September 2023

DRAFT

COUNTY OF HAWAIʻI

GENERAL PLAN 2045

Planning for a Sustainable Future

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GENERAL PLAN INTRODUCTION

Introduction

The County of Hawai‘i encompasses the Island of Hawai‘i, which is the southeastern-most and youngest island of the Hawaiian archipelago. Hawai‘i Island is nearly twice the combined land area of the remainder of the state and has a diverse climate and topography, including ten of the earth’s fourteen climate subgroups. The island’s regions offer scenic beauty and wilderness areas as well as a variety of settings for human activity and land and resource utilization.

Navigating Growth on Hawai‘i Island

Hawai‘i Island is unique in the world. Our community recognizes and values the dark blue waters off our coasts, fiery flowing lava of Kīlauea, expansive valleys, snow-capped mountaintops, and all the spaces between. Hawai‘i has long attracted both visitors wishing to experience our island and those who now call Hawai‘i home. Navigating our island’s future growth requires hearing the voices of our diverse population and balancing their needs. Effective growth plans evaluate the past, incorporate current realities, assess future challenges, and craft meaningful solutions. Careful consideration of these factors results in successful long-range planning.

Advancing Hawai‘i Island Together

In an increasingly polarized world, the importance of collaborating to navigate through a variety of situations should be of utmost importance. Recognizing and embracing our diversity, as well as our individual and communal sense of kuleana is where we find our strengths.

E lauhoe mai nā wa‘a; i ke kā, i ka hoe; i ka hoe, i ke kā; pae aku i ka ‘āina. #327

Everybody paddle the canoes together; bail and paddle, paddle and bail, and the shore is reached.

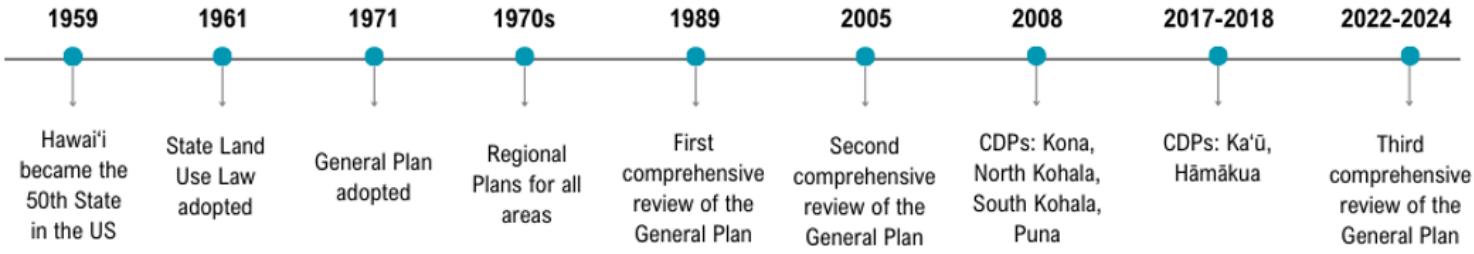
Mary Kawena Pukui

History of the Plan

General Plan studies in the County of Hawai‘i were initiated in the late 1950s and were limited to particular regions of the island such as the Hilo, Kona, Kohala, Hāmākua, and Puna Districts. As such, these initial General Plans lacked a comprehensive, coordinated, and integrated overview of the entire County. The first of these studies, "A Plan for Kona," was completed in 1960 and encompassed the districts of North and South Kona. "A Plan for the Metropolitan Area of Hilo" was completed in 1961 for the districts of South Hilo and Puna. "The Kohala-Hāmākua Region General Plan" was completed in 1963 and covered part of the district of North Kona and the districts of North and South Kohala, Hāmākua and North Hilo. These regional plans were adopted by Ordinance No. 317 in July 1965, as the General Plan for the County. The district of Ka‘ū was the only area in the County not covered by these plans.

The County Council adopted the first General Plan by ordinance on December 15, 1971, which also laid the foundation for establishing a comprehensive planning program for the County of Hawai‘i. There have been 2 subsequent comprehensive reviews of the General Plan, the first was adopted in 1989 and the second was in 2005.

Subsequently, significant public input helped guide the development and 2008 adoption of the Kona Community Development Plan, Puna Community Development Plan, North Kohala Community Development Plan, and South Kohala Community Development Plan. The Ka‘ū Community Development Plan followed in 2017, and the Hāmākua Community Development Plan in 2018.



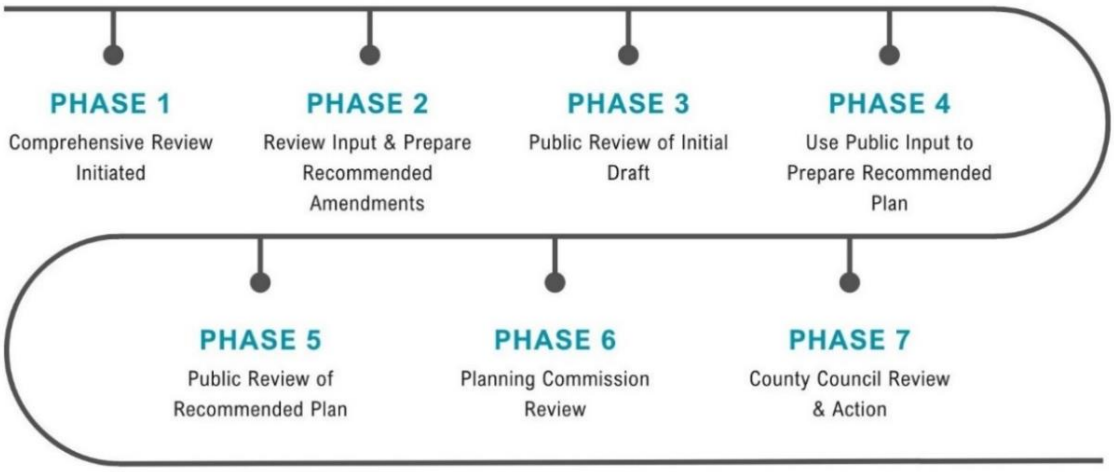
Abbreviated timeline related to Hawai‘i County long range plans

Planning Process

Since the adoption of the 2005 General Plan, Hawai'i Island has seen a lot of change, including population growth, natural disasters, technological advancements, and sustainability efforts. These topics have been considered in the 2045 General Plan. The Planning Director initiated the comprehensive review in February 2015, lead the review process, and recommended amendments which now comprise the 2045 General Plan.

A comprehensive review involves many different stages. The initial phase includes collecting community feedback, examining the effectiveness of the previous plan, researching current conditions, and analyzing how to combine the information in a way that creates a unified and easily implementable plan for the people of Hawai'i Island. An overarching intention for the review effort was to create an open forum for discussion, consider community input and values, encourage interagency collaboration and participation, and direct growth patterns in ways that benefit our population and protect our unique island environment.

General Plan Review Process



Planning Principles and Practices

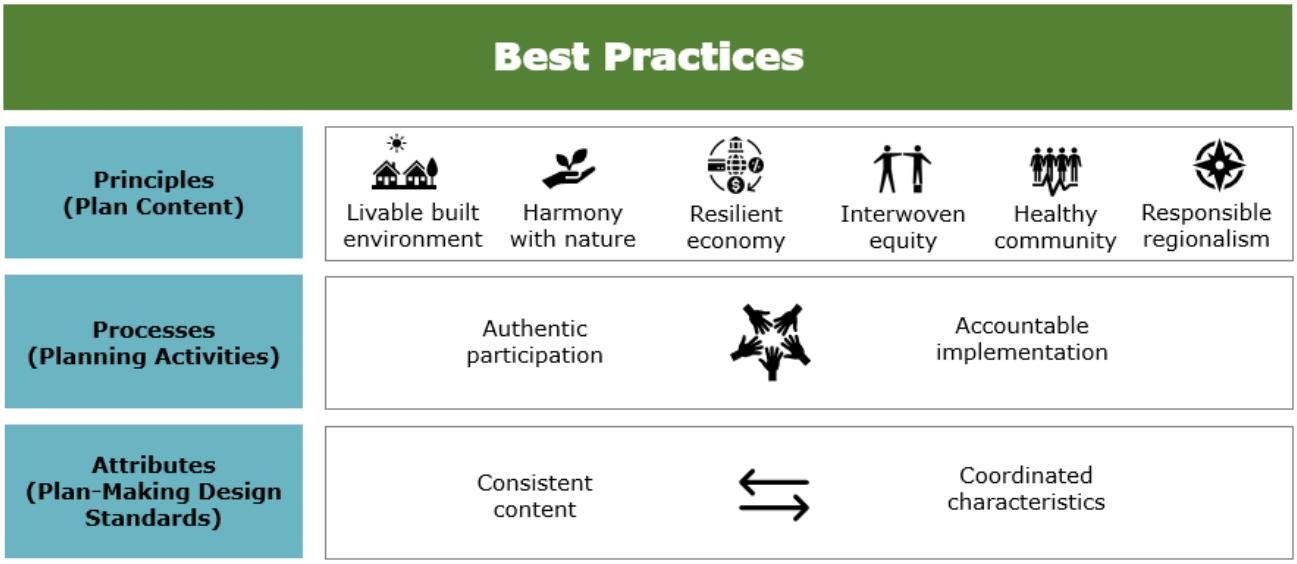
Community and comprehensive planning are part of a well-established field of professional planning dating back to the early 20th century. Serving the public interest is the primary ethical obligation of the planning profession. More specially, the following Code of Ethics and Professional Conduct of the American Institute of Certified Planners were used to guide 2045 General Plan review process:

- We shall provide timely, adequate, clear, and accurate information on planning issues to all affected persons and to governmental decision makers.
- We shall educate the public about planning issues and their relevance to our everyday lives.
- We shall seek social justice by working to expand choice and opportunity for all persons, recognizing a special responsibility to plan for the needs of the disadvantaged and to promote racial and economic integration. We shall urge the

alteration of policies, institutions, and decisions that oppose such needs.
- We shall give people the opportunity to have a meaningful impact on the development of plans and programs that may affect them. Participation should be broad enough to include those who lack formal organization or influence.

Sustainability Principles and Practices

Sustainable communities exist because of consistent collaborative efforts. Recognizing the crucial role of planners in improving the sustainability of communities and resources that support them, the American Planning Association (APA) published a report defining the role of comprehensive plans in addressing the sustainability of human settlements. The 2045 General Plan adopts these standards organized as principles, processes, and attributes:[1]



Purpose and Authority

The 2045 General Plan is the primary policy document for county agencies, planning commissions, elected officials, landowners, developers, and citizens to guide land use policy decisions for the Island of Hawai‘i. Pursuant to Hawai‘i County Charter (Charter) §3-15, the General Plan "shall set forth the [County] Council's long-range policy for the comprehensive physical, economic, environmental, and sociocultural well-being of the county. Notably, "[n]o public improvement or project, or subdivision or zoning ordinance, shall be initiated or adopted unless the same conforms to and implements the general plan." (§3-15(c)). The Charter further states that "[z]oning, subdivision, and other ordinances shall contain the necessary provisions to carry out the purpose of the general plan." (§3-15(b))

Pursuant to the Hawai‘i Revised Statutes (HRS) §226-52 and 58 as well as §3-15 of the County Charter, the General Plan includes overall themes, goals, principles, objectives, and policies, as well as implementation priorities and actions to carry out policies

[1] PAS Report 578 – "Comprehensive Plan Standards for Sustaining Places."

including, but not be limited to, land use maps, regulatory measures, standards, programs, projects, and interagency coordination. Neither the HRS nor the County Charter clearly define all the terms above, so for the purposes of the 2045 General Plan, they are defined in this section using references from professional planning practice. Further, the authority of the General Plan includes three fundamental types: directional, regulatory, and programmatic.

The General Plan *is*

- A long-range policy document, adopted by ordinance
- Based on community driven values, goals, and objectives
- A comprehensive and action-oriented framework for more specific planning

The General Plan *is not*

- A specific plan for growth or development
- A master plan or regional plan
- A fixed or inflexible document

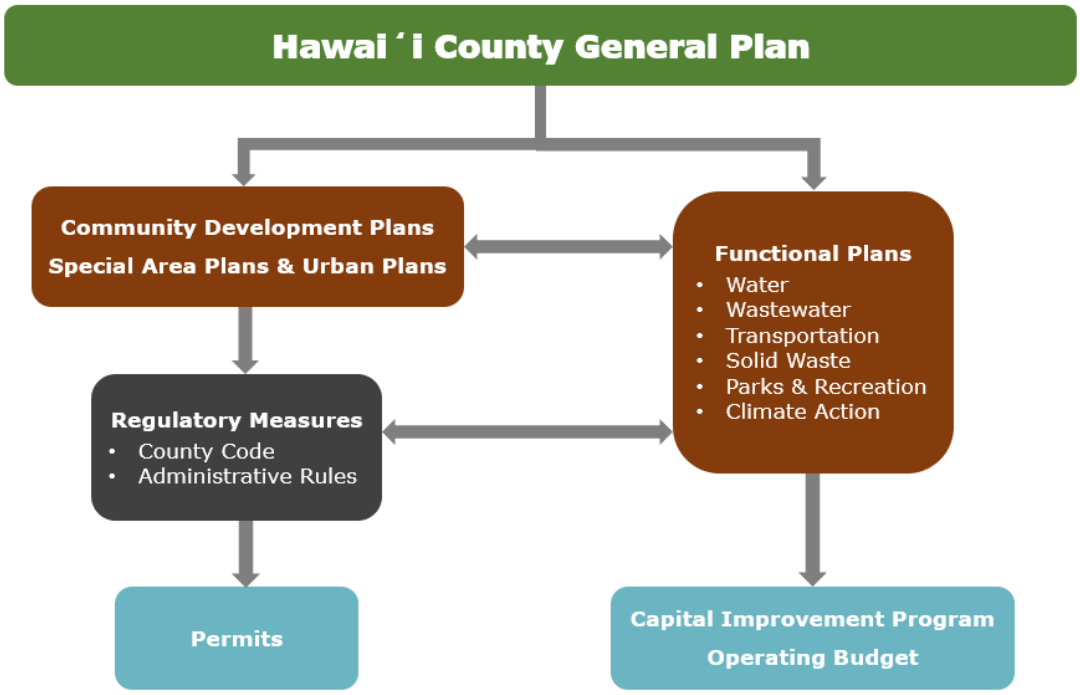
Authority Limits of the General Plan

The 2045 General Plan often relies on further implementation actions, such as zoning and budget ordinances, to move Hawai'i Island in the direction of our goals. Further, it contains no authority to change previously existing subdivisions or zoning. Achieving our island's vision will require collective long-term commitments that build on this plan.

Planning System and General Plan Framework

County Planning System

The 2045 General Plan represents the first level of the County Planning System and contains long-range strategies for the entire County. The General Plan also provides the legal basis for all the other elements of the County's planning structure. As such, the General Plan is the highest order, or "umbrella" plan. It establishes the boundaries within which the County must operate. The planning system as illustrated below consists of a comprehensive Countywide General Plan, and includes Community Development Plans, Urban Development Plans, Special Area Plans, and Agency Functional or Strategic Plans as implementation mechanisms that carry out the goals, objectives, policies or standards, and actions of the General Plan.



Directional Vision, Goals, Objectives, and Guidelines

The General Plan vision, goals, and objectives provide a high-level integrated direction for the community and a holistic perspective. They are defined as follows:

- **Vision:** The ability to plan for the future with creativity and wisdom in alignment with community values.
- **Goal**[2]: A desired state of affairs to which planned effort is directed.
- **Objective**: Measurable, achievable, and time-bound milestones toward achieving a goal.
- **Guideline**[3]: A stated course of action that shall take precedence when addressing areas of concern and should be followed, unless a determination is made that it is not the most desirable in a particular case; thus, a guideline may be deviated from without penalty or sanction.

Regulatory Implementing Actions

Regulatory implementing actions are one of two types of approaches used in the General Plan to pursue the vision, goals, and objectives. Regulatory actions are controlling in that they define boundaries, development parameters, and measures intended to implement goals or objectives. The three regulatory implementing actions in the General Plan include:

- **Future Land Use Map**[4]: A map that graphically delineates the extent of intended future land use types.
- **Policy**[5]: A specific rule for action focused on a specific issue, derived from more general goals.
- **Standard**: A regulatory measure that defines the meaning, quality, or quantity of a policy by providing a way to measure its attainment.

In the 2045 General Plan, future land use maps, policies, and standards are specific to the actions through which zoning ordinances, subdivisions, and public improvements or projects are initiated or adopted because, as they must conform to and implement the general plan in accordance with the County Charter §3-15.

Non-Regulatory Implementing Actions

The second approach of implementing actions is not regulatory or controlling and requires subsequent decisions and/or the allocation of resources. The priority actions have been included in the body of the General Plan while the entire list of implementing actions will appear in the implementation table. There are three types:

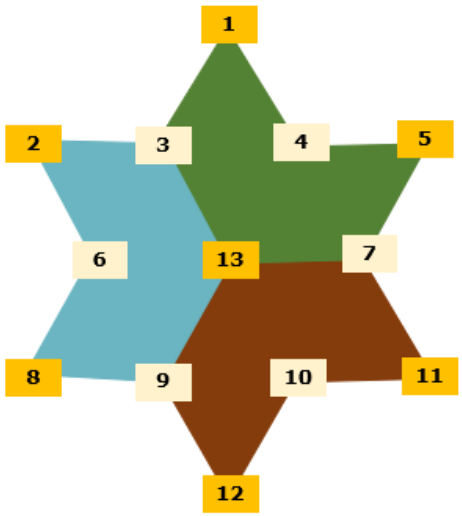
- **Program**[6]: An action, activity, or strategy carried out in response to an adopted policy to achieve a specific goal or objective.
- **Project**: An enterprise that is carefully planned and designed to achieve a particular purpose.
- **Interagency Coordination:** A program or project that requires collaboration among organizations, including those external to the County.

[2] Davidson and Dolnick, "A Planners Dictionary."
[3] HRS §226-2
[4] Davidson and Dolnick.
[5] Davidson and Dolnick.
[6] Davidson and Dolnick.

Our Grounded Vision

Hawai'i Island is an exemplary leader with healthy and resilient communities that are built by sustainable development, a thriving and diversified local economy, and collaborative environmental stewardship.

Hawai'i Island is a community of rooted heritage, connected communities, and unique beauty. As we navigate our future, integrating a sustainable balance between environmental and cultural stewardship, social equity, and economic sufficiency is paramount. This responsibility requires bold actions that address challenges. The values articulated by our community in the adopted Community Development Plans (CDPs) are synthesized here to form a singular vision statement for our island. This vision statement represents the ability to plan for the future in alignment with community values.



Hawai ʻi Island Goals

The goals of the General Plan synthesize those concepts and value statements adopted by ordinance in the 2005 General Plan and CDPs. The appendix includes tables used to complete the goals, including the source material from the 2005 General Plan and CDPs. These goals are divided into groups which together encompass the three sustainability pillars of community, economy, and environment as also outlined in the State Planning Act Goals in HRS 226-4, also provided in the Appendix.

Healthy, Safe, and Resilient Community

1. Our communities are deeply **connected** to each other, the ʻāina, and our historic and multicultural heritage, which are preserved and perpetuated through investing in public spaces, natural and cultural resources, and social systems.
2. Our communities are adequately served by **sustainable and efficient public infrastructure, utilities, and services** based on existing and future growth needs, sound design principles, and effective maintenance practices.

3. Our communities are **safe and protected** and have access to excellent, integrative health, education, and social services to support a high quality of life for residents of all ages.
4. Residents have access to **adequate and affordable housing** to meet the needs of the population and provide equitable opportunities for household flexibility and mobility.

Sustainable and Responsible Development

5. We strategically apply progressive **land use** strategies incorporating indigenous and contemporary knowledge and place-based practices to direct and manage growth for the health and safety of our communities.
6. Each community is connected by a **multimodal and modernized transportation network** that provides a system for safe, efficient, and comfortable movement of people and goods.
7. We reduce our ecological footprint by prioritizing a **zero-waste** approach to waste management.

Thriving, Diverse, and Regenerative Economy

8. Our **economy is diverse, regenerative, and innovative**, such that our residents are economically self-sufficient with a focus to increase local economic opportunities.
9. **Agriculture** is a robust, diversified sector that emphasizes **food security** and includes a broad range of agricultural-based businesses and agricultural tourism.
10. A high quality of life for residents is maintained while a **regenerative visitor industry** thrives through attracting people seeking authentic, connected experiences.

Collaborative Cultural and Environment Stewardship

11. Our **natural and cultural resources** are thriving and sustainably managed, preserved, and restored to maintain our unique and diverse environment.
12. We ensure a just transition to a **climate resilient island** by addressing the causes and impacts of climate change through incorporating equitable climate mitigation and adaptation priorities into policies, programs, infrastructure, and decision making.

Efficient, Equitable, and Integrated Government

13. We are **governed by integrated systems** that are efficient, equitable, and organized to facilitate collaboration.

ADDRESSING CLIMATE CHANGE FOR ISLAND-WIDE HEALTH

Introduction

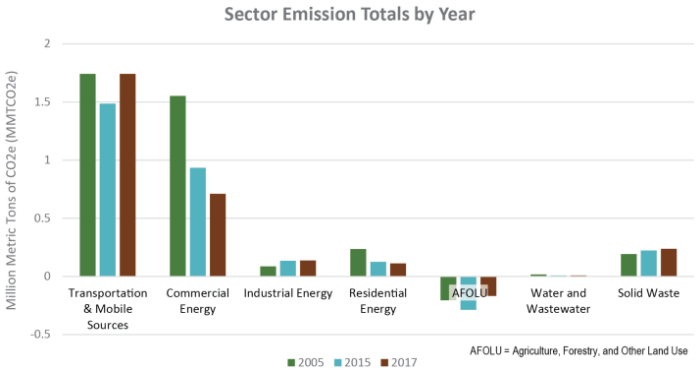
The climate change section of the General Plan is intended to be used as a policy guide for the coordinated climate mitigation and adaptation efforts on Hawai‘i Island. This element provides a high-level policy framework, building on the scientific knowledge and government-level strategies and actions developed in the Integrated Action Plan (ICAP) for the island of Hawai‘i. This section contains goals, policies, and implementation priority actions to define climate action within the island.

Climate change refers to the long-term regional or global average of temperature, humidity, and rainfall patterns over seasons, years, or decades. Human-induced climate change is resulting in global warming, or the long-term average heating of the Earth’s surface. The United Nations Intergovernmental Panel on Climate Change has concluded in its most recent report that human activities have unequivocally caused global warming. Climate change is already impacting the lands and waters on which we live and the health of our communities. Island communities such as those on Hawai‘i Island are at the forefront of climate change due to impacts like sea level rise. Our small population and island geography mean that a single climate change event has cascading effects that significantly impact the health of the land and people.

The County has a dual role to play: climate mitigation and climate adaptation. Climate mitigation refers to actions that reduce the flow of greenhouse gases (GHG) into the atmosphere, either by reducing sources of these gases or enhancing the sinks that accumulate and store these gases. Although Hawai‘i Island alone will not reverse global GHG emissions, we can lead by example and set a precedent for other island states to become more sustainable. Hawai‘i has the highest energy cost of any state in the United States. Reducing fossil fuel use can relieve the burden of energy and fuel costs, especially in the face of global shocks and stressors that increase the price of imported fossil fuels.

Climate Mitigation

The natural carbon cycle includes sources that emit GHGs and sinks that sequester GHGs. Greenhouse gases include carbon dioxide, methane, nitrous oxide, and fluorinated gases. The "greenhouse gas effect" occurs when GHGs trap heat by reducing the release of infrared light waves back into the atmosphere. GHG sources in Hawai'i County include emissions from energy, transportation, waste, wastewater, and agriculture, forestry, and other land use (AFOLU). Land development and underdevelopment have led to deforestation and biodiversity loss, decreasing natural carbon sinks on Hawai'i Island. Emissions are expected to grow in all sectors with population growth, increases in electricity use and vehicle miles traveled (VMT), waste production, and new development.



Transportation

Transportation is the primary source of emissions on Hawai'i Island. Due to the rural geography of the island and the distance between urban socioeconomic hubs and residential areas, many residents have long commutes. Airline transportation also contributes significantly to greenhouse gas emissions, as the only transportation to and from the island is by air.

Opportunities for decreasing use of cars and improving commutes is further discussed in the Transportation section.

Energy and Electricity

On- and off-grid energy production and electricity use make up the second largest source of emissions on Hawai'i Island. Energy production provides electricity, air conditioning, and heat. One of the most cost-effective ways of reducing energy emissions is by making buildings more energy efficient, as improving energy standards costs less than 1 cent per kWh saved. Building energy efficiency refers to how effectively infrastructure uses energy generated. For example, buildings that are designed with natural cooling systems, such as windows and doors that allow for cross-ventilation or siding that better reflects sunlight, require fewer fans or small air conditioning units. Upgrading appliances such as light bulbs, refrigerators, and washing machines also reduces electricity usage. New building development inevitably increases GHG emissions by adding load on or off the grid. New development also includes embodied emissions from harvesting, transportation, and construction of materials. The island has a long history of utilizing renewable energy. In 1888, Hilo was the site of one of the first hydropower projects in the state. Hawai'i Island also has the state's only geothermal plant, Puna Geothermal Ventures, founded in 1993. Since then, Hawaiian Electric has committed to cut its carbon emissions by 70 percent by 2030.

Homes in Hawai'i use 40 percent less electricity on average than the national average. However, Hawai'i has the highest energy cost of any state in the country, at 42.37 cents per kWh compared to the national average of 12.52 cents. These high prices

stem from Hawai'i's dependence on energy importation, as Hawai'i uses 12 times more energy than it produces and pricing structures are dependent on the cost of foreign oil, even for renewable energy generation. Foreign oil generates 60 percent of Hawai'i's energy.

Opportunities for increasing renewables and energy efficiency are further discussed in the *Public Utilities section*.

Waste and Wastewater

Solid waste and wastewater were the third and fourth highest contributing sectors for Hawai'i County emissions. Waste minimization feeds into economic development, cesspool management, and toxic leakage.

Opportunities for reducing waste are further discussed in the *Public Facilities and Public Utilities sections.*

Agriculture, Forestry, and Other Land Use

Agriculture, forestry, and other land use is a carbon sink for Hawai'i Island. However, increased development, deforestation, and certain farming practices can become carbon sources. The County will need to preserve open spaces and forested lands to maintain carbon sinks.

Opportunities for climate-conscious land development are further discussed in the *Land Use section.*

Climate Adaptation

Climate adaptation refers to actions that adjust to actual or expected future climate to reduce risks from the harmful effects of climate change and maximize any potential benefit opportunities. The effects of climate change that are already starting to impact Hawai'i Island include increased air and sea surface temperature, drought, extreme rainfall, sea level rise, and increased hurricanes. These climate change hazards exacerbate and are exacerbated by other hazards including wildfire, riverine flooding, landslides, high winds, and coastal flooding. Climate change poses a threat to critical infrastructure and services, including structures, roads, bridges, potable water and watersheds, wastewater, parks, and emergency services. Climate change also poses a threat to human health, both through the effects of hazards and increased heat exposure.

Table 1: Challenges

Climate Mitigation	• Heavy reliance on fossil fuels for electricity generation and transportation, inefficient energy use, and increasing waste and wastewater production from commercial, industrial, and residential activity emits increasing amounts of greenhouse gases. • Historical deforestation and degradation of native ecosystems and open spaces reduce carbon sinks. • Rising greenhouse gas emissions increase air and sea surface temperatures. • Hotter air temperature poses risks to human and environmental health and will impact migration patterns/displace humans and other animal and plant species. • Increased temperature places greater demand on energy systems. • A warmer ocean and more acidic ocean stresses coral reef ecosystems. • Affordability
Climate Adaptation	• Rising global air and sea surface temperatures are changing rainfall patterns which may impact the frequency and intensity of future drought and extreme rainfall events. • Drought has cascading effects on agriculture, native ecosystems, social systems, and the economy. • Severe rainfall events, compounded by flooding and landslides, increase risks to critical infrastructure and communities and disrupt emergency services. • Tropical cyclones are becoming more powerful and possibly more frequent due to climate change, which compounds risks from other hazards. Tropical cyclones and storm surges pose risks to infrastructure and jeopardize public safety. • Sea level rise is accelerating and projected to continue to rise, even if future GHG emissions are reduced to net zero and global warming is halted. • Coastal flooding and erosion from high tides, waves, and storm surges are increasing, driven by rising sea levels and other climate change effects. • Riverine flooding and landslides compound the impacts of coastal flooding and erosion along the island's coastline. • Cultural resources and coastal ecosystems will be impacted by coastal flooding and storm surge. • Critical infrastructure, homes, and other community assets along the coastline are exposed to coastal hazards exacerbated by sea level rise. • Sea level rise jeopardizes shallow groundwater aquifers used for drinking water wells and degrades water lines and wastewater systems, which leak into groundwater aquifers and coastal ecosystems. • Wildfires compounded with heavy rainfall events, hot dry weather, and windstorms increase the risk to native ecosystems and human health.

Table 2: Opportunities

Climate Mitigation	• Increasing the use of green technology will increase the energy independence of individuals and businesses on the island. • Pursue innovative solutions that help achieve various goals such as waste to energy and micronuclear. • The Hawai´i Island resource portfolio has the most diverse set of renewable sources in the state. These resources will greatly reduce fossil fuel use, decreasing the cost of electricity and gas. • Well-planned development can increase individual agency and access to multimodal transportation. • Reducing waste decreases toxic runoff and water table pollution, supporting healthy watersheds and soil. • Conservation of forest canopy and reforestation decreases stream diversion and increases water tables. • Increasing the repurposing of waste can create local jobs and support businesses. • Generating energy locally can create more well-paying jobs in the energy field. • Accessing carbon credits can support the conservation of local forests, fund more conservation jobs and preserve cultural staples. • Greening urban areas increases the availability of cool areas for vulnerable populations to live and recreate. • Incentivizing cesspool conversions can protect coral reefs and therefore the industries and species that rely on them. • Integrating energy savings and waste management provides an opportunity to mitigate greenhouse gas emissions in new development.
Climate Adaptation	• Reducing the risks of flooding, landslides, and fire reduces the cost and the greenhouse gas emissions associated with the reconstruction of infrastructure and the need for alternative routes which increase emissions during road and bridge outages. • Increasing equitable resilience to climate hazards will benefit historically marginalized and frontline communities and communities that have been made vulnerable to climate change impacts. • Limiting new development in fire and drought-prone areas would reduce economic loss to landowners and businesses. • Fire risk reduction around communities potentially limits fire spreading into upland areas, reducing fire-driven forest loss. • Retrofitting or relocating bridges and roads provides an opportunity to reduce greenhouse gas emissions by reducing miles traveled • Retrofitting can be accomplished within existing maintenance schedules of County facilities for increased resilience. • Proactive maintenance of parks and recreational areas can continue to provide equitable access to resources in the face of changing landscapes. • New shoreline setback rules would expand open space along the shoreline to support coastal ecosystems such as anchialine pools.

Climate Change Goal

We ensure a just transition to a climate resilient island by addressing the causes and impacts of climate change through incorporating equitable climate mitigation and adaptation priorities into policies, programs, infrastructure, and decision-making.

Objective 1

Ensure that climate actions are equitable and uplift historically marginalized and disadvantaged communities.

Policies

1.1 Prioritize and support existing community-led organizations, businesses, and programs through County purchasing and procurement policies.

1.2 Prioritize and support Low- and Moderate-Income (LMI) communities through tax incentives, grants, and financial support provided to community members.

1.3 Prioritize projects in communities that experience disproportionate impacts of climate disasters.

1.4 Consider financial, time barriers, geographic constraints, and language accessibility when conducting community outreach.

1.5 Improve communication of climate risks and opportunities for adaptation.

1.6 Help communities become fire adapted as they prepare for climate change.

1.7 Expand urban forestry benefits to disadvantaged communities.

1.8 Support social science research and applications to help address environmental justice and intergenerational equity.

1.9 Include native Hawaiian traditional knowledge and practices in planning for the impacts of climate change.

Priority Actions

1.a Increase transparency of government actions by creating a climate change dashboard and portal to track the implementation of climate action. PROJECT

1.b Engage communities by incorporating place-based knowledge and qualitative data to guide implementation priorities and decision-making. PROGRAM

1.c Promote funding opportunities for Low- and Moderate-Income (LMI) communities to implement climate action, including interactive videos and workshops that meet communities where they are. PROJECT

Objective 2

Achieve net carbon neutrality by 2045.

Achieve a 100 percent renewable-powered County fleet by 2035 and 100 percent renewable ground transportation by 2045.

Support the achievement of 70 percent renewable energy for the electricity sector by 2030, with 40 percent from renewables and 30 percent from efficiency, and 100 percent by 2045.

Policies

2.1 Create codes and efficiencies that integrate affordable housing and carbon neutrality.

2.2 Require energy efficiency designs in all new County facilities and upgrade existing facilities with energy-efficient systems.

2.3 Support building code updates that incentivize energy-efficient designs and climate-neutral building methods and materials.

2.4 Implement the use of technologies, techniques, and materials in building design, construction, and removal that minimize the ecological footprint over the life cycle of the structure.

2.5 Encourage and incentivize large developments to meet energy sustainability certification standards.

2.6 Strive for energy sustainability certification for new County buildings or when renovating existing buildings for County use.

2.7 Prioritize energy-efficient designs, energy-efficient systems, and waste reduction and/or reuse at County facilities.

2.8 Evaluate Capital Improvement Projects for energy efficiency and carbon reduction, including the cost savings related to improved design.

2.9 Partner with government, private and nonprofit agencies, and other stakeholders to develop comprehensive and coordinated strategies promoting energy and water conservation to strive for climate change resilience.

2.10 When evaluating public investments, including acquisition, siting, and design, consider the potential of natural areas for carbon sequestration and provide climate adaptation and mitigation opportunities.

2.11 Integrate urban forestry into all scales of planning.

2.12 Develop carbon-emission standards and an incentive program aimed at achieving County carbon-emission goals.

2.13 Mandate reporting of energy use of all County facilities annually.

2.14 Program the upgrading of the vehicle fleet and equipment to zero emissions.

2.15 The Mass Transit Agency shall operate a zero emissions fleet by 2035.

2.16 Prioritize the installation of electric vehicle chargers at community facilities, for both County vehicles and public parking.

2.17 Mandate reporting of all new County vehicle purchases including average mpg, emissions equivalent per gallon of fuel (or kWh), and estimated annual operation and maintenance costs.

Priority Actions

2.a Develop and provide incentives for new development/redevelopment to pursue certification for "green" site planning, construction, and post-construction practices. PROJECT

2.b Adopt policies and strategies across all County departments to reduce GHGs and become more resilient to the impacts of climate change. PROJECT

2.c Develop a county purchasing policy to prioritize products with low emissions over their lifecycle and resiliency to the impacts of climate change. PROJECT

2.d Develop and implement incentives for energy efficient/green design standards. PROJECT

2.e Prioritize urban tree inventories for primary urban areas such as Downtown Hilo, Waimea, and Kailua-Kona. PROJECT

2.f Develop procedures to include street trees as part of public capital improvement projects. PROJECT

2.g Develop energy benchmarking standards for Hawai´i County buildings. PROJECT

2.h Develop and implement an electric vehicle charging plan with a station network map that identifies regional gaps in service. R&D Phase 1 PROJECT

2.i Create a fleet transformation plan for each County department. PROJECT

2.j Partner with government, private and nonprofit agencies, and other stakeholders to increase community-wide awareness and accessibility regarding reducing transportation costs and emissions (i.e., the impact of keeping tires inflated on the efficiency of cars) through education awareness programs. INTERAGENCY COORDINATION

2.k Develop and implement a streamlined framework to report annual energy use of all County facilities and all new County vehicle purchases. PROJECT

Objective 3

Improve the identification of climate change threats, assessment of potential consequences, and evaluation of adaptation options.

Policies

Climate change threats

3.1 Use accurate and up-to-date scientific predictions and observations related to climate change impacts to guide adaptation policy and future land use decisions.

3.2 Support local and regional climate change modeling and monitoring programs.

3.3 Collaborate with government, private and nonprofit agencies, and other stakeholders to monitor impacts that may be specific to Hawai'i County due to its unique exposure to climate change and sea level rise impacts.

3.4 Improve assessments of climate change threats and potential consequences to determine specific geographic areas impacted and projected financial cost.

Assessment of consequences

3.5 Climate change adaptation shall be considered in County budgetary, land use, and other decision-making processes.

3.6 Implement a sea-level rise planning and policy benchmark of 4 feet by 2100 and 6 feet for public infrastructure projects and other projects with a low tolerance for risk.

3.7 Prioritize the preservation and restoration of natural landscape features, such as coral reefs, beaches and dunes, forests, streams, floodplains, and wetlands, that have the inherent capacity to avoid, minimize, or mitigate the impacts of climate change.

Evaluation of adaptation

3.8 Develop adaptation strategies (e.g., protection, accommodation, managed retreat, and preservation) for capital improvements to assure that the project's useful life and service expectations can be met in the face of projected climate change impacts.

3.9 Design and maintain infrastructure, including roads, buildings, and stream crossings, to accommodate increases in flooding and geologic hazards such as landslides.

3.10 Partner with communities to develop adaptation strategies (e.g., protection, accommodation, managed retreat, and preservation) for vulnerable areas including conducting vulnerability assessments and assessing land use and land availability.

3.11 Partner with government (e.g., State Office of Planning and Sustainable Development [OPSD]), private and nonprofit agencies, and other stakeholders to analyze conservation buffers to accommodate shifting native habitats impacted by climate change, particularly wetlands and high-elevation forests.

