

## Chapter 9: Monitoring and Evaluation

*A single day of freezing weather is not enough to create three feet of ice.  
~ Chinese Proverb*



*Agricultural Fields of the Central Plains.*

**T***he Maui Island Plan is just that – a plan of action. It rests with all of us to see that we travel the long road ahead with our vision lighting the way, and our every step along the path monitored and evaluated to ensure we are moving ever closer to our ultimate goal. For that we need predesigned and designated measurement tools. We need prearranged benchmarks to test the effectiveness of our actions. We need courage to move forward into the future, we need commitment to hold to our values, and we need the patience to wait for the fruits of our labor. This Chapter outlines a comprehensive strategy to monitor the attainment of the MIP’s goals and objectives, moving us ever closer to our vision of the future.*

## ***MONITORING AND EVALUATION***

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How will we know if quality of life is improving on Maui? Some actions proposed will have perceivable impacts in the short term, while others will take much longer to develop, fund, and implement. The Monitoring and Evaluation Program described in this chapter establishes a strategy to track the implementation, evaluate the effectiveness of policies and programs, monitor the quality of life on Maui, and allow for periodic program adjustments. This strategy includes establishing and monitoring performance indicators to help implementing agencies attain planned outcomes.

The MIP's indicators provide the foundation for the Monitoring and Evaluation Program. Specific benchmarks should be used to measure progress in the implementation of MIP policies and actions. Physical, environmental, cultural, and socio-economic indicators are used to assess the overall quality-of-life on Maui.

The Department of Planning will oversee the Monitoring and Evaluation Program, which will include the preparation of the Monitoring Report. The Department may modify or add indicators, as needed, to track the impacts of plan implementation. The Department will prepare a monitoring report to report on the progress of plan implementation and provide a portrait of the quality of life on Maui.



*Agricultural fields near Pukalani.*

### **Benchmarks to Measure Progress**

Benchmarks will be developed for major proposed programs and actions such as the TDR/PDR program, updating the 1984 Cultural Resources Management Plan for Maui, and amending the County Zoning Code. Benchmarks are established targets that track the phases of implementation and should be clear, realistic, include a time element, and be measurable, if possible. For example, benchmarks for the TDR/PDR program might include: 1) Fully implement TDR/PDR program by 2010; 2) 1,000 acres of prime agricultural resource land preserved in perpetuity by 2015; and 3) 5,000 acres of prime agricultural resource land preserved in perpetuity by 2030.



## ***MONITORING AND EVALUATION***

The Department of Planning will coordinate with the appropriate agencies and program specialists to establish benchmarks for major programs and initiatives. The benchmarks will be set following adoption of the MIP; analysis of the benchmarks will be provided in the Monitoring Report. This analysis will reveal whether benchmarks are being exceeded, attained, or not being met. Periodic monitoring provides the opportunity to consider the need for new or revised strategies or implementation measures. Benchmarks may also be revised as necessary in response to periodic program evaluations.

### **Quality of Life Indicators**

The Department of Planning will monitor a core set of indicators. Table 9-1 includes a core set of 36 indicators that could be used to monitor progress toward achieving the goals and objectives of the MIP. Many indicators identified in this plan have been borrowed from existing plans, programs and reports, and are based on available and reliable data to ensure their usefulness throughout the planning horizon. However, they can be modified and updated as new data becomes available.



*Pāpalaua Beach, Lahaina.*

Furthermore, the quality of life indicators are intended to represent a range of measurements across the various chapters of the MIP. The indicators are regional in nature to focus on the island as a whole, rather than individual communities. Where possible, commonly used indicators have been chosen in order to facilitate comparisons between Maui and other jurisdictions. The indicators are grouped by the following three thematic areas and nine categories:

<b>Built Environment</b>	<b>Social Environment</b>	<b>Natural Environment</b>
<ul style="list-style-type: none"> <li>• Land Use</li> <li>• Infrastructure and Public Facilities</li> <li>• Transportation</li> </ul>	<ul style="list-style-type: none"> <li>• Cultural Heritage Resources</li> <li>• Economic Development</li> <li>• Population</li> </ul>	<ul style="list-style-type: none"> <li>• Watershed Systems</li> <li>• Marine Environment</li> <li>• Wildlife and Natural Areas</li> </ul>

These core indicators not only provide a snapshot of the quality of life on Maui, but also track the progress of key issues that the MIP intends to address. Table 9-2 articulates how the indicators relate to the MIP goals and details appropriate sources of data.

