50	$250,000	TBD	National Science Foundation; Private Foundations {The National Cave and Karst Research Institute}; Pharmaceutical Companies
SCIED01	UH Hilo Science and Technology Center.	University of Hawai'i System	Y	Public Works	65	$16 million	TBD	State of Hawai'i, Federal
SCIHSG02	Sustainable Technology Center Phase I: Feasibility Study to include Green Workforce Development; Phase II: Architecture and Engineering Design; Phase III Construction.	University of Hawai'i System	Y	Technical Assistance and Public Works		$15.5 million	TBD	State of Hawai'i Department of Labor; Federal; County of Hawai'i Department of Research and Development

STATE OF HAWAI`I COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY (CEDS)
COUNTY OF HAWAI`I PRIORITY PROJECTS LIST

ID Number	Project	Applicant	Meets EDA Criteria	Project Type	Est. Jobs	Estimated Total Cost	Est. EDA or Other Federal Funding	Potential Sources of Matching Funds
SCIENCE & HIGH TECHNOLOGY-LONG TERM: 4 - 5 YEARS								
SC108	Improve existing and install new infrastructure to support astronomy/observatory industry on Mauna Kea	Consortium	Y	Public Works	TBD	TBD	TBD	Private, State, National Science Foundation
SCI09	Island-wide broadband: Planning and Design, and Implementation.	County of Hawai'i, State of Hawai'i; Private	Y	Public Works	TBD	$80 million	TBD	Federal, State, County, Private,
VISITOR INDUSTRY (HERITAGE, CRUISE, ECOTOURISM) + subcategories VIED (Visitor-Education) VIHSG (Visitor-Housing) and VISCI (Visitor-Science)								
VISITOR INDUSTRY-SHORT TERM: 1 - 3 YEARS								
VI01	Marketing campaign and materials to explain filming protocols in culturally sensitive areas.	County of Hawai'i Department of Research and Development	N	N/A	TBD	$35,000	$20,000	Private nonprofit organizations; Hawai'i Tourism Authority; Office of Hawaiian Affairs
VI02	Hawai'i Volcanoes National Park infrastructure improvements.	National Park Service-Department of the Interior	N	N/A	TBD	$9 million	TBD	Federal
VI03	Continued custodial, security and maintenance for the visitor industry.	County of Hawai'i			23-25	$640,000 annually		
VI04	Feasibility study for parking garage in Downtown Hilo.	County of Hawai'i Department of Public Works; County of Hawai'i Department of Research and Development; Department	Y	Technical Assistance	3000	$100,000	$50,000	Private nonprofit organizations; Hawai'i Tourism Authority; State of Hawai'i Department of Transportation

STATE OF HAWAI`I COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY (CEDS)
COUNTY OF HAWAI`I PRIORITY PROJECTS LIST

ID Number	Project	Applicant	Meets EDA Criteria	Project Type	Est. Jobs	Estimated Total Cost	Est. EDA or Other Federal Funding	Potential Sources of Matching Funds
VI05	Feasibility study for the transfer of Banyan Drive from the DLNR to private ownership.	County of Hawai'i Department of Research and Development	Y	Technical Assistance	TBD	$50,000	$25,000	State of Hawai'i Department of Land and Natural Resources; Office of Hawaiian Affairs; Private
VI06	Feasibility study for a Hula Museum, Performance Center and Halau Studio In Hilo.	County of Hawai'i Department of Research and Development	Y	Technical Assistance	TBD	$100,000	$50,000	Merrie Monarch Festival; Hawai'i Tourism Authority; Private
VI07	Heritage Corridor (continuing): (1) Ali'i Drive; (2) Holualoa.	Consortium of County, State and Private; Pulama la Kona; Kona Historical Society; Kona Village Business Improvement District	Y	Public Works	100+	TBD	TBD	State and County of Hawai'i; Private; Federal
VIED01	Visiting Artists Program.	County of Hawai'i Department of Research and Development; Private Nonprofit Organizations	N	N/A	1000	$50,000	N/A	University of Hawai'i System; State of Hawai'i Department of Education; Hawai'i Tourism Authority
VISITOR INDUSTRY-LONG TERM: 4 - 5 YEARS								
VI08	Heritage District Center and Infrastructure.	County of Hawai'i Departments of Research and Development and Public Works; Private Nonprofit Organizations	Y	Public Works	1500	TBD	TBD	TBD
VI09	Completion of Master Plan Improvement Projects for Kona (Keahole) International Airport.	State of Hawai'i Department of Transportation - Airports Division, County of Hawai'i	Y	Public Works	TBD	TBD	TBD	State of Hawai`i Dept of Transportation; Transportation Security Administration; Homeland Security
VI10	Completion of Master Plan Improvement Projects at Kailua Pier.	State Department of Transportation - Harbors Division, County of Hawai'i	Y	Public Works	TBD	TBD	TBD	State of Hawai`i Dept of Transportation; Transportation Security Administration; Homeland Security