Priority Actions

3.a Conduct detailed vulnerability mapping of existing and planned infrastructure. PROJECT

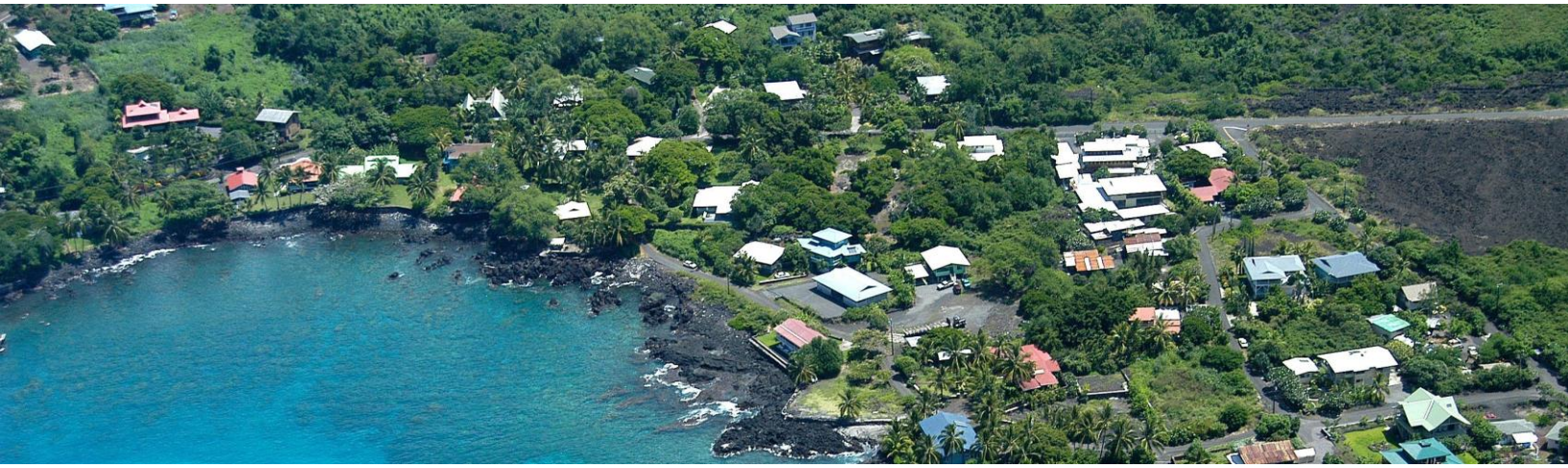
3.b Support and partner with government, private and nonprofit agencies, and other stakeholders on research for adaptive policies and technology that increase resilience. INTERAGENCY COORDINATION

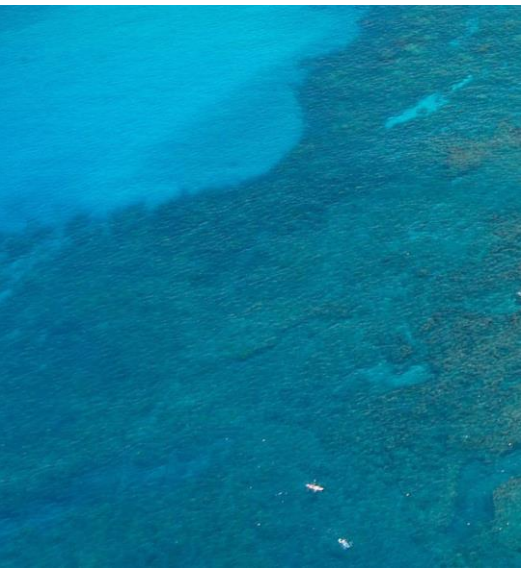
3.c Incorporate appropriate green building or climate-resilient specifications into competitive bids. PROGRAM

3.d Adopt a land acquisition program with potential leaseback options for the purchase of hazard-prone locations or those with beneficial attributes for climate adaptation and mitigation. PROGRAM

3.e Collaborate with government, private and nonprofit agencies, and other stakeholders (e.g., scientists, engineers, and development representatives) to implement environmentally beneficial upgrades for wastewater, irrigation, and/or landscaping, including sea level rise, storm, and other climate change considerations. INTERAGENCY COORDINATION

SUSTAINABLE DEVELOPMENT AND RESILIENT COMMUNITIES





Section 1: Land Use

Organization

1.1: Introduction

On Hawai'i Island, land use planning plays a vital role in balancing the needs of the environment, community, and economy. The island's unique natural beauty and delicate ecosystems, including its diverse forests, coastal areas, and volcanic landscapes, require careful consideration and responsible stewardship to ensure their preservation for future generations. Land use refers to the allocation, management, and development of land resources in a particular area. This involves determining how land is utilized for various purposes, such as residential, commercial, agricultural, industrial, or conservation. Land use planning, on the other hand, is the process of guiding and regulating land use decisions to achieve sustainable development and create healthy and resilient communities.

Sustainable development is a key objective of land use planning for the County. By strategically designating areas for different land uses, such as promoting agriculture in fertile regions, developing commercial areas in appropriate locations, and preserving native ecosystems, land use planning helps to create a balance that supports economic growth while protecting our natural and cultural resources. Land use planning is essential for cultivating healthy and resilient communities on Hawai'i Island. This process involves considering factors such as access to healthcare, transportation infrastructure, recreational spaces, public services, and affordable housing. By promoting mixed-use developments and compact urban planning, land use planning aims to create Live-Work-Play communities, or livable neighborhoods that minimize commuting, encourage physical activity, and enhance social interactions.

Additionally, land use planning is critical to disaster resilience. Given our vulnerability to natural hazards and the impacts of climate change, responsible land use decisions can help reduce the risk and impact of such events. Land use regulations, such as County zoning and General Plan designations, among others, can promote the preservation of natural buffers and contain development where sensible, ensuring that communities are better prepared for and protected against potential disasters.

The land use element of the General Plan is intended to be used as a policy guide for coordinated growth and sustainable development across our island. As required by the State Planning Act, this section contains goals, policies, standards, and implementation priority actions to define patterns of future growth and guide the location and density of land uses within the County. The land use section seeks to establish the most desirable use of land for residential, recreational, agricultural, commercial, industrial, and other purposes which shall be consistent with the proper conservation of natural resources and the preservation of our natural beauty and historical sites.

The land use section is a land-based synthesis of the values, goals, and objectives of the other sections comprising this Plan. This component guides where and how land uses, infrastructure, and services should be directed to promote and protect the values of the people of Hawai'i Island and to best achieve the goals and objectives outlined in the various elements of the Plan.

Table 3: Land Use Key Trends

Population Centers and Density	• Population centers are both rural and urban. Low population density exists in both rural and urban areas throughout the island. There is an average of 1,488 people living in every square mile of urban areas and an average of 18 persons per square mile in rural areas. • The 2020 Census identified 3 urban areas: Hilo, Kailua-Kona, and Waikoloa • The majority (approximately 60%) of the County's population lives in rural areas – no change is expected through 2045. In contrast, nationwide, 20% of the population lives in rural areas.
Changing and Aging Population	• Over the next 25 years, the population growth rate is expected to decline from an average of 2.3% per annum to about 0.9% per annum. In 2045, the resident population is forecast to be approximately 273,232, which is a 35% increase since 2018. • During the last two decades, there has been an average of 2,338 births and 1,458 deaths per year in the County, resulting in a net increase of almost 880 people annually. • About 90% of the growth on average is through immigration. • In 2018, 67,293 Hawai'i State residents moved to the mainland; they were partially replaced by 54,074 mainlanders who moved to the State for a net out-migration from Hawai'i of 13,219.[7] • The population over age 65 is expected to grow by 44% by the year 2045. In 2020, the largest cohort of the population was between the ages of 60 to 69.
Housing Affordability and Choice	• In 2010, 42% of owner-households with a mortgage and 45% of all renter-households were paying more than 30% of their income for housing. By 2020, this had decreased slightly to 39% and 43%, respectively. A majority of those could be considered severely shelter-burdened. • Nationally, 30% of households paid more than 30% of their income on housing in 2020. The State of Hawai'i continuously ranks in the top 3 highest shares of shelter-burdened, nationally. • Approximately 43% of the housing units were deemed unaffordable in 2020. • Hawai'i has one of the highest overcrowding rates in the country, at 7.7%. The level of overcrowding varies across the island with Ka'ū, Waimea, South Kona, and Upper Puna experiencing overcrowding rates in the double digits. However, on average, Hawai'i County's overcrowding rate is still the lowest among all Hawai'i's counties. • Relative to the countywide average, the rural communities have the largest percentages of housing that are affordable. In contrast, the North Hilo-Hāmākua Coast Villages and North Kona have the lowest percentages of affordable housing. Most of the County's total stock of affordable housing is in Puna (24.2%), Hilo (21.7%), and North Kona (23.3%). However, these numbers do not address the needed capacity of affordable housing based on demand.
Shifting Visitor Accommodation Types	• Most visitor units are in South Kohala and North Kona. • With the upward trend in visitor arrivals expected to increase through 2045, increasing demand for visitor units is expected. With this growth comes the challenge of planning for their impact on the local economy, especially regarding transient accommodation rentals. • The number of transient accommodation rental units is beginning to trend higher than hotel units that once dominated the visitor accommodation industry. • There is also a shift in the type of visitors away from the major resort areas, which may put stress on the environment of other areas.
Job Availability and Growth	• The average annual growth rate for jobs averaged 1.4% since 2005, mirroring population trends, and it is expected to mirror population trends experiencing a slight decrease in the growth rate for the next several decades. • The three primary economic sectors of the County's economy are the service-producing sector, the goods-producing sector, and agriculture. The service-producing sector (e.g., education, health, accommodation, entertainment, food, etc.) is by far the largest, representing over 85% of employment. Roughly 9% of employees work in goods-producing jobs (construction and manufacturing). The agriculture sector represents about 6.5% of employment. • More than two-thirds of workers are employed in one of five key industries: educational service, healthcare, and social assistance (about 18%); arts, entertainment, recreation, accommodation, and food services (about 15%); retail trade (about 10%); professional, scientific, management, administrative, and waste management (about 9%); and construction (about 7%). • In 2020, 14% of the County's population was below the poverty line. State and national statistics were nearly 9.3% and 11.4%, respectively. • The Hawai'i Financial Health Pulse survey (2019) found that just under a quarter of Hawai'i residents surveyed, or 23%, work more than one job.

[7] https://uhero.hawaii.edu/aloha-oe-population-migration-between-hawaii-and-the-u-s-mainland/

Table 4: Land Use Challenges

Infrastructure	• Low infrastructure capacity and high costs to develop new systems. • State land use designations and related requirements within or adjacent to Urban Growth Areas limit the ability to increase densities. • Existing single-family dwellings and lot sizes fail to achieve the desired density. • Landowners and developers may incur the costs of constructing and operating private systems or upgrades due to the insufficiency and lack of wastewater systems in many areas. The shortage of licensed operators also increases operating costs and makes it more difficult to establish new private systems. • County roadway standards aren't modernized and remain a major cost to development. • Pervasive strip mall infrastructure and minimal transit-oriented developments paired with disconnected routes create congestion issues for commercial areas.
Regulations	• Building code requirements affect construction costs and the ability to create multi-use buildings. • Multiple layers of land use control and review require coordination between government agencies at the state and county levels. • There are varying layers of code that are conflicting or inconsistent. Code requirements are also limited in integrating climate mitigation goals around reduced building materials and non-car-centric design. • The current regulatory process dictates that the State Land Use Commission must preside over boundary amendments that exceed 15 acres, which limits the efficiency of ensuring consistency in the land use pattern. • Zoning must be updated in certain areas to reflect shifting trends and land use preferences. • There is no Transfer of Development Rights (TDR) program to preserve open space and achieve density to remain consistent with the desired land use pattern. • The State's historic review process has been cumbersome.
Funding and Financing	• There is a need for gap financing that exceeds what a single lender or incentive program can fill. • Additional capacity in development financing and specific community development financing is needed to increase the production of projects in the County. • There is high demand for a limited pool of incentives and financing subsidies for affordable housing. • Affordable housing projects in the County face higher financing gaps than projects elsewhere in the State.
Market Conditions	• There are inconsistencies between development costs and prices the market can support. • Greenfield development in areas such as Puna is significantly cheaper than infill development in existing urban areas. • Lower household incomes result in lower purchasing power, which makes underserved subdivisions the primary market for many homebuyers. • Challenging site characteristics such as soil conditions and topography increase development costs. • Market cycles and permitting requirements often do not coincide resulting in uncertainty and increases in processing times and costs. These challenges are exacerbated by performance conditions based on time versus appropriate mitigation conditions.
Land Use Compatibility	• Legacy zoning, such as industrial lands from the sugar plantation era, is not always consistent with the community's vision. • Productive agricultural land use designations often do not coincide with productive agricultural activities. • There is a common perception that all development is contrary to protecting natural and cultural resources.
Public Engagement	• NIMBYism can present barriers to collaborative processes. • General misunderstanding and misinformation about land use policies can delay and disrupt strategic land use patterns. • Public hearing processes can become political rather than regulatory processes.

Performance conditions are essentially requirements or obligations that an applicant must complete before certain rights or obligations can take effect.

Not In My Backyard (NIMBY) is a characterization of opposition by residents to proposed developments in their local area, often due to concerns about potential negative impacts on the environment, property values, and quality of life. NIMBY protests have evolved over time, impacting the gentrification of neighborhoods and housing affordability.

Table 5: Land Use Opportunities

Infrastructure	• County departments are encouraged to develop a collaborative infrastructure capacity plan with prioritization of projects based on desired growth areas and preferred density as identified by the General Plan. • Coordinate with the Department of Health (DOH) to address unique land use situations on the island related to individual wastewater systems (IWS) and prioritization of resources. • Increase housing density by utilizing additional dwelling units (ADU) in existing residential districts served by adequate utilities. • Facilitate innovative public and private partnerships in infrastructure investment for targeted growth areas. • County departments can provide greater flexibility in privately owned and maintained infrastructure concurrency requirements.
Regulations	• Remove barriers to residential development in the appropriate districts to reduce development timelines, increase housing stock availability, and increase affordability. • Review and update the Building and Zoning Codes to allow for more flexibility. • Collaborate across State and County agencies to facilitate efficient and effective land use processes. • Advocate allowing for County-initiated State Land Use Commission District Boundary Amendments to meet the preferred land use pattern. • Program the initiation of rezoning in targeted growth areas. • Support and streamline the process of infill development. • The most direct role that the County plays in economic development is through land use regulation (i.e., permitting efficiency, transparency, predictability, and certainty) and property tax policy. • Invest in the provision of strategic infrastructure including roads, water, and/or wastewater improvements to encourage higher density development in targeted areas. • Work with the State Historic Preservation Division (SHPD) to determine when there is a need to review a project related to the identification of cultural sites and practices. • Work with SHPD to create standards related to the assessment of a project's effects on cultural sites and practices. • Establish a framework for cultural impact assessments including recognizing findings and recommendations of prior cultural impact assessments within the same ahupua'a for new projects.
Funding and Financing	• Partner with the State and other counties to create a capacity-building plan for County departments, local developers, and community stakeholders. • Leverage different financing mechanisms to support development and redevelopment, including Business/Community Improvement Districts, Tax Increment Financing, Community Facilities Districts, and Opportunity Zones. • Seek and pursue additional capital stack opportunities and tax incentives for (re)development.
Market Conditions	• Diversify economic drivers. • Utilize creative solutions and partnerships to encourage, support, and prioritize infill development before expanding to greenfield areas. • Make vacant and underutilized government-owned lands available for affordable housing or other (re)development, especially in or adjacent to urbanized areas with adequate or expandable infrastructure. • Seek to acquire land for affordable housing developments and other redevelopment opportunities.
Land Use Compatibility	• Eliminate unpermitted non-conforming uses and ensure proper land use patterns to ensure urban areas are used accordingly. • Strategically use zoning to ensure proximate compatible and complementary uses that improve the vitality of urban areas. • Regularly evaluate supply and demand to prioritize needed land use challenges.
Public Engagement	• Encourage affordable housing projects to meet the needs of neighborhoods (YIMBYs). • Apply strategies to engage stakeholders that go beyond legal notice requirements. • Reinforce the alignment between community values and the General Plan and Community Development Plans. • Demonstrate smart growth development.

Yes, In My Backyard (YIMBY) proponents are generally concerned with creating density and growth in their communities, often with an emphasis on affordable housing. The YIMBY movement is a progressive effort toward the goal of achieving affordable, sustainable, and inclusive housing for all residents.

Land Use Goal

We strategically apply progressive land use strategies incorporating indigenous and contemporary knowledge and place-based practices to direct and manage growth for the health and safety of our communities.

Objective 4

Maintain community character and land use compatibility.

Policies

4.1 The development of commercial facilities should be designed to reflect the character of the community while providing desired services and mitigating impacts on the surrounding environment.

4.2 In those cases where provisions of the zoning and subdivision code are inconsistent with the character of surrounding neighborhoods, variances, or Planned Unit Developments (PUD) that maintain consistent village/town character should be encouraged.

4.3 Zoning, subdivision, and other applicable ordinances shall provide for and protect open space areas.

4.4 Support mechanisms, such as Planned Unit Development and Cluster Plan Development, that cluster density to preserve open space, recreational areas, or scenic viewsheds.

4.5 Discretionary permit applications for uses that may impact view planes to and along the coastline, and areas of natural beauty should take into consideration visual impact assessments and propose conditions to mitigate scenic impacts where appropriate.

4.6 In the review of discretionary permits, consider land use compatibility to ensure proximate compatible and complementary uses and appropriate mitigation measures.

4.7 Power distribution should be placed underground when and where practical.

4.8 Encourage developers of new urban areas to place utilities underground.

4.9 Route selection for high-voltage transmission lines should include consideration for setbacks from major thoroughfares and residential areas. Where feasible, delineate energy corridors for such high-voltage transmission lines.

Priority Actions

4.a Develop a process for County-initiated State Land Use boundary reclassification. PROJECT

4.b Create "Village Plans" for unique urban areas that include considerations for urban design, aesthetic quality, and the protection of amenities in adjacent areas through landscaping, open space, and buffer areas. PROJECT

4.c Develop subdivision standards that make a distinction between agricultural, rural, and urban land uses. PROJECT

4.d Define the types of open space that are sought to be protected and establish standards to be applied to ensure its protection. PROJECT

4.e Conduct a review and re-evaluation of the real property tax structure to assure compatibility with land use goals and policies. PROJECT

4.f Study the feasibility of, issues, and opportunities related to the development of a Transfer of Development Rights (TDR) program to strategically preserve open space and achieve density to remain consistent with the desired land use pattern. PROJECT

Objective 5

Increase the integration of natural systems planning.

Policies

5.1 Protect and enhance Hawai'i's shoreline, open spaces, and scenic resources.

5.2 During discretionary permit applications, the Planning Director may require a pedestrian, equestrian, and/or bicycle path when it is possible and safe to connect to existing or future drainage or active living corridors.

5.3 Proposed discretionary permits for large development projects (200+ units) in the North Kohala, South Kohala, North Kona, South Kona, and Ka'ū Districts should be designed to be as water neutral as reasonably possible through water conservation, recharge, and reuse measures to reduce the water footprint.

Priority Actions

5.a Amend the Zoning Code to create a category for lands that should be kept in a largely natural state, but that may not be in the Conservation District, such as certain important view planes, buffer areas, and very steep slopes. The zoning category should include reasonable land uses. CODE AMENDMENT

5.b Amend the Zoning Code and Subdivision Code to allow Cluster Plan Developments to be applied to all zoning districts with appropriate building site standards. CODE AMENDMENT

5.c Collaborate with the State Office of Planning to create criteria for Ka Pa'akai analysis. INTERAGENCY COORDINATION

Objective 6

Increase equitable planning and decision-making processes.

Policies

6.1 Ensure there is necessary and adequate on-site infrastructure for development projects.

6.2 Ensure affordable housing requirements that meet the demand created by the development.

6.3 The County may impose incremental and conditional zoning that would be based on performance requirements that focus on addressing the impacts of the proposed development.

Priority Actions

6.a Collaborate with the State Historic Preservation Division (SHPD) to create clear guidance for when there is a need to review a project related to the identification of cultural sites and practices. INTERAGENCY COORDINATION

6.b Implement efficiencies to make development decisions predictable, fair, and cost-effective. PROGRAM

6.c Evaluate concurrency requirements that would impose reasonable and fair infrastructure concurrency requirements on all developments. PROGRAM

6.d Amend the Zoning Code to allow for Planned Unit Developments (PUD) to become administrative permits and subject to the approval of the Planning Director. CODE AMENDMENT

6.e Provide flexibility within the Zoning Code to accommodate emerging new industries through the Use Permits or allow new uses that do not conflict with the purpose and intent of the existing zoned district. CODE AMENDMENT

Objective 7

Reduce the threat to life and property from natural hazards and disasters.

Policies

7.1 Enact additional land use and building structure regulations in areas vulnerable to severe damage due to the impact of waves or inundation.

7.2 Review land use policy as it relates to floodplains, high surf, and tsunami hazard areas.

7.3 Consider natural hazards in all land use planning and permitting.

7.4 Discourage intensive development in areas of high volcanic hazard.

7.5 Discourage public investment/infrastructure that supports increases in density, while allowing such investment to support existing residents and facilities.

7.6 Reduce development intensity in identified high-risk hazard areas.

7.7 Incorporate hazard mitigation strategies into policies and planning decisions using the most conservative models in delineating hazard areas.

7.8 Encourage the development and implementation of Community Wildfire Protection Plans and Firewise Community Certification for communities with high wildfire risk.

7.9 Encourage the use of natural features to provide buffers from hazards.

Priority Actions

7.a Update the Building Code to maintain cost-effective standards to resist hazards and reduce carbon footprint. CODE AMENDMENT

7.b Adopt natural hazard overlay zones and set appropriate conditions for land use, siting, and design within high-risk zones. PROJECT

7.c Amend the Zoning Code to establish building setbacks for inland cliffs. CODE AMENDMENT

7.d Collaborate with the Federal Emergency Management Agency (FEMA) to regularly update flood studies and refine flood zone designations. INTERAGENCY COORDINATION

Overview of Land Use Maps

Purpose and Authority of the General Plan Land Use Map

The designated land uses are delineated on the General Plan Land Use Map. The broad-brush boundaries indicated are graphic expressions of the General Plan policies, particularly those relating to land use. They are forward-looking, long-range guides to the general location and will be subject to a) existing zoning; and b) the State Land Use District. While some future actions must be consistent with the General Plan, it is not retroactive and does not change existing subdivisions or zoning. Similarly, the acreages allocated represent alternatives for the various levels of economic activity and supporting functions, such as resort, residential, commercial, and industrial activities. The land use pattern is a broad, flexible design intended to guide the direction and quality of future developments in a coordinated and rational manner. The General Plan Land Use Map indicates the general location of various land uses in relation to each other.

Interpretation

Interpretation of the General Plan Land Use Map should be reviewed against the following criteria: parcel boundaries, census block groups, place types, County zoning designations, State land use designations, and Community Development Plan (CDP) guidance.[8] Because of the scale of the land use maps, the location of designated Natural lands should be verified by more detailed mapping when considering specific land use decisions.

[8] POLICY 600 AUGUST 2019 DRAFT

General Plan Land Use Maps and Designations

Table 6: Urban Land Use

GP DESIGNATION	DESCRIPTION	OPTIMAL RESIDENTIAL DENSITY (DU/ACRE)	POSSIBLE ZONING DESIGNATIONS
High-Density Urban	General commercial, multiple-family residential, and related services. Confined to Urban Growth Areas.	36-60	RM, RCX, V, CG, CDH, MCX, ML
Medium- Density Urban	Village and neighborhood commercial and single-family and multiple-family residential and related functions. Confined to Urban Growth Areas.	13-35	RM, RD, RCX, V, CN, CV, CG, MCX, ML
Low-Density Urban	Residential, with ancillary community and public uses, and neighborhood and convenience-type commercial uses.	3-12	RS, RM, RCX, ML, V, CV, CN
Urban Expansion Reserve	Allows for a mix of high density, medium density, low density, industrial-commercial mix, and/or natural designations in areas where growth may be desirable, but where specific settlement and infrastructure have not yet been determined.		RS, RM, RCX, CV, CN, CG, MCX, ML, UNV, V
Light/Service Industrial	Uses include but are not limited to business parks, research and development centers, product assembly, distribution centers, laboratories, cottage industries, and light service industrial uses.		MCX, ML
Heavy Industrial	Uses include but are not limited to landfills, quarries, chemical plants, heavy equipment base yards, towing yards, and other uses with the potential to create public nuisance conditions (e.g., noise, environmental impacts).		MG
University	Public university, including ancillary public uses, residential, and support commercial uses.		UNV. CG, CN, RM
Resort	Uses include a mix of visitor-related uses such as hotels, condominium hotels (condominiums developed and/or operated as hotels), single-family and multiple-family residential units, golf courses and other typical resort recreational facilities, resort commercial complexes, and other support services.		V, PD, RS, RM, CV, CN, MCX

Table 7: Rural Land Use

GP DESIGNATION	DESCRIPTION	OPTIMAL RESIDENTIAL DENSITY (DU/ACRE)	POSSIBLE ZONING DESIGNATIONS
Rural	Situated outside of urban growth areas. Except where noted, these areas should retain their rural character with low-density residential development, supporting small-scale commercial development, and agricultural land uses. Rural areas should not be targeted with the development of major public infrastructure or the extension of public sewer service except where a documented health, safety, and/or welfare condition warrants such an expansion. (1/2-to-5-acre lot sizes)	1-2	RA, FA

Table 8: Agriculture Land Use

GP DESIGNATION	DESCRIPTION	OPTIMAL RESIDENTIAL DENSITY (DU/ACRE)	POSSIBLE ZONING DESIGNATIONS
Productive Agriculture	Lands with better potential for sustained high agricultural yields because of soil type, climate, topography, or other factors. (5-acre minimum lot size) Productive agricultural lands were determined by including the following lands: • Lands outside of UGAs identified as "Important Agricultural Lands" on the 2005 General Plan Land Use Pattern Allocation Guide maps. • Lands outside of UGAs identified in the Agricultural Lands of Importance to the State of Hawai'i (ALISH) classification system as "Prime" or "Unique". • Lands outside of UGAs classified by the Land Study Bureau's Soil Survey Report as Class B "Good" soils. (There are no Class A lands on the Island of Hawai'i) Lands classified as at least "fair" for two or more crops, on an irrigated basis, by the USDA Natural Resource Conservation Service's study of suitability for various crops. • In North and South Kona, the "coffee belt", is a continuous band defined by elevation, according to input from area farmers. • State agricultural parks.	1 per 5 (Note that additional density may be allowed with permitted additional farm dwellings)	IA, A
Extensive Agriculture	Lands that are not capable of producing sustained, high agricultural yields without the intensive application of modern farming methods and technologies due to certain physical constraints such as soil composition, slope, machine tillability, and climate. These lands are better suited for other less intensive agricultural uses such as grazing and pasture and can support additional residential densities when situated near UGAs.		A, O

Table 9: Conservation Land Use

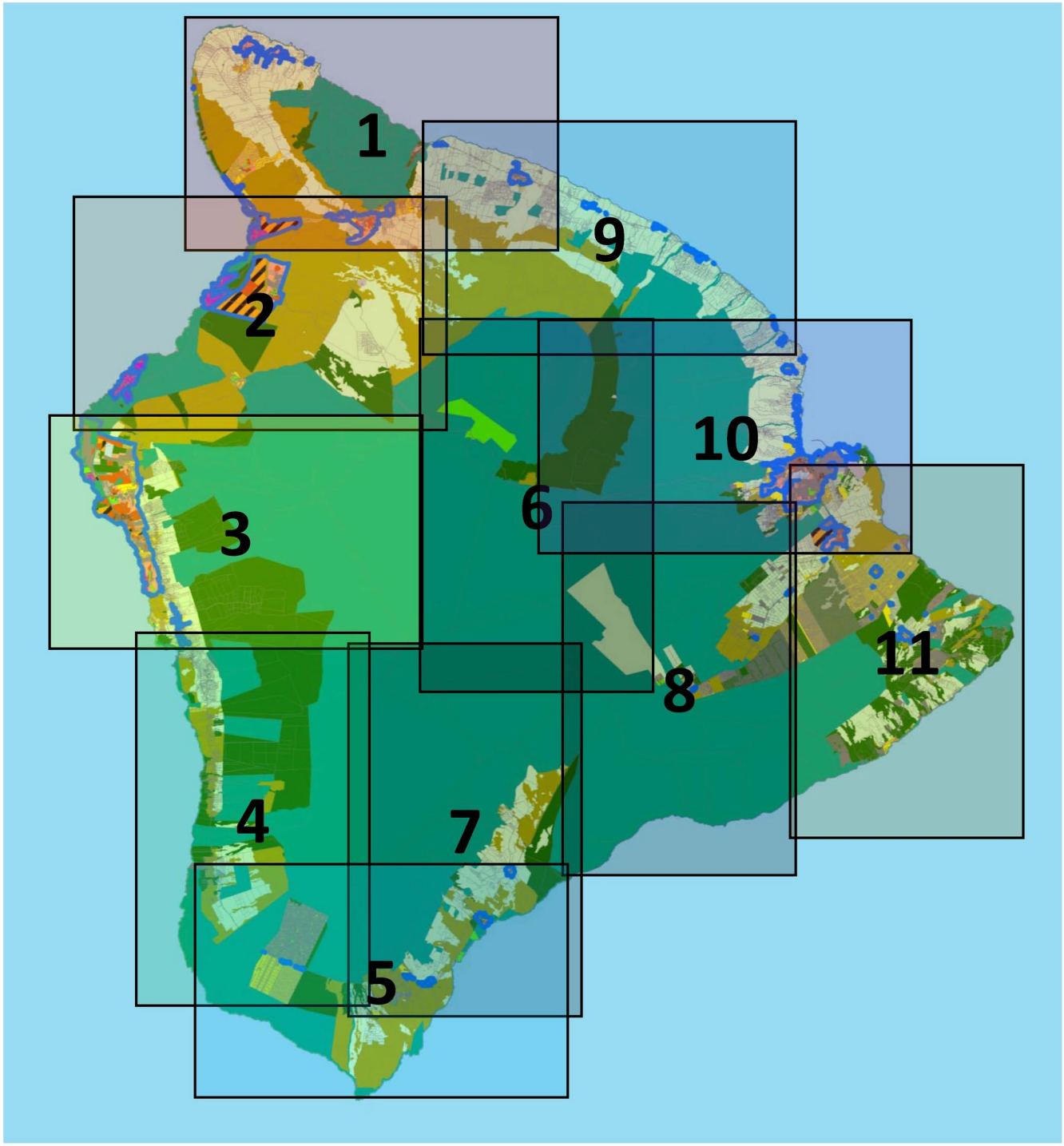
GP DESIGNATION	DESCRIPTION	OPTIMAL RESIDENTIAL DENSITY (DU/ACRE)	POSSIBLE ZONING DESIGNATIONS
Conservation	Forest and water reserves, natural and scientific preserves, areas in active management for conservation purposes, areas to be kept in a largely natural state with minimal facilities consistent with open space uses, such as picnic pavilions and comfort stations, and lands within the SLU Conservation District.		O

Table 10: Other Land Use

GP DESIGNATION	DESCRIPTION	OPTIMAL RESIDENTIAL DENSITY (DU/ACRE)	POSSIBLE ZONING DESIGNATIONS
Recreation	Parks and other recreational areas, such as golf courses, and shoreline setback areas.		O
Natural	Lands to be kept in a largely natural state with minimal facilities consistent with open space uses along with agricultural land uses. Includes areas vulnerable to natural hazards, steep slopes, lava fields, and areas set aside for cultural and/or natural resource preservation purposes that are not necessarily under active management.		A, O

Land Use Map Key

The graphic below shows the location on the island of each of the individual land use maps displayed on the following pages.



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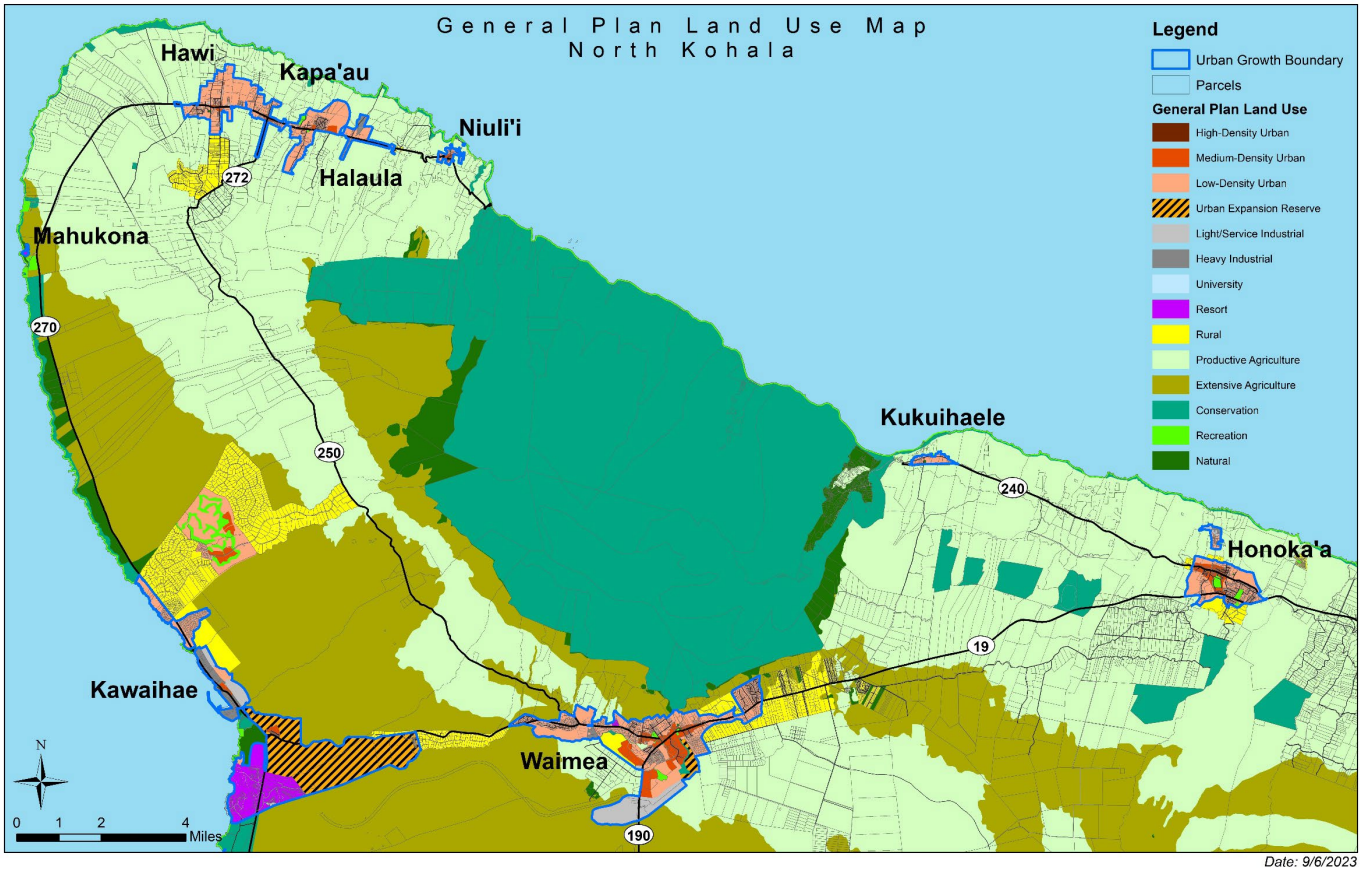

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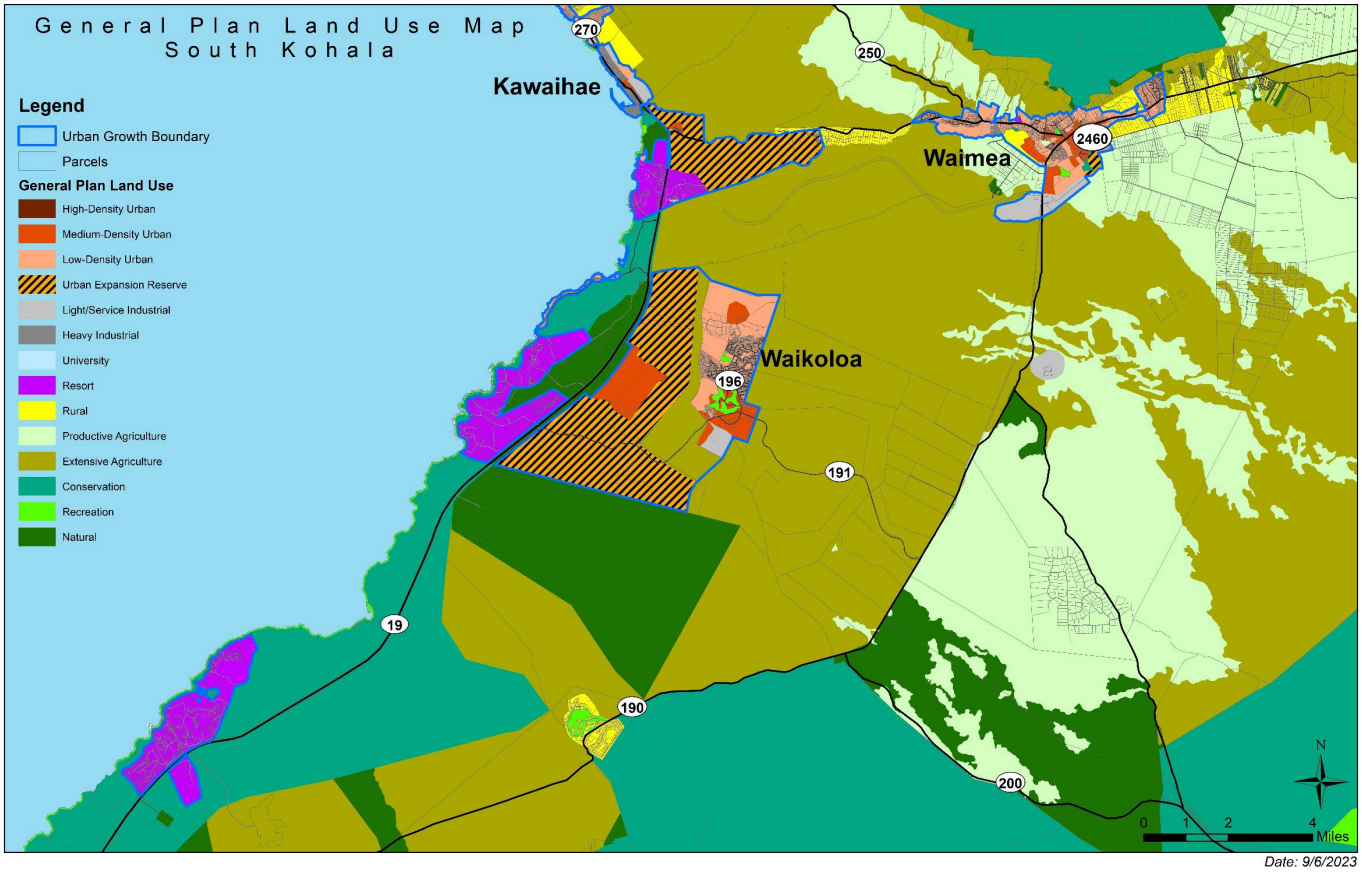