### **Monitoring and Evaluation Program Management**

The Monitoring and Evaluation Program is a comprehensive and dynamic tool designed to track plan implementation throughout the 2030 planning horizon. Active and ongoing management of the program is essential for ensuring its usefulness and success. The Department of Planning will manage and update the Monitoring and Evaluation Program and initiate adjustments to the program as needed.



*Coral reef at Ukumehame.*

### **Monitoring Report**

The Department of Planning will complete the Monitoring Report, which will report on the established quality of life indicators and the status of implementing MIP programs against established benchmarks. The report will discuss the significance and findings of each indicator and will address emerging indicator trends to provide a snapshot of the quality of life on Maui.



*Paniolos herding cattle at Thompson Ranch, Keokea.*

The report will document the changes in the core indicators, provide analysis as to the observable trends, and assess the progress towards the plan's goals. In this report, core indicators can be augmented by additional data and indicators. An example is Indicator 15, which tracks "Dollars Spent per day per Visitor"; this can be used to assess the economic value of tourism and can be supplemented by data on Hotel Occupancy Rates, the total number of Hotel Rooms, Time Shares, Vacation Rental Condos, and Bed and Breakfast accommodations. In addition, the report will examine the progress made on the various benchmarks. Comparing

actual achievements with established milestones will help in determining whether community desires are being attained, exceeded, or not being met within the established timeframe. It is intended that the General Plan Monitoring Report serve as a "report card" for plan implementation and identify successes, weaknesses, and strategies for improvement.

**Table 9 – 1: Core Indicators**

<b><i>BUILT ENVIRONMENT INDICATORS</i></b>	
<b><i>LAND USE</i></b>	
1	Building Permits issued inside UGB vs. outside UGB
2	Average Density of new developments
3	% of Infill vs. Greenfield development
4	Housing affordability index
<b><i>TRANSPORTATION</i></b>	
5	Vehicle Miles Travelled (VMT)
6	Commuter mode shares
7	Annual Transit Ridership
8	Total Mileage of dedicated bike lanes
<b><i>INFRASTRUCTURE</i></b>	
9	Percentage of waste that is recycled
10	Parks and Open Space per 1000/population
11	% of energy consumption by source of production
12	Energy consumption per capita
<b><i>SOCIAL ENVIRONMENT INDICATORS</i></b>	
<b><i>ECONOMIC DEVELOPMENT</i></b>	
13	Cost of Living Index
14	Value of Agricultural Production
15	\$ spent per day per visitor
16	% of Fruit and Vegetables consumed that are grown on Maui
<b><i>POPULATION / COMMUNITY</i></b>	
17	Unemployment rate
18	Poverty rate
19	College bound rate
20	Prevalence of overweight and obese adults
<b><i>CULTURAL HERITAGE</i></b>	
21	Course enrollment in Hawaiian Language programs
22	Tons of Taro grown and sold
23	# of new designated heritage and cultural sites
24	Scenic Roadways – total miles
<b><i>NATURAL ENVIRONMENT INDICATORS</i></b>	
<b><i>WATERSHED SYSTEMS</i></b>	
25	% of streams on monitoring list
26	Reclaimed water use
27	Watershed health
28	Drinking water quality
<b><i>OCEAN / MARINE ENVIRONMENT</i></b>	
29	Coastal water quality
30	% of healthy coral reefs
31	# of Shoreline postings (beach closures due to pollution)
32	Amount of reef fish biomass
<b><i>WILDLIFE AND NATURAL AREAS</i></b>	
33	# of Threatened and endangered species
34	Acres of Protected and Conservation lands
35	Air Quality Index
36	Habitat Fragmentation