STATE OF HAWAI`I COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY (CEDS)
COUNTY OF HAWAI`I PRIORITY PROJECTS LIST

ID Number	Project	Applicant	Meets EDA Criteria	Project Type	Est. Jobs	Estimated Total Cost	Est. EDA or Other Federal Funding	Potential Sources of Matching Funds
VIHSG01	Pier renovations at Hilo, Kona and Kawaihae Harbors.	State of Hawai'i Department of Transportation-Harbors Division and Department of Land and Natural Resources	Y	Public Works	4000	Hilo $12 million; Kona $4 million; Kawaihae $21 million	TBD	Federal, State DOT, State DLNR, County of Hawai'i
VIHSG02	Hilo International Airport upgrades.	State of Hawai'i Department of Transportation - Airports Division	Y	Public Works	150	$3 million	TBD	Federal, State
VISCI1	Develop and host science and technology events.	Private; Non-Profits;	Y	Technical Assistance	TBD	TBD	TBD	Private, Foundations; State Department of Education;
UNCATEGORIZED PROJECTS								
UC01	North Kohala Upolu Airport acquisition of lands for runway protection zones and terminal expansion.	County of Hawai'i	Y	Public Works	TBD	TBD	TBD	TBD
UC02	Waimea-Kohala Airport enlargements for fixed wing and helicopter hangers.	County of Hawai'i	Y	Public Works	TBD	TBD	TBD	TBD
UC03	Puuanahulu Industrial Park.	County of Hawai'i	Y	Public Works	83	$160,000	TBD	TBD
UC04	Completion of the Keaukaha Military Reservation Armed Forces Reserve Center.	Department of Hawaiian Homelands; Department of Defense	Y	Public Works	500	$50 million	N/A	TBD

CHAPTER 6

STATE PROJECTS

STATE PROJECT LISTING

Project	Applicant	Meets EDA Criteria	Project Type	Est. Jobs	Est. Total/ Federal Cost	Pot. Matching Funds Source
Hawaii APEC 2011: Positioning Hawaii for the Future	Enterprise Honolulu	Yes	Economic Adjustment	NA	$750,000/ $375,000	Applicant
Kalihi Palama Health Center Main Facility Expansion	Kalihi Palama Health Center	Yes	Public Works	TBD	$16 million Total Est. Cost	State and Local Grants, Capital Campaign, Corp. Donors, Private Investors
Broadband Infrastructure for Economic Development in Hilo's University Research Park	University of Hawaii at Hilo	Yes	Public Works	20	$600,000/ $300,000	Applicant, State, and Donors
Research and Planning of Employer Assisted Housing	Hawaii Housing Finance and Development Corporation	Yes	Technical Assistance	TBD	TBD	Applicant
Workforce Readiness Assistance for Priority CEDS Projects	Economic Development Alliance of Hawaii	Yes	Technical Assistance	Varies by Project	$500,000/ $250,000	State, Local,and Private Sector Sources
Strategic Plan for Increased Agricultural Self-Sufficiency	Hawaii State Office of Planning	Yes	Economic Adjustment		$196,000/ $98,000	Applicant

Project Descriptions

Kalihi Palama Health Center Main Facility Expansion

The Kalihi Palama Health Center is a mission-driven, full-service, community-oriented organization focused on providing needed preventive and primary health care services, advocating for those in need, and conducting culturally sensitive, health-oriented educational outreach to patients, agencies, and community leaders. Its outpatient health care offerings include:

- Internal Medicine and Family Practice
- Women's Health
- Pediatrics
- Dental Services
- Health Care for the Homeless
- Health and Health Professions Education
- Midwifery
- Optometry
- Women's, Infants' and Children's Nutrition (WIC)
- Behavioral Health

The Kalihi Palama Health Center proposes expansion of its main facility to consolidate operations currently distributed over five separate locations. The project would create a 40,000 square-foot facility housing a consolidated, comprehensive community-based health center. Total projected cost is estimated at $16 million. The project will result in increased operational efficiencies and decreases in operational costs, a reduction of barriers to care, and increased patient and staff satisfaction.

Labor Workforce Readiness Assistance for Priority CEDS Projects

Labor is an integral element in the physical aspects of economic development. Their decades of hands-on experience in the initiation and completion of construction projects has given them unique insights and made them a significant untapped resource in the improvement of these aspects of economic development throughout the State of Hawaii.