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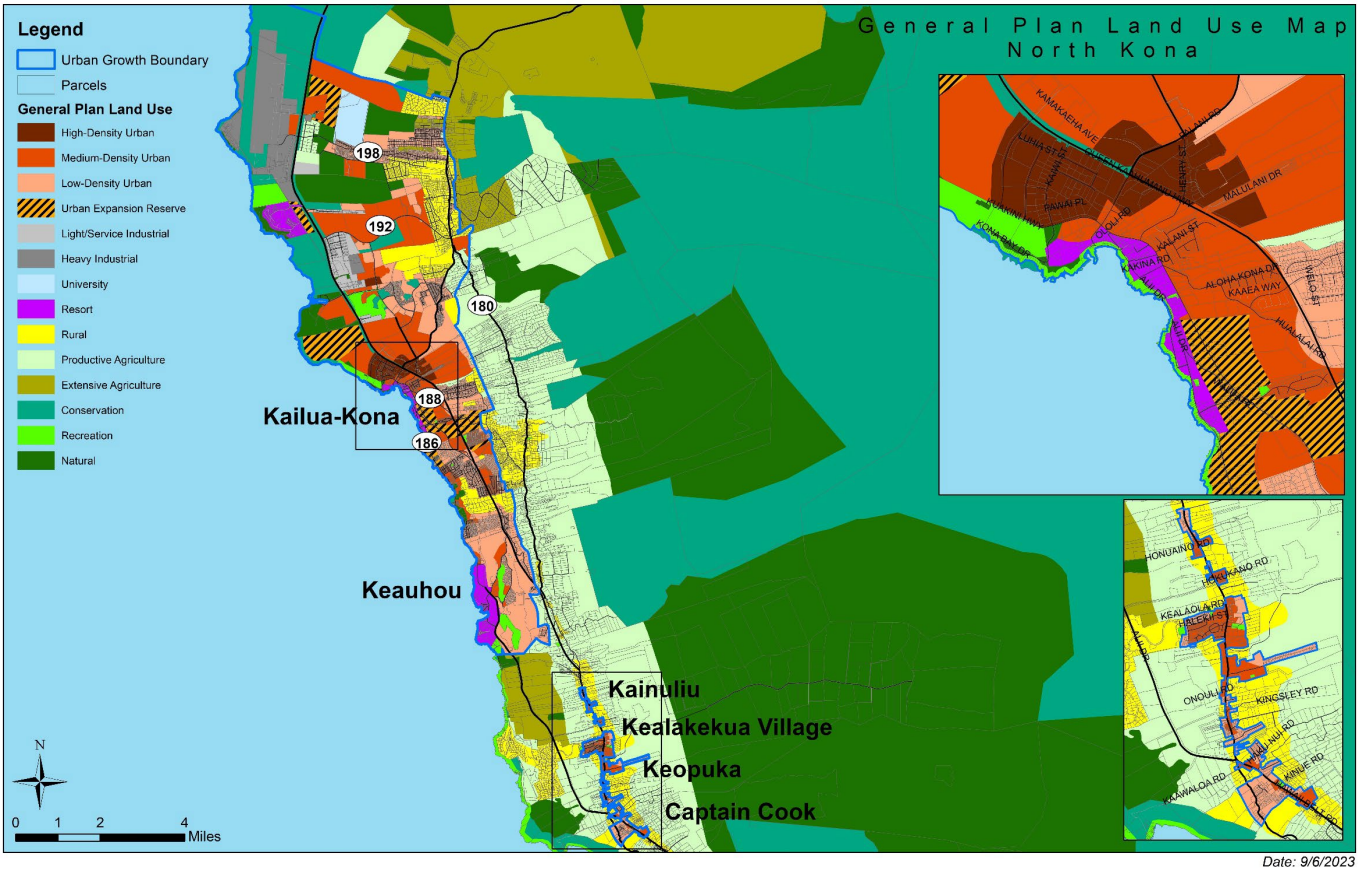

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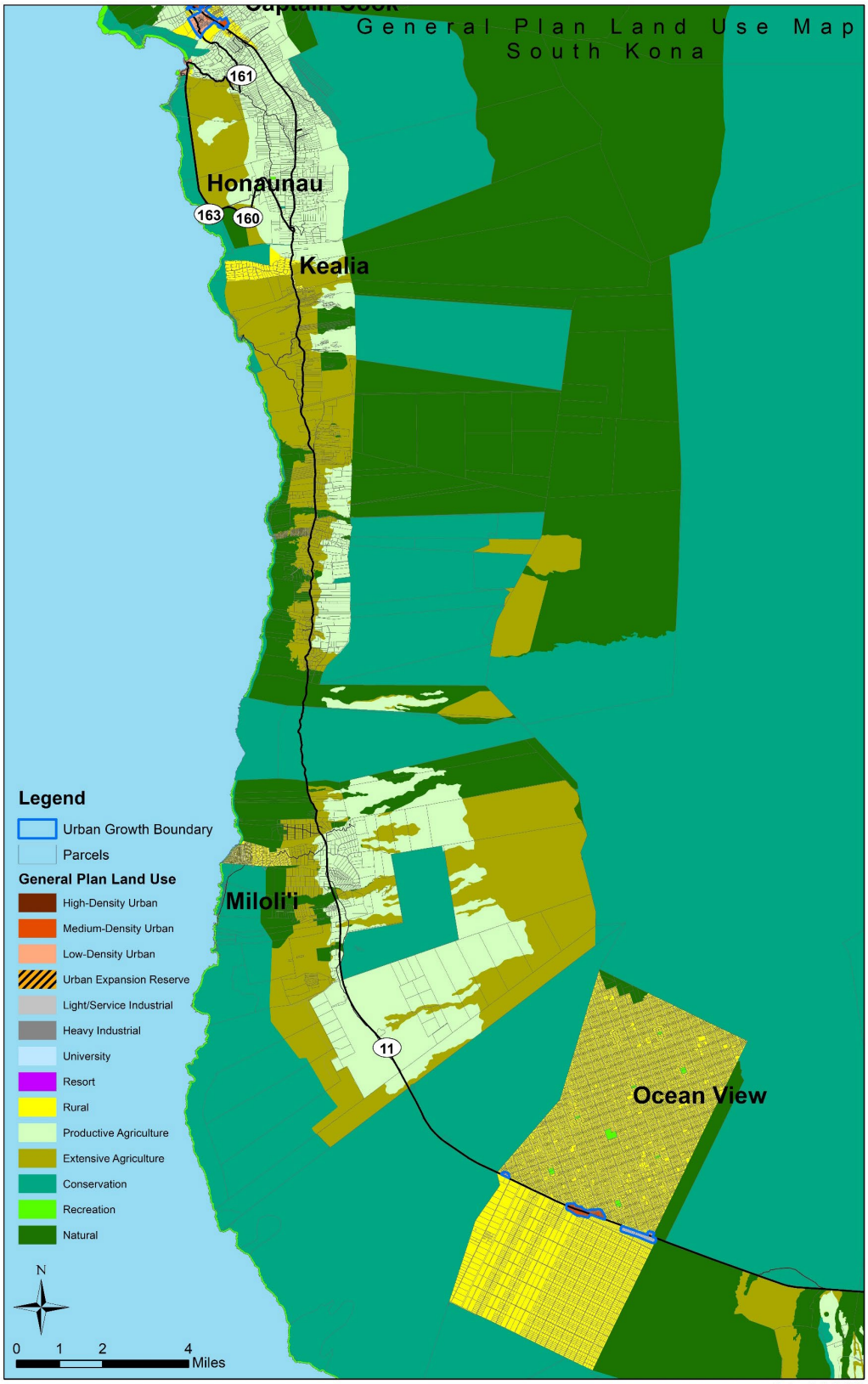

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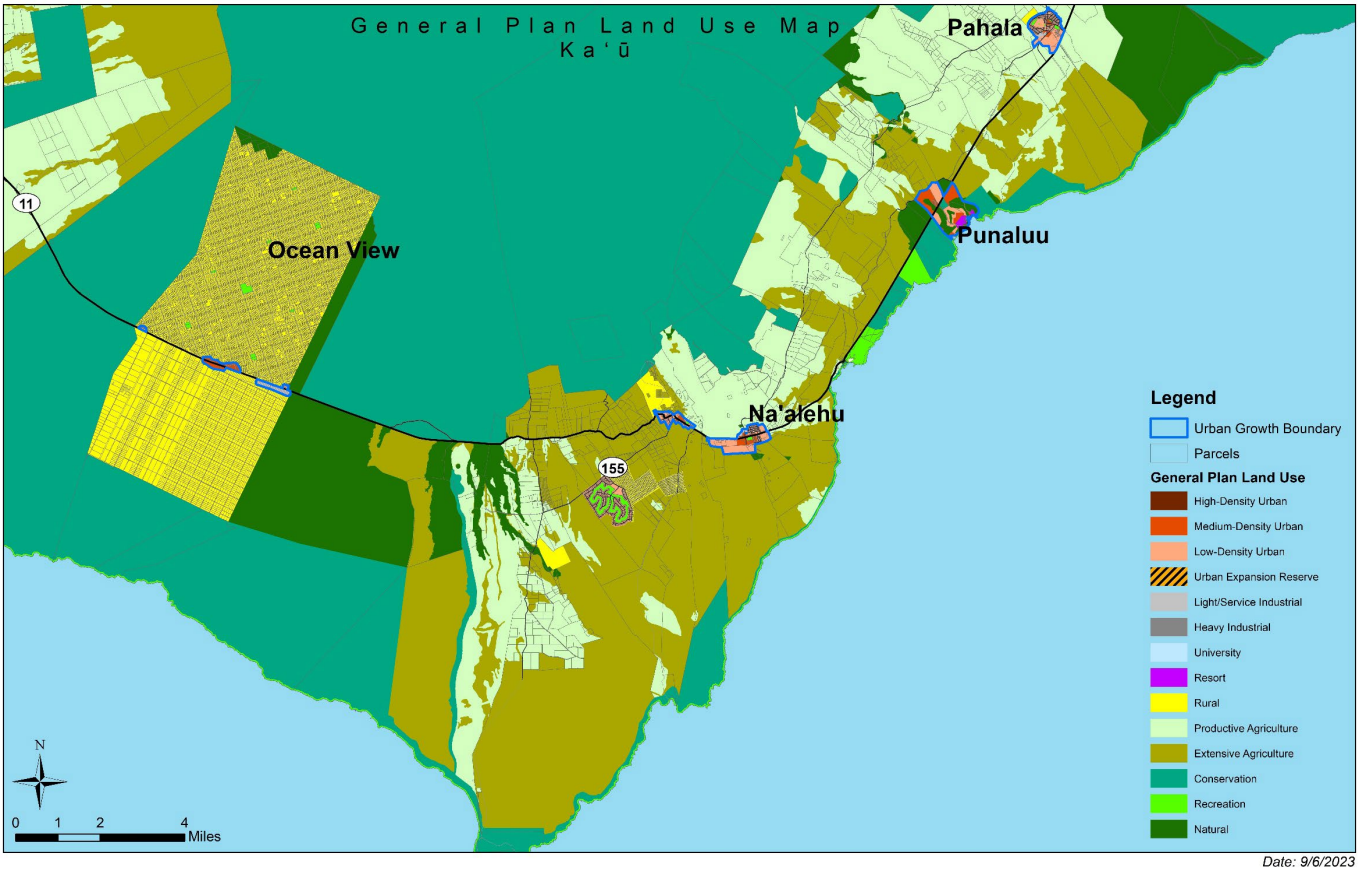
Land Use Map 5



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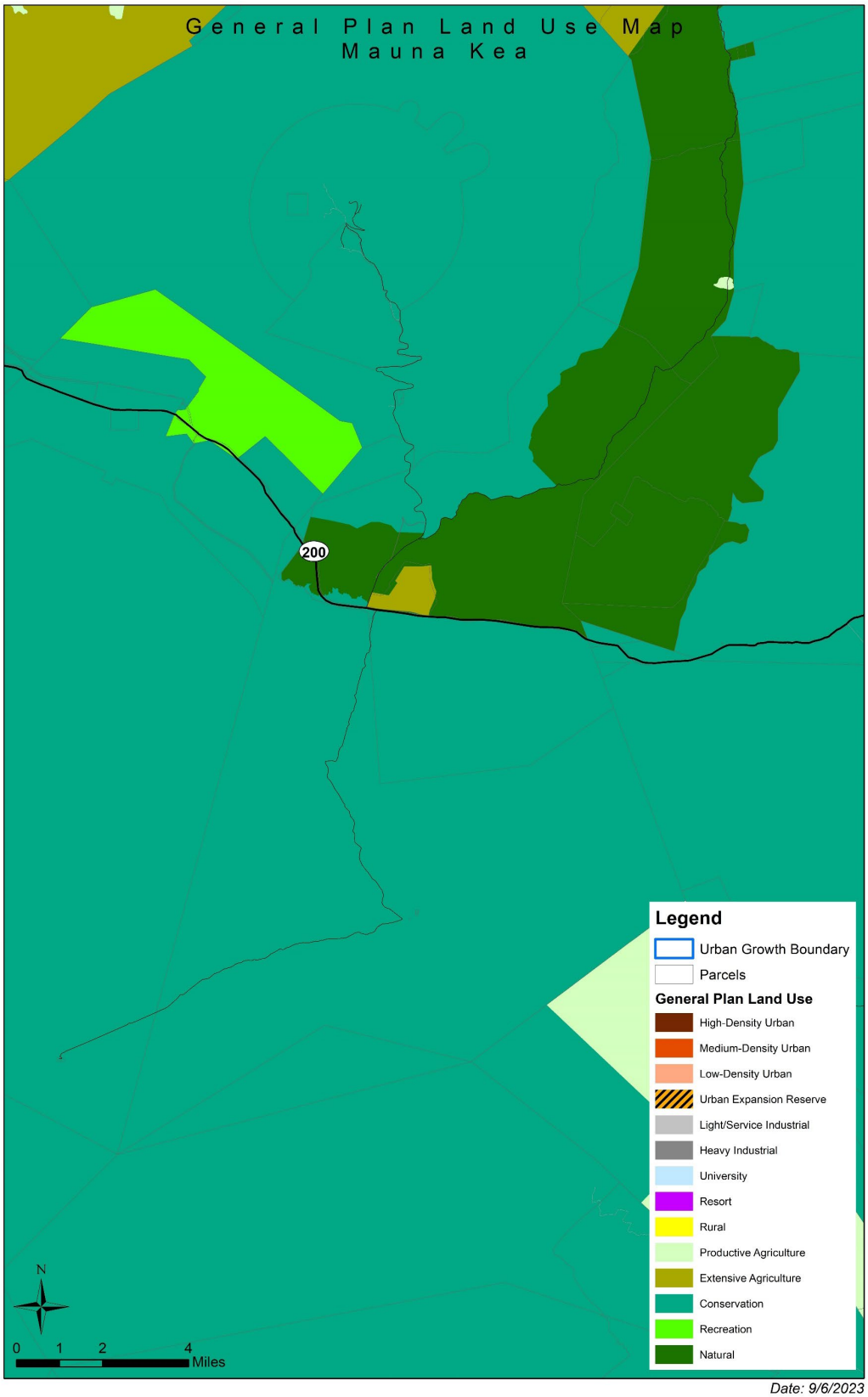

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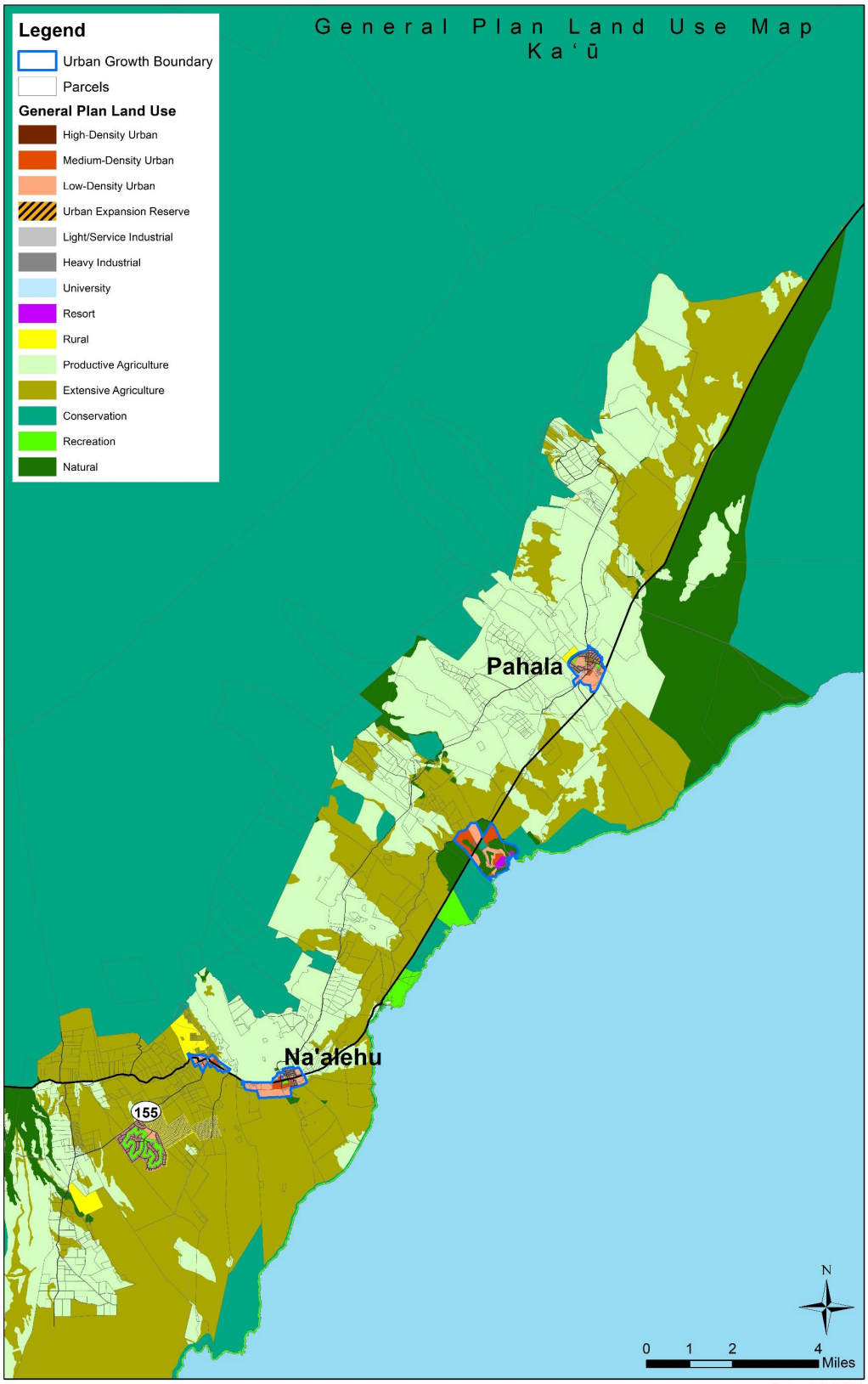
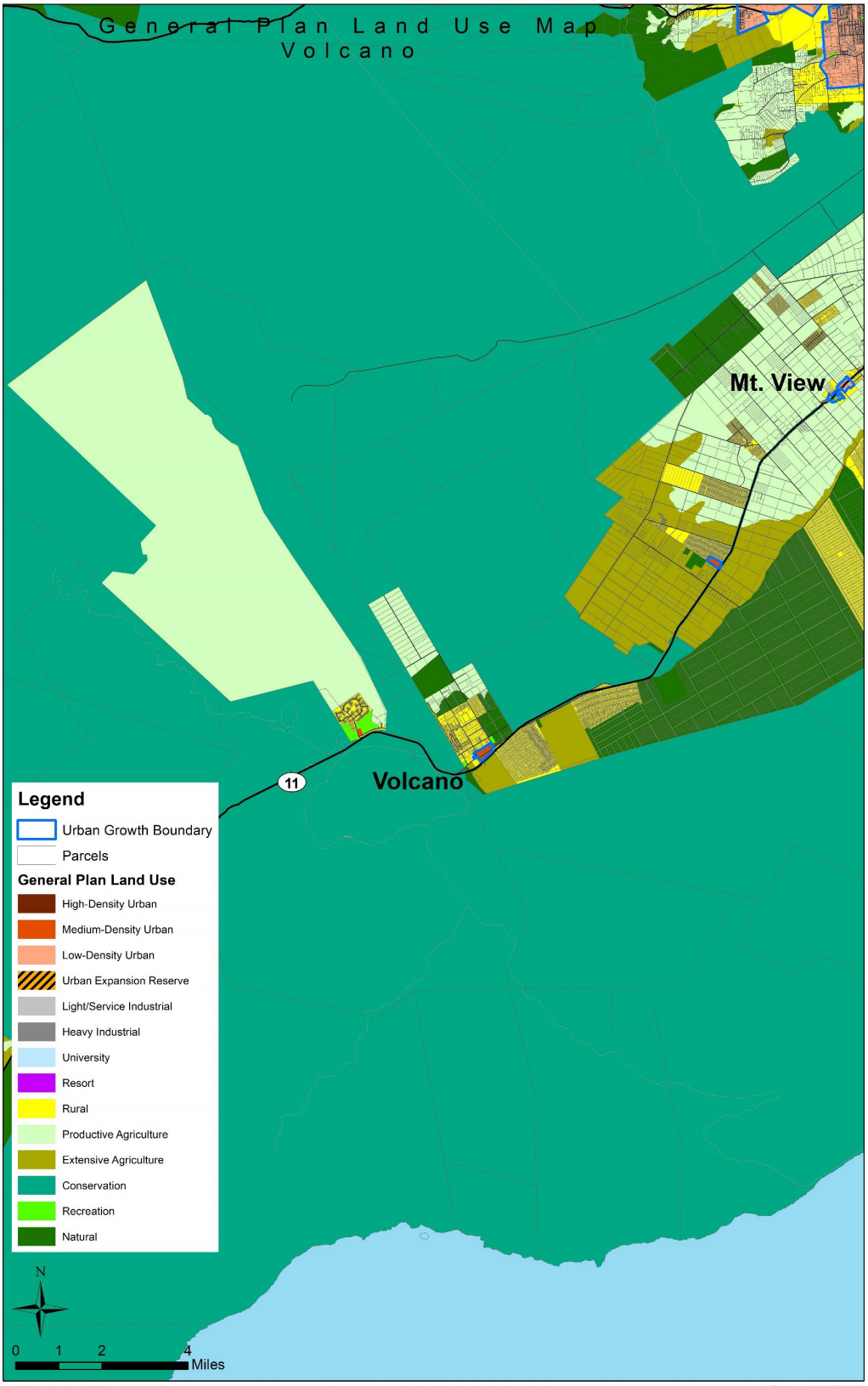
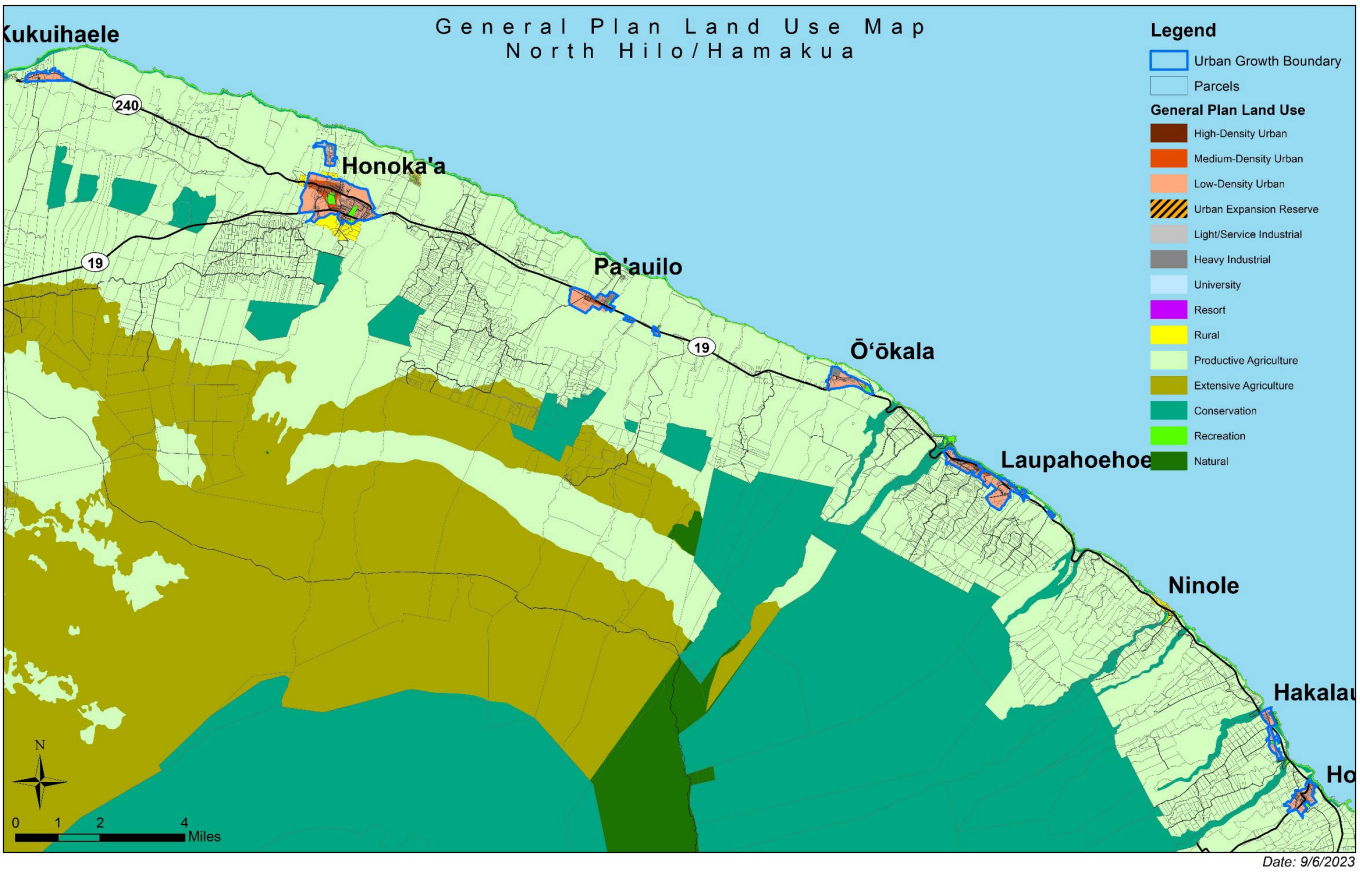


Land Use Map 8

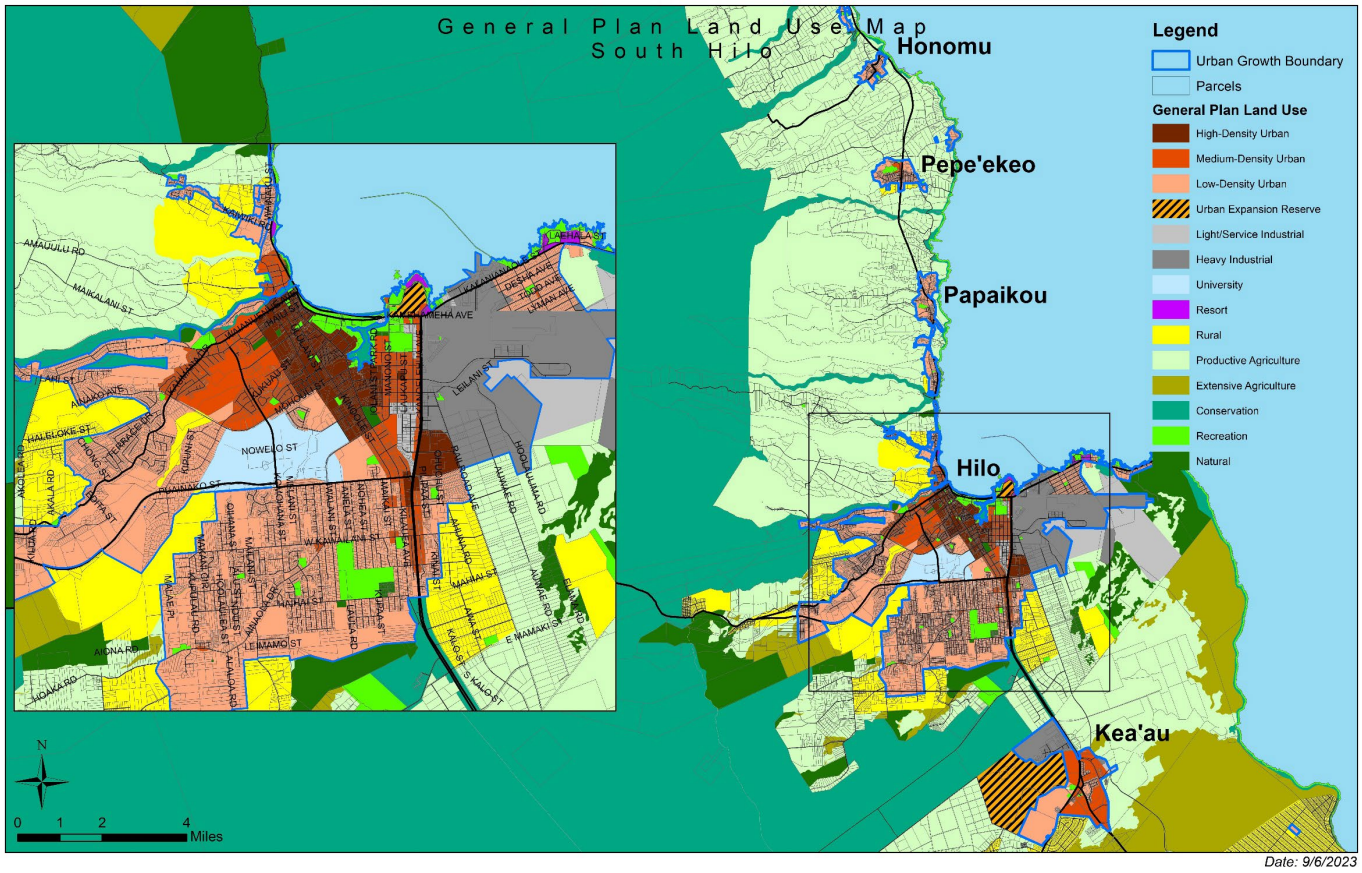


Date: 9/6/2023

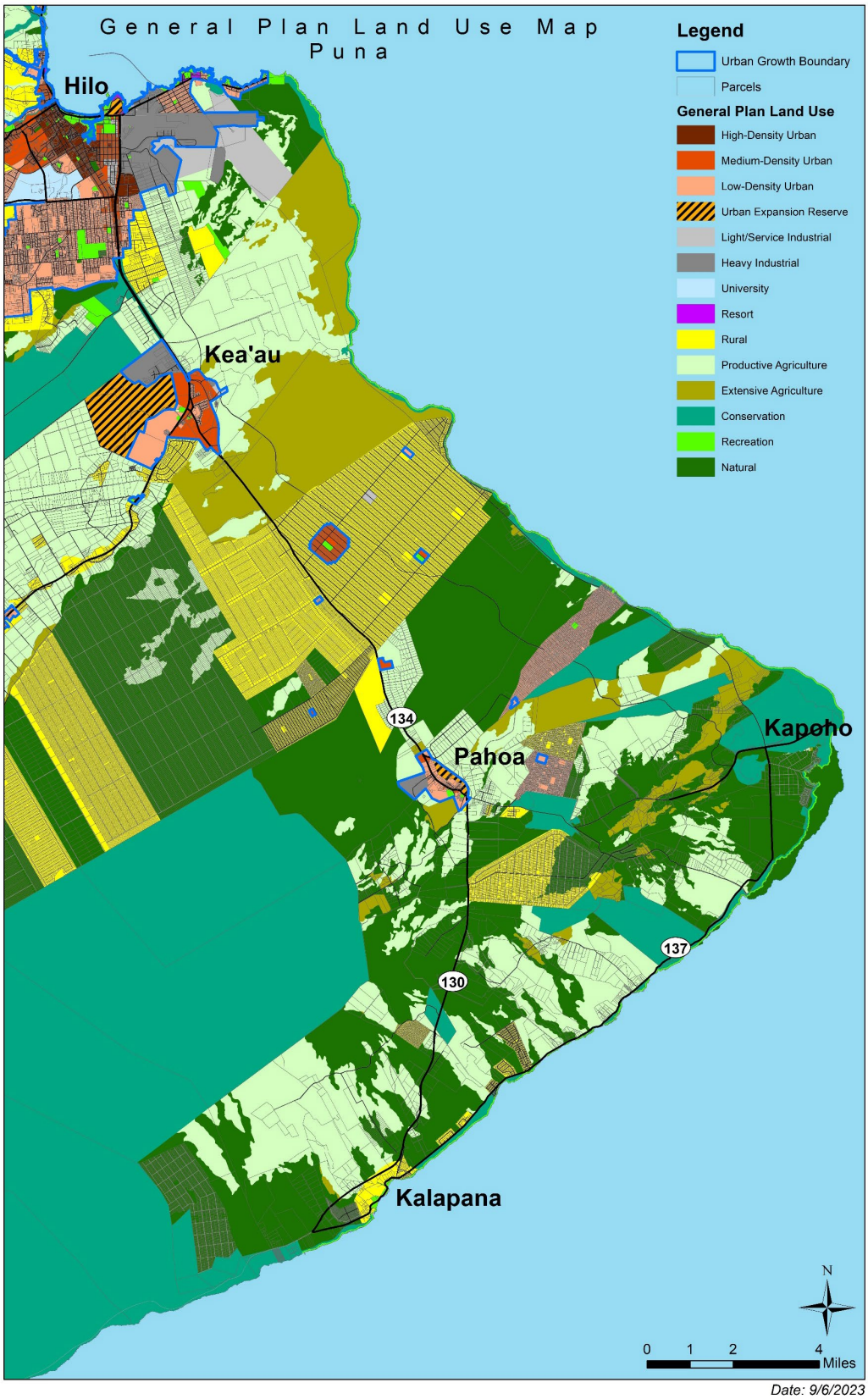
Land Use Map 9



Land Use Map 10



Land Use Map 11



Date: 9/6/2023

1.2: Urban Growth Areas

The Urban Growth Areas include high-density Transit Oriented Development (TOD), medium-density Traditional Neighborhood Development (TND), and low-density Urban Neighborhood Centers. These centers provide physical, social, governmental, and economic concentrations and easier access to services, recreation, and employment activities.

To integrate land use planning and infrastructure planning, the urban centers have been designated based on Smart Growth principles[9]. This ensures that land use patterns and infrastructure availability help us achieve our intentional sustainable development goals. More specifically, urban centers have been designed to create compact, walkable, mixed-use spaces with a purposeful density that helps reduce the need for driving.

Infrastructure costs less when new residential areas are located near existing highways, water and sewer lines, and employment centers. The location of urban uses should continue to be evaluated from the standpoint of how each use services existing and future population growth of the surrounding area. It is also worth noting that shopping patterns have changed, resulting in fewer brick-and-mortar types of structures. This should also continue to be evaluated to consider flexibility and mixed uses with performance standards to protect residential areas from potentially noxious uses.

The value of establishing Urban Growth Areas lies in the ability to manage growth effectively, preserve natural and cultural resources, plan infrastructure efficiently, stimulate economic development, and foster strong, cohesive communities. Urban Growth Areas present a strategic approach to urban planning that balances the needs of a growing population with the preservation of Hawai'i Island's unique character and heritage.

The urban land use objectives are directed toward making Urban Growth Areas more efficient, livable, and safe. Growth should be encouraged in terms of renewing older areas or new urban areas consistent with the land use map. The General Plan Land Use Map designates areas reserved for urban expansion.

[9] https://smartgrowthamerica.org/what-is-smart-growth/

Objective 8

Increase the use of Smart Growth principles to focus development within existing urban centers.

Policies

8.1 Encourage flexibility in the design of residential sites, buildings, and related facilities to achieve a diversity of socio-economic housing mix and innovative means of meeting the market requirements.

8.2 Prioritize increase in density, rehabilitation, and redevelopment within existing zoned urban areas already served by basic infrastructure, or close to such areas.

8.3 Incentivize rehabilitation and adaptive reuse of existing buildings rather than demolition in urban areas characterized by vacant, abandoned, and underutilized older buildings.

8.4 Encourage the rehabilitation and/or utilization of maximum density in multi-family residential areas.

8.5 Rezonings that promote infill are encouraged and should be conditioned to ensure connectivity to the surrounding developments and, where applicable, to provide mixed-use opportunities to make the area more pedestrian-oriented.

8.6 The establishment of urban types of zoning may include additional acreages to account for acreages utilized for public benefits, such as historic sites, public access, parks, and open space.

8.7 Within the “high- and medium-density“ area, commercial development shall be focused on major streets, while interior blocks should be zoned primarily for small lot single-family and multifamily residential use.

8.8 Focus on medium and high-density residential and commercial uses in communities that can sustain a higher intensity of uses and where these residential and commercial uses are consistent with the existing town character.

8.9 Support the rezoning of land to multiple residential near places of employment, shopping facilities, educational, recreational, and cultural facilities, and public facilities and utilities.

8.10 Development of TODs and TNDs are encouraged within locations of the centers shown on the General Plan Land Use Map. These locations are approximate and become fixed during rezoning.

8.11 Plan for and identify appropriate areas for business incubation/innovation districts and industrial/business parks.

8.12 Urban renewal, rehabilitation, and/or redevelopment programs should be undertaken in cooperation with communities, businesses, and governmental agencies.

8.13 Support master planning of present and proposed public and private institutions with an emphasis on TOD, affordable housing, and mixed-use development.

8.14 Low- to medium-density residential development and/or low-impact office uses within urban areas should serve as transitional densities between lower-density neighborhoods and more intensive commercial and residential uses.

8.15 Encourage the use of more innovative types of housing development with respect to geologic and topographic conditions, such as zones of mix and cluster and planned unit developments.

8.16 Lots within proposed single-family residential subdivisions should not have direct vehicular access from major collector streets or larger roadway types.

8.17 Ensure flag lots are designed to support optimal density.

8.18 Large, oversized blocks in new subdivisions should be avoided in favor of smaller blocks and enhanced pedestrian networks. The determination of block size should be based on land use and the urban or rural character of the area.

Commercial

8.19 Promote the redevelopment of aging and high-vacancy shopping centers, or strip-type developments into mixed-use developments with housing and public recreation facilities.

8.20 Encourage the concentration of commercial uses within and surrounding a central core area adequately served by transportation, utilities, and other essential infrastructure.