**Table 9 – 2: MIP Performance and Quality of Life Indicators : Goals Association and Potential Data Sources**

	<b><i>Built Environment Indicators</i></b>	<b><i>Goal Association</i></b>	<b><i>Data Sources</i></b>
	<b><i>LAND USE</i></b>		
1	Building Permits issued inside UGB vs. outside UGB	Protect Agricultural Land, Make Livable Communities	County of Maui Planning Dept.
2	Avg. Density of new developments	Make walkable communities, increase housing affordability	County of Maui Planning Dept.
3	% of Infill vs. Greenfield development	Create compact, efficient, human scale communities	County of Maui Planning Dept.
4	Housing affordability index	Increase housing affordability	NAR methodology, UHERO, County Data Book
	<b><i>TRANSPORTATION</i></b>		
5	Vehicle Miles Travelled	Reduce fossil fuel consumption	County Data Book / HI DOT (Highways Div., Planning Branch)
6	Commute mode shares	Provide transportation options, reduce fossil fuel consumption	State DOT
7	Annual Transit Ridership	Provide integrated transit systems	Maui County DOT
8	Total Mileage of dedicated bike lanes	Provide a multi-modal transportation system	HI DOT bike master plan
	<b><i>INFRASTRUCTURE</i></b>		
9	Percentage of waste that is recycled	Minimize solid waste, divert solid waste to recycling	County of Maui Environmental Management
10	Parks and Open Space per 1000/population	Expand opportunities for recreation, provide public amenities at LOS standards	County of Maui Dept. of Parks
11	% of energy consumption by source	Reduce fossil fuel consumption, increase use of renewable energy	DBEDT
12	Energy consumption per capita	Sustainable development indicator, reduce fossil fuel consumption	DBEDT

**Table 9 – 2: MIP Performance and Quality of Life Indicators : Goals Association and Potential Data Sources**

	<i>Social Environment indicators</i>	<i>Goal Association</i>	<i>Data Sources</i>
	<b><i>ECONOMIC DEVELOPMENT</i></b>		
13	Cost of Living Index	Quality of life indicator	County of Maui data book
14	Value of Agricultural Production	Maintain AG's share of island economy	UHERO
15	\$ spent per day per visitor	Increase financial contribution of tourism	DBEDT
16	% of Fruit and Vegetables consumed that are grown on Maui	Increase locally grown food, decrease imported food	Dept. of Agriculture - State of Hawai'i / UH College of Tropical Agriculture
	<b><i>POPULATION / COMMUNITY</i></b>		
17	Unemployment rate	Quality of life indicator	UHERO > U.S. Dept. of Labor, Bureau of Labor Statistics
18	Poverty rate	Quality of life indicator	US Census Community Survey via DBEDT
19	College bound rate	Increase post-secondary education	Kids Count Data Centre, Annie E. Casey Foundation
20	Prevalence of overweight and obese adults	Quality of life indicator	CDC / NIH
	<b><i>CULTURAL HERITAGE</i></b>		
21	Enrollment in Hawaiian Language courses	Healthy + vibrant Island culture	Dept. of Education, State of Hawai'i
22	Tons of Taro grown and sold	Healthy + vibrant Island culture, local traditions	County of Maui data book
23	# of new designated heritage / cultural sites	Protection of cultural resources	HI State DLNR, Preservation Div.
24	Miles of Scenic Roadways + # of Scenic Vistas	Protect + enhance scenic vistas	County of Maui

**Table 9 – 2: MIP Performance and Quality of Life Indicators : Goals Association and Potential Data Sources**

	<i>Natural Environment indicators</i>	<i>Goal Association</i>	<i>Data Sources</i>
	<b>WATERSHED SYSTEMS</b>		
25	% of streams on monitoring list	Enhance the functioning + vitality of streams	HI, DOH, Environmental Planning Office
26	Reclaimed water use	Decrease pollution , sustainability indicator	County of Maui Department of Water Supply
27	Watershed health	Protect + enhance native eco-systems	DLNR, University of Hawai`i, Pacific Neon
28	Drinking water quality	Increase water quality, basic quality of life	County of Maui Department of Water Supply
	<b>OCEAN / MARINE ENVIRONMENT</b>		
29	Coastal water quality	Decrease pollution	HI, DOH, Clean Water Branch
30	% of healthy coral reefs	Improve reef health	Division of Aquatic Resources, Dept. of Land and Natural Resources, HI
31	# of Shoreline postings (i.e. beach closures due to pollution)	Decrease pollution	HI, DOH, Clean Water Branch
32	Amount of reef fish biomass	Increase reef health, preserve biodiversity	Division of Aquatic Resources, Dept. of Land and Natural Resources, HI
	<b>WILDLIFE AND NATURAL AREAS</b>		
33	# of Threatened and endangered species	Preserve biodiversity	US Fish + Wildlife Service
34	Acres of Protected and conservation lands	Protect sensitive lands	County of Maui
35	Air Quality Index	Quality of life indicator	US EPA, Air Quality Index Report
36	Habitat Fragmentation	Protect natural ecosystems	