The Economic Development Alliance of Hawaii (EDAH), whose membership includes the Economic Development Boards of Kauai, Maui, and Hawaii Island, proposes a two-year technical assistance program to enhance labor's role in the execution of approved CEDS projects. The program would be oriented toward increasing labor's role in economic development, including participation in collaborative and coordinative capacities in project implementation, the establishment of practices which improve workplace safety, work process efficiency, and work product quality, and the reduction of barriers to project completion.

EDAH proposes a 2-year, $500,000 program to apply this approach to approved CEDS construction projects. $250,000 in funding assistance is requested, with the remaining $200,000 to be obtained from other sources.

Hawaii APEC 2011: Positioning Hawaii for the Future

Honolulu has been selected for the site of the 2011 Asia-Pacific Economic Cooperation (APEC) annual conference which rotates among its 21 members. APEC is the premier forum for facilitating economic growth, cooperation, trade, and investment in the Asia-Pacific region.

Enterprise Honolulu proposes to use the APEC events as a springboard to rebrand and reposition Hawaii's export-related services and share Hawaii's economic initiatives in energy and biomedical clusters with leaders. Enterprise Honolulu, in partnership with the East-West Center, will prepare a strategy to engage small and medium size business with APEC. Enterprise Honolulu will plan and conduct a one-day site visit of renewable energy projects on the Big Island. Enterprise Honolulu will plan and conduct site visits pertaining to biomedical applications in Hawaii.

Enterprise Honolulu proposes an eighteen month project from October 1, 2010 through March 31, 2012. $375,000 in federal assistance is requested with the matching $375,000 provided by Enterprise Honolulu and private sector donors.

Research and Planning for Employer Assisted Housing Strategies

Hawaii has a shortage of workforce housing in the price range for skilled employees making it hard for Hawaii's employers to attract and retain the skilled workers needed to grow emerging industry clusters.

Hawaii Housing Finance and Development Corporation proposes to research successful employer-assisted housing strategies that enable skilled workers to remain in Hawaii. The research will focus on different industries to determine which specific strategies are most helpful in retaining workers. The project will be funded with state and private investments. The amount of funding required will be determined.

Broadband Infrastructure for Economic Development in Hilo's University Research Park

Located adjacent to the University of Hawaii at Hilo, the Hilo University Research Park (HURP) is one of the most important economic development anchors for the Island of Hawaii. HURP is already the home to major telescope base facilities, federal agency offices and laboratories, and the Imiloa Astronomy Center.

As such, HURP hosts a significant and growing population of STEM-related employees on the island. More importantly, with ample land available for development for R&D activities, HURP has become a magnet for an increasing number of both public and private-sector science-related jobs in this economically distressed region.

Broadband connectivity has become one of the most critical infrastructure components for modern economic development, and this project will provide the planning and design necessary to ensure that all current and future facilities in HURP have cost-effective access to world-class connectivity with the global research and education community (e.g., Internet2) as well as commercial services.

The proposed planning and design activities will result in development of modern broadband infrastructure to support globally competitive services and capabilities in support of 21st century economic development. It will support outcomes such as enhanced public/private partnerships for job creation, a smart energy grid to support sustainability, and expansion into information technology and health IT as these sectors grow on the island. The project is estimated to cost $600,000 in total with $300,000 being requested from EDA.

Strategic Plan for Increased Agricultural Self-Sufficiency

Globalization has dramatically reduced the number of agricultural businesses in the State of Hawaii over the last several decades. Hawaii used to be an exporter of agricultural products, but now over 90% of food consumed locally is imported.

The Office of Planning proposes to research and design strategies to assist farmers to create successful agricultural businesses within the constraints and opportunities of Hawaii's land use regulations and land values. Hawaii recognizes that farming must be economically feasible in order to grow agricultural businesses.

In particular, the Office of Planning proposes to research ways to increase and expand local markets for Hawaii farmers and products, e.g. by promoting locally grown food. This is supportive of parallel local efforts to increase Hawaii’s agricultural self-sufficiency and White House efforts to support consumption of healthy foods.

The Office of Planning is requesting $98,000 in federal funds to be matched with $98,000 of in-kind services to complete the project.

APPENDICES

SUPPORTING INFORMATION

COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY

2010

Performance measures will include the following:

- Number of Jobs (Trends)
- Number of Jobs in High Wage Occupations (Trends)
- Level of Unemployment Statewide (Trends)
- Level of Unemployment in Geographic Areas With Existing High Levels of Unemployment
- Total Personal Income
- Key Industry Sector Revenues
- Level of Agricultural Self-Sufficiency in Selected Crops

PERFORMANCE MEASURES

APPENDIX A

CEDS STRATEGY COMMITTEE LETTER OF ACCEPTANCE

APPENDIX B