8.21 Infrastructure and design elements shall be incorporated into the review of commercial developments.

8.22 Encourage a mix of uses near affordable housing and access to commercial and recreational opportunities.

8.23 Industrial and commercial mixed-use districts may be provided in urban centers.

8.24 Distribution of commercial areas shall meet the demands of neighborhood, community, and regional needs.

8.25 Discourage strip or spot commercial development on the highway outside of the Urban Growth Areas.

8.26 Discretionary permit applications for regional retail uses, including big box and regional shopping centers located adjacent to areas designated for low-density residential and rural uses, should be buffered to mitigate impacts.

8.27 Encourage small-scale manufacturing and processing within retail establishments that enhance and are consistent with the surrounding community.

8.28 Support the flexible design of commercial spaces to allow for transitional uses that serve the evolving needs of its users.

8.29 Discretionary permit applications for new commercial developments adjacent to or within existing industrial designated lands shall be reviewed for the criteria of conversion of industrial lands.

Industrial

8.30 Industrial development shall be in areas adequately served by transportation, utilities, and other essential infrastructure or adjacent to unique resources/projects.

8.31 Support the creation of industrial uses in appropriate locations as part of mixed-use districts/developments.

8.32 Support Industrial Project District zoning and flexibility of uses and lot sizes, depending on the needs of the industries and the communities.

8.33 Encourage Industrial Project Districts and Innovation Centers within the Urban Growth Area.

8.34 Industrial-commercial mixed-use districts should serve as transitional areas.

8.35 Support land uses that locate industrial and warehouse sites near major transportation corridors and airports and harbors.

8.36 Support the development of cottage recycling operations near transfer stations and County landfills.

8.37 Industrial uses may be permitted outside Urban Growth Areas through Special Permits when there is a clear community benefit or consistent with County, State, and Federal sustainability objectives.

8.38 Encourage the rehabilitation of existing service-oriented industrial areas.

8.39 Mitigate impacts of industrial development on surrounding uses by requiring landscaping, open spaces, buffer zones, and other appropriate conditions.

8.40 Future land uses in the vicinity of industrial areas, including airports, should have an adequate open space buffer and/or be compatible with the anticipated aircraft noise exposure levels for that vicinity.

Resort

8.41 Resort development shall be in areas adequately served by transportation, utilities, and other essential infrastructure.

8.42 Promote and prioritize the rehabilitation and the optimum utilization of resort areas that are presently serviced by basic facilities and utilities before allowing new resorts.

8.43 Coastal resort developments shall provide public access to and parking for beach and shoreline areas.

8.44 The development or designation of new resort areas should complement the character of the area; protect the environment and natural beauty; respect existing lifestyles, cultural practices, and cultural resources; and provide shoreline public access.

8.45 Do not allow new Resort (V) zoning development along the ocean side of Aliʻi Drive.

8.46 Resort development should be in balance with the social and physical goals as well as the economic desires of the residents of the area.

8.47 Encourage new developments to be water neutral and balance water supply and demand.

8.48 Provide for the establishment of new Retreat Resort areas in appropriate locations.

8.49 On-site affordable housing and workforce units shall not be included in visitor unit counts for existing and new resort developments.

Priority Actions

8.a Incorporate innovations such as form-based code "mixed-use zones" into the Zoning Code. CODE AMENDMENT

8.b Incorporate flexibility in codes and ordinances to achieve a diversity of socio-economic housing mix and to permit an aesthetic balance between residential structures and open spaces. CODE AMENDMENT

8.c Amend the Subdivision Code to ensure block sizes are based on land use and the character of the area. CODE AMENDMENT

8.d Initiate rezonings that promote infill to ensure connectivity and provide mixed-use opportunities to make the area more pedestrian-oriented. PROJECT

8.e Amend Zoning Code to:

i. Establish a TOD floating zone project district with a minimum size of 15 acres.

ii. Create a TND overlay zone for existing zoned lands within identified residential and commercial zoning districts.

iii. Allow for residential uses in ML and MCX zoning districts.

iv. Support innovative uses of alternative energy, agriculture, aquaculture, and others, in MCX zoning districts.

v. Clearly distinguish between general industrial and service industrial types.

vi. Establish urban open space standards.

vii. Create Industrial Project Districts and Innovation Centers.

CODE AMENDMENT

Character Guidelines

Table 11: Transit-Oriented Development (TOD) Character Guidelines

Service Area Population	20,000 – 50,000 residents
Approximate Commercial Land Area	15 acres
Example Locations	Downtown Hilo, Kailua Village, Waimea, Waikoloa
GP Land Use	Medium or High-Density Urban
Optimal Residential Density	13 – 60 DU/Acre
Number of Commercial Establishments	40+
Typical Uses	Mixed uses and higher density residential, multi-family residential, retail, commercial, light industrial uses, regional shopping centers with full-size department stores and a full range of merchandise and services; theater; outdoor events area.
Compatible Zoning	RD, RM, V, CG, CV, MCX, ML, PD, CDH
Access	Access to one or more paved roads; commercial or public uses without direct driveway access to highway; complete streets, multimodal transport, active living corridors; transit hub; walkable
Range of Possible Services	District park, regional Park; schools (all grades); community hall elderly or other special needs housing; medical facility with emergency room; police and fire station
Character	• Vernacular architecture that respects the historic context and scale of the community, usually subject to design criteria • Urban Grid Street Network • Limited driveway access • On-street parking • Public off-street parking • Landscaping (including street trees where appropriate) commensurate with environment/water availability. • Sidewalks and/or walking or bike paths.

Table 12: Traditional Neighborhood Development (TND) Character Guidelines

Service Area Population	10,000 – 20,000 residents
Example Locations	Volcano Village, Laupāhoehoe, Hāwī, Captain Cook, Pahala
Approximate Commercial Land Area	10 – 15 acres
GP Land Use	Medium Density Urban
Optimal Residential Density	13-35 DU/Acre
Number of Commercial Establishments	20-40
Typical Uses	Neighborhood-oriented retail uses and mixed uses; variety or junior department stores; convenience goods, "soft line" items (e.g., clothing), "hard-line" items (e.g., hardware and small appliances); outdoor events area; bed-and-breakfast homes and small inns.
Compatible Zoning	RD, RM, CN, V, CG, CV, UNV, ML, MCX
Access	Access to one or more paved roads; commercial or public uses without direct driveway access to a highway where feasible; walking and bicycling paths; transit stop
Range of Possible Services	District park, community park, elementary or middle school, child and adult care facilities, community center, elderly or other special needs housing, medical clinic
Character	• Informal, vernacular architecture that utilizes natural exterior material and earth-toned colors • Limited driveway access • On-street parking • Public off-street parking • Landscaping (including street trees where appropriate) commensurate with environment/water availability • Sidewalks and/or walking or bike paths

Table 13: Urban Neighborhood Center Character Guidelines

Service Area Population	3,000 – 10,000 residents
Approximate Commercial Land Area	Up to 10 acres
Example Locations	Kaumana, Wainaku, Keauhou, Hawaiian Ocean View Estates, Paradise Park
GP Land Use	Low-Density Urban
Optimal Residential Density	3 – 12 DU/Acre
Number of Commercial Establishments	5 – 20
Typical Uses	Neighborhood and convenience-type retail and personal services
Possible Compatible Zoning	RS, RD, RM, RCX, V, CN, CV
Access	Access to one or more paved roads; commercial or public uses without direct driveway access to a highway where feasible; connections to walking and bicycling paths; transit (or paratransit) stops
Range of Possible Services	Community park, neighborhood park, elementary school, multi-purpose meeting room or (minimum) place to congregate or post community notices, outdoor events area (e.g., barbeques and farmer's markets)
Character	• Informal, vernacular architecture that is small in scale and reflects a residence ambiance, utilizes natural exterior material and earth-toned colors • Limited driveway access • On-street parking • Landscaping (including street trees where appropriate) commensurate with environment/water availability • Sidewalks and/or walking or bike paths

Table 14: Industrial Center Character Guidelines

	GENERAL INDUSTRIAL AND INNOVATION	SERVICE AND INNOVATION
Existing Locations	Shipman Industrial Park, Kanoelehua Industrial Area, Hilo Airport, Haina, Kawaihae and Hilo Harbors, Keahole Airport, West Hawai´i Business Park	Hawaiian Paradise Park (?), Pahoa, Hilo Iron Works, Waiakea House Lots, Laupāhoehoe/Papa´aloa, Hāwī, Waimea, Waikoloa, Kainaliu-Honalo, Kona Industrial Center, Honokōhau, Natural Energy Lab, Kealakekua-Captain Cook, Na´alehu, Kaloko Industrial Area.
GP Land Use	Heavy Industrial	Light Industrial
Typical Uses	Landfills, quarries, chemical plants, heavy equipment base yards, towing yards, etc.	Business parks, research and development centers, product assembly, distribution centers, laboratories, cottage industries, small-scale distilleries/breweries, etc.
Compatible Zoning	MG	ML, MCX
Access	Convenient automobile access to one or more paved roads, on-site parking	Access to one or more paved roads, on-street parking, street trees and sidewalks, transit (or paratransit) stop
Character	• Located close to raw materials or key resources, generally considered to be offensive and noxious. • Noxious, heavy industrial uses should be separated from residential and other incompatible uses with buffer zones. • Topography of industrial land shall be reasonably level. • Direction of wind patterns and the absence of trade winds shall be considered in the siting.	• Located close to population centers, for business and industrial uses (not considered noxious or heavy industrial) that are generally in support of, but not necessarily compatible with activities and uses in other commercial districts. • Topography of industrial land shall be reasonably level. • Direction of wind patterns and the absence of trade winds shall be considered in the siting

Table 15: Criteria for Industrial Land Preservation and Conversion to Commercial/Mixed-Use

	EXISTING INDUSTRIAL CONDITIONS	CONDITIONS APPROPRIATE FOR CONVERSION
Transportation	• Proximity to freight and/or port facilities • Low Vehicle Miles Travelled for workers on industrial land	• Proximity to transit • High Vehicle Miles Travelled for workers on industrial land
Economy	• Production or related employment • Proximity to business clusters/suppliers/markets • Critical supplier to local businesses • Industry stable or growing	• High-density non-production employment • Proximity to markets/customers • Limited linkages to local economy • Industry in decline
Equity	• Offers middle-wage jobs for less-skilled workers	• Potential for affordable housing
Land Use/Zoning Compatibility	• Surrounded by medium/heavy industrial zoning	• Adjacent to existing residential and/or commercial areas.
Environment	• Brownfield site, remediation infeasible	• Environmental health hazards from industries starting to impact surrounding communities (especially if historically disadvantaged) • Can be remediated
Adequacy of Supply	• In areas with a projected deficit of industrial land • Low vacancy rates for industrial buildings	• In areas with a projected surplus of industrial land • High vacancy rates for industrial buildings

Table 16: Resort Area Character Guidelines

	MAJOR RESORT AREA	INTERMEDIATE RESORT AREA	MINOR RESORT AREA	RETREAT RESORT AREA
Example Locations	Waikoloa, Keauhou, Kaupulehu-Kukio, Mauna Kea Beach Hotel, Mauna Lani.	Waiakea Peninsula	Keaukaha, Wainaku, Punaluu	Kalani Honua, etc.
Typical Visitor Units	3,000 units	1,500 units	500 units	40 units, without individual kitchens.
Approximate Land Area	Resort Acreage: 90 acres minimum	Resort Acreage: 45 acres minimum		Resort Acreage: 15 acres
GP Land Use	Resort	Resort	Resort	
Active and Passive Recreation	50 acres minimum	25 acres minimum	Provide active and passive recreation areas commensurate with the scale of development.	Provide active and passive recreation areas commensurate with the scale of development.
Typical Uses	Self-contained resort destination area that provides basic and support facilities for the needs of the entire development.	Self-contained resort destination area that provides basic and support facilities for the needs of the entire development on a smaller scale than a major resort area	Small resort destination area that relies on the nearby community for amenities and support facilities.	Area that provides the user with rest, quiet, and isolation for an environmental experience.
Compatible Zoning	V	V	V	V, or by Special Permit
Access	Access to one or more public roads; commercial or public uses without direct driveway access to highway Walkable Walking and bicycling paths Transit Hub Public access to and parking for beach and shoreline areas	Access to one or more public roads; commercial or public uses without direct driveway access to highway Walkable Walking and bicycling paths Transit Hub Public access to and parking for beach and shoreline areas	Access to one or more public roads; commercial or public uses without direct driveway access to highway Walkable Walking and bicycling paths Transit Hub Public access to and parking for beach and shoreline areas	Access to one or more paved roads; Shall not be accessed through substandard roads or roads-in-limbo unless meeting fire safety and not impacting traffic within the existing neighborhood Transit (or paratransit) stops Public access to and parking for beach and shoreline areas

Workforce Housing	Meet affordable housing requirements of the Hawai´i County Housing Code	Meet affordable housing requirements of the Hawai´i County Housing Code	Meet affordable housing requirements of the Hawai´i County Housing Code	Meet affordable housing requirements of the Hawai´i County Housing Code
Character	Consistent with the surrounding area's quality, ambiance, and character	Consistent with the surrounding area's quality, ambiance, and character	Consistent with the surrounding area's quality, ambiance, and character	Consistent with the surrounding area's quality, ambiance, and character

1.3: Rural

Hawai'i Island is widely considered rural, yet the State Land Use Rural District comprises just 807 acres or less than one percent of the island's total land area. The Rural District was defined after the original district boundaries were established upon the request of small landowners. In the establishment of the original district boundaries in 1963 to 1964, plantation towns and rural centers were designated Urban, although urban land use and development standards are inappropriate for use in the context of rural settlements and rural infrastructure. All working and open lands not designated as Conservation were designated Agricultural, even if they had little agricultural resource value. Consequently, many of our rural areas are still designated State Land Use Agricultural with Agricultural County Zoning.

Rural areas are situated outside of the urban growth areas, where a city-like concentration of people, structures, streets, and urban level of services are limited, and where small farms are intermixed with low-density residential development. These areas should retain their rural character with low-density residential development, supporting small-scale commercial development, and agricultural land uses. It is worth noting that Rural and Agricultural land uses are not interchangeable and have distinct outcomes.

Residents value the natural spaces, open areas, and small-scale agricultural activities that rural living provides. The history and character of the island's rural communities are irreplaceable. Well-defined rural areas that are distinct from agricultural areas can address the demand for rural lifestyles on marginal agricultural land while reducing the pressures to develop important agricultural land for non-agricultural purposes.

Minimizing sprawl and greenfield development can be challenging when rural residences have been among the most affordable homeownership options on Hawai'i Island for decades. Rural subdivisions, such as Hawaiian Paradise Park and Hawaiian Oceanview Estates, have been two of the fastest-growing residential areas on the island because lots have been the most affordable. Many rural subdivisions have also been the most underserved areas, in terms of infrastructure and services. These communities may lack essential infrastructure and services such as healthcare facilities, schools, and transportation options. The distance from urban centers and the dispersed nature of rural settlements makes it challenging to provide adequate services to these areas.

Despite these challenges, rural communities often exhibit strong social cohesion and self-sufficiency. Preserving rural character and lifestyle allows residents to maintain a sense of community and fosters resilience in times of adversity, such as natural disasters or disruptions to external supply chains. Rural areas often retain strong ties to the island's cultural heritage, which helps maintain traditional practices and values that are important to communities. By maximizing rural lands, there are opportunities to support small-scale farming and promote agricultural self-sufficiency. The General Plan recognizes the value of utilizing Rural as a land use designation to clearly define and characterize its role on our island

Objective 9

Maximize the alignment and use of Rural designated lands to preserve rural character and lifestyle.

Policies

9.1 Support the rezoning and State Land Use reclassification to Rural in alignment with the General Plan Rural designation.

9.2 Support reclassification/rezoning of appropriate General Plan Rural designated areas where an intermediate land use and a well-defined buffer between Urban and Productive Agricultural areas are consistent with the surrounding uses and rural character.

9.3 Support General Plan amendments and rezoning applications for the development of new Rural Neighborhood Centers with adequate infrastructure, as necessary, in or near presently underserved subdivisions, beginning with those experiencing higher rates of population growth.

9.4 Rural-style residential-agricultural developments, such as new small-scale rural communities or extensions of existing rural communities, should be incentivized to cluster in appropriate locations.

9.5 Support the development of small-scale visitor accommodations with heritage, agriculture, wellness, or similar themes in rural areas and near points of interest.

9.6 Provide flexibility in discretionary permit applications to maintain health and safety for rural small-scale visitor accommodations not serviced by public infrastructure.

Priority Actions

9.a Amend the Zoning Code definition and requirements for Lodges and reconcile similarities and inconsistencies with the special permit provisions for Retreats. Clearly articulate in the Code the zoning districts appropriate for Lodges. CODE AMENDMENT

9.b Amend the zoning districts currently listed as Family Agricultural District (FA) and the Residential and Agricultural Districts (RA) to be consistent with the Rural designation and to allow for home occupations that do not negatively impact rural character. CODE AMENDMENT

9.c Amend the Zoning Code to allow telecommuting and home-based businesses that rely on the internet as permitted accessory uses to residential uses when operated in compliance with cottage industry performance standards. CODE AMENDMENT

9.d Amend the Zoning Code and Subdivision Code to establish Clustered Rural Subdivision PUD. CODE AMENDMENT

Table 17: Rural Neighborhood Character Guidelines

Service Area Population	Up to 3,000 residents
Approximate Land Area	1 – 5 acres
GP Land Use	Low-Density Urban, Rural
Example Locations	Kurtistown, Puako
Optimal Residential Density	1 – 12 DU/Acre
Number of Commercial Establishments	1 – 5
Typical Uses	Primarily low-density residential. Limited neighborhood-serving businesses may be allowed to provide goods and services for daily needs and community gathering spots. Civic uses (e.g., fire stations, schools, churches, etc.) and additional dwelling units may also be allowed provided such uses are oriented toward serving the needs of rural, low-density neighborhoods.
Compatible Zoning	RS, RM, RCX, ML, V, CV, CN, RA, FA
Access	Access to one or more paved roads; commercial or public uses without direct driveway access to a highway where feasible; connections to walking and bicycling paths; transit (or paratransit) stops.
Range of Possible Services	Typical services may include retail and personal services, neighborhood park, elementary school, multi-purpose meeting room or (minimum) place to congregate or post community notices, and outdoor events area (e.g., barbeques and farmer's markets).
Character	• Informal, vernacular architecture that is small in scale and reflects a residence ambiance, utilizes natural exterior material and earth-toned colors • Limited driveway access, on-street parking, public off-street parking • Landscaping (including street trees where appropriate) commensurate with environment/water availability • Sidewalks and/or walking or bike paths

1.4: Agriculture

Agriculture holds a crucial role in Hawai'i for its significance in the economy, food security, environmental sustainability, and cultural heritage. Land use planning policies directly impact agricultural land and activity, shaping the future of farming practices, food production, and the overall agricultural landscape on Hawai'i Island.

The State Land Use Agricultural District encompasses 1,184,599 acres or 46 percent of the island's total land area. However, during the original designation of lands, all working and open lands not designated as Conservation were designated Agricultural, even if they had little agricultural resource value. Since then, there have been efforts to better define lands well-suited for productive agricultural uses based on soil data, rainfall, and other factors. Ensuring appropriate agricultural land uses is a priority of the State and County of Hawai'i. The General Plan further works to define and protect productive agricultural land through establishing policies and guidelines that support and enhance agricultural activities while promoting responsible land use practices.

One of the primary challenges to the maximization of agricultural production is access to affordable land. Productive agricultural land values have risen beyond their value for agricultural purposes due to increases in non-agricultural residential uses. The agricultural industry is constantly evolving and has shifted away from larger-scale production and now includes value-added processing and agricultural tourism. The land use regulatory system must be flexible to adapt and allow the agricultural industry to make changes that help it to succeed.

The General Plan provides planning tools to incentivize the highest and best use of productive agricultural lands. The Plan's policies and actions are aimed at maintaining the viability of the agricultural sector by preserving productive agricultural land, promoting local food production, supporting sustainable farming practices, mitigating urban encroachment, strengthening the local economy, and contributing to the conservation of the island's biodiversity.

Objective 10

Support the active use of Productive Agricultural lands.

Policies

10.1 Development in Productive Agriculture and Extensive Agriculture areas should include agricultural uses, related economic infrastructure and cottage industries, compatible renewable energy, open area recreational uses, and community facilities.

10.2 Special permit applications within Productive Agriculture designated land should support primary agriculture use.

10.3 Encourage buffer zones or compatible uses between Productive Agriculture and adjacent uses of land.

10.4 Preserve agricultural character, including the open space preserved by agricultural land.

10.5 Support the development of small-scale visitor accommodations that directly promote the agriculture industry, health and wellness industry, or are near points of interest.

10.6 Any subdivision or farm labor housing complex developed on Productive Agricultural Lands should be clustered to minimize impact.

10.7 Encourage and aid the agricultural industry in continuing to provide farm labor housing.

10.8 Encourage the use of agriculture, ranch, and forestry land preservation programs.

10.9 Promote the preservation and restoration of indigenous agricultural systems.

10.10 Provide flexibility to allow for adjacent compatible uses for large-scale agriculture with industrial components, such as carbon sequestration.

Priority Actions

10.a Amend the Zoning Code to develop standards for permitting certified incubators or community kitchens in Rural or Agricultural districts. CODE AMENDMENT

10.b Conduct a study to review a maximum developable area consideration for properties designated as Productive Agricultural lands. PROJECT

10.c Create and adopt a County Agricultural Tourism program. PROGRAM

10.d Amend the Hawai'i County Code (HCC) to allow farm labor housing to be permitted where the employee's primary occupation is working on a specific farm but where the housing and the farm are not on the same parcel. CODE AMENDMENT

10.e Amend the HCC and associated Planning Department Rules to establish annual reporting for additional farm dwellings. CODE AMENDMENT

10.f Update the Property Tax Code for agricultural land uses that result in actual production or other public benefits, such as native forestry. CODE AMENDMENT

10.g Amend the Zoning Code to require Plan Approval for commercial open area recreational uses in the County Agricultural District. CODE AMENDMENT

10.h Evaluate the Zoning Code, Section 25-5-72(a)(17) relating to livestock production of piggeries, apiaries, and pen feeding of livestock shall be located no closer than one thousand feet away from any major public street or any other zoning district. CODE AMENDMENT

10.i Develop standards and guidelines for buffer areas located adjacent to agricultural lands. PROJECT

Section 2: Transportation Access and Mobility

Organization

2.1: Introduction

Transportation access and mobility are vital elements of any thriving community. These concepts encompass how individuals, goods, and services, move within and beyond Hawai'i Island. This element of the General Plan examines various modes of transportation, including roadways, public transit, biking and walking paths, and air and sea transport. These networks enable people to commute to work, access essential services, connect with natural and cultural attractions, and facilitate the movement of goods and services that sustain our local economy. The County recognizes the significance of transportation infrastructure in advancing economic growth, enhancing the quality of life, and preserving our unique natural and cultural assets.

As the largest and most ecologically diverse island in the State, the County faces various challenges and opportunities in ensuring efficient, sustainable, and equitable transportation systems. The Plan aims to improve connectivity, reduce carbon emissions, alleviate traffic congestion, and enhance energy efficiency. This approach not only minimizes the environmental impact of transportation but also promotes a healthier and more livable community for all residents. This section sets the stage for comprehensive and forward-thinking policies that will help guide transportation infrastructure development, promote alternative modes of transportation, and address the evolving needs of residents, visitors, and businesses across the island.

Resilience, on the other hand, is the capacity of a community to adapt, withstand, and recover from shocks and stressors such as natural disasters and economic fluctuations. Accessible and resilient transportation infrastructure is vital during emergencies, enabling efficient evacuation, emergency response, and the restoration of critical services. By investing in resilient transportation systems, the County strengthens its ability to confront and recover from adversities, ensuring the wellbeing and safety of its residents in times of crisis.

Transportation planning focuses on providing safe, efficient, and affordable modes of mobility for people and goods that achieve our sustainability goals and establish resilient responses to climatic and economic challenges. The traditional traffic perspective evaluates transportation system performance according to vehicle speeds, delays, level of service, and operating costs. Contemporary perspectives broaden evaluation to mobility costs and transit times of a variety of transportation modes and accessibility for people and businesses to reach desired services and goods. This broadened view of active transportation considers the movement of people through human-powered means, such as walking or cycling, small-scale motorized and traditional vehicular solutions, such as electric scooters, and communal offerings such as ridesharing or mass transit.

The Plan is focused on improving connectivity within and between communities, enhancing multimodal transportation options, prioritizing health and safety, reducing congestion, and minimizing the environmental impact of transportation systems. This section leverages emerging technologies, incorporates sustainable practices, and considers the County's long-term goals for resilience and adaptation to climate change.

Table 18: Transportation Key Trends

Job and Population Centers Mismatch	• Generally, about 42% of jobs in Hawai'i County are in Hilo, nearly 25% in North Kona, approximately 7% in the Waikoloa and Waimea areas, and about 1 to 7% in each of the other population centers. • "Mean travel time to work" has increased from 24.5 minutes in 2000 to 26.8 in 2020, reflecting an increase in population centers outside of job centers.
Investment in Electric Vehicles	• Percentage of registered vehicles that are electric: 0.86% • Total registered electric vehicles: 10,670 (#20 overall) • Number of statewide charging stations: 385 (#27 overall) • Number of charging ports per 100 EVs: 7.8 (#50 overall)

Growing Interest in Active Transportation	• Between 2016 and 2020, workers commuting by active transportation in the State of Hawai'i was at 10.1%
	• The County of Hawai'i Mode Share as of 2017 included:
	  ○ Pedestrian 2.3%
	  ○ Bicycle 0.44%
	  ○ Transit 1.2%
	• Generally, an increase in active transportation can be achieved with improvements in connectivity to a defined Active Transportation Network.

Table 19: Transportation Challenges

Continuing, Comprehensive, and Cooperative Planning	• Transportation requirements identified in County plans require interdepartmental collaboration on projects from ideation to implementation to be fully realized. • Active transportation planning requires gathering data and analyzing demand for all modes of transportation to support the desired movement of people and goods sustainably and equitably. • Increasing roadway capacity to relieve congestion induces more congestion in the long run when not countered with traffic demand management. • Emerging technologies increase the demand for new and evolving transportation needs.
Financing	• Increased fuel-efficient and electric vehicles challenge the stability of gas tax contributions to highway funding. • Current operating budget funding and asset condition information are not adequate to maintain existing transportation assets. • Current Capital Improvement Program (CIP) demands for new transportation facilities and services far exceed the County's ability to fund these activities on an annual basis.
Public Access	• County codes and procedures do not adequately address criteria, planning, implementation, dedication standards, and authority requirements for public access elements. • Public access requires collaboration and can be complicated when working with public and private landowners, community members, and local, state, and federal agencies. • Environmental hazards and the uncertainty of climate change impacts pose risks to the quality and safety of public access.
Mass Transit	• Declines in ridership have reduced funding for operation and maintenance as well as expansion of services. • Fleet conditions, and onboard services need to be updated or upgraded to improve rider perceptions of comfort, safety, and place-making. • Route schedules and status are not readily available in real-time while riders are in transit.
Roadways	• Multimodal roadway planning is complex, requires relevant data, and is difficult to secure across essential interdepartmental processes. • Forms of transportation that utilize roadways are changing in technology (e.g., electric vehicles, autonomous vehicles) and scale (e.g., micro-mobility, mobility as service). Design standards must be responsive to these changes. • The location of urban areas along the island's perimeter increases transportation demands to meet employment and livability requirements. • Aging roadway systems, structurally deficient bridges, and roads in limbo increase maintenance requirements and decrease service levels. • Roadway fatalities remain high in comparison to other counties in Hawai'i. • The lack of transportation and mobility options in certain areas creates long daily commutes for residents while contributing to a high vehicle count on many roads. • Parking requirements can be an impediment to (re)development and infill due to high vehicle reliance.
Terminals: Airports and Harbors	• Pre-COVID-19, tourism accounted for approximately 15% of VMT, with rental cars as the primary means of transportation for tourists. • Major airports and harbors are owned and operated by the State Department of Transportation. • The location of some major airports and harbors makes it difficult to use active or alternative transportation.

Table 20: Transportation Opportunities

Continuing, Comprehensive, and Cooperative Planning	• Establish metrics for evaluating transportation solutions and implement data capture (including emerging technology) and analysis procedures that should inform changes in planning strategies and policies. • Improve interagency collaboration to define processes for project creation, scoping, design, and construction. • Collaborate with HDOT to establish a transportation planning organization using State Research and Planning grants to initially fund planning activities including data management. • Promote transportation polices found in the existing plans that can expand access to jobs, health care, and other services and can create more equitable and safe choices of transportation.
Financing	• Prepare projects that are qualified for funding under the Bi-Partisan Infrastructure Act. • Evaluate alternative financing strategies that consider property tax, fees, and cost-sharing solutions with new development. • Establish an Asset Management Program to define the appropriate maintenance strategy and funding required secure level of service and asset availability.
Public Access	• Standardize interagency agreements for standards, maintenance mapping, and enforcement. • Amend ordinances, laws, and codes to be inclusive of and address public access concerns. • Apply designated Special Management Area(s) (SMA) to support the public's access to and along the shoreline. • Hawai'i County Public Access, Open Space, and Natural Resource Preservation Commission (PONC) can further support public access.
Mass Transit	• Partner with alternative fuel providers to determine fleet vehicles to be purchased to replenish the bus fleet and to optimize purchase and operation costs. • Provide a variety of transit options and amenities on mass transit that broaden the appeal to potential riders. • Re-evaluate mass transit routes to meet ridership demands, connect to active transportation solutions for the first and last mile, and be co-located with other services of interest.
Roadways	• Collect and analyze data required to propose multi-modal solutions to accommodate cross-island and localized transportation demands. • Define collaborative procedures for cross-department identification of multi-modal projects with integration into the CIP planning process. • Improve the integration of transportation and land use planning to optimize the use, efficiency, and accessibility of existing and proposed transit systems. • Coordinate other infrastructure elements (i.e., water, sewer, power, broadband, public transit) where possible to connect follow-on services and funding. • Reducing traffic-related injuries and fatalities through roadway design and community awareness. • Promote the visioning of public right-of-way (ROW) as a public space and used for place-making. • Optimize repaving projects to retrofit multimodal design in existing ROW.
Terminals: Airports and Harbors	• The integration of mass transit, ridesharing, ride-hailing, and other shared-use mobility options at airports and harbors can help reduce reliance on rental cars. • Applying Destination Management Plan actions can help bridge the alternative transportation gap. • There are Transit-Oriented Development (TOD) opportunities around airports and harbors. • Potential exists for a link from the airport to small boat harbor transportation in West Hawai'i.

Transportation Goal

Each community is connected by a multimodal and modernized transportation network that provides a system for safe, efficient, and comfortable movement of people and goods.

Objective 11

Achieve a transportation system that is consistent with and will accommodate planned growth.

Policies

11.1 Encourage transportation systems that serve to accommodate the present and future development needs of communities.

11.2 Encourage safe and convenient use of low-cost, energy-efficient, non-polluting means of transportation.

11.3 Encourage the diversification of transportation modes and infrastructure to promote alternate fuels and energy efficiency.

11.4 Transportation and land use planning shall be integrated to optimize the use, efficiency, and accessibility of existing mass transportation systems and future demand.

11.5 Establish a framework of transportation facilities that will influence desired land use and promote multimodal options.

11.6 Provide for present traffic and future demands, including the programmed development of mass transit programs for high-growth areas by both the private and public sectors.

11.7 Implement procedures for County departments to collaborate on defining short- and long-term transportation CIP projects in terms of scope, timing, proposed funding, and project performance measures required to optimally achieve transportation ambitions stated in County plans, standards, and laws.

11.8 Prioritize CIP investments consistent with General Plan goals and objectives and demands for roadway repaving, rehabilitation, and reconstruction. This prioritization should align with the six-year planning horizon and should include a long-term roadmap for future investments.

11.9 Support designing all transportation facilities, including airport, harbor, mass-transit stations, etc., to reflect local and/or Hawaiian architecture.

11.10 Identify and evaluate transportation strategies to address energy and climate issues.

11.11 Prioritize public and private transportation investments to expand the multimodal transportation system.

11.12 Require new developments to contribute their pro rata share of local and regional infrastructure costs.

11.13 There shall be coordinated planning of transportation systems for the funding of projects in areas of anticipated growth and to meet program goals of the other elements such as historic, recreational, environmental quality, and land use.

Priority Actions

11.a Develop a comprehensive, island-wide multi-modal transportation plan that identifies the location and operation of automobile, mass transit, bicycle, and pedestrian systems, in coordination with appropriate Federal and State agencies. PROJECT

11.b Develop a planning and financing strategy to fund timely and routine maintenance of County transportation assets that secures availability and reliability, independent of CIP activities. PROGRAM

11.c Amend the HCC, Chapters 22, 23, and 24 to increase active transportation and accommodate emerging micro-mobility solutions. CODE AMENDMENT

11.d Establish inter-departmental teams to review significant development projects to evaluate integrated infrastructure requirements, multi-modal options, and private-public collaboration to ensure implementation. INTERAGENCY COORDINATION

2.2: Public Access

Access to coastal and mountain areas was traditionally and currently an essential element of island life that provides for gathering resources, transportation, as well as engaging in activities of cultural significance, recreation, and ancestral legacy. In 1995, the Public Access Shoreline Hawai'i (PASH) decision by the Supreme Court of Hawai'i validated customary rights of certain types of access to conduct cultural traditions and practices on lands where those activities had been conducted in the past.

Today, historic trails can serve as a foundational pattern upon which modern-day public access planning should be built as designed in relation to the natural and sociocultural landscape. With intentions to preserve and protect historic trails and their networks, land use planning can identify modern connections in an open space network that includes county roadways and public transit services as an extension of traditional mobility that preserves and honors historic trails and the cultural landscape as part of transportation.

Establishing these active living corridors in an open space network requires a combination of identifying and mapping historical trails, ensuring that continuity mauka to makai and laterally around the island is not interrupted by development activities, planning for extended bike and pedestrian trails, and connecting roadway and public services.

Active Living Corridors

Historic	• Trails mauka to makai, along the shoreline, and throughout the mauka regions. • Enables the community to access areas that have significant natural or scenic value, and to continue traditional practices for gathering, hunting, and recreation. • E.g., ala kahakai
Modern	• Pedestrian, equestrian, and biking trails; modern facilities for parking and comfort. • Provides access to shoreline and other natural resources, boat harbor, parks, sport fields, camping sites, and outdoor gyms. • E.g., Maka'eo walking path

Objective 12

Increase transportation connectivity.

Policies

12.1 Ensure Native Hawaiian access rights are clearly expressed in County code, policies, and procedures.

12.2 Programmatically support the open space network concept with a methodology that includes criteria for establishing County department and other agency responsibilities, mapping requirements, financing strategies for implementation and maintenance, and standards for facilities that enhance the community experience.

12.3 Prior to disposing of, leasing, or transferring public lands through County Property Management procedures, the County shall assess, document, and protect access to existing active living corridors that are located on County-owned parcels.

12.4 Land use applications shall identify as early as possible any existing or potential active living corridors that should be incorporated into the County's open space network.

12.5 Ensure that existing active living corridors that are publicly owned or available by easement are properly identified and that their access elements are secured and documented.

a) Primary examples include but are not limited to historic trails and roads, roads-in-limbo, 'paper roads', former sugar cane roads, train infrastructure remnants (Rails to Trails), and pedestrian and bicycling paths.

b) "Acceptance" by the County of the responsibilities detailed in the grant of easements should require County Council action and a dedicated funding source.

12.6 Provide public pedestrian access opportunities to scenic places and vistas.

12.7 Establish public access to historic and modern active living corridors and facilities that provide an island-wide route and connect to major destinations.

Priority Actions

12.a Develop and adopt a program to establish public access to historic and modern active living corridors and facilities that provide an island-wide route and connect to major destinations. PROGRAM

Standards

Table 21: Public Access Spacing

RESOURCE TYPE	GP LAND USE DESIGNATION	DESIRED SPACING
Shoreline	For lands in the RS, RD, RM, V, CO, CN, and CV districts	800 to 1,000 feet apart
	For lands within a destination resort community or a major, intermediate, or minor resort area as defined in the general plan and determined by the director, regardless of the zone district designation(s)	1,000 to 2,000 feet apart, provided that the planning commission may extend the spacing to a maximum of 2,500 feet where deemed warranted by site conditions
	For lands within the A districts	1,000 to 2,500 feet apart for A-1a, 1,500 to 2,500 feet apart for all other zoned districts
	For lands in the O and U districts	2,000 to 2,500 feet apart
High Cliff		2,000 to 2,500 feet apart unless a resource needs additional access
Mountain	For all zone districts	As determined by the director to provide reasonable means to access public trail sections and public facilities

2.3: Mass Transit

Hawai'i County is committed to providing residents with a public transportation system that is safe, affordable, accessible, efficient, and reliable. Mass transit systems aim to reduce congestion, promote sustainable mobility, and provide equitable access to transportation options. Implementing and expanding mass transit on Hawai'i Island can have significant impacts on building resilient communities.

Mass transit systems may offer an efficient and reliable alternative to private vehicles, reducing congestion on roadways. With viable mass transit, residents, including those without cars or with limited mobility, have an alternative means of transportation to access employment opportunities, education, essential services, commercial centers, recreation, and other activities. Improved mobility through public transit can enhance community connectivity and social cohesion while promoting pedestrian activities and active lifestyles.

The Hawai'i County Transit and Multimodal Transportation Master Plan was adopted in August 2018. The Master Plan provides a deeper review of the County's transportation system and identifies policies and standards for the delivery of service. The General Plan recognizes the need to reflect the island's shared vision for high quality multimodal transportation and strives to uplift the goals and strategies for achieving this vision.

Mass transit can play a key role in reducing greenhouse gas emissions and combating climate change. By encouraging a shift from individual car usage to shared transportation, mass transit helps decrease overall vehicle miles traveled (VMT), resulting in lower carbon emissions and improved air quality. This promotes a healthier environment and protects the natural beauty and resources of our island.

A well-planned mass transit system can stimulate economic growth and resilience. It creates employment opportunities during the construction and operation phases, fostering local job creation. Mass transit can also attract businesses and investments to areas with reliable transportation infrastructure, supporting economic development and revitalization of communities along transit corridors. Considering our vulnerability to natural disasters such as hurricanes, earthquakes, and volcanic activity, mass transit can contribute to disaster resilience by providing evacuation routes and transportation options during emergencies. Having a resilient mass transit system in place ensures that residents have reliable means of transportation to evacuate affected areas efficiently and reach safe zones or emergency shelters.

Mass transit enhances social equity by improving access to transportation for all residents, regardless of income, age, or physical abilities. These systems help bridge transportation gaps and reduce transportation-related barriers, ensuring that underserved communities have affordable and convenient mobility options. Mass transit can enhance equity by providing reliable transportation to essential services like healthcare facilities, educational institutions, and job centers.

Objective 13

Increase mass transit ridership by 50 percent.

Policies

13.1 Ensure transit routes connect with other modes of active transportation consistent with the County Street Design Manual.

13.2 Provide more equitable mobility for youth, low-income, elderly, and people with disabilities.

13.3 Maximize regular and paratransit service to the following:

a) Town centers, commercial districts, and employment centers.

b) Airports and cruise ship terminals.

c) University and adult education centers.

d) Accommodate school schedules such as after-school activities and sports.

13.4 Bus maintenance facilities shall be developed at or near appropriate transit hubs.

13.5 Adopt Hub and spoke system including alternative first and last mile or door-to-door services.

13.6 Transit infrastructure (e.g., bus stops, bus pullouts, waiting benches and shelters, and signs) shall be adequate and upgraded along existing and future transit routes.

13.7 Data shall be collected and analyzed to optimize mass transit planning, operation, and overall performance.

13.8 Improve and expand public transportation in communities with the highest socioeconomic needs.

13.9 The County's public transit system assets shall be available to assist in transportation in emergency situations.

Priority Actions

13.a Develop marketing and public awareness campaign of various services in collaboration with the airports, cruise ship terminals, and educational facilities.

13.b Identify, preserve, and/or acquire corridors for future transit use, for high traffic areas such as the Pahoa-Keaau-Hilo route, including but not limited to multimodal corridors and require new development to provide rights-of-way (ROWs) to accommodate transit services. PROJECT

Standards

Table 22: Mass Transit Level of Service Standards

Level of Service for Route Intervals	• Urban Centers: Every 30 minutes • Connecting Urban Areas: Every 60 minutes • Rural Areas: Based on peak demand
Service Coverage	• Type of transit services based on frequency fixed route vs rural services
Bus Stop Spacing	• Urban: ¼ mile walking distance of a stop • Rural: 1/2 – 2 miles

2.4: Roadways

Vehicle transportation remains the primary mode of mobility in Hawai'i County, with total vehicle miles traveled (VMT) continuing to increase. As of 2020, VMT in the State grew by about 15% since 2009 in response to general economic growth and increased tourism.[10] Much of these VMTs occurred in single occupancy vehicles, which increases fuel consumption and carbon emissions. In addition, pedestrian and vehicular fatalities and injuries increase as more vehicles are added to roadways and total VMT grows. In response, transportation planning policy has evolved to prioritize active transportation, encourage demand management solutions, and establish street design standards and safety strategies to eliminate traffic fatalities and severe injuries.

Active transportation places priority on pedestrian, public transit, and bicycle modes of mobility over the automobile. To effectively implement this priority, changes in land use zoning, street design standards, and defining and prioritizing infrastructure capital investments are required. Moreover, implementing active transportation requires coordinated planning and prioritizing of capital investments across planning, public works, parks and recreation, and public transit departments to achieve short- and long-term design goals.

In November 2020, the County of Hawai'i adopted by resolution a Street Design Manual to set standards for how County streets should support all modes of traffic. For each street type found in the County, this manual illustrates how the right-of-way should allocate space for multimodal activities following active transportation priorities. These standards are essential for new development and infrastructure rejuvenation projects to design and achieve active transportation solutions in each step of modernizing the County's transportation system properly and adequately.

As of December 31, 2021, the State of Hawai'i's traffic fatalities continue to rise and the County of Hawai'i's figures per capita remain the highest in the state.[11] The County's Vision Zero Action Plan, adopted in September 2020, provides a deeper understanding of the varying impact on Hawai'i Island communities regarding drivers versus cyclists and pedestrians, roadway conditions (e.g., visibility, peak traffic hours), and behavioral factors (e.g., speeding, impairment) that contribute to the persistent presence of traffic fatalities and injuries on our island. The General Plan acknowledges the recommendations of the Vision Zero Action Plan to establish strategies that increase safety, health, and equitable mobility for all.

In combination, active transportation and demand management strategies, street standards, data-driven planning, and a focus on Vision Zero safety goals create a modern approach to transportation planning that aims to secure equitable and affordable mobility opportunities for the island's communities to connect to work, family, education, and recreational opportunities. This approach to planning roadways is essential to ensure safe experiences for all residents and to promote healthy and resilient communities.

[10] 'Buses and Bikes that Go' by Anuktriti Hittle, October 20, 2020, State of Hawai'i Climate Change Portal.

[11] State of HI DOT, Preliminary Year-End State of Hawaii Traffic Fatality Data for 2021.

Objective 14

Reduce vehicle miles traveled (VMT).

Read about climate mitigation efforts focused on the transportation sector in the *Climate Change section.*

Policies

14.1 Encourage collaboration between the Planning Department, the Department of Public Works, the Department of Parks and Recreation, and the Mass Transit Agency to define the scope and priority of capital investment projects that achieve active transportation objectives and goals.

14.2 Increase arterial capacity through prioritization of alternative means of transportation, such as mass transit, bicycle, and pedestrian systems.

14.3 Incorporate bicycle routes, lanes, and paths within road rights-of-way in conformance with The Bikeway Plan for the County of Hawai'i.

14.4 Increase mobility for minors, non-licensed adults, low-income, elderly, and people with mobility limitations through prioritization of alternative means of transportation.

14.5 Roadway designs and improvements made by the Department of Public Works shall accommodate pedestrian-friendly, multimodal design, and on-street parking evaluations, when practical and feasible.

14.6 Use traffic demand management to aid in reducing traffic congestion by targeting an increase of active transportation mode share to 10 percent (bicycling, walking, micro-mobility).

14.7 Apply zoning reviews for concurrency that achieve sustainability and demand management goals and that prioritize reduction in vehicle miles traveled over impacts to the level of service.

Priority Actions

14.a Continue to adopt the County of Hawai´i Street design manual as the county's complete street design program/policy. PROGRAM

14.b Amend the HCC to incorporate complete street design. CODE AMENDMENT

14.c Develop an active transportation plan to guide where complete street improvements should be focused. PROJECT

14.d Identify all roles for interdepartmental collaboration in delivering a truly multimodal transportation system. INTERAGENCY COORDINATION

14.e Update traffic impact analysis requirements to include alternative evaluations to the level of service outcomes, such as vehicle miles traveled. PROJECT

Objective 15

Achieve a transportation system that employs all modes of transportation at a community scale.

Policies

15.1 Encourage flexibility in applying the County of Hawai'i Street Design Manual when necessary to preserve the rural character of an area while maintaining a pedestrian-friendly design and desired landscaping solutions.

15.2 Allow for private, non-dedicated cul-de-sac and alley designs that are in accordance with national road standards.

15.3 In planning, designing, and constructing new roadways or modernizing improvements, transportation agencies should balance the conservation of the area's natural, historic, and scenic qualities with transportation objectives for traffic speed, safety, and traffic calming.

15.4 Support and provide technical assistance to assist in the development of road improvement districts to finance road improvements.

15.5 Preserve the unique character of an area by allowing flexibility in existing roadway improvements and maintenance while seeking a pedestrian-friendly design and desired landscaping solutions.

15.6 Incentivize subdivision roadway connectivity.

15.7 A corridor planning/management program shall be maintained to help prioritize various active transportation projects.

Priority Actions

15.a Create and adopt a performance measure program/policy. PROGRAM

15.b Amend the HCC to promote connectivity and discourage neighborhoods with only one inlet or outlet. CODE AMENDMENT

15.c Establish a corridor planning/management program that is data-driven and uses performance-based targets and outcomes. PROGRAM

15.d Designate new connectivity points for local traffic roads and create redundant routes for existing highways, utilizing existing routes where possible, that can also serve as emergency and evacuation routes. PROJECT

Objective 16

Incorporate green infrastructure to reduce stormwater runoff.

Policies

16.1 Incorporate low-impact development (LID), green infrastructure strategies, and pollution prevention procedures to address drainage in roadway design and update the operation and maintenance of these solutions to retain integrity.

16.2 Prioritize roadway drainage improvements in flood-prone areas.

16.3 Use native vegetation when viable and maintainable to achieve the County Street Design Manual standards.

16.4 Maintain an Adopt-a-Street program to encourage civic participation where moderate landscaping and roadside cleaning can be done by community groups.

16.5 At a minimum, the County shall plan, site, and develop roads, bridges, and highways to:

a) Protect areas that provide important water quality benefits or are particularly susceptible to erosion or sediment loss;

b) Limit land disturbance such as clearing, grading, and cut and fill to reduce erosion and sediment loss; and

c) Limit disturbance of natural drainage features and vegetation, including mitigating impacts of stream crossings.

Priority Actions

16.a Develop green infrastructure standards including right-of-way (ROW) landscaping, low-impact development (LID), and drainage. PROJECT

16.b Develop an Adopt-a-Street program. PROGRAM

Objective 17

Increase transportation safety for transportation's most vulnerable users and reduce traffic fatalities.

Policies

17.1 Human life and public health are prioritized within all aspects of the transportation system.

17.2 Solutions should be prioritized in areas with the most vulnerable populations.

17.3 Engage communities in defining issues and developing solutions for their community, with a particular focus on engaging disadvantaged and vulnerable populations.

17.4 Prioritize interdepartmental coordination and accountability of traffic safety through education, enforcement, engineering, encouragement, and evaluation. Focus on policies, practices, staffing, and programs to improve road and pedestrian safety.

17.5 Incorporate traffic-calming features into arterial road and street designs to include vertical deflections, horizontal shifts, roadway narrowing, and closures to reduce speeding and increase safety. These may include techniques such as roundabouts, median barriers, speed humps, raised intersections, and other transportation industry practices.

17.6 Commit to an equitable approach and outcomes, including prioritizing engagement and investments in traditionally under-served communities and adopting equitable traffic enforcement practices.

17.7 Develop roadway standards to accommodate emerging technology for connected and automated vehicles.

17.8 Maintain dedicated roadway standards that are appropriate to roadway type and achieve active transportation and safety goals.

17.9 Engage and collaborate with the owners of private roads and local community groups to help identify and develop road management agreements that mitigate road closures to provide emergency.

Priority Actions

17.a Amend the HCC to incorporate Vision Zero safety principles and Complete Street design principles. CODE AMENDMENT

17.b Develop educational programs promoting traffic safety. PROGRAM

Objective 18

Adequately maintain public transportation systems.

Policies

18.1 Maintain an Asset Management Program aimed at utilizing maintenance plans for pavement, bridges, and other road infrastructure to prolong the life of our transportation system as well as reduce its whole-life cost.

18.2 Maintain the unique features of historic bridges, while balancing safety needs and preserving historic and scenic character.

18.3 Prioritize the replacement of deficient and inadequate bridges and maintain pedestrian/bicycle access across bridges.

18.4 Design new bridges and bridge improvements to accommodate and not negatively impede identified scenic resources.

18.5 Evaluate freight routes identified in the State Freight Masterplan for required improvements to meet roadway standards.

18.6 Encourage the adoption of innovative materials and methods that improve roadway sustainability and resilience.

Priority Actions

18.a Create an asset management program. PROGRAM

18.b Continue the bridge inspection program and expand rehab or replacement to include active transportation accommodations. PROGRAM

Standards

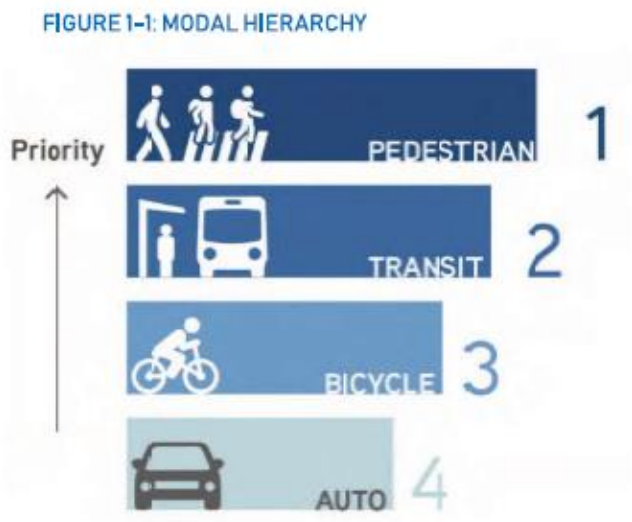
The County adheres to several federal and industry standards for roadway design. These include the AASHTO Green Book and Roadside Design Guide, the MUTCD, the NACTO, and the Highway Capacity Manual.[12] Examples of topics addressed by these guidelines include road geometry (e.g., curves, sight distance), safety within ROWs adjacent to travel ways, design speeds, level of service, signs/striping/signaling, and urban transit. In addition to these sources, the County adheres to the following locally defined standards.

Street Standards

Highways shall not be wider than four through travel lanes that accommodate single occupancy vehicles and should be limited to the most populated areas typically connecting residential areas with employment centers. [Rationale: Based on the Kauai General Plan.]

Integrate transportation networks to prioritize the most vulnerable roadways users and the greenest modes of travel through a Multimodal Hierarchy that prioritizes investments in the following order:

1. Pedestrian
2. Public Transit
3. Bicycle
4. Auto



The minimum roadway width standards to accommodate the County Roadway Classifications were adopted in RES 779-20. The following provides an overview of this standard with reference to the FHWA Functional Classification system.

[12] AASHTO – American Association of Highway and Transportation Officials. MUTCD – Manual on Uniform Control Devices. NACTO – National Association of City Transportation Officials.

Table 23: County Street Typology Definitions

Street Type	Designation/Function	Examples	Characteristics	Optimal ROW	Modal Hierarchy	FHWA FC
Parkway	Connects regions and towns; includes dividing island or median strip	Volcano Highway (Route 11), Queen Kaʻahumanu Highway (Route 19)	Lanes 2-5 Traffic Volume: High	300 ft.		Principal Arterial
Primary Arterial	Connects regions and towns	Māmalahoa Highway (Route 11), Hawaiʻi Belt Road (Route 19)	Lanes 2-5 Traffic Volume: High	120 ft.		
Secondary Arterial	Serves local and visitor traffic with fewer access points than Collector Streets. May carry heavy truck traffic.	Henry Street, Waikoloa Road	Lanes: 2-5 Traffic Volume: High	86-90 ft.		Minor Arterial or Major
Collector Street	Serves mostly local traffic; serves mixed-use destinations; more access points than Arterial Streets.	Kīlauea Avenue, Kinoʻole Street, Wainaku Street	Lanes: 2-4 Traffic Volume: Medium	64-78 ft.	Ped Transit Bike Auto	Major or Minor Collector
Business Street	Serves through and local functions, typically found in town cores and village centers with a higher pedestrian volume	Keawe Street, Aliʻi Drive, Pāhoa Village Road	Lanes: 2-3 Traffic Volume: Medium	66-70 ft.	Ped Bike Auto Transit	
Industrial Street	Serves industrial and heavy commercial areas; serves larger vehicles	Halekauila Street, Melekahiwa Street	Lanes: 2-3 Traffic Volume: Low to High	64-66 ft.	Ped Transit/Freight Bike Auto	Minor Collector or Industrial Street
Minor Street	Serves residential, low-density development, and agriculture	Alu Street, ʻIwalani Street	Lanes: 2 Traffic Volume: Low	50-52 ft.		
Local Rural Road (non-dedicated)	Serves very low-volume, low-speed, local travel needs, maintains aesthetic preferences		Lanes: 2 Traffic Volume: Very Low	40-52 ft.		

2.5: Transportation Terminals: Airports and Harbors

As a major hub for tourism, commerce, and connectivity. Hawai'i County recognizes the importance of effective planning and management of its airports and harbors. These key infrastructure components serve as lifelines that facilitate economic growth, enhance regional connectivity, and provide essential services for residents and visitors. Airports and harbors connect the County to the rest of the world, allowing for the efficient movement of goods, people, and ideas. They are essential nodes within the transportation network, acting as important economic drivers for the region. Efficient airports and harbors directly contribute to the success of various industries, including tourism, agriculture, trade, and logistics. Moreover, they are instrumental in supporting emergency response efforts, disaster management, and ensuring the overall resilience of the region's transportation system.

The principal concerns of planning for transportation terminals involve a comprehensive approach that addresses various aspects, including location, zoning of adjacent land, infrastructure development, capacity management, safety and security measures, environmental sustainability, integration with other modes of transportation, and financing and programming of improvements and services through capital improvement projects. Although the State of Hawai'i Department of Transportation (HDOT) is responsible for the actual design, construction, and operation of terminals and supporting facilities, the General Plan addresses the location of these facilities in relation to the pattern of overall land uses. There are two deep draft harbors on the island, one in Hilo and another in Kawaihae.

By the Numbers:

- Hilo and Kawaihae Harbors saw 4.168 million short tons of cargo combined in 2016 (2017 DBEDT data book).
- Kona Airport had 847,937 passenger departures and 859,265 passenger arrivals in 2017.
- Hilo Airport had 36,048 passenger departures and 33,964 passenger arrivals in 2017.

While improvements continue to be made, both harbor terminals lack adequate docking and support facilities. Cargo volume at Kawaihae Harbor has increased significantly as the population and development in West Hawai'i continue to grow. In 2011, the Hawai'i Commercial Harbors 2035 Master Plan was developed by the State to accommodate the future needs of facilities.

Air terminals that service inter-island transportation are in Hilo, Waimea, 'Upolu, and Kona. The terminals at Hilo and Kona are overseas facilities. Oversea flights at the Kona International Airport at Keahole will continue to increase with the growth of resort areas in Kona and Kohala. Overseas flights through Hilo International Airport have been important for agriculture in East Hawai'i. Since 2011, the HDOT has embarked on a $2.3 billion Hawai'i Airports Modernization Program to improve the safety, capacity, and efficiency of our major passenger and cargo airports.

As the population becomes more mobile and as resident and visitor populations increase, there will be a greater demand for new and

expanded transportation facilities that are adjacent to compatible land uses and include alternative and active transportation connections to decrease the demand for cars and reliance on fossil fuels

Objective 19

Improve accessibility to airports, harbor systems, and support facilities.

Policies

19.1 Encourage the programmed improvement of existing terminals, including adequate provisions for control of pollution and appropriate and adequate covered storage facilities for agriculture products.

19.2 The State Department of Transportation should continue to implement its plans for transportation terminals and related facilities to promote and follow desired land use policies.

19.3 Transportation terminals should be developed in conjunction with the different elements of the overall transportation system.

19.4 Encourage maximum use of the island's airport and harbor facilities.

19.5 Encourage the development, maintenance, and enhancement of Hilo and Kawaihae Harbors as detailed within the State's Hawai´i Commercial Harbors 2035 Master Plan.

19.6 Support the State's objectives to acquire rights within the runway clear-zones, limit heights within approach zones, and restrict noise-sensitive uses within designated noise contours determined by the State.

19.7 Future land uses in the vicinity of airports and harbors should have an adequate open space buffer and/or be compatible with the anticipated noise exposure and industrial nature in the vicinity.

19.8 Encourage pedestrian-oriented connectivity around harbors and small boat harbors.

19.9 Explore and encourage appropriate reuse of former airport facilities.

19.10 Encourage master planning of small boat harbors to accommodate commercial fishing and recreational fishing, tour boats, as well as residential and business activity, that balance economic vitality and environmental sensitivity.

Priority Actions

19.a Create a strategic improvement plan, including mapping, for County owned and/or managed boat harbors and develop an island-wide needs assessment to better serve regional gaps in ocean accesses. PROJECT

19.b Ensure collaboration with State agencies to offer a variety of transportation options at airports and harbors. INTERAGENCY COORDINATION

Section 3: Public Utilities

Organization

3.1: Introduction

In Hawai'i County's pursuit of a prosperous and resilient future, public utilities stand as pillars of essential infrastructure. These are services regulated by the government and provided in response to existing and prospective patterns of development. Changes in land use, population density, and development usually generate changes in the demand and supply of utilities. As the backbone of modern society, public utilities encompass a wide range of vital services that support the health, safety, and sustainability of our communities. This critical infrastructure allows us to function in many ways, including the ability to maintain healthy living conditions and proper sanitation and access reliable energy to power our homes and businesses.

Public utilities play a key role in forming the foundation upon which social, economic, and environmental progress is built. Such essential services enhance the quality of life for residents, visitors, and businesses while safeguarding the natural resources and cultural heritage of our island. The significance of public utilities can be understood through their contributions in the areas of environmental sustainability, economic prosperity, and social wellbeing.

Public utilities drive environmental stewardship by promoting clean energy generation, efficient water management, waste reduction, and recycling initiatives. Through the application of sustainable practices and technologies, public utilities protect our fragile ecosystems, mitigate climate change impacts, and preserve the beauty of our island for future generations. Additionally, robust and reliable infrastructure attracts investment, supports economic growth, and fosters job creation. From powering local industries to enabling efficient transportation networks, public utilities are catalysts for economic development, making our communities more resilient in the face of challenges. Access to safe and affordable utilities is a fundamental right of every individual. Public utilities ensure equitable distribution of resources, allowing residents of all socioeconomic backgrounds to enjoy necessities such as clean water, affordable energy, and accessible internet-based services. These services enhance public health, education, and overall quality of life, fostering thriving and inclusive communities.

Given the unique challenges posed by our geography and vulnerable ecosystem, the General Plan aims to effectively guide the development, maintenance, and improvement of these critical services. This section of the Plan is primarily concerned with the planning aspects of our electricity, telecommunications, water, wastewater, and stormwater systems. Planning for the location of utility facilities such as reservoirs, pumping stations, and sewage treatment plants is an important aspect of the land planning process, as it makes way for development opportunities.

Unintegrated utilities can burden developments with lower levels of service and may limit or even prevent development. The integration and availability of public utilities in priority growth areas are imperative. Changes in the intensity of land use greatly influence the quantitative design of utilities and services, particularly their design capacity. Furthermore, there may be distinctions in the quality and type of services offered for each utility as land use intensities vary. These distinctions also depend on local codes and ordinances, health and sanitary considerations, and practices followed by utility companies.

Table 24: Public Utility Challenges

General	• Funding and financing the development, conversion, repair, operations, and maintenance of public utilities are central challenges for communities, developers, and county government. • Any large infrastructure expansions are paid for by developers and the costs are not to scale for financing. • Geographical variability and obstacles require creative solutions for utility buildout. • Aging public utility infrastructure must become more resilient to natural hazards, extreme weather events, and climate change impacts. • Absent, aging, or dilapidated infrastructure limits new development where it is needed and consistent with strategic land use patterns and inhibits existing development. • Outdated utility systems and practices can pose environmental and health concerns and are expensive to change.
Electricity and Energy	• There is a heavy reliance on imported fossil fuels for power generation. • The state of Hawai´i has the highest electricity rates in the United States. • Building codes, design perspectives, and construction practices can increase electrical demand. • There is a constant need to update and renovate electrical systems and infrastructure. • The adoption of renewable energy practices may offload environmental costs to other distant communities, which can offset positive climate action. • Renewable energy developments can be controversial, such as geothermal.
Telecommunications and Broadband	• Inadequate access disrupts efficiency and productivity and is a barrier to accessing public services and information. • Last mile infrastructure is often the most costly and difficult segment to deploy, especially for rural areas where distances from a central distribution point are greater and population density doesn't economically promote the deployment. • Consistent and accurate service data is needed to provide a constantly improving network for the island. • Providers seeking to deploy broadband infrastructure face multiple layers of permitting and approvals at both the State and county level, in addition to community opposition regarding the installation of telecommunications towers. • Limited competition in broadband service providers and transpacific backhaul providers means high consumer rates due to a lack of competition within the market.
Drinking Water	• Disputes over water source capacity can prevent development where it is needed and consistent with desired development patterns. • Water commitments have been assigned to parcels that are not being developed or lack development potential. • Guidelines for assigning water units per system need to be updated. • Modeling of water demand and potential demand needs to be closely aligned to land use. • The water systems serving, South Kohala, North Kona, and Puna will require additional source development. • On-site wastewater disposal can adversely impact groundwater resources.
Wastewater	• Wastewater planning and policy primarily focus on maintaining and servicing existing systems and do not proactively plan for developing new systems to accommodate growth or to extend existing lines to align with urban zoning. • County policy has largely relied on private developers to develop commercial and private wastewater systems for new development, which ultimately leaves significant municipal service gaps in urban areas. • Many County wastewater systems may not be able to accommodate unserved, existing zoned capacity and projected growth. • Landowners and developers may incur the costs of constructing private systems or upgrades due to the insufficiency and lack of wastewater systems in many areas. • Wastewater requirements hinder the redevelopment or rehabilitation of existing structures and are often seen as an affordable housing issue. • Treated wastewater is typically discharged into ocean waters or injected into the ground and is not generally reused.

	• Wastewater infrastructure improvement and development costs are not fiscally planned for, either in the County budget or through county wastewater fee valuation. • Individual wastewater systems (IWS) are associated with limitations and regulations. Currently, the Department of Health's rules do not allow single-family dwellings and additional dwelling units (ADU) on a single IWS system. • Reliance on IWS is an impediment to compact development due to minimum lot size requirements for IWS, thereby contributing to sprawl. • Coastal residential neighborhoods without centralized wastewater are contaminating near-shore waters with pollution from IWS.
Stormwater	• The future impacts of climate change on future rainfall volumes are uncertain. • Outdated codes limit the effectiveness of stormwater infrastructure and stormwater-related practices. • Water quality changes caused by non-point source pollution, human activities, erosion, and sediment transport can negatively impact environmental systems and processes. • A lack of incentives and flexibility exists in the permitting process for stormwater and green infrastructure. • There is a lack of a dedicated funding source for public systems.

Table 25: Public Utility Opportunities

General	• Pursue creative funding and financing tools such as Community Facilities Districts (CFD) and Improvement Districts, for utility development, conversion, repair, operations, and maintenance. • Ensure that utility development matches desirable development priorities. • Streamline the process of utility infrastructure development to achieve the highest possible level of service for our communities. • Lead the charge in resource conservation and assess creative solutions to incentivize resource conservation for the public. • Prioritize the conversion and modernization of outdated utility systems and practices. • Use an integrated approach to value all water as a resource (i.e., drinking water, wastewater, stormwater). • Collaborate with asset management (e.g., road resurfacing and utility upgrades). • Explore public-private partnership opportunities to create circular systems. • Increase partnerships and enhance collaboration with government, private and nonprofit agencies, and other stakeholders.
Electricity and Energy	• Promote and support the development of alternative energy production facilities. • Be a net power producer with hydrogen and waste management. • Hawai'i Island has the highest renewable energy percentage in the State. Continue to support renewable energy projects to decarbonize our energy system and stabilize electricity costs.
Telecommunications and Broadband	• Support the County's Broadband Initiative and coordination with the State to facilitate digital equity efforts (e.g., establishing broadband as a public utility, infrastructure deployment, providing training support, and coordinating funding strategies for broadband and telecommunication services). • Compact development and higher population densities where appropriate are favorable for commercial service providers as they contribute to more economically viable market conditions. • Providing consistent and accurate digital literacy data will promote a desirable level of service for all residents. • Increasing digital inclusion efforts, which focus on ensuring both access to and ability to use a range of technologies, will contribute to better outcomes for health, public safety, economic opportunity, and civic participation. • Streamlining permitting and approval processes will improve the efficiency of broadband and telecommunication development and delivery. • Pursue partnerships to develop public spaces with broadband access.
Drinking Water	• Explore innovative ways to fund water infrastructure improvements to attract development that is consistent with desired density and the land use pattern. • Pursue financial modifications to provide creative funding for significant expansion of water systems to reach new customers in non-service areas. • Promote and practice water conservation practices to maximize efficient water use. • Adopt One Water recommendations to standardize interagency collaboration in planning for and managing water resources. • Rainfall collection can provide additional water capacity even where we have DWS systems. • Align the Water Use Development Plan, Master Plan, General Plan, DWS CIP, DWS guidelines, DWS water commitments, and private improvements to the DWS system. • Exercise some controls over the permitted uses within the defined zone of influence for downstream deep well sources. • Encourage groundwater recharge through on-site practices.
Wastewater	• Increase opportunities for recycled water. • Prioritize sewer for sensitive urban areas. • Proactively seek grant funding to assist with wastewater development. • Full Value Pricing of wastewater services. • Advocate for expanding cesspool conversion tax credit to all cesspool conversions. • Explore opportunities for public-private partnerships as well as those for technology upgrades and innovation.

	• Promote the expanded use of greywater for landscape irrigation and groundwater recharge via rules for new construction and retrofits. • Advocate to DOH to adopt appropriately scaled requirements and standards and develop flexible guidelines for designing and permitting wastewater systems that meet environmental objectives. • Low-pressure systems should be prioritized for retrofitting instead of gravity flow. • Higher-density development can contribute more to a centralized system. • Increase availability and access to information about private wastewater treatment plant capacities or expansion opportunities.
Stormwater	• Prioritize resiliency measures that support climate change impact scenarios. • Regularly amend County codes to be as current and innovative as possible. • Be a leader in prioritizing green infrastructure over gray infrastructure. • Ensure that stormwater infrastructure decisions align with related plans and the CIP budget. • Green infrastructure practices may provide opportunities for creating or expanding industry. • Prioritize the use of native plants in landscaping.

Public Utilities Goal

Our communities are adequately served by sustainable and efficient public infrastructure, utilities, and services based on existing and future growth needs, sound design principles, and effective maintenance practices.

Objective 20

Improve the efficiency, reliability, and sustainability of essential infrastructure systems.

Policies

20.1 Public utility facilities shall be designed at a scale that meets the needs of future development.

20.2 Provide utilities and service facilities that minimize total cost to the public and effectively serve the needs of the community.

20.3 Utility facilities shall be designed to complement adjacent land uses and minimize pollution or disturbance of the natural environment and natural resources.

20.4 Improvement of existing utility services shall be encouraged to meet the needs of users.

20.5 Encourage the clustering of developments to reduce the cost of providing utilities.

20.6 Develop short- and long-range capital improvement programs and plans for public utilities within its jurisdiction that are consistent with the General Plan.

3.2: Electricity and Renewable Energy

Hawai'i Island's communities and economy rely on the constant availability of energy. The energy produced and consumed in Hawai'i is predominantly electricity or used for transportation. However, our energy needs today are met with an increasingly cleaner combination of energy sources. Hawai'i possesses an abundance of natural resources, including wind, solar, flowing water, bioenergy, and geothermal, that can be used to produce energy. Harnessing these resources while reducing the use of non-renewable sources, such as petroleum, coal, and fossil-based natural gas is key to achieving our state's clean energy goals. Hawai'i County is focused on electricity transformation to renewable energy. This transition supports greater resiliency for our island, independent of imports when a natural disaster or shortage occurs.

The existing electric distribution system consists of several different voltage levels: 2.4kV, 4.16kV, 7.2kV, 12.47kV, and 13.8kV. The distribution system consists of both underground systems and overhead pole lines, yet overhead pole lines are more common because of Hawai'i Island's topography. The use of underground systems has mostly been in West Hawai'i's newer subdivisions and developments. The Hawai'i Electric Light Company, Inc. (HELCO) supplies electricity for Hawai'i Island and operates major switching stations (used to transfer the flow of power between different transmission circuits) at critical locations around the island. These transmission switching stations provide greater system flexibility and increase system reliability in supplying power to the various distribution substations and eventually, to customers. Distribution substations, which transform voltages to distribution voltages, are also located island-wide in proximity to communities and other developments.

In June 2015, the State of Hawai'i became the first state in the country to commit to 100 percent clean energy. Governor Ige signed into law House Bill 623 which calls for the State of Hawai'i to produce 100 percent of its electricity from renewable sources by the year 2045. As a result, renewable energy production has been prioritized. The renewable portfolio standard (RPS) represents the renewable energy used by customers as a percentage of total utility sales. In May 2022, Hawai'i Island experienced a peak in renewable energy at 89 percent. The mix of renewable sources includes the following:

- 15.8% Customer-Sited Solar
- 15.7% Geothermal
- 10.6% Wind
- 3.5% Biofuel
- 2.1% Hydro
- 0.3% Grid-Scale Solar

Overall, the County leads the State in renewable energy generation, at 47.9 percent. While Hawai'i is in the process of building its renewable energy, it remains the most energy-insecure state in the nation and most dependent on fossil fuels.

Electricity sales have been trending down over the past decade, mainly due to the decrease in commercial customers and commercial sales. Electricity consumption by streetlights has also been declining. In 2022, HELCO's power generation system had a total firm capacity of 280.5 megawatts (MW). The approximate non-firm capacity was about 168.6 MW.

The island's electric grid is only 40 percent dependent on foreign oil when all its

renewable power plants are running. However, the grid does not account for propane use, meaning Hawaiʻi Island is more dependent on foreign fuel than reflected by the grid. Therefore, operations cost is higher for businesses in Hawaiʻi, even when using less energy than comparable businesses on the continent. In the face of international oil shortages or economic disruptions, the dependence on foreign oil will continue to increase the costs of living and operating businesses on the island. Hawaiʻi residents have already experienced increased costs of electricity as a result of the Ukraine-Russia war.

Objective 21

Strive towards energy self-sufficiency.

Policies

21.1 Increase partnerships and interagency collaboration to ensure that energy facility production and distribution is adequate, efficient, and dependably available to each community to support present and future demands.

21.2 Promote and encourage the creation of a modern grid to support the use of distributed generation such as private photovoltaic systems connected to the grid.

21.3 The County shall remove barriers to energy systems that improve independence and resiliency, such as microgrids, combined heat and power (CHP), backup generation and storage, and other decentralized electricity systems.

21.4 Maintain tax incentives for renewable energy improvements and continue to revise incentives as energy technologies progress.

21.5 Continue to participate at the State level to provide feedback on all energy-related initiatives and proposed revisions to comprehensive Integrated Resource Plans.

21.6 Advocate to the Public Utility Commission (PUC) in support of the following types of strategies and initiatives:

a) Programs and fee structures that promote renewable energy

b) Consumer incentives to utilize renewable alternatives

c) Social Equity analysis of proposed energy projects to ensure residents are protected as energy consumers regarding rates, grid planning, utility compensation, and energy project siting

Priority Actions

21.a Partner with government, private and nonprofit agencies, and other stakeholders for the research and development of alternative/renewable energy resources. R&D Phase 1 INTERAGENCY COORDINATION

21.b Develop standards and principles for reviewing PUC applications. R&D phase 1 PROJECT

21.c Support Net-Metering (NEM), Feed-in-Tariff (FIT), and other programs designed to lower costs and diversify power sources. R&D phase 1 PROGRAM

21.d Conduct a feasibility report for using renewable sources to generate power for public utility infrastructure. PROJECT

3.3: Telecommunications and Broadband Connectivity

Hawai'i Island has seen an acceleration in the development of telecommunication technology and a transformation of the telecommunications industry. Technological advancements and industry competition have made wireless communication more affordable and accessible to the public. Broadband service and its critical infrastructure are increasingly becoming part of the class of essential utilities as many aspects of life and work are online.

The mission of the County is to advocate for and promote equitable access to affordable high-speed internet for all residents, businesses, and institutions on Hawai'i Island. The County is estimated to have more than 11,000 households without or limited to broadband access. The County completed a fiber ring in 2022, which serves as a backbone to connect County departments with telecommunication services. From January 2022 to October 2022, there were approximately 5,300 subscribers and 440 internet-connected devices through the Affordable Connectivity Program (ACP), which is a federal program that assists low-income households with the costs of broadband service and internet-connected devices. As of February 2023, there are 5 County locations with public Wi-Fi Internet locations provided at no cost to the community.

Hawai'i requires an expansive range of infrastructure and technology to ensure broadband connectivity throughout the islands and with the rest of the world. Broadband networks rely on physical infrastructure such as cables, wires, servers, routers, and wireless towers, to provide users with high-speed internet access. The construction, connection, and maintenance of this infrastructure entail a complex process of acquiring necessary permits and easements, siting the facilities, and labor-intensive activities to ensure the adequate functioning of equipment and across infrastructure components. Internet access requires a fixed or mobile wireless connection which may be achieved through a range of technologies.

Striving for Digital Equity

The Hawai'i Island Digital Equity Coalition (HIDEC) is a collection of Hawai'i Island partners working together to bridge the digital divide within our communities.

The digital divide is the gap between those who have affordable access, skills, and support to effectively engage online and those who do not. Digital equity is the goal, in which all individuals and communities have the information technology capacity needed for full participation in society, democracy, and economy.

Digital inclusion is how we achieve digital equity. Key elements of this work include affordable, robust broadband internet service; internet-enabled devices; access to digital literacy training; quality technical support; and applications and online content designed to enable self-sufficiency, participation, and collaboration.

Broadband is foundational to economic development, job creation, global competition, and the ability to engage in society. Similar to the way electricity has revolutionized life around the world, broadband is fueling entire new industries and generating innovative solutions for accessing, organizing, and sharing information. Broadband as a public utility plays a vital role in accessing and providing education and health services, managing energy, preserving public safety, and engaging with the government.

Objective 22

Advance policies, programs, and initiatives for public and/or private investment in broadband and telecommunications infrastructure.

Policies

22.1 Treat broadband access as a basic utility that is available to all communities.

22.2 Develop and support a program of free, public-use broadband services at appropriate County-owned facilities, mass transit facilities, and other community anchor institutions.

22.3 Collaborate with utility companies to incentivize the underground siting of electrical and telecommunications facilities within public rights-of-way.

22.4 Continuously improve the use of broadband communications and digital technology to educate and provide public services with a focus on digital access.

22.5 Siting of new communications facilities shall comply with performance standards and site co-location as stated in HCC, Section 25-4-12 Note: HCC update will include details

22.6 Support projects that address service gaps in Hawai´i's broadband infrastructure.

22.7 Advocate for connectivity to businesses to protect the viability of businesses and the livelihoods of residents.

22.8 Promote and incentivize the landing of transpacific submarine fiber optic cables.

22.9 Alleviate barriers and assist broadband projects with navigating through the regulatory permitting process.

22.10 Maintain and improve cyber security and informational security of telecommunication facilities.

22.11 Advocate for service diversity, redundant network capacity, and provide improved communications to outlying rural areas and other underserved or unserved communities.

22.12 Plan for broadband infrastructure to support smart grid development.

Priority Actions

22.a Support refurbishment, upcycling, recycling, and reuse of computers and other devices. PROGRAM

22.b Develop standards for the construction of wireless telecommunication facilities. [code | PD | phase 1] PROJECT

22.c Collaborate with government, private and nonprofit agencies, and other stakeholders to create and maintain an inventory and mapping of communications infrastructure, including but not limited to wireline, wireless, cell tower locations, and known proposed facilities. [project | R&D | phase 1] INTERAGENCY COORDINATION

22.d Collaborate with government, private and nonprofit agencies, and other stakeholders to remove regulatory barriers and seek funding to complete and improve the island's fiber optic loop in an environmentally and economically appropriate manner. [project | PD | phase 1] INTERAGENCY COORDINATION

22.e Advocate for provider and consumer incentives to address last-mile installation and/or service plans. [program | R&D | phase 2] PROGRAM

22.f Collaborate with government, private and nonprofit agencies, and other stakeholders to progressively improve broadband speeds to keep pace with technological advances. [program | R&D | phase 2] INTERAGENCY COORDINATION

22.g Collaborate with broadband service providers to ensure all users with efficient service. [program | R&D | phase ongoing] PROGRAM

22.h Collaborate with the telecommunications industry to increase the availability of emergency telephones throughout the island. [program | R&D | phase 2] PROGRAM

22.i Pursue partnerships and funding for broadband initiatives and deployments. [program | R&D | phase 3] PROGRAM

22.j Support the coordination of infrastructure projects between the public and private sectors to create areas for the deployment of broadband zones. Note: BB Strategic plan calls for businesses specifically [program | R&D | phase 2] INTERAGENCY COORDINATION

22.k Seek federal and other opportunities for the funding of broadband infrastructure. [program | R&D | phase 2] PROGRAM

22.l Support the State to develop a Broadband Dashboard to track progress and gaps that will inform decision-making in business development on Hawai‘i Island. [project | R&D | phase 2] PROJECT

22.m Foster public-private partnerships to support the development and expansion of broadband infrastructure, including community networks. [project | R&D | ongoing] PROGRAM

3.4: Drinking Water Conservation

The Hawai'i State Constitution provides that all public natural resources, including water, are held in trust by the State for the benefit of the people. The State Constitution further maintains that "the State has an obligation to protect, control, and regulate the use of Hawai'i's water resources for the benefit of its people." Water availability is crucial to any type of development, whether urban, rural, or agricultural. Water availability is based on the sustainable yields of the groundwater hydrologic units established through the State Water Code.

Land use allocation must be closely related to water availability, including the quantity and quality of the water, and the adequacy of the transmission and distribution system. The General Plan requires an understanding of water availability and capacity, current demands, and future demands based on planned and anticipated future growth and land uses.

The County's Department of Water Supply (DWS) is the primary agency that manages, controls, and operates the water supplies of the County and its properties. There are 23 individual water systems distributed throughout the island. Water demand is directly related to population and industry usage and is expressed as gallons per day (gpd) or million gallons per day (mgd). Demand does not represent domestic consumption alone, but also includes all agricultural, industrial, and commercial uses, fire protection, and other uses. In some areas, however, non-domestic users are likely to create the major demand, and careful attention must therefore be given in any study of probable future water needs.

In Hawai'i, there are a multitude of public agencies that are either actively tasked with regulating water resources or whose policies affect water use. There are also a number of private entities that use and manage water resources. Over the decades, water management has become segregated in a way that has created disjointed, mechanical approaches to a naturally continuous resource. The disconnection has included narrow perspectives that fail to see the larger picture. Hawai'i County aspires to achieve water resource management that is free from the limitations and issues of siloed practices, processes, agencies, and government bodies. Achieving a One Water approach in Hawai'i County includes actionable steps that can be adapted and adjusted to localize the One Water strategies.

Objective 23

Increase the protection of existing and potential sources of drinking water.

Policies

23.1 All public water systems shall be designed and built to the Department of Water Supply dedication standards. All other systems shall meet all relevant health and safety regulations and be designed and constructed by a licensed engineer.

23.2 Water sources shall be adequately protected to prevent depletion and contamination from natural and man-made occurrences or events.

23.3 A coordinated effort by County, State, and private interests shall be developed to identify sources of additional water supply and be implemented to ensure the development of sufficient quantities of water for existing and future needs of high-growth areas and agricultural production.

23.4 Installation or rehabilitation of water distributions shall be sized to adequately meet fire protection.

Drinking-Water Conservation

23.5 Ensure the highest quality of water is reserved for the most valuable end-use.

23.6 Proposed discretionary permits for large development projects (200+ units) in the North Kohala, South Kohala, North Kona, South Kona, and Kaʻū Districts should be designed to be as water neutral as reasonably possible through water conservation, recharge, and reuse measures to reduce the water footprint.

Drinking-Water Quality

23.7 Promote best practices in sustainable water collection and use for private water systems.

Drinking-Water Prioritization

23.8 Water system improvements, including exploratory wells, shall correlate with the County's desired land use development pattern.

23.9 The Department of Water Supply shall prioritize infill development and focus source development to serve designated Urban Growth Areas.

23.10 Water demand projections shall include all consumptive and non-consumptive demands.

23.11 The Department of Water Supply and the Planning Department shall coordinate priorities before the adoption of any new water development or County land use plans.

23.12 All County potable water systems should have backup standby sources.

One Water

23.13 Treat all water as a valuable resource in community design, and integrate designs for drinking water, stormwater, and recreational water needs.

23.14 Manage water, stormwater, and wastewater as the same natural resource in collaboration with DWS, DEM, DPW, DOH, etc.

23.15 New developments should be designed to reduce water demand, retain runoff, decrease flooding, and recharge groundwater.

23.16 Support localized, small-scale solutions to water reuse and onsite systems.

Priority Actions

Drinking-Water Conservation

23.a In collaboration with National Oceanic and Atmospheric Administration (NOAA), conduct further research on localized rainfall modeling to accurately assess future precipitation trends. [project | DWS | phase 2] PROJECT

23.b Expand water conservation programs, primarily aimed at reducing demand, such as leak detection, rebates for low flow, etc. [project | DWS | phase 1] PROJECT

23.c Evaluate and amend the fee schedule for water use to take into account high water use and aquifer recharge projections. Use the funds generated to pay for conservation measures and infrastructure. [project | DWS | phase 1] PROJECT

23.d Improve county water conservation practices to lead by example. [project | DWS | ongoing] PROGRAM

23.e Maintain the water master plan to consider water yield, present and future demand, alternative sources of water, guidelines, and policies for the issuing of water commitments. [project | DWS | ongoing] PROGRAM

Drinking-Water Quality

23.f Collaborate with the State Department of Health to develop standards and/or guidelines for the construction and use of rainwater catchment systems to minimize the intrusion of any chemical and microbiological contaminants. [code | DWS | phase 1] INTERAGENCY COORDINATION

23.g Promote the use of groundwater sources to meet State Department of Health water quality standards. [project | DWS | ongoing] PROJECT

23.h Seek State and Federal funds to assist in financing projects to bring the County into compliance with the Safe Drinking Water Act. [project | DWS | ongoing] PROJECT

23.i Explore the feasibility of incentive methods such as property tax dedications, conservation easements, or transfer of development rights to protect the defined zone of influence of existing or proposed public and private wells. PROJECT

Drinking-Water Prioritization

23.j Investigate alternative financing options for expanding water systems to support infill growth consistent with the County's desired land use development pattern. [project | DWS | phase 1] PROJECT

23.k Develop criteria and standards for all variances in water supply. [code | PD | phase 1] PROJECT

23.l Collaborate with government, private and nonprofit agencies, and other stakeholders to develop, improve, and expand agricultural water systems in appropriate areas on the island. [project | DWS | ongoing] INTERAGENCY COORDINATION

23.m Continue to participate in the United States Geological Survey's exploratory well drilling program. [project | DWS | ongoing] PROGRAM

23.n Expand programs to provide agricultural irrigation water. [project | R&D/DWS | ongoing] PROGRAM

One Water

23.o Develop water conservation and stormwater management guidelines for commercial, industrial, and residential properties. [project | DPW | phase 1] PROJECT

23.p Codify the administrative structure needed to develop a water resource program and interdepartmental collaboration framework. [project | DWS |phase 1] PROJECT

23.q Collaborate with government, private and nonprofit agencies, and other stakeholders to develop and facilitate community partnerships between upstream and downstream communities. [project | DWS | ongoing] INTERAGENCY COORDINATION

23.r Create public-private partnerships to leverage funding sources. [project | DWS | ongoing] PROGRAM

Standards

Table 26: Water System Standards Domestic Consumption Guidelines

ZONING DESIGNATION	AVERAGE DAILY DEMAND
Residential:	
Single-Family or Duplex	400 gals/unit
Multi-Family	400 gals/unit
Commercial	3000 gals/acre
Resort	400 gals/unit or 17,000 gal/acre
Light Industry	4000 gals/acre
Schools and Parks	4000 gals/acre or 60 gals/student
Agriculture	3400 gals/acre

- A unit, or, more precisely, one Equivalent Unit (EU) of water allows for an average daily usage of up to 400 gallons per day and a maximum daily usage of up to 600 gallons on any day but the average is still not allowed to exceed 400 gallons per day.
- One EU is typically served through a 5/8-inch meter and is considered adequate for a single-family home or dwelling and allows for some landscape or gardening usage.

3.5: Wastewater Treatment and Reuse

The General Plan recognizes the significance of wastewater treatment and reuse as essential components of the County's comprehensive water management strategy. Adequate sewer systems are vital to maintain public health and protect the environment. As communities generate wastewater through various sources such as residential, commercial, and industrial activities, effective treatment is necessary to remove harmful pollutants and contaminants before the water is discharged back into the environment. Improperly treated wastewater can have detrimental effects on marine ecosystems, coastal waters, and freshwater resources, jeopardizing both human and ecological health.

An adequate system minimizes contamination of both the groundwater supply and coastal waters, beaches, and waterborne recreational areas and is not a visual and odor nuisance. Land development plans for resort-residential complexes located in shoreline areas pose a potential water quality problem for adjacent near-shore waters. Adequate treatment facilities are essential prerequisites for development.

Wastewater reuse, also known as water recycling or reclaimed water, involves treating wastewater to a level suitable for non-potable uses. Reusing treated wastewater provides an opportunity to conserve precious freshwater resources and reduce the strain on existing water supplies. For Hawai'i Island, where freshwater resources are limited and vulnerable to climate change impacts, the implementation of wastewater reuse projects becomes vital for ensuring water sustainability. By implementing appropriate treatment processes, treated wastewater can be used for a range of purposes, including irrigation of agricultural lands, landscape irrigation, industrial processes, and groundwater recharge. This practice helps meet non-drinking water needs, reducing the reliance on freshwater sources for non-potable purposes and leaving more available for essential uses like drinking water.

The County operates municipal sewerage in Hilo, Papaikou, Kapehu, Pepe'ekeo, and Kealakehe. The remaining communities are served by private wastewater treatment facilities or individual facilities, such as cesspools or septic tanks. In 2017, the Hawai'i State Legislature passed Act 125, mandating that all Hawai'i's cesspools be replaced by 2050. Cesspools are substandard sewage disposal systems as they do not treat wastewater. According to the latest report on the Hawai'i Cesspool Hazard Assessment and Prioritization Tool, Hawai'i Island contains an estimated 48,596 cesspools. Sewerage disposal system designs must be examined with the particular region in mind. Of critical importance in an examination of sewerage disposal for a community is the cost of the system, including construction and operation costs. These costs vary with the characteristics of each area.

The Safe Drinking Water Act of 1974 (PL 93-523) legislated the protection of all aquifers or portions of aquifers currently serving as drinking water sources and any other aquifer capable of yielding consumable water. This mandate was based on a national concern for the quality of the groundwater and the increasing evidence of contamination of this valuable resource.

In 1976, the State Legislature enacted Act 84, relating to safe drinking water, which requires the State Department of Health (DOH) to establish an underground injection control program to protect the quality of the State's

underground sources of drinking water. Because of the importance of groundwater as a source of municipal water supplies, the underground injection control program is considered a beneficial approach in the identification of aquifers that should be protected from subsurface disposal of wastewater through injection wells.

The protection of these aquifers is established by designating areas currently being used or will be used in the future for drinking water supply. The Underground Sources of Drinking Water (USDW) will be protected from pollution by prohibiting the construction of new injection wells that may pollute the USDW. Injection wells are allowed in exempted areas. The boundary lines between the USDW and the exempted areas have been developed. Under Chapter 62, Wastewater Systems, the DOH adopted a 1,000-foot setback of wastewater systems from all public drinking water wells and springs.

In compliance with the Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500), the DOH and the County jointly prepared the Water Quality Management Plan for Hawai'i County in 1978 and subsequently updated the plan in 1980. In 1979, the County Council adopted the plan through a resolution to serve as the planning guide for the development of regional waste treatment systems and the control of non-point sources of pollution. To implement the management plan, the County has prepared facility plans for various areas on the island. Facility plans are developed by the County to satisfy a requirement for the application of loans from the State to develop wastewater treatment facilities. The facility plans identify problems, potential solutions, and costs.

In 1985, the State Legislature enacted Act 282, Relating to Environmental Quality, which reassigns the County, effective July 1, 1987, or upon receipt of State funds, to assume complete administration and implementation for the regulation of sewerage and wastewater treatment system programs.

Objective 24

Planned and developed municipal sewer capacity is expanded to serve our Urban Growth Areas and reduce sewage-related impacts on water quality.

Policies

24.1 A Sewerage Study for All Urban Areas, including appropriate water quality management strategies, shall be completed and used as guides for the general planning of sewerage disposal systems.

24.2 Private treatment systems shall be installed by land developers for major resorts and other developments along shorelines and sensitive higher inland areas, except where connection to nearby treatment facilities is feasible and compatible with the County's long-range plans, and in conformance with State and County requirements.

24.3 Immediate steps shall be taken to designate treatment plant sites, sewerage pump station sites, and sewer easements according to the facility plans to facilitate their acquisition.

24.4 The county shall obtain State and Federal funds to finance the construction of proposed sewer systems and improve existing systems.

24.5 Plans for wastewater reclamation and reuse for irrigation and biosolids composting (remaining solids from the treatment of wastewater are processed into a reusable organic material) shall be utilized where topographically feasible and needed for landscaping purposes.

Wastewater and Environmental Quality Prioritization

24.6 Pollution shall be prevented, abated, and controlled at levels that will protect and preserve public health and wellbeing through the enforcement of appropriate Federal, State, and County standards.

24.7 Ensure municipal wastewater systems serve designated Urban Growth Areas with the capacity to accommodate projected population growth.

~~24.8~~ Average Daily Flow (ADF) for residential shall be 70 gallons per day per capita within any dwelling. For commercial and industrial uses (for example laundromats, food or beverage processing plants, et cetera)-the ADF must be calculated based on the type of fixtures, number of fixtures, usage, and occupancy.

24.9 The Department of Environmental Management and the Planning Department shall coordinate priorities before the adoption of any new wastewater development or land use plans.

24.10 Prioritize developing a multipronged approach to wastewater infrastructure funding, including proactively seeking grant funding for wastewater system expansion, improvements, and new development.

24.11 Ensure wastewater fees reflect actual costs for service, maintenance, and future improvements.

24.12 Ensure that wastewater systems and improvements are designed and functioning to maximize system efficiencies, prevent accidental leaks or spills, and provide sanitary, reliable wastewater treatment that is not negatively impacting natural resources.

One Water-Recycled Water Expansion

24.13 Strive for an integrated approach to stormwater and wastewater, and water resource management that is comprehensive and as efficient as possible.

24.14 Encourage on-site water reuse solutions for large developments.

24.15 Encourage and incentivize the collection of rainfall for non-potable use.

24.16 Prioritize the use of gray water in areas connected to county water and not connected to county wastewater.

Priority Actions

Wastewater and Environmental Quality Prioritization

24.a Prioritize areas…Establish community sewer districts, also known as facility community districts.

24.b Review, assess, and amend codes relating to sewer connection requirements (§21-5, 21-6, 23-85, and 25-2-46) to ensure wastewater issues and requirements are addressed in a consistent, sustainable, and socially equitable way. CODE AMENDMENT

24.c Develop a wastewater master plan with a clear prioritization method for wastewater system expansions and improvements based on criteria involving land use, projected growth, social equity, and environmental factors. PROJECT

24.d Develop plans to improve, connect, or develop new wastewater systems in unsewered urban coastal communities. PROJECT

24.e Perform a study to assess individual wastewater systems (IWS) in unsewered urban growth areas to assess the rate of failures/negative impacts, determine rates of large capacity cesspools still in use, and develop plans to improve, connect, or develop new wastewater systems for unsewered urban communities. PROJECT

24.f Proactively seek opportunities for public-private partnerships for wastewater development. PROJECT

24.g Facilitate the use of infrastructure improvement districts and other types of localized funding mechanisms to fund improvements. PROJECT

24.h In collaboration with the Department of Health Wastewater Branch, amend HCC, Section 23-85(a) to extend the minimum distance required for subdivisions to connect to existing sewer systems. The recommended requirement is: “sewer lines shall be installed where the subdivision is within one thousand three hundred twenty lineal feet (1/4 mile) of the existing sewer system.” CODE AMENDMENT

24.i Streamline the sewer connection loan program. PROJECT

24.j Develop wastewater cost valuation in service fees (similar to the water model fee structure). PROJECT

24.k Develop a criteria-based infrastructure prioritization tool to develop new or expand existing municipal wastewater systems. Base these priority areas on designated urban growth boundaries, urban zoning and density, population trends and anticipated growth, health/safety, and environmental factors. PROJECT

24.l Implement innovative wastewater systems at a cost-effective scale for small communities. PROJECT

24.m Amend the HCC (including developing criteria and exceptions) to require connecting to accessible private sanitary sewer treatment facilities (PUC regulated and with existing capacity) to Section 21-5 (a) instead of only requiring connection to public sewer. CODE AMENDMENT

24.n Amend HCC, Section 21-26-1(a) requiring "all sewer extensions shall be approved by resolution of the County council" to read, "all sewer extensions outside of Urban Growth Areas shall be approved by resolution of the County council." [Code] CODE AMENDMENT

24.o In collaboration with the Department of Health Wastewater Branch, reevaluate and clarify the requirements set forth in section HAR 11-62-31.1(a) (1) (B) and amend County sewer requirements accordingly to accommodate needed housing units. INTERAGENCY COORDINATION/CODE AMENDMENT

24.p Collaborate with the Department of Health to advance progressive wastewater technology and regulations. INTERAGENCY COORDINATION

One Water-Recycled Water Expansion

24.q In collaboration with the Department of Agriculture, develop a water resource strategy for efficient agricultural water use and reuse. PROJECT

24.r Install non-potable systems, such as reclaimed wastewater, brackish groundwater, and untreated surface water in proximity to priority Urban Growth Areas for non-potable water uses. PROJECT

24.s Conduct supply and demand studies to determine a Level of Service for non-potable water needs. PROJECT

24.t Facilitate greywater reuse systems through code amendments and through partnering with DOH for regulatory changes and incentives. CODE AMENDMENT

3.6: Stormwater Infiltration and Green Infrastructure

Stormwater management and the implementation of green infrastructure are critical elements of the General Plan for their vital role in sustainability on Hawai´i Island. As an island ecosystem with limited freshwater resources and vulnerable coastal areas, managing stormwater effectively and integrating green infrastructure practices are essential for preserving our water resources and ensuring environmental sustainability.

Stormwater refers to the runoff from precipitation that flows over land surfaces, eventually entering water bodies such as streams, rivers, and oceans. Stormwater is a crucial element of the island's overall water landscape. While precipitation may be an obvious contributor to stormwater, all the phases of the hydrologic cycle are related to stormwater and are influenced by public utility decisions made in the built environment. Precipitation and surface runoff are often the phases of the hydrologic cycle that people recognize as stormwater, whereas evaporation, transpiration, and condensation are not as easily observed processes.

Uncontrolled stormwater runoff can lead to various detrimental effects on water resources and ecosystems. Polluted runoff, also known as nonpoint source pollution, from agriculture, urban development, forestry, recreational boating, marinas, hydromodification, and wetlands activities is the leading cause of water pollution in waters across the country and in Hawai´i. Uncontrolled stormwater runoff can also lead to localized flooding, causing damage to infrastructure, property, and even loss of life. Implementing stormwater management strategies helps to control the flow of stormwater, reducing the risk of flooding and associated hazards. Moreover, excessive stormwater runoff can cause soil erosion, leading to the loss of fertile topsoil, sedimentation in water bodies, and degradation of natural habitats. Proper stormwater management practices, including erosion control measures, help minimize erosion and preserve the island's natural resources.

Stormwater is a prime example of the unavoidable connections that exist between the built environment and the natural environment. Increasing the opportunities for infiltration and transpiration can reduce the amount of evaporation that surface runoff requires. The social, environmental, and economic impacts of stormwater infrastructure have meaningful implications for our overall island sustainability as water is one of the most precious resources.

Point and Nonpoint Source Pollution

Engineering efficiency in conveying stormwater runoff using impervious surfaces (e.g., paved swales, channelized streams) must be balanced against environmental considerations. If the drainage is directed to streams, excessive freshwater volumes and sediment loads may impact coastal water resources (e.g., degrade water quality and smother coral reefs). If the drainage is directed to injection wells, more studies are needed to determine the impact of storm runoff on groundwater quality. Sediment basins, wetlands, or less impervious methods of conveyance (e.g., grass swales) should be considered where feasible to reduce nonpoint source pollution of the coastal waters from stormwater runoff and filter infiltrating water.

Green infrastructure refers to the network of natural or engineered features that manage stormwater while providing additional benefits to the environment and community. Such features may include rain gardens, permeable pavement, bioswales, and vegetated buffers. Green infrastructure is crucial for stormwater management, as it captures and absorbs runoff, reducing the volume and rate of runoff. By mimicking natural hydrological processes, it helps to recharge groundwater, replenish streams, and reduce stress on our water resources during periods of heavy rainfall.

By retaining and infiltrating stormwater, green infrastructure reduces the reliance on freshwater sources for irrigation, thus conserving water resources. This is particularly important for our island communities where freshwater availability is limited. Green infrastructure features may also provide habitats for native plants and wildlife. They contribute to biodiversity conservation and help restore and enhance Hawai'i Island's natural ecosystems. Green infrastructure plays a key part in mitigating the impacts of climate change by reducing the urban heat island effect, moderating temperatures, and increasing resilience to extreme weather events. These measures align with the County's sustainability goals and efforts to adapt to climate change.

Objective 25

Increase green infrastructure practices.

Policies

25.1 Design to collect stormwater from streets, sidewalks, and other hard surfaces before it can enter the sewer system or cause local flooding; reduce the amount of stormwater that flows into the Sewer System.

25.2 Control stormwater by using it as a resource rather than a waste.

25.3 The "Drainage Master Plan for the County of Hawai'i" should be updated every 20 years for urban centers to incorporate new studies and reflect newly identified priorities.

25.4 Encourage grassed shoulder and swale roadway design where climate and grade are conducive.

25.5 Where applicable, natural drainage patterns shall be improved/restored to increase their capacity with special consideration for the practices of proper soil conservation, and grassland and forestry management.

25.6 Implement nature-based solutions that manage stormwater onsite to reduce the burden on the storm sewer system and reduce flooding.

25.7 Prioritize drainage and flood studies for high-risk urban areas within the Urban Growth Area.

25.8 Drainage standards shall incorporate cumulative upslope development patterns.

Storm Water Management

25.9 Develop an island-wide stormwater management program compatible with the NPDES MS4 Phase II program.

25.10 The County shall ensure sites are planned, designed, and developed to:

a) Protect, restore, or mimic the natural water cycle within built environments by retaining, detaining, and/or treating stormwater runoff.

b) Mitigate direct impacts of the land development process through the use of green infrastructure or low-impact site planning techniques.

c) Protect areas that provide important water quality benefits and/or are particularly susceptible to erosion and sediment loss.

d) Optimize the integration of the existing landscape into green infrastructure solutions.

e) Manage post-construction stormwater runoff rates, through the use of green infrastructure or low-impact development stormwater management practices.

25.11 The County shall ensure that golf course developments develop and implement grading and site preparation plans to:

a) Develop nutrient management guidelines appropriate to Hawai'i for qualified superintendents to implement so that nutrients are applied at rates necessary to

establish and maintain vegetation without causing leaching into ground and surface waters.

b) Develop and implement an integrated pest management plan. Follow EPA guidelines for the proper storage and disposal of pesticides.

c) Develop and implement irrigation management practices to match the water needs of the turf.

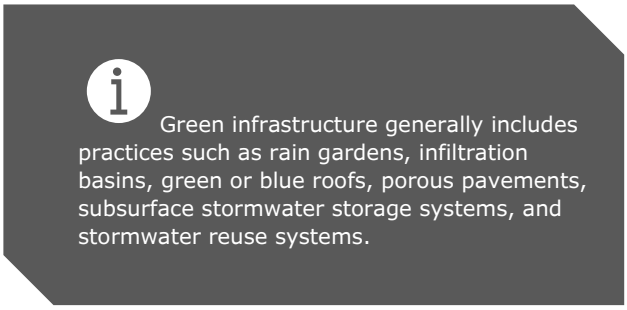
25.12 The County shall minimize impervious areas on County property, development sites, and parking areas and promote the use of permeable surfaces and landscaped areas in project designs including:

a) Porous materials

b) Natural drainage

c) Filtration pits

d) Infiltration basins, vegetated bioswales, permeable/porous paving



Priority Actions

25.a Adopt low-impact development (LID) practices to address small-scale stormwater management. PROJECT

25.b Conduct a feasibility study to create a County Stormwater Utility before the county reaches Municipal Separate Storm Sewer System (Ms4) requirements. PROJECT

25.c Maintain the Department of Public Works Storm Drainage Standards to reflect current data and to incorporate strategies and standards of green infrastructure and low-impact development. PROJECT

25.d Develop drainage master plans from a watershed perspective that considers non-structural alternatives, minimizes channelization, protects wetlands that serve drainage functions, coordinates the regulation of construction and agricultural operation, and encourages the establishment of floodplains as public greenways. PROJECT

25.e Explore new methods of funding for the provision of adequate drainage systems and reduce potential flood inundation areas. PROJECT

25.f Create a green infrastructure dedication standard. CODE AMENDMENT/PROJECT

25.g Create a pilot study for a watershed-based drainage study. PROJECT

25.h Develop a monitoring and evaluation program for impervious surface coverage. PROJECT

25.i Promote and provide incentives for participation in the Soil and Water Conservation Districts' conservation programs for developments on agricultural and conservation lands. PROGRAM

25.j Establish guidelines for Adopt-a-Corridor Program for flood corridors. DPW Phase 2 PROJECT

25.k Evaluate ownership and/or maintenance responsibility for flood corridors that serve multiple regional benefits. PROJECT

25.l Identify County Parks and Recreation sites for green infrastructure demonstration projects. PROJECT

Section 4: Public Facilities and Services

Organization

4.1: Introduction

Public facilities and services are both essential components of public infrastructure, however, it is important to recognize the distinction in their nature and purpose. Public facilities refer to physical structures or spaces that are provided, staffed, and maintained by the government to serve the needs of Hawai'i Island residents. These facilities are usually open to everyone and offer access to various resources and amenities. The primary function of public facilities is to provide physical infrastructure and spaces that cater to the basic needs, welfare, and quality of life of the community. Public services encompass a wide range of intangible activities and functions provided by the government to meet the needs of the public. These services focus on delivering essential support, assistance, and governance to residents, addressing their diverse needs, and aimed at promoting health, safety, and social wellbeing.

Public facilities are often ideally located in larger towns or centrally situated areas that are near the commercial, industrial, and cultural activities of established communities. Public facilities are funded through the Capital Improvement Program (CIP). Capital improvement projects have the potential to influence where growth occurs, to distribute County services more equitably, and to promote important objectives such as affordable housing.

Most public facilities that service the residents of this County are managed by the State and County. For example, the State operates the public school system, libraries, and public hospitals. The County provides police and fire protection and solid waste disposal. Staffing and service programs provided within these facilities are funded by the County operating budget using real property taxes. Additionally, both the State and County maintain administrative offices on the island to serve the residents' needs.

It is necessary to carefully coordinate the provision of public facilities to use them most effectively and to maximize the effect of the public dollar. It is equally necessary to realize that the type, quality, capacity and location of facilities and services have a significant impact on the community, the people, and the total environment. This section of the General Plan comprises public facilities and services within law enforcement and public safety, sanitation, education, parks and recreation, and community health and wellness.

Table 28: Public Facilities and Services Challenges

General	• Funding and financing the development, repair, and maintenance of public facilities is often complicated and can burden communities, developers, and the County. • Deferred maintenance often requires capital improvement interventions. • The island's geography paired with sprawled population creates challenges and inefficiencies in service coverage and maintenance. • Climate change impacts pose threats to all public facilities and services.
Public Safety	• Protective services are often under-funded and over-burdened. • The development, repair, and maintenance of these facilities are largely dependent on other departments priorities, schedules, and resources. • Barriers to access (e.g., gated communities, substandard road infrastructure, etc.) can limit emergency routes and access to services.
Solid Waste	• Illegal dumping of solid waste is a continuous issue that poses human and environmental health hazards. • Recoverable materials are lost to the landfill because there is no facility or program for recoverable materials. • Local recycled materials markets are underdeveloped, and access to out-of-state markets is expensive due to Hawai'i's isolated geography. • Source reduction is challenging due to the current economic model and heavy reliance on imports.
Education	• Access to affordable housing options within proximity to educational facilities is limited. • Access to educational facilities is generally vehicle-dependent, and long commute distances contribute to traffic congestion. • Educational facilities are often located along major highways, which makes multimodal safe routes to school difficult to implement. • Planning for school facilities by the State Department of Education is disconnected from County long-range plans and overall growth demand, and short-term solutions can compound mobility issues. • State Land Use Boundary amendments receive conditions for school mitigation, however, are done on a case-by-case basis, which is not continuous or comprehensive. • Siting for educational facilities can become complicated when the community is not engaged and faces unwanted changes. • Charter schools have a difficult time meeting regulations in rural communities.
Recreation	• Access to recreational facilities is generally vehicle-dependent, which is a barrier for the non-driving population. • In some rural areas, the lack of convenient public transportation makes it difficult to take advantage of recreational facilities and programs. • Existing parks have failing infrastructure. • Trending population growth areas and the location of established recreational sites are not always in alignment. • The lack of community needs assessments contributes to the gap between community needs and the services provided. • Sewage, industrial waste, and other pollutants have penetrated some swimming, surfing, fishing, and boating areas, reducing the availability and/or quality of these areas for recreation.
Health	• The rural nature of the island's communities exacerbates healthcare challenges, leading to greater healthcare inequity. • Aging health facilities pose a challenge to providers in providing robust healthcare services. • The lack of affordable housing is one of the biggest barriers to recruiting and retaining healthcare professionals. • There is a severe shortage of physicians, nurses, certified nursing assistants, and community health workers. • The rising cost of living and access to healthy lifestyle options are obstacles to health for communities.

Table 29: Public Facilities and Services Opportunities

General	• Improve collaboration and coordination across agencies, as well as explore opportunities for public-private partnerships for supplementing resources, funding, and expertise. • Enhance community engagement through programs and initiatives to foster stronger partnerships between County agencies and the community. • Conduct comprehensive risk assessments to identify potential vulnerabilities and areas of improvement. • Leverage multiple sources of funding. • Create special assessment districts for new facilities and services. • Consolidate services for joint-use facilities.
Public Safety	• Ensure protective services facilities are maintained to optimize health and resilience. • Upgrade communication systems and infrastructure to ensure seamless and reliable communication among agencies, as well as with the public during emergencies. • Explore opportunities to leverage technology for improved public safety services.
Solid Waste	• Adopt ordinances to maximize waste diversion. • County procurement policies can help reduce waste. • Investigate and implement innovative waste management technologies and practices, which may include exploring advancements in waste sorting and processing, waste-to-energy conversion, or the use of renewable materials.
Education	• Support a mix of zoning to support the concept of live-work-play near educational facilities. • Effectuate equitable transportation routes to and from educational facilities that serve to connect people with facilities, while reducing traffic. • Educational facilities can serve as digital literacy and equity hubs that enhance community wellbeing. • Seek to acquire public lands to support consistent land uses surrounding educational facilities. • Ensure consistency between long-range plans and overall growth demands.
Recreation	• Adoption of green infrastructure best practices can aid in protecting park assets and developing new park assets. • Community volunteer opportunities (e.g., Friends of the Park Program) can support the maintenance of parks and recreation areas. • Implement interpretive signage through collaboration with community groups. • A preventative and deferred maintenance schedule can be adopted as a proactive approach to park and recreation maintenance. • Needs assessments and other methodologies can help to determine park typologies for communities, which may reduce the demand for maintenance.
Health	• Increase transportation options or care providers to rural areas for residents to have access to preventative care. • Invest in housing first and permanent supportive housing/social housing • Increase active transportation opportunities for greater accessibility and promote physical activity. • Increase effective education on low-cost and free health services. • Investment in public health isn't limited to healthcare facilities but includes investment in the healthy built environment

Public Facilities and Services Goals

Our communities are safe and protected, and residents have access to quality, integrative health, education, and social services to support a high quality of life for residents of all ages.

Our communities are adequately served by sustainable and efficient public infrastructure and services based on existing and future growth needs, sound design principles, and effective maintenance practices.

Objective 26

Adequately maintain public facilities.

Policies

26.1 Maintain an Asset Management Program aimed at utilizing maintenance plans to prolong the life of our facilities as well as reduce whole-life costs.

26.2 Maintain the unique features of historic structures, while balancing maintenance and safety needs.

26.3 Prioritize the replacement of deficient and inadequate facilities.

26.4 Encourage the adoption of innovative materials and methods that improve facility resilience.

26.5 The development of County facilities should be designed to fit into the locale with minimal intrusion while providing the desired services. Implement protocols for receiving community input during Capital Improvement Project siting and design.

Priority Actions

26.a Create an asset management program. PROJECT

26.b Continue a facility inspection program. PROGRAM

4.2: Protective Services

A comprehensive system of protective services is necessary to ensure safety, wellbeing, and emergency response for residents and visitors of Hawaiʻi Island. Protective services within the County consist of the Police Department, Fire Department, Emergency Medical Services, Disaster Management, and Detention and Correction agencies. The General Plan recognizes infrastructure concerns and related impacts on the County's protective services, as access and connectivity enable emergency responders to perform their duties at a standard level of service. Supporting our protective services through land use policy is imperative for public health and safety and efficiency of these services.

As the County's law enforcement agency, the Hawaiʻi Police Department, plays a crucial role in maintaining public safety. They enforce laws, prevent crime, respond to emergencies, and work towards fostering a secure environment for all residents. The County adheres to the State's guidance for crime and criminal justice. Hawaiʻi Island is divided into east and west operations bureaus that include investigative and patrol operations. Each of the districts is served by a main police station headed by a Captain. There are five substations (Keaʻau, Laupāhoehoe, Hawaiian Ocean View Estates, Mauna Lani, and Captain Cook). Based on population, the islandwide average is about 2.5 officers per 1,000 residents. Police response is primarily mobilized through their vehicles.

Fire and Emergency Medical Services are another essential component of the island's protective services. The Hawaiʻi Fire Department provides 24-hour firefighting services in cooperation with the Department of Forestry and Wildlife, the National Park Service, the State Airports Division, and Pōhakuloa Training Area Fire. In addition to fire suppression, the Fire Department provides rescue services, 911 emergency medical response, hazardous materials response, and ocean safety response services. The Fire Department works diligently to prevent and mitigate fires, respond to medical services, conduct search and rescue operations, and provide educational programs to promote fire safety within the community.

Given our geographical location and exposure to natural hazards, disaster management is of utmost importance on Hawaiʻi Island. The Agency identifies hazards (human-caused, natural, and technological) that pose a threat to the island and prepares the County to respond to and quickly recover from the impact of those hazards should they materialize. The Civil Defense Agency's three primary functions are to prepare the County government, businesses, and residents for disasters, to provide public information and warning, and to coordinate disaster response and recovery. Hawaiʻi County Civil Defense works closely with other agencies to follow the guidance of federal and state laws, standards, and frameworks.

The State Department of Public Safety operates correctional facilities for the confinement of pretrial inmates and convicted offenders, and intake service centers for the supervision of offenders. An array of rehabilitative programs is available through the correctional facilities and intake service centers. The Hawaiʻi Intake Service Center, the Hawaiʻi Community Correctional Center, and its annex are located in Hilo. A minimum-security facility (Kulani Correctional Facility) is located at the end of Kulani Stainback Highway on the lower slopes of Mauna Loa. Police facilities in Hilo and Kealakehe also have holding cells for overnight detention.

Objective 27

Protect the health and wellbeing of residents and visitors.

Policies

Planning/Siting Protective Services Facilities

27.1 Police and fire stations should be co-located whenever feasible.

27.2 The establishment of a police/fire facility shall consider site size and locations that permit quick and efficient vehicular access.

27.3 Strategically plan and locate volunteer fire facilities, which may include co-existing with full-time Fire/EMS stations.

27.4 Police headquarters shall be near the geographic center of the service area and near concentrations of commercial and industrial use.

27.5 Hardened shelters shall be located within reasonable proximity to population centers.

27.6 Lifeguard stations should be located at all County and State beach parks.

Level of Service

27.7 Support and expand volunteer fire facilities and capacity.

27.8 Adequately support and fund the volunteer fire department and stations.

27.9 Maintain a level of service for response time that is consistent with National Fire Protection Association (NFPA) standards.

27.10 Ensure Hazardous Material service for both the windward and leeward sides of the island.

27.11 All fire stations should provide Emergency Medical Services (EMS).

27.12 Stations in rural areas should be based on the population to be served and response time rather than on geographic districts. (Police?)

Preventative Approaches

27.13 Accommodate flexibility in design and provisions for alternate water sources for fire protection when adequate public water is not available. [Code]

27.14 Incentivize the development of large, dedicated catchment tanks for firefighting access.

27.15 The Fire Department shall participate with other related governmental agencies and the involved landowners in the preparation of fire protection and prevention plans.

27.16 Crime Prevention through Environmental Design (CPTED) should be incorporated into planning and design.

27.17 Business Improvement Districts or other organizational tools, such as partnerships with local businesses, should be used to enhance security and orderliness in downtown areas.

27.18 Support bicycle patrol programs in urban areas.

27.19 Encourage the further development and expansion of community policing programs, school resource officers, and neighborhood/farm watch programs.

27.20 Ensure adequate training and capacity building for emergency response.

27.21 Prioritize hazard mitigation projects in the Capital Improvements Program.

Crime Prevention Through Environmental Design (CPTED)

Also known as Designing Out Crime and defensible space, these strategies aim to reduce victimization, deter offender decisions that precede criminal acts, and build a sense of community among inhabitants so they can gain territorial control of areas, reduce crime, and minimize fear of crime.

27.22 County public expenditures within Volcanic Hazard Zones 1&2 should be limited to the restoration or enhancement of natural resources and parklands or expenditures required to serve existing development or necessary for public health and safety. However, other expenditures may be warranted based on a cost-benefit analysis.

27.23 Continue to participate in the National Flood Insurance Program (NFIP) Community Rating System (CRS) to the maximum extent possible and shall seek to improve its current CRS Class rating (to the maximum extent feasible to reduce insurance costs).

Emergency Facilities and Communication Systems

27.24 Ensure emergency warning sirens and communications coverage is adequate for each community.

27.25 All emergency response critical facilities and communication systems shall be designed and maintained to be resilient and remain operational during hazard events.

27.26 All new emergency facilities shall be designed to minimize and prevent loss.

27.27 In collaboration with State agencies, maintain shelter capacity and condition records to ensure that evacuation shelters are adequate for each community.

Public Education Program

27.28 Increase public education related to hazard zones, including evacuation routes and procedures for visitor accommodations.

27.29 Develop the capacity for hazard preparedness of non-governmental organizations, businesses, and neighborhood groups.

27.30 Partner with government, private and nonprofit agencies, and other stakeholders to assess and plan for alternative routes and possible relocation of coastal roads.

Priority Actions

Fire

27.a Support the development of private common access-distribution systems of private catchment water for firefighting purposes in rural catchment communities. FD Phase 2

27.b Prioritize budgets for technology improvements for emergency services; including Hazardous Material service, 4x4 vehicles, and other equipment or software to improve emergency response times. FD Phase 2

Police

27.c Review County lighting and landscaping ordinances to implement CPTED. PD Phase 1

27.d Develop a public safety audit checklist and conduct urban neighborhood and downtown safety walks to identify potential crime spots or unsafe areas. PD Phase 1

27.e Conduct a Safe Growth Audit as part of the comprehensive review of General Plan or Community Development Plans. PD Phase 2

Civil Defense

27.f Educate the public regarding disaster preparedness and response, especially proper responses for sudden-impact hazards. CD Phase 2

27.g Partner with government, private and nonprofit agencies, and the involved landowners to support wildfire control and reclamation.

27.h Define and map critical facilities, necessary for community disaster response and recovery that are too important to fail. CD Phase 2

27.i Establish, map, and maintain alternative and emergency evacuation routes in each high-risk hazard area. CD Phase 2

27.j Monitor and address known hazards along transportation routes.

27.k Partner with Hawai'i Emergency Management Agency to regularly review and address warning siren coverage. CD Phase 1

27.l Create/improve secondary access roads for those communities with only one means of ingress/egress. DPW Phase 2

27.m Install emergency phones along roadways in isolated areas of lower cellular connectivity. DPW Phase 3

27.n Support the use of the Best Available Refuge Areas within existing buildings. CD Phase 2

27.o Provide technical assistance to communities developing emergency response and evacuation plans.

Programs

27.p Maintain and update the public education and communications program regarding disaster preparedness and response, especially proper responses for sudden impact hazards. CD Phase 2

27.q Develop and maintain a Post-Disaster Redevelopment Plan which specifies the following:

i. Roles and responsibilities

ii. Procedures for implementing programs for immediate repair, replacement, and cleanup

iii. Long-term rebuilding and redevelopment

iv. Procedures for the identification of damaged infrastructure and consideration of alternatives to its repair or replacement in the CHHA

v. Evaluation of climate impacts. DPW Phase 3

27.r Seek funding and support continued scientific research relating to hazards (e.g., research on erosion rates, slumping rates, slope stability studies, sea-level rise rates, tsunami inundation mapping, coastal stream flood mapping, etc.). CD Phase 1

27.s Prepare and Implement Wildfire Protection and Prevention Plans. FD Phase 2

27.t Develop Community-Specific Hazard Mitigation Plans. FD Phase 2

27.u Develop a standard for requiring an emergency response plan. PD or FD? Phase 1

27.v Amend HCC, Chapter 25 to require emergency and hazard information to be prominently displayed in all transient accommodations. This information should include information regarding the monthly Civil Defense siren tests, evacuation routes, and directives to reach appropriate services and agencies. PD Phase 1

Adopt incentives, such as tax deductions, to encourage retrofitting of existing structures for resilience against earthquakes, hurricane, tsunamis, and floods. FD Phase 2

Standards

Table 30: Level of Service Standards

Police	• 2.5 police officers per 1,000 resident population in Urban areas
Fire	• 1.8 firefighters per 1,000 resident population
Emergency Medical Services	• 3.6 paramedics per ambulance • 3.6 EMTs per ambulance
Lifeguards	• 4.2 lifeguards per lifeguard tower with 1 supervisory or support position per 5 lifeguards

First response emergency medical service within 8 minutes of concentrated settlement areas (alternative means, such as training police officers or volunteer fire personnel, could be available to provide first response).

4.3: Solid Waste Management

Solid waste management has significant effects on environmental and public health, aesthetic qualities and land valuation, and the general land use characteristics of a community. Managing waste properly is essential for creating sustainable and livable communities. The handling of solid waste on Hawai'i Island has undergone significant changes in the past few decades, and to maintain the environmental health of our island community, it is important to shift from a focus on waste management to a focus on resource management. In 2009, the County developed the Zero Waste Implementation Plan (view the 2021 updated Plan) and since then has implemented various programs aimed at more efficient resource management, including reducing waste, waste diversion, and product reuse. Further technical innovations, optimization of efficiencies in directing the waste stream, and effective waste programs focused on increasing rates of reducing, reusing, and recycling products will advance the County toward meeting its Zero Waste goals.

The County of Hawai'i currently manages the West Hawai'i Sanitary Landfill (WHSL) located southwest of Waikoloa at Pu'uanahulu in the North Kona District. The WHSL is operated by Waste Management of Hawai'i under a contract with the County. The County Department of Environmental Management (DEM), The WHSL has an estimated lifespan of 100 years with current recycling rates, as determined by the County in 2019. Higher rates of waste reduction, reuse, and recycling in the community may extend life expectancy beyond 100 years.

The County currently operates a network of recycling and transfer stations that accept household refuse. The County does not provide curbside recycling or garbage pickup. Residents take their solid waste to any one of the transfer stations around the island and in some areas, residents pay private haulers to pick up their refuse from their residences for disposal at the landfill. The County is presently expanding recycling activities at the recycling and transfer stations by creating recycling and reuse centers (RRCs).

Since 2009, the County has expanded its green waste program. The County manages two green waste facilities: the West Hawai'i Organics Facility in Pu'uanahulu (WHOF) and the East Hawai'i Organics Facility in Hilo (EHOF). The two green waste facilities accept yard trimmings and untreated wood pallets but do not accept food waste. In April 2017, EHOF began processing and distributing enhanced mulch that has been processed through a 60-day "curing" period to kill invasive species. Green waste bins have been added to various recycling and transfer stations.

Scrap metal is often the largest and heaviest material collected at the County's recycling and transfer facilities. Recycling scrap metal will not only conserve limited landfill space but also preserves natural resources by replacing the need for raw materials with recycled scrap metal to produce new metal goods.

Objective 28

Achieve Zero Waste in Hawai'i County by 2045.

Policies

28.1 Appropriately designed and cost-effective solid waste transfer station sites shall be located in areas of convenience and easy access to the public.

28.2 Implement waste stream technology, such as recycling and upcycling and waste-to-energy to reduce the flow of refuse deposited in landfills.

28.3 Proactively pursue funding that will ensure continued progression toward zero-waste goals.

28.4 Optimize recoverable material diversion from landfill disposal by increasing percentage rates for diversion through waste reduction, recycling, and reuse.

28.5 Encourage and support composting at farms.

28.6 Encourage salvage and reuse of building materials and elements when demolition is necessary or appropriate.

28.7 Continue to develop and implement a green waste recycling program.

28.8 Incentivize opportunities for a circular economy, primarily upcycling and waste reuse by incorporating Resource Recovery Parks.

28.9 Ensure that redesign plans for landfill and transfer stations provide adequate space for Resource Recovery (RR) Stations.

28.10 Ensure waste and resource recovery facilities and equipment do not harbor, spread, or introduce harmful or invasive species.

28.11 Site new solid waste/resource recovery facilities in appropriate areas that serve the needs of population centers but that do not negatively impact the environment or surrounding neighborhood.

28.12 Reduce illegal dumping and littering.

28.13 Minimize the amount of waste generated by County facilities.

Priority Actions

28.a Evaluate and amend the HCC to integrate strategies to maximize landfill diversion and handle materials:

i. Source Separation Ordinance

ii. Codify prohibition of organic material (green waste) disposal at the landfill

iii. Construction & Demolition (C & D) Recycling Ordinance

iv. Take-back Ordinances (for items that are difficult to recycle or compost)

v. Codify County facility ordinance to require recycling at all County offices, facilities, and base yards.

vi. Continue the transition to eliminate the sale or use of polystyrene foam (Styrofoam) and single-use plastic food containers and other single-use plastics DEM Phase 1

28.b Develop programs to require advance disposal fees for specific products such as new electronics and new vehicles purchased in or shipped to Hawai´i. The fees from this should be used to fund resource management and disposal costs. DEM Phase 2

28.c Conduct pilot studies to facilitate waste recovery and increase diversion rates. The following types of pilot programs are recommended:

28.d Curbside waste, recycling, and resource pick-up in priority urban areas

28.e Partner/coordinate to facilitate the private use of large recycling roll-off bins in rural areas. DEM Phase 2

28.f Reevaluate and initiate code changes to the fee structure for solid waste for residential and commercial uses. DEM Phase 1

28.g Facilitate UH and/or Forest Service to complete necessary studies on local materials for use in construction. R&D Phase 2

28.h Revise enforcement protocols and revise the HCC to empower police officers to fine litterers and illegal dumpsites and junkyard owners. PD Phase 1

28.i Implement an education and social marketing program to educate the public and business community about landfill diversion initiatives, preventing and reporting litter and illegal dumping, and other responsible waste management opportunities. DEM Phase 1

28.j Develop a county clean-up program for special waste areas, such as junkyards, to ensure the proactive removal of materials that pose environmental and public health hazards. DEM Phase 2

28.k Develop and promote take-back programs for appliances and other difficult to dispose of materials. DEM Phase 2

28.l Support expansions to the organic material (green waste) recycling program to include drop-off and pick-up locations at all rural transfer stations. DEM Phase 1

28.m Adopt EPA’s Comprehensive Procurement Guideline program as a model for purchasing products that use materials recovered through recycling. DEM Phase 2

4.4: Education

Access to educational facilities and services plays a pivotal role in fostering community development and ensuring a bright future for the residents of Hawai'i Island. Education provides opportunities for individuals to acquire vital skills and knowledge that are essential for personal growth and economic prosperity. Quality education empowers residents to explore their potential, pursue their passions, and develop the skills necessary for a wide range of careers.

Access to education facilities and services is particularly crucial in rural and remote areas of the island. The island's geography presents challenges for transportation and connectivity, making it difficult for some communities to access educational resources. The availability of schools, community centers, libraries, and other facilities in these areas can help alleviate geographical barriers to accessing quality education. The increasing potential for remote learning (also called distance learning or e-learning) opportunities has also enhanced access to education. This opens doors to new opportunities, helps bridge socioeconomic gaps, and ensures a more equitable distribution of resources across the island.

One significant component of education on Hawai'i Island is the emphasis on preserving and promoting indigenous knowledge and traditions. Native Hawaiian cultural practices and values are deeply rooted in the land. Education facilities and services provide a key pathway that allows ancestral wisdom, language, and customs to be passed down to younger generations, ensuring the continuity of Native Hawaiian heritage.

Education facilities also serve as community hubs, fostering social interaction, and promoting unity among the diverse populations of Hawai'i Island. Schools often host cultural events, extracurricular activities, and community gatherings, creating spaces where people can come together, share experiences, and build relationships. These connections strengthen the fabric of the community, creating a sense of belonging and promoting social cohesion. Education facilities and services contribute to the overall wellbeing of the island's communities. They not only focus on academic learning but also address various aspects of personal development, including physical health, mental wellness, and social skills. Access to comprehensive educational resources helps individuals develop resilience, critical thinking abilities, and a sense of civic responsibility, enabling them to navigate challenges and actively participate in the betterment of their communities.

Although educational facilities in Hawai'i County are generally under the jurisdiction of either the State or private entities, the County has a responsibility toward ensuring the optimal performance of educational facilities as they relate to the overall wellbeing of our communities. Education services consist of Hawai'i Island's schools, public libraries, and post-secondary facilities (community college and University of Hawai'i facilities). Hawai'i County adheres to the State guidance of HRS 226-107 for quality education. Ensuring the optimal performance of educational facilities means that the County can strategically plan for the interrelationships between people, the physical and digital environments, facilities, and infrastructure.

In 1999, the State Legislature of Hawai'i passed Act 62, or "The New Century Charter Schools" law. Charter schools receive public

funds but are excluded from many State laws and department rules and regulations, which affords them more autonomy and greater flexibility in decision-making. Charter schools must still meet all applicable federal, State, and County requirements and are not exempt from collective bargaining, discriminatory practice laws, health and safety laws and standards, and the implementation of the Hawaiʻi content and performance standards.

As of August 2022, Hawaiʻi Island has 14 Public Charter Schools with a total enrollment of 4,310 students. The charter schools range in size from 46 students at Ke Ana Laʻahana PCS to 711 students at Hawaiʻi Academy of Arts and Science PCS. Each charter school is responsible for selecting its sites. If a public school has space available, a charter school may seek to enter into an arrangement with the Department of Education for the use of a portion of the school's facilities. School complexes with limited enrollment have not always been able to maximize educational opportunities in comparison with the ability of larger facilities to provide a wider scope of educational opportunities. Some older schools lack adequate parking facilities and sufficient area for expansion, and some have infrastructure and traffic problems.

The State Department of Education enrollment records for the 2022 to 2023 school year included 41 public schools on Hawaiʻi Island with a total enrollment of 22,945 students from kindergarten through 12th grade. The previous school year had a total enrollment of 23,113 students. There are 14 licensed private regular education schools, and the 2020-2021 Hawaiʻi Association of Independent Schools Private School Enrollment Report includes a total of 3,287 students from early childhood education through the 12th grade.

Regarding post-secondary facilities on island, the University of Hawaiʻi at Hilo (UHH) provides higher educational opportunities within the University of Hawaiʻi (UH) system through its variety of high-quality certificate, baccalaureate, master's, and doctoral degree programs. UHH is designed through a "spine" concept that organizes all campus structures along a main pedestrian accessway and assures that future development would continue in relation to the various existing structures. UHH continues to lack sufficient student and faculty housing options.

Hawaiʻi Community College provides access to higher education, and workforce training through on-site programs and distance education technologies. Hawaiʻi Community College offers an extensive program of certificate and associate degree programs in technical fields as well as the first two years of a baccalaureate degree. The college also offers extensive options for short-term training programs throughout Hawaiʻi Island.

Pālamanui is the West Hawaiʻi campus of Hawaiʻi Community College and opened for students in August 2015. Pālamanui offers associate degree and certificate programs, while also serving as a University of Hawaiʻi Center that delivers more than 60 certificates, bachelor's degrees, and graduate degrees from campuses across the UH system. Located in North Kona, Pālamanui is about five miles from the Natural Energy Laboratory of Hawaiʻi Authority (NELHA), which may accommodate synergistic and innovative opportunities as both UH and NELHA are under the State's authority. Overall, Pālamanui's presence in West Hawaiʻi increases educational opportunities for Hawaiʻi Island's residents. A recent serendipitous increase in the number of

technology professionals and executives along the Kona-Kohala coast presents opportunities for innovative pursuits by our residents.

The Hawai'i Library District is comprised of 12 libraries. Library size is described by the collection size or number of volumes (books, periodicals, etc.) and ranges from 206,770 volumes in Hilo to 9,627 volumes at Na'alehu. Library facilities will require continual improvements.

The General Plan's educational policies relate to the provision of facilities rather than programs, which are the province of the State. Nonetheless, it is recognized that the facilities and programs are indispensable tools to advance total educational service.

Objective 29

Each community has access to a wide range of educational opportunities.

Policies

Planning and siting facilities

29.1 Ensure educational facilities meet the needs of Hawai'i County.

29.2 In proposed communities, sufficient acreage, as determined by the Board of Education enrollment guidelines, shall be reserved for school facilities.

29.3 Sites shall be free from flooding and drainage problems, and excessive slope and shall incorporate appropriate street and driveway design and location to minimize traffic interference, pedestrian hazard, and enable safe and easy access for vehicles, bicycles, and pedestrians.

29.4 Continuous joint pre-planning of educational facilities shall be coordinated with the County, Department of Education, and the University of Hawai'i to ensure compatibility with public services, supporting infrastructure, and equitable mobility access so that facilities are community-centered, designed for multiple uses, and serve as anchor institutions in the community.

29.5 School facilities, such as playgrounds and gyms, should be combined with county parks to allow for afterschool use by the community for recreational, cultural, and other compatible uses.

29.6 The Hawai'i State Library System should co-locate public library facilities in public school libraries where a separate public library may not be feasible, promoting intentional proximity to other community facilities and assets that contribute to a high quality of life.

29.7 School buildings should be designed, or at times retrofitted, to serve as emergency shelters.

29.8 The County should facilitate the use of libraries to disseminate public information and engage civic participation.

29.9 Advocate to the State and private agencies to use educational facilities to offer place-based and distance education opportunities to adults.

29.10 Educational programs should be developed to provide opportunities in diversified industries and develop practices in sustainability and resiliency.

29.11 Encourage the State to provide student, faculty, and staff housing around University of Hawai'i sites.

29.12 Support the continued expansion of the University of Hawai'i at Hilo, Hawai'i Community College, and Pālamanui campuses, as well as encourage continuing education programs throughout the community.

29.13 Support and encourage the strengthening of the University of Hawai‘i at Hilo through the transfer of appropriate colleges and departments from the University of Hawai‘i at Mānoa to the University of Hawai‘i at Hilo.

29.14 Encourage and support the active implementation of State and University of Hawai‘i plans for post-secondary educational facilities, including the “Research and Technology Park,” on Hawai‘i Island.

29.15 Encourage the expansion of digital access and equity through the resilient buildout of broadband infrastructure and facilities.

Safe Routes to School

29.16 Prioritize active transportation through the development of sidewalks, pedestrian walkways, and bike paths to and from educational facilities to increase walkability and pedestrian safety.

29.17 Require new developments in the vicinity of schools to provide safe pedestrian facilities and additional school zone signage.

Priority Actions

29.a Implement a Safe Routes to School (SR2S) program for all schools. DPW Phase 2 PROGRAM

29.b Ensure County makes necessary improvements to co-located facilities, such as gymnasiums, parks, and playgrounds. P&R Phase 2 PROGRAM

4.5: Recreation

Parks and recreation areas hold significant value within the General Plan. These areas serve as essential assets to our island, as they not only beautify communities but play a central role in overall wellbeing and quality of life. Access to these spaces for recreational and cultural purposes is vital to Hawai'i Island residents. Education and stewardship are integral to maintaining safe access to parks and recreation areas. The General Plan aims to provide the proper planning and policy direction to help ensure the sustainable development and maintenance of the County's parks and recreation sites, as well as safe and equitable access to these areas.

Well-sited and planned recreational sites are often communal spaces where people can come together for events, festivals, and social gatherings. They foster a sense of community by providing a venue for residents to connect, contributing to the social fabric of our island's communities and enhancing community cohesion. Parks and recreation also support the natural, historic, and cultural character of our unique communities. Hawai'i Island's parks and recreation areas often encompass diverse ecosystems, natural landmarks, and culturally significant sites. Proper planning helps protect and preserve these natural and cultural resources for generations to come. With the implementation of sustainable management practices, conservation efforts, and educational programs, these areas can serve as living classrooms that promote environmental stewardship and cultural appreciation.

Parks and recreation areas play a key role in climate resilience efforts and overall environmental sustainability. They may provide green spaces that help mitigate the urban heat island effect in our urban growth areas, improve air quality, and support biodiversity by providing habitats for native plant and animal species. Responsible planning can incorporate sustainable design features, such as energy-efficient infrastructure, water conservation measures, and the use of native plants, to minimize the ecological footprint of these areas. It is worth noting that well-designed parks and recreation areas may have positive economic impacts on the surrounding communities. They often attract visitors, stimulate local businesses, and generate revenue through various mechanisms. Strategic planning of parks and recreation areas can help ensure that economic potential is balanced with the community's needs and environmental stewardship.

Community engagement is critical to the planning of parks and recreation sites to effectively serve community needs and priorities. These areas and facilities should be accessible to all accommodating groups with disabilities or other special needs. Recreation sites should be complementary to surrounding land uses, such as schools and senior centers, to support an ecosystem of services that maximize the area's potential to promote interactivity between community members of all ages. Additional considerations should be made for the hardening of recreational facilities to shelter people during emergency events. The General Plan aims to address disparities and promote equal opportunities for all residents to enjoy the benefits of these spaces.

To uphold the public interest, convenience, health, welfare, and safety, HCC, Section 8-6(a) calls for a minimum of five acres of land for park purposes for each one thousand persons in every district. Housing developers should not bear a disproportionate burden, or be forced to contribute more than their fair

share, as inequitable requirements could deter needed housing development. Park dedication and development must also be met with the appropriate departmental capacity to maintain and improve recreational sites to not overburden the County and underserve our communities. It is valuable to integrate park dedication with maintenance and improvements and consider the maintenance demand and typology of parks being dedicated.

Parks and Recreational Areas in Hawai ʻi County	
National Parks	5
State Parks	14
County Parks	146
Public Cemeteries	13

Objective 30

Park facilities are located within a 10-minute walk in urban areas and a 10-minute drive in rural communities.

Policies

Parks and Recreation Funding

30.1 Diversify funding sources for recreational facilities.

30.2 State and County Capital Improvement Programs should continue to be coordinated to reflect recreational priorities.

30.3 Equitably allocate park dedications and in-lieu fees among the districts relative to the population.

Interagency Collaboration and Public Engagement

30.4 Continue to improve parks and recreation outreach efforts to ensure program and facility information is adequately available, promoted online through accessible websites and other mediums, and kept up to date to facilitate maximum community participation.

Recreation Facilities Siting and Planning

30.5 Recreational facilities shall reflect the natural, historic, and cultural character of the area.

30.6 Equitably allocate facility-based parks among the districts relative to population, with public input to determine the locations and types of facilities.

30.7 Existing and new parks should be designed with features that accommodate and encourage meaningful levels of physical activity according to the level of service criteria.

30.8 Recreational facilities shall be assessed for dual use as emergency shelters and hardened as needed.

30.9 Establish, in cooperation with the State Department of Education, joint use of schoolyards, County parks, and other public facilities for community use for recreational, cultural, and other compatible uses.

30.10 Recreational facilities should be planned and located where they will best facilitate and support active-living communities.

30.11 Recreational sites should be planned and located within a 10-minute walk from residences in population centers, and serve with a minimum of five acres of land for park purposes per 1,000 resident population in non-population centers of Hawai´i Island.

30.12 Facilitate and prioritize the co-location of schools, parks, and senior centers to promote interactivity between community members of all ages.

Recreational Facilities Maintenance and Improvement

30.13 Public lands with unique recreational and natural resources shall be maintained for public use.

30.14 Maintain and/or improve park facilities and programs based on community needs assessments to ensure County services are meeting the social, recreational, and activity needs of our communities.

30.15 Implement a proactive maintenance program to ensure that park facilities and trails are safely maintained for optimum usage.

30.16 Prioritize maintenance and necessary improvements at existing park facilities over developing new park facilities within each district (this does not preclude accepting lands for future park development or acquiring properties for the intent of preserving open space, scenic areas, natural hazard areas, or cultural/historic areas from development).

30.17 Combine recreation facility improvement projects with other needed facility improvements (e.g., ADA improvements with facility hardening, etc.)

Recreational Services

30.18 Provide facilities and a broad recreational program for all age groups, with special considerations for the handicapped, the elderly, and young children.

30.19 Prioritize park acquisition and improvements that involve under-represented open recreation and healthy living activities (outside the scope of organized sports), such as:

a) Walking and biking trails
b) Skate/roller blade parks
c) Dog-friendly parks
d) Parks that offer camping opportunities
e) Botanical and community garden parks, pocket and art parks
f) Equestrian/rodeo arenas
g) Archery and shooting ranges
h) ATV and motorized recreation areas
i) Other types of active and passive recreation that enhance the quality of life for visitors and residents

30.20 Support and enhance recreational facilities by developing additional recreational offerings in underutilized areas of County properties, such as the Pana'ewa Recreation Complex.

30.21 Continue to improve parks and recreation outreach efforts to ensure program and facility information is adequately available, promoted online through accessible websites and other mediums, and kept up to date to facilitate maximum community participation.

30.22 Private and public cemeteries shall be compatible with surrounding land uses and provided with adequate access and drainage systems.

Priority Actions

Parks and Recreation Funding

30.a Develop and adopt an Impact Fees Ordinance.

30.b Provide funding for planning and acquisition, if necessary, of key corridor segments after corridor-zone plans are adopted.

30.c Revise the park dedication code requiring subdivisions to provide land area for park and recreational use or contribute to a maintenance fund in lieu thereof.

Interagency Collaboration and Public Engagement

30.d Partner with government, private and nonprofit agencies, and other stakeholders to increase funding sources for park, recreation, and trail development and maintenance.

30.e Partner with government, private and nonprofit agencies, and other stakeholders to initiate joint agreements for funding, management, and maintenance for recreation, shared use spaces, hardened shelters, and public access priorities.

30.f Support the U.S. Department of Interior, National Park Service's expansion plans for the Hawai'i Volcanoes, Pu'ukoholā National Historic Park, Pu'uhonua O Hōnaunau National Historic Parks, Ala Kahakai National Historic Trail, and Kaloko-Honokōhau National Historic Park.

30.g Update the County of Hawai'i Recreation Plan to reflect newly identified recreational priorities.

30.h Encourage the adoption of State programs for State lands consistent with the General Plan.

30.i Develop a recreation information dissemination system for the public's use.

30.j Develop best management practices for the development and maintenance of golf courses in collaboration with government, private and nonprofit agencies, and other stakeholders.

30.k Develop local citizen leadership and participation in recreation planning, maintenance, and programming.

30.l Maintain an on-going program of identification, designation, and acquisition of areas with existing or potential recreational resources, such as land with sandy beaches and other prime areas for shoreline recreation in collaboration with government, private and nonprofit agencies, and other stakeholders.

30.m Advocate to the State to improve the Wailoa State Park complex in the center of Hilo.

30.n Perform a review and audit of the inventory resulting from the subdivision requirements within HCC, Section 23-26 (Reservation for parks, playgrounds, and public building sites). [Code]

30.o Amend HCC, Section 23-26 to ensure that land area is not only set aside for recreational or public use but that there are funds or a funding mechanism to develop the land for its intended purpose. [Code]

30.p Enter into partnership agreements with the State and private groups (e.g., Friends of the Park) to make improvements and assist in the maintenance of essential but poorly maintained urban parks such as Wailoa State Park.

30.q Expand and map Friends of the Park programs to manage and improve County parks and facilities.

Recreational Facilities Siting and Planning

30.r Identify shoreline areas suitable for coastal access points, including boat launches and small boat harbors.

30.s Develop and implement a cemeteries master plan for the siting of future cemeteries.

30.t Analyze under-represented open recreation and healthy living activities to be included in Park Standards.

Recreational Facilities Maintenance and Improvement

30.u Implement interpretive signage through collaboration with community groups at appropriate locations.

30.v Conduct Park facilities condition assessments and keep the County of Hawai'i Recreation Plan updated to reflect newly identified recreational priorities. The updated Recreation Plan should develop a strategic management plan for upgrading facilities and establish a level of service standards for parks.

30.w Plan, manage, and maintain parks to ensure that the quality of recreation areas does not diminish with heavy usage.

30.x Develop facilities and safe pathway systems for walking, jogging, and biking activities.

30.y Amend the HCC to better address park and recreation issues in the following ways: Note: Edit to reflect future code updates.

i. Amend subdivision code (Ch. 23) to be consistent with Dedication of Land code (Ch. 8) in providing land area for park and recreational use or pay a fee in lieu thereof.

ii. Develop and adopt an Impact Fees Ordinance

iii. Amend Dedication of Land code (Ch. 8) to include "net useable acreage." [Code]

Recreational Services

30.z Develop a center/complex for major cultural, educational, and recreational activities in underserved population centers, such as Kona. Note: Confirm that this is adequate.

30.aa Develop facilities and safe pathway systems for multimodal use such as walking, jogging, and biking activities.

30.bb Develop walking paths around existing ballparks and other park grounds, as feasible. These walking paths should be level footpaths that meet accessibility requirements whenever possible.

30.cc Expand active open recreational opportunities at the Pana'ewa Rainforest Zoo and Equestrian Center properties such as bike/walking trails, horse trails, dog-friendly trails, and other outdoor recreation that would complement the Pana'ewa complex.

Park Standards

Table 31: Regional Parks

Park Description	Major recreation area serving several districts and providing indoor and outdoor activities. A major center for spectator sports and cultural activities. May include features of historic, geological, and horticultural interests.
Approximate Size	50 acres
Service Area Population	Vicinity of major populated areas. 5 acres/1,000 persons per HCC, Chapter 8
Facilities Include	Multi-purpose building, auditorium, gymnasium, swimming pool, adequate parking areas, and facilities for spectator sports: football, baseball, softball, track field, tennis, basketball, and volleyball.

Table 32: District Parks

Park Description	Offer diversified types of recreational activities to an entire district that include indoor and outdoor sports.
Approximate Size	10 to 30 acres
Service Area Population	Within a district consisting of several populated communities.
Facilities Include	Gymnasium with office, storage, restrooms, and showers; a center for community and recreational programs; swimming pool (if justifiable); play area and equipment for young children; courts for basketball, tennis, and volleyball; ball fields for soccer, baseball, softball, and football; night lights; and an adequate parking area.

Table 33: Community Parks

Park Description	Community recreation area serving surrounding urban areas, and entire community in rural areas. Provides active and passive activities.
Approximate Size	4 to 8 acres
Service Area Population	Within the center of the community or several neighborhoods
Facilities Include	Multi-purpose building; gymnasium (where not serviceable from a district park); courts for basketball, volleyball, and tennis; ballfields for softball/baseball, soccer, and football; play area and equipment for young children; walking and jogging paths; picnic and passive area; night lights and an adequate parking area.

Table 34: Neighborhood Parks

Park Description	Provide open space in urbanizing areas for the general aesthetic enjoyment of the outdoors, play areas for young children, and a social gathering place for the neighborhood.
Approximate Size	Up to 4 acres
Service Area Population	Within the center of the neighborhood and preferably adjacent to a school.
Facilities Include	Restrooms; drinking water; walking and jogging paths (bike and skating paths); courts for basketball, volleyball, and tennis; ballfields for tetherball, baseball/softball, and soccer; play area and equipment for young children; and an adequate parking area.

Table 35: Community Centers

Park Description	Major center for spectator sports, and cultural and social activities.
Approximate Size	Size depends on the facilities proposed and accessory uses.
Service Area Population	Varies
Facilities Include	Multipurpose building; auditorium; gymnasium; facilities for spectator sports; swimming facility; and an adequate parking area.

Table 36: Resource-Based Parks

Park Description	Centered around a major natural asset, such as a sandy beach, a prime forest, or a volcanic feature, and includes historic sites whenever feasible.
Approximate Size	Varies. Every section of the island should be adequately served.
Service Area Population	Designed to accommodate users from throughout the County.
Facilities Include	Beach parks should include restrooms with showers; picnic facilities; a defined tent camping area when allowed; drinking water; adequate parking; pavilions of various sizes; and lifeguard facilities. Trails and unimproved roads; designated hunting and fishing areas; designated conservation areas for nature study and other passive activities; and wilderness campsites.

4.6: Community Health and Wellness

The interconnectedness of community health and wellbeing and the environment has become increasingly apparent. The vision for Hawai'i Island prioritizes the health and resilience of communities through enhancing the natural, built, and social environments while adapting to the impacts of climate change. Recognizing the vital role of public health in shaping the future of our island, the General Plan aims to integrate policies and actions that promote health and wellbeing in its various elements.

There are a host of conditions that influence the ability to lead a healthy life. Communities thrive when they have reliable access to essential resources such as quality and affordable housing, healthy foods, recreational areas, spaces for religious and cultural practices, medical care, living-wage jobs, safe neighborhoods, and educational opportunities. The land use policies established in the General Plan play a crucial role in shaping public health. Policies that prioritize mixed-use development, encourage the creation of parks and open spaces, and support the availability of affordable and attainable housing contribute to healthier communities. By promoting walkability, accessibility to services, and a sense of community, land use policies can enhance physical and mental wellness.

Land use policies can also impact access to healthy food options. Encouraging the establishment of farmers' markets, community gardens, and a range of agricultural activities can promote local food production and improve access to fresh and nutritious food. Additionally, in underserved areas of the island, policies that promote the development of grocery stores and food co-ops can help address the challenge of food deserts and support community health.

Infrastructure planning is critical for promoting active transportation options, such as walking, cycling, and public transit. Designing communities with pedestrian-oriented sidewalks, bike lanes, and trails encourages physical activity while reducing reliance on automobiles. Accessible and well-connected transportation networks contribute to improved community health by facilitating regular physical activity and reducing traffic congestion and air pollution. The provision of parks, green spaces, and recreational facilities are also critical infrastructure for community health and wellness. These spaces provide opportunities for physical activity, social interaction, and relaxation, contributing to overall health outcomes for residents of all ages.

Affordable and safe housing is another fundamental aspect of community health. The General Plan addresses housing affordability and availability by promoting diverse housing options and mixed-income neighborhoods. The Plan also incorporates environmental sustainability measures that promote community health. By advocating for renewable energy generation, green building practices, and climate resilience strategies, the General Plan can guide the mitigation of environmental risk and improve overall environmental quality. This further enhances public health outcomes and reduces vulnerability to climate-related hazards.

Although the planning of most health programs and facilities is the direct administrative responsibility of the State, the County is responsible for the general welfare of the island's communities and must continue to make every effort to support their ability to live healthily. The General Plan recognizes that advancing health equity across the island requires a concerted effort

across sectors and agency accountability. The Plan supports the provision of accessible healthcare services and facilities. Planning for healthcare infrastructure, including hospitals, clinics, and community health centers, ensures that residents have adequate access to medical care and preventative services. Coordinating with healthcare providers and organizations can help integrate health considerations into land use decisions and strengthen overall community health. This element of the Plan.

Objective 31

Each community has access to healthcare facilities, programs, or community-based care.

Policies

31.1 Ensure regular health service assessments identify and address the unique needs of the medically underserved population, especially in rural areas.

31.2 Partner with government, private and nonprofit agencies, and other stakeholders to ensure equitable access to healthcare services.

31.3 Ensure healthy communities through aligned land use and infrastructure policies.

31.4 Active living considerations should be integrated into the design of communities.

31.5 Advocate to the State to continue the operation of the rural hospitals.

31.6 Support the establishment of centrally located, 24-hour, full-service medical facilities, with trauma care, to service rural areas.

31.7 Hospitals should be on sites capable of handling moderate expansion of facilities. Quiet surroundings, convenient and adequate access, and compatibility with adjoining uses shall be required.

31.8 Hospitals shall be served by a public sewerage system or have self-contained sewerage systems.

31.9 Ensure that hospitals are sufficiently hardened to remain in effective use through natural disasters.

31.10 Establish a comprehensive network of health and wellness services.

31.11 Integrate community health concerns in community planning.

31.12 Advocate for programs serving the elderly, disabled, and homeless persons.

31.13 Improve coordination and integration of services.

31.14 Support the establishment of home and community-based services (HCBS) that operate consistent with community character.

31.15 Increase opportunities and support for home-based care for aging in place.

Priority Actions

31.a Establish an Aging and Disability Resource Center in Kailua-Kona. (Office of Aging) Phase 2 PROJECT

31.b Develop a medical center TOD master plan and rezone it as a Regional Center TOD. PROJECT

31.c Develop public showers and restroom facilities in strategic locations to serve the homeless and meet public sanitation needs. OHCD Phase 2 PROJECT

31.d Collaborate with government, private and nonprofit agencies, and other stakeholders to establish a One-Stop Community Resource Center to serve as a point of community access for information and referral for health, education, and social services. OHCD Phase 2 INTERAGENCY COORDINATION

31.e Expand the use of mobile health centers and services (health,

screening, vision, dental, etc.) to rotate through the rural communities regularly. OHCD Phase 2 INTERAGENCY COORDINATION

31.f Partner with government, private and nonprofit agencies, and other stakeholders to develop a consolidated services facility plan for the victim and offender treatment, counseling, and other rehabilitation services (and other social services) in major urban centers (Hilo, Kailua-Kona, Waimea). Prosecutors Phase 2 INTERAGENCY COORDINATION

31.g Support the distribution of telehealth support services, particularly to unserved and underserved communities. (Office of Aging) Phase 2 INTERAGENCY COORDINATION

31.h Amend county zoning and building codes as necessary to accommodate home and community-based care elderly care. PD Phase 1 CODE AMENDMENT

31.i Amend the HCC to include land uses for substance abuse and/or medical rehabilitative facilities and determine appropriate criteria for siting in communities. PD Phase 1 CODE AMENDMENT

31.j Amend the HCC to designate a lead agency for coordinating and responding to outbreaks of life-threatening, highly communicable diseases pursuant to the Department of Health direction. CD Phase 1 CODE AMENDMENT

Section 5: Housing for All

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Affordable Housing Character Guidelines

Introduction

Population and housing are inseparable in planning for both the growth and renewal of our towns and villages in the years ahead. Transportation systems, allowing vehicular connections between housing and multiple urban areas, are also inextricably linked. All housing requires transportation access, albeit in more flexible, subjective, and individual ways among households.

The geography of our housing is expansive: 90,500 housing units for just over 200,000 residents, spread throughout a vast, 200-mile length of a low-density population settlement band that nearly encircles Hawai´i Island. The planning and guiding of both the densities and directions of expected population and housing growth are especially important due to the exposure to multiple natural hazards, their unique types and probabilities within the state, and the requirement for local government to deliver a physical span of diverse emergency and protective services that is unequaled within this state.

Missing Middle Housing

The housing market offers little variety of housing types. These include a range of house-scale buildings with multiple units, compatible in scale and form with detached single-family homes, located in a walkable neighborhood. These may offer a more affordable option for many residents. Some types include:

- Duplex
- Townhouse
- Courtyard building
- Live-work building

The American Planning Association suggested the following practical zoning shifts to support adding missing middle housing:

- Reduce minimum lot size.
- Allow more housing types and reduce minimum structure size.
- Reduce parking minimums.
- Allow missing middle housing everywhere (if possible).

Diversity and Expansion of Housing Availability

The supply and mix of types of additional, modified, and replaced housing units needed in the planning period is a function of population growth, where that growth occurs, and the characteristics of the persons who make up that growth. A growth pattern of disparate suburban and rural neighborhoods will result in a different type and size range of dwellings and accessory structures than would result from a pattern of centralized, higher-density urban infill, supported by nearby, accessible public and private services and facilities.

Amount

With an estimated population increase from 202,263 (2018) to approximately 273,232 (2045), a 35 percent increase, there will be a demand for an additional 17,000 resident housing units over the next 25 years.

Demographic trends

Planning for the design, sizing, and locations of the future housing supply should consider demographic trends, in that 44 percent of the population will be over age 65 by 2045. There is an increased need to accommodate seniors with mobility limitations where support services are reasonably convenient without the necessity of a household automobile. Further, statistics reveal that almost one out of every ten households are crowded, and many are multi-generational, which indicates a need for small dwelling units for young

adults or ohana units for retired parents and/or grandparents.

Managing Existing Housing Inventory

Housing in Hawai'i County has predominantly been characterized by single-family residential units, noting 18,449 acres are used for single-family residential, compared to only 3,403 acres for multi-family residential. Housing demand has outpaced housing development on Hawai'i Island for decades, which could be addressed, in part, through the intentional use of single-family residential developments. In reality, the County's single-family residential dwellings are often occupied by multiple generations at one time, which is a natural response to the low housing supply and high demand. Rehabilitation, renewal, or redevelopment will be required in many of the older single-family residential neighborhoods.

Production Shortfall

Census Bureau statistics and recent housing studies conducted for State and County housing agencies show that the number of housing units constructed annually in Hawai'i County has not kept pace with the growth of the resident population, and therefore with its housing needs. As of 2020, there was a shortfall of approximately 5,534 housing units for those who were doubled up, hidden homeless, and other forms of pent-up demand. Recent forecasts estimate we need an average of 900 new housing units per year to accommodate past and future growth through 2045.

Preserving and Creating Affordable Housing

One of the most significant concerns regarding housing within the County is the lack of affordability and the resulting homelessness that can occur. Our existing affordable housing stock includes public housing that is managed by the Hawai'i Public Housing Authority and consists of 84 projects containing 5,997 housing units. Also included are the subsidized or income-restricted housing programs managed by the County, averaging 2,055 households. Further, affordable housing includes those affordable at market rate.

The federal Department of Housing and Urban Development (HUD) housing guidelines suggest that households should devote no more than 30 percent of their income to pay monthly housing expenses; otherwise, a household is considered "shelter burdened" and may have difficulty affording necessities such as food, clothing, transportation, and medical care. Households spending more than 50 percent of their income on housing are considered severely shelter burdened. In 2020, 39 percent of owner households with a mortgage and 43 percent of all renter households were paying more than 30 percent of their income for housing, compared with a national average of 30 percent. The State of Hawai'i is continuously ranked in the top three highest of shelter burdened, nationally.

A more accurate gauge of affordability also looks at transportation costs. The Center for Neighborhood Technology provides a housing

and transportation affordability index (H+T), which sets a benchmark of no more than 45 percent of household income. Hawai'i County housing costs average 41 percent of a household budget while transportation costs are at 28 percent for a total H+T of 69 percent.

The 2019 Hawai'i Housing Study shows that median sales and rental prices of housing in the County have substantially exceeded levels affordable to families earning median incomes, according to affordability ratios established by HUD. As a result, a large percentage of residents earning median or below-median incomes are unable to either obtain the amount of mortgage financing necessary to purchase a housing unit or afford the rental payments for newly constructed rental housing.

Public discussions at the State and County levels, regarding the high cost of housing, commonly assert unnecessary time and expense to obtain land use and permit approvals as driving up housing costs. High land costs are also cited as a major cost component responsible for the failure of private developers or public agencies to deliver new affordable housing units.

Investing in Homelessness Response

In 2022, the County Council approved Bill 111. The Bill allocates no less than 75 percent of the property tax collected each year from Tier 2 residential properties. These properties are second luxury homes with a value of $2 million or more. The ordinance, as approved, took effect on July 1, 2022, and will be in place until June 30, 2027. It is estimated the program will generate about $9 million in the first fiscal year. Each year of the program, these funds are to be used exclusively for county-sponsored programs to address housing and homelessness.

Table 37: Housing Challenges

- Low infrastructure and services capacity in urban growth areas deters new development and limits rehabilitation or expansion of existing development due to high cost.
- Local communities rarely support new housing and homeless solutions in their immediate and nearby neighborhoods (NIMBY).
- Land and material costs, land use, building code, and permit requirements do not encourage the private housing market to invest adequately in low- and middle-income housing options.
- Building code changes are not evaluated for their impact on housing cost and availability, and the embodied carbon impact of required materials.
- Homeownership for investment purposes reduces available stock for local ownership and rental opportunities.
- Due to a lack of proximate and affordable housing options, many residents who are employed within large resort areas endure long commutes, which contributes to increased greenhouse gas emissions, vehicle counts, and roadway congestion.

Table 38: Housing Opportunities

- Remove barriers to reduce cost for new construction and rehabilitation of the current housing through changes to tax, zoning, and building standard requirements.
- Encourage mixed housing types within all communities to fill gaps in missing middle housing and particularly in urban centers near mixed-use and transit centers.
- Create subsidies like LIHTC for the missing middle of affordable housing (80%-140% AMI)
- Collaborate with private and non-profit organizations to increase affordable housing including workforce housing.
- Embrace universal design principles for new construction and rehabilitation projects.
- Explore creative financing solutions to meet housing and infrastructure demands.
- Encourage the adaptive reuse of underutilized commercial spaces.
- Encourage resort communities to include on-site workforce housing options.

Housing Goal

Residents have access to adequate and affordable housing to meet the needs of the population and provide equitable opportunities for household flexibility and mobility.

Objective 32 (Diversify and Expand Housing)

Increase the number and variety of newly constructed housing units for rent and sale that addresses a range of Area Median Income (AMI).

Policies

32.1 County departments shall collaborate to identify and prioritize infrastructure requirements and public-private partnerships that support the desired density of housing types near mixed-use centers and transit centers in urban areas.

32.2 Incentivize a mix of diverse housing types, including missing middle housing and mixed-income communities.

32.3 Prioritize new housing including the missing middle in or near mixed-use developments, urban growth areas with infrastructure, and near existing and proposed transit centers.

32.4 Support experimental housing, energy efficiency, and compact housing communities in accordance with HRS 46-15.

32.5 Incentivize the use of universal design principles in new construction to create physically accessible housing for children, the aging, and those with mobility limitations.

32.6 Vacant lands in the urban growth boundary (UGB) should be prioritized for residential uses before additional agricultural lands outside the UGB are converted into urban uses.

32.7 Incentivize smaller housing options.

Priority Actions

32.a Establish interdepartmental procedures to collaboratively define and prioritize infrastructure requirements to support housing in or near mixed-use and transit centers in urban areas. [OHCD, DPW, DP, DWS, DEM, P&R – Phase 1]

32.b Conduct and/or update (minimum of every 5 years) a housing inventory data analysis and scenario modeling to identify existing housing types and needs and to identify land use and building code updates that will provide for diversified housing types, a mix of development types, and efficient and alternative construction methods in urban areas. [OHCD, DP – Phase 1]

32.c Assess and amend the land use and building regulations and explore fiscal opportunities to support universal design principles for more physically accessible housing. [DPW, DP – Phase 1]

32.d Encourage the State to provide student, faculty, and staff housing around State education facilities. [DOE – Phase 2]

32.e Initiate and participate in activities with the private sector to include providing leadership and expertise to neighborhoods and nonprofit organizations in the development of housing and community development projects. [OHCD – Phase 2]

Objective 33 (Manage Existing Housing)

Monitor, conserve, and improve the existing housing stock.

Policies

33.1 Enable data-driven research to support and maintain a housing inventory program to monitor existing housing inventory.

33.2 Incentivize the use of universal design principles for the rehabilitation of existing housing to create physical accessibility for those with mobility limitations.

33.3 Encourage the adaptive reuse of non-residential spaces for residential purposes in urban growth areas where supporting infrastructure exists.

33.4 Identify and support federal, State, and local housing assistance programs to rehabilitate existing housing for very low- to moderate-income residents.

Priority Actions

33.a Perform existing housing inventory data analysis to identify structural conditions and needs for rehabilitation or demolition. [OHCD – Phase 1]

33.b Review and amend the zoning and building regulations to support the adaptive reuse of non-residential spaces for residential housing units. [DPW, DP – Phase 1]

33.c Amend building regulations to allow for as-built permits and new renovation permits for less than 50 percent of an existing structure to conform with the building code of the year the main structure was permitted, excluding electrical and other critical life safety codes.

33.d Create, aid, and encourage programs to maintain and rehabilitate_the existing housing inventory, including consideration for self-help programs. [OHCD – Phase 1]

33.e Perform ongoing analysis of available housing assistance programs for public and private stakeholders. [OHCD – Phase 1]

33.f Develop and maintain an outreach program to disseminate information and educate stakeholders about housing assistance programs. [OHCD – Phase 2]

Objective 34 (Create Housing Affordability)

Prioritize providing quality affordable housing for Hawai'i's residents.

Policies

34.1 Support affordable housing developments for all users including but not limited to the following groups: middle-income workforce, elderly, minimum wage workers, agriculture workers, individuals with special needs, individuals with disabilities, homeless, and retired individuals.

34.2 Support innovative and experimental housing types that address homelessness located near services, job centers, and transit hubs, while providing support services such as rent assistance.

34.3 All affordable housing projects that receive development benefits from the County, such as land use/zoning approvals, special approvals (including 201-H), conditional uses, and density bonuses, shall be required to maintain the affordable rental units for not less than 20 years pursuant to deed restrictions or other mechanisms specified in the HCC.

34.4 Reduce the cost and time of processing land use and construction applications, particularly for affordable housing projects.

34.5 Allow for and apply property tax and land use regulations to incentivize and encourage private property owners to provide affordable housing rental units in mixed-use and urban areas and to disincentivize the land banking of unimproved properties.

34.6 Encourage public agencies and private organizations to participate in federal, state, and private programs to provide new and rehabilitated housing and rental opportunities for low- and moderate-income households.

34.7 Enable housing programs that implement a land trust strategy for publicly owned parcels.

34.8 Encourage the development of workforce housing within or near urban growth areas and employment centers and require large new developments that create a demand for housing to provide affordable workforce housing.

34.9 Enable and encourage the development of affordable retirement communities and aging-in-place opportunities that are located near services and activities for seniors.

Priority Actions

34.a Review and amend zoning and building codes to allow for innovative housing solutions for the homeless such as permanent supportive housing, transitional housing/camps, micro-housing communities, emergency, and temporary shelters, etc. [DPW, DP – Phase 1]

34.b Amend the Housing Code to require and maintain the long-term affordability of affordable housing developments.

34.c Amend land use and building regulations to reduce costs and streamline the processing of affordable housing applications and facilitate concurrent applications when possible. [DP, DPW – Phase 1]

34.d Revise financial mechanisms and property tax provisions to allow for creative finance solutions to incentivize new construction and rehabilitation of affordable housing. [OHCD, Fin – Phase 1 or 2]

34.e Form an Affordable Housing Advisory Committee to complete an island-wide Affordable Housing Strategic Plan. [OHCD – Phase 1 or 2]

34.f Establish an internal County housing working group to include (OHCD, DP, DPW, DWS, DEM, and P&R) to coordinate planning and infrastructure. [OHCD – 1]

34.g Adopt a County affordable housing program, similar to HRS 201H, that encourages development, reduces cost, and simplifies permitting [OHCD – Phase 1 & 2]

34.h Coordinate with the State and Federal agencies to provide housing programs for low- to moderate-income households and ensure equitable access. [OHCD – Phase 1]

34.i Partner with government and private housing entities and housing trusts to fund and support community-based non-profit organizations to provide adequate and equitable affordable housing. [OHCD – Phase 1 & 2]

34.j Amend land use and development regulations to incentivize new workforce and retirement communities and to require large new developments to provide affordable housing suitable for employees in or near the development. [DPW, DP – Phase 1]

Table 39: Affordable Housing Character Guidelines

Affordable housing developments should provide a minimum of the following:

Health and Safety	Viable, safe, and sanitary housing communities with quality living environments.
Equity	Opportunities for families of various socio-economic levels.
Household Types	A mix of housing types when possible, such as multifamily, duplex, townhomes, etc.
Infrastructure	Provide adequate internet service or broadband.
Recreational Amenities	• Open space and outdoor recreational amenities, such as playgrounds, courts, pavilion, etc. • Indoor community spaces, such as community kitchens, gathering areas, etc.

Section 6: Integrated Systems

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Introduction

The General Plan highlights the need for effective collaboration and integrated systems across our county government to promote efficiency, achieve shared goals, and ensure optimal service delivery to the community. Integrated government systems refer to a network of interconnected systems and databases that allow different government departments and agencies to share information and work collaboratively. The need for integrated government systems arises from the fact that our County has numerous departments, agencies, and functions that require coordination and information sharing to ensure efficient and effective service delivery.

By fostering collaboration among different departments, such as planning, public works, parks and recreation, and finance, the County can leverage the collective expertise and resources of these departments. Integrated systems play a vital role in facilitating efficient and coordinated governance. When different departments and agencies are connected through integrated systems, it enables the seamless exchange of information, enhances communication, and improves decision-making processes. For example, an integrated system can enable the sharing of data between planning and public works departments, ensuring that infrastructure development aligns with land use plans and regulations.

The following benefits demonstrate why integrated government systems are needed in Hawai´i County:

Improved Service Delivery and Public Engagement

Integrated government systems help to improve service delivery by enabling different government agencies to share information, which helps to reduce duplication of effort and increase the speed of service delivery. For example, an integrated system for health and social services can help ensure that individuals receive coordinated and comprehensive care.

Cost Savings

Integrated government systems can help to save costs by reducing duplication of effort and by providing a more streamlined approach to service delivery. When different government departments are working together, they can pool resources and avoid the need for redundant systems.

Enhanced Efficiency

Integrated government systems help to enhance efficiency by reducing the time and resources needed to access information. This can help to reduce bureaucracy and speed up decision-making.

Improved Data Management

Integrated government systems can help to improve data management by providing a centralized repository of information that can be accessed by different government departments. This can help to ensure that data is accurate, up-to-date, and easily accessible.

Better Policy Development

Integrated government systems can help to facilitate better policy development by providing policymakers with access to comprehensive and accurate data. This can help to ensure that policies are evidence-based and effective.

Overall, integrated systems are essential for Hawaii County to provide efficient, effective, and coordinated services to our citizens.

Integrated Systems Goal

We are governed by integrated systems that are efficient, equitable, and organized to facilitate coordination and collaboration.

Objective 35

Increase collaboration and cooperation for efficiency, effectiveness, and responsiveness.

Policies

35.1 Maintain and adequately fund County government services at the level necessary to be effective.

35.2 Ensure that government attitudes, actions, and services are sensitive to community needs and concerns.

35.3 Sufficiently fund, and facilitate the timely preparation, maintenance, and update of public policies and plans to guide County programs and regulatory responsibilities.

35.4 Expand the adoption of technology across all County agencies to achieve greater efficiency, accessibility, and accountability to the general public throughout government operations.

35.5 Continue to seek ways of improving public service through the coordination of service and maximizing the use of personnel and facilities.

35.6 Promote alignment and consolidation of State and County functions whenever more efficient and effective delivery of government programs and services may be achieved.

35.7 Collaborate with appropriate State agencies for the provision of public facilities to serve the needs of the community.

Objective 36

Maintain fiscal integrity, responsibility, and efficiency.

Policies

36.1 Provide a balanced budget.

36.2 Allocate fiscal resources to efficiently implement the objectives of the General Plan in addition to essential government operations.

36.3 Ensure accountability in government operations.

36.4 Calculate the cost of the different County services provided.

36.5 Continue regular review of the County fee and fine schedules.

36.6 Maintain a debt financing plan to schedule bond authorization.

36.7 Leverage multiple sources of funding as part of the Capital Improvement Program (CIP).

36.8 Encourage financing tools like Community Facilities Districts (CFD) to help fund off-site infrastructure improvements.

36.9 Develop short and long-range capital improvement programs and operating budgets for public facilities and services.

36.10 Capital projects shall be analyzed for overlapping scopes.

36.11 Projects involving more than one Department's assets shall be coordinated to define scoping, design, and construction needs.

36.12 Improve the effectiveness of the Capital Improvement Program to maintain transparency of the status of all County CIP projects.

Priority Actions

36.a Develop a working group to plan for large infrastructure investment needs such as the Metropolitan Planning Organization and the Municipal Separate Storm Sewer System.

36.b Create a fiscal impact statement for the interdepartmental project FIS.

36.c Develop a countywide facility condition inventory and maintenance schedule.

36.d Conduct cost-benefit analysis for new facilities and replacements.

36.e Establish memorandums of agreement to partner with community groups for facility improvements and ongoing maintenance opportunities.

Objective 37

Achieve equitable outcomes for County programs, policies, and allocation of resources.

Policies

37.1 Promote policies that actively address and reduce disparate outcomes for historically underserved communities.

37.2 Seek equitable distribution of County investments towards promoting employment opportunities, infrastructure, and other community benefits.

37.3 Provide resources for County employees to understand and actively advance equity solutions within all agencies of County government.

Priority Actions

37.a Provide technical assistance for financing options for infrastructure in underserved areas.

37.b Provide technical assistance for financing districts for new facilities and services in areas designated as urban growth areas.

37.c Develop and adopt an impact fees ordinance that considers district specific needs and excludes urban core areas where infill is encouraged.

37.d Develop a framework for a transition plan for changes in administrative leadership to ensure a smooth transition and continuity of operations.

37.e Develop a Community Engagement framework to be used across County Departments and Agencies to provide direction and ensure effective civic participation

THRIVING, DIVERSE, AND REGENERATIVE ECONOMY

Section 7: Economy

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Introduction

Hawai'i Island is a unique and vibrant place, known for its natural beauty, cultural heritage, and diverse ecosystems. Considering both the natural abundance and limited resources that exist, it is crucial that economic development is balanced with preserving the island's unique character and assets as we envision the future. The General Plan aims to guide the creation of an economy that not only generates prosperity but also nurtures the wellbeing of our communities and respects the delicate ecological balance of the island. This section outlines the vision and strategies for a thriving, diversified, and regenerative local economy that can sustain the residents of Hawai'i Island while promoting a high quality of life.

Though sustainability is a key guiding principle for this Plan, both in the environmental and socioeconomic context, we emphasize the importance of regenerative practices in our economic pursuits. This means going beyond sustainability to actively restore and enhance our natural resources and ecosystems. The General Plan prioritizes initiatives that promote renewable energy, regenerative agriculture and tourism, and the conservation of natural resources. By embracing regenerative practices, we can ensure the long-term health and vitality of our environment while realizing the economic benefits.

Diversification is an essential aspect of the Plan's economic strategy. Hawai'i's history demonstrates the risks and detriment that an over-reliance on a single industry has on our island's communities and natural resources. This Plan strives to foster a diverse range of sectors that can support a resilient and robust economy. By nurturing a wide array of industries, we can create a more stable economic foundation and reduce vulnerability to external shocks.

Sound economic development policy supports household stability as a key factor for determining the quality of life for all Hawai'i Island residents. The term "economic development" means that we take a community-centered approach. The key is to ensure that economic policy creates opportunities for our residents while protecting our resources for future generations. The wellbeing of our island's residents relies on the availability of meaningful and well-paying jobs, attainable and affordable housing, viable transportation systems, and a healthy environment for generations to come.

Economic development policy is intrinsically tied to and influenced by other aspects of the General Plan. The establishment and growth of urban job centers are influenced by a multitude of factors. They are often created through a type of economic ecology where surrounding industry clusters can create reciprocal relationships between similar business types. These job centers are typically sustained through infrastructure and utility development, such as access to water, transportation, and wastewater treatment. Job centers may also be proximate to nearby natural features or resources, often those that attract visitors. A common example is roadside stands and food trucks located in areas where there are a lot of visitors and foot traffic. Consequently, land use and economic policies both respond to and influence the location, density, and sustainability of future economic growth.

Table 40: Economic Key Trends

Poverty Persists	• The median household income in Hawai'i County trended up in 2020 to $65,401. • The poverty rate in the County has fluctuated from a low of 13.1% in 2007 to a high of 19.5% in 2015. In 2020, 14% of the County's population was below the poverty line. In contrast, the poverty rate nationwide was 11.4%, and statewide it was nearly 9.3%. • The cost of living in Hawai'i continues to be among the highest in the nation, compounding impacts to those that are already struggling to meet basic needs.
Self-Sufficiency is Out of Reach for Many	• In 2020, the County had the lowest self-sufficiency income requirements ($74,030 for a family of four with a preschooler and one school-age child), but that income is well above the poverty line.[13] • A family of four needed to earn a combined hourly wage of $35.05 (or $17.53 each on average) to be economically self-sufficient. The Hawai'i Financial Health Pulse survey found that just under a quarter of Hawai'i residents surveyed, or 23%, work more than one job. That was 76.2% above the state minimum wage level and 145.7% above the federal poverty threshold for Hawai'i.
Brain Drain	• From 2017-2019, the population in Hawai'i decreased, in large part due to a high rate of net domestic outmigration. Of primary concern for economic growth, these outmigrants are more likely to be young, college-educated workers, a phenomenon often referred to as "brain drain". • A recent report from DBEDT, *Hawai'i Migration Flows: 2013-2017*, found that domestic outmigrants (as defined by migration status over the past 12 months) were disproportionately younger adults (aged 18-34) and educated (have bachelor's degree or higher). [14]
Job Growth Mirrors Population Growth	• The average annual growth rate for jobs averaged 1.4% since 2005, mirroring population trends, and it is expected to mirror population trends experiencing a slight decrease in the growth rate for the next several decades.
Job Market Characteristics	• Almost 75% of workers are employed in one of six key industries. Tourism drives the arts, entertainment, recreation, accommodation, and food services industries and much of the retail trade, representing a large portion of employment. • Employment in the construction industry continues to be the most volatile among the top industries, with notable spikes and dips in employment that generally correspond to fluctuations in the housing market. • The three primary economic sectors are the services-producing sector (education, health, accommodation, entertainment, food, professional, financial, real estate, public, etc.), the goods-producing sector (construction and manufacturing), and agriculture. • In 2020, the services-producing sector was by far the largest, representing over 85% of employment, with about half of that connected to the visitor industry.
Top Growth Sectors	• The top five growth sectors in the DBEDT 2045 forecast are health services, business services, eating and drinking, professional services, and educational services.
Job and Population Centers Mismatch, Resulting in Longer Commutes	• Generally, about 42% of jobs are in Hilo, another quarter are in North Kona, 7% are in the Waikoloa and Waimea areas, and about 1-7% are in each of the other population centers. There is a notable mismatch between locations of high population density and job centers. • These mismatches are reflected by increased mean travel time to work which varies widely by district, with more vulnerable populations most impacted.
Local Competitive Advantages Vary	• The County has the greatest number of jobs in government (18.6%); retail (12.5%); business, professional, and other services (12.7%); health and social assistance (10.7%); dining (9.8%); and hotels (8.6%). • Job data are geographically linked to the place of employment and can be used to identify characteristics of job centers.

[13] Self-Sufficiency Income Standard: Estimates for Hawai'i 2020 December 2021 DBEDT
[14] Brain Drain: Characteristics of Hawai'i-Born Adults on the U.S. Mainland January 2021 DBEDT

Table 41: Economic Challenges

General	• Economic activities are challenged by regulatory barriers, shipping costs, and energy costs. • Large disparities between wages and cost of living reduce quality of life and the ability to attract and retain labor. • Financial instability makes it challenging for people to take risks such as starting a new job or business. • The impacts of climate change continue to threaten infrastructure and the viability of coastal and inland properties (residential, commercial, and civic). • Rural job centers lack infrastructure to support economic development. • There is a lack of affordable and attainable workforce housing near employment centers. • A greater diversity of training programs and educational opportunities is needed to retain and develop the workforce pipeline.
Agriculture and Food Systems	• The limited availability of land, water, transportation, housing, and labor, along with costly operations and maintenance contribute to high agricultural costs. • Minimal and expensive farmworker housing, along with narrow profit margins and high entry costs, negatively impacts the agricultural industry's ability to attract and retain labor. • Inadequate infrastructure availability for agriculture operations can limit production. For example, there is a lack of facilities and resources to process value-added products. • There is a lack of capacity and access to training, skillset, and network building to scale-up small agricultural businesses to handle their administrative needs. • Limited access to financing and capital. • Some regulations can limit opportunities for the agriculture and the local food system.
Visitor Industry	• Opportunities for career advancement can be limited within the visitor industry. • It is often difficult to keep tourism dollars circulating on the island. • There is a lack of understanding that our island is more than just a tourist destination. • Measuring impacts and data tracking, including natural resources. • Transportation is difficult given the size of the island and lack of options. • There is a need to increase resident satisfaction with the visitor industry. • There is a need for greater funding for parks and better management of public spaces overall.

Table 42: Economic Opportunities

General	• Support the expansion into industries such as astronomy, renewable energy, diversified agriculture, and aquaculture. • Promote innovation to solve island challenges, including opportunities for waste-to-energy and agriculture advancements. • Improve land use regulations, development regulations, and property tax policy. • Create small business incubators or innovation centers to reduce barriers. • Invest in and provide the infrastructure that increases the competitiveness and performance of local businesses. • Pursue opportunities to underwrite risks through a variety of mechanisms such as industrial development bonds, tax abatement, and low-interest loan programs. • Increase broadband infrastructure to provide opportunities for participation in the digital economy. • The gig economy and virtual working provide flexibility, while also indicating the possibility of outside capital entering our local economy. • Collaborate with the business community to identify industry needs in support of further industry diversification. • Interdepartmental collaboration is essential for economic development problem-solving.
Agriculture and Food Systems	• Explore niches in the market to expand agricultural opportunities. For example, there is an increased demand for medicinal crops (e.g., kava, spirulina, noni, etc.), which can help diversify the market while uplifting local products. • Aquaculture presents a sustainable food production alternative. • Regenerative agriculture can help address systemic challenges while helping mitigate climate change. • Collaborate with our agriculture and food system industry to develop methods to utilize agricultural byproducts. • Pursue property tax incentives to lease land for agricultural uses. • Promote education around appropriate crop suitability and available programs. • Maximize the potential of agriculture through cooperation of large corporations, entrepreneurs, small independent farmers, and government agencies.
Visitor Industry	• Diversify the services offered and continue to pursue authentic experiences on island. • Increasing natural and cultural resource management training and programs can help to educate visitors about the necessity and significance of respecting, maintaining, and sustaining resources.

Economic Goal

Our economy is diverse, regenerative, and innovative, improving and maintaining the financial wellbeing of our residents with a focus to increase local economic opportunities.

Objective 38

Improve access at all levels for education and training.

Policies

38.1 Support all levels of and forms of education.

38.2 Support programs and infrastructure that enables employees to telecommute or work in satellite locations.

38.3 Support apprenticeships and workforce training to strengthen leadership and entrepreneurial skillsets and networks.

38.4 Support County apprenticeships, fellowships, and internships to strengthen skillsets, networks, and innovation.

Priority Actions

38.a Continue to support a centralized County demographic and socioeconomic data resource base. (PROGRAM | R&D | phase 1 ongoing)

38.b Continue to provide or expand County services and/or programs for workforce development and technical assistance. (PROGRAM | R&D | phase 1 ongoing)

38.c Expand offerings for mentorship and networking. (PROGRAM | R&D | phase 2)

38.d Develop an apprenticeship program for the County. (PROGRAM | HR)

38.e Provide business planning assistance, career planning, entrepreneurial training, incubation, and assistance with permitting, licensing, and regulatory issues. (PROGRAM | R&D | phase 2)

Objective 39

Increase the growth and health of small businesses.

Policies

39.1 Establish Hawai'i Island as a business-friendly place.

39.2 Streamline regulatory processes associated with starting and operating a business.

39.3 Shared workspaces, including certified kitchens and industrial co-work buildings shall be supported.

39.4 Initiate and/or support programs to revitalize town centers and increase demand for local-serving businesses.

39.5 Maintain strong partnerships and effective communication with the business community to identify barriers and actions to improve the business climate.

39.6 Support creation of shared facilities and resources that can be utilized by multiple opportunity clusters, such as creative industries and technical services.

39.7 Promote creative industries through collaboration with local artists on the design and creation of public, livable spaces.

39.8 Support programs and initiatives that encourage manufacturing and support Hawai'i Island's small-scale independent manufacturers.

39.9 Support business development programs by reducing underwriting risks for the private sector such as industrial development bonds, tax abatement, and low-interest loan programs.

39.10 Support access to capital for small businesses and start-ups.

39.11 Promote the use of the incentives offered by federal and state programs such as opportunity zones and enterprise zones partnership programs to attract businesses.

39.12 Encourage the development of the Technology, Creative, Agribusiness, Health and Wellness, and Education targeted sectors.

Priority Actions

39.a Promote liaison services with the private sector with respect to the County's requirements for establishing businesses on the island. (PROJECT)

39.b Utilize County facilities and funds to support shared affordable workspaces, makerspaces, and equipment for small businesses to utilize. (PROGRAM | R&D | phase 1)

39.c Complete a feasibility analysis for County to provide access to tools such as industrial development bonds, tax abatement, and low-interest loan programs. (PROJECT | FD | phase 2)

39.d Develop business improvement districts and MainStreet programs to fund revitalization efforts. (PROGRAM | PD | phase 1 ongoing)

39.e Educate businesses on financial planning and funding sources for hazard preparedness and recovery, including insurance options for business interruption, natural disasters, and other unexpected occurrences. (PROGRAM | R&D | phase 2)

39.f Partner with business associations, realtors, and the chamber of commerce to recruit small-scale manufacturers to establish retail locations in village and town centers to support reinvestment and match potential tenants with local landowners. (PROGRAM | R&D | phase 2)

39.g Partner with government, private and nonprofit agencies, and other stakeholders (e.g., University of Hawai'i, business associations, etc.) to convene business development events island-wide. (PROGRAM | R&D | phase 2)

Objective 40

Incorporate resiliency, diversity, and innovation in County programs, plans, and research to support healthy economic development and revitalization.

Policies

40.1 Increase County resources and actions devoted to strategic planning, interagency coordination, training and expertise, and capital improvements.

40.2 Capital improvements program shall improve and increase the capacity of existing and future commercial and industrial areas.

40.3 Maintain a program for updating zoning code to accommodate emerging industries and technologies consistent with other goals, objectives, and policies of the General Plan.

40.4 Support lease terms and extensions on State and DHHL lands that provide opportunities to improve or rehabilitate existing commercial and industrial zoned areas.

40.5 Encourage land uses that allow for small-scale manufacturers in retail establishments that enhance and are balanced with the County's natural, cultural, and social environments.

40.6 Maintain plans and programs to foster sustainable business development opportunities focusing on regenerative agriculture, green technologies and building, innovation and technology, creative industries, and regenerative tourism.

40.7 Improve opportunities for multi-modal transit that improve the quality of existing job centers.

40.8 Provide technological infrastructure that increases the competitiveness of businesses and allows them to thrive in all parts of the island.

40.9 Expand opportunities for innovation and tech-based businesses.

40.10 Promote a distinctive brand for the island of Hawai'i including distinctive, regional identities as an entity unique within the State of Hawai'i.

40.11 Encourage the development of economic opportunities through the utilization of by-products from various industries.

40.12 Continue to encourage the research, development, and implementation of advanced technologies and processes.

40.13 Promote Hawai'i Island as a center for natural scientific research.

Priority Actions

40.a Collaborate with emerging industry leaders to identify needed infrastructure and services to support economic diversification. (PROGRAM | R&D | phase ongoing)

40.b Monitor trends and identify business needs, strengthen existing industries, and diversify the economy by attracting emerging industries. (PROGRAM | R&D | phase 1 ongoing)

40.c Collaborate with the private sector to identify business needs, strengthen existing industries, and diversify the economy by attracting new endeavors. (PROGRAM | R&D | phase 1 ongoing)

40.d Remove regulatory barriers that restrict entrepreneurial endeavors, such as zoning restrictions for home-based businesses that do not negatively impact the infrastructure network or the character of the neighborhood. (CODE AMENDMENT | PD | phase 1)

40.e Build capacity for implementation and economic development in the target industry clusters identified by Comprehensive Economic Development Strategy (CEDS). (PROGRAM | R&D | phase 1)

40.f Promote cross-sector linkages between Hawai'i Island's anchor and opportunity industries to grow the market for local products and services. (PROGRAM | R&D | phase 1)

40.g Expand the research and development for energy and technology industries. (PROGRAM | R&D | phase 2)

40.h Assist in the expansion of emerging industries through the development of marketing plans and programs. (PROGRAM | R&D phase 2)

40.i Develop a market strategy that includes housing, a skilled workforce, quality of life, and a healthy regulatory environment to attract emerging industries. (PROJECT | R&D | phase 1)

40.j Assist in the development of a film and creative industries program to market Hawai'i Island sites and coordinate activities. (PROGRAM | R&D | phase 1 ongoing)

40.k Partner with government (e.g., State Department of Transportation and State Department of Business, Economic Development, and Tourism), private and nonprofit agencies, and other stakeholders to monitor export capacity for Hawai'i Island. (INTERAGENCY COORDINATION | R&D | phase 2)

40.l Partner with government, private and nonprofit agencies (e.g., business associations, realtors, chambers of commerce, etc.) to streamline regulatory processes and create incentives for urban renewal, rehabilitation, and/or redevelopment programs in collaboration with communities, businesses, and government agencies. (PROGRAM | PD, R&D | phase 1)

40.m Program regular collaboration with the University of Hawai'i at Hilo, Hawai'i Community College, and the Natural Energy Laboratory at Hawai'i Authority, and other agencies to expand the research and development industry for sustainable and equitable economic development. (INTERAGENCY COORDINATION | R&D | phase 1)

Section 8: Agriculture and Food Systems

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Introduction

As the General Plan envisions a prosperous future for Hawai'i Island, the economic section sheds light on the pivotal role of agriculture and our local food system. Agriculture holds a special place in Hawai'i's history and continues to represent a vital economic sector of Hawai'i Island. The agriculture sector encompasses the growing of crops, raising livestock, aquaculture, and forestry. A sustainable local food system is fueled by strong investments in the agricultural sector and ongoing partnerships among farmers and producers, retailers, communities, government, and non-government organizations. This section is centered on supporting the regenerative agricultural sector to sustain local food systems that enhance the environmental, economic, and social health of the island.

Over the years, several key trends have emerged in our agricultural landscape, reflecting the evolving needs of the local economy. First, there is a growing emphasis on sustainable and regenerative practices. Farmers and food producers recognize the importance and necessity of preserving the island's delicate ecosystems while maintaining productivity. Furthermore, Hawai'i Island has witnessed a resurgence of small-scale farming and diversified agricultural enterprises. As consumers increasingly prioritize local, organic, and culturally significant food options, a network of farmers' markets, farm-to-table initiatives, and community-supported agriculture programs has flourished. This trend promotes food sovereignty, strengthens local supply chains, and fosters a connection between producers and consumers.

In recent years, the island's food systems have also experienced a renaissance driven by agricultural tourism and the burgeoning farm-to-fork movement. Visitors and residents alike seek immersive experiences that celebrate the island's rich agricultural heritage. From farm tours and agritourism ventures to farm-to-table restaurants and food festivals, Hawai'i Island's food systems have attracted those seeking authentic and sustainable experiences.

As the General Plan charts the economic course for the future, it recognizes the immense potential of agriculture and food systems on Hawai'i Island. The Plan seeks to bolster and diversify agricultural enterprises, encourage innovation and technology adoption, support value-added processing, and promote market access for local producers. By fostering collaboration among stakeholders, investing in infrastructure, and embracing regenerative practices, the Plan envisions a vibrant agricultural sector that sustains livelihoods, strengthens the local economy, and preserves the unique heritage of the island.

Local Production and Consumption

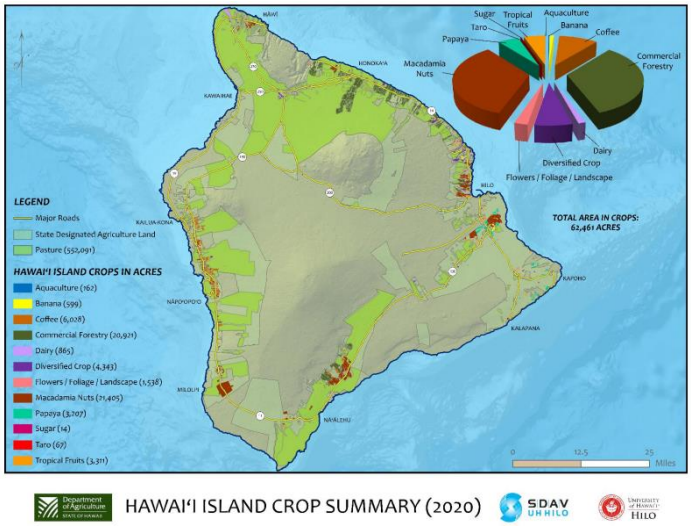
Since 2015, agriculture on the island has encountered numerous challenges, including flooding and losses from the eruption of Kīlauea and Hurricane Lane in 2018, and more recently, the discovery of coffee leaf rust in October 2020. These incidents, along with ongoing issues impacting pastures and cropland, such as invasive pests, all contribute to the hardships experienced by ranchers and farmers. Despite such trials, Hawai'i Island continues to be the State's primary producer for a variety of important crops, including coffee, flowers/foliage/landscape, macadamia nuts, papaya, and tropical fruit. These commodities and others have growth potential. There are new high-value crops that have the potential to be successfully cultivated. One such high-

value crop is Kava (Awa), a medicinal plant that has the potential to be a viable cash crop. Locally, small growers as well as a few large growers are producing Kava. Vanilla beans, cacao, nutraceuticals, hardwood forestry products, and medicinal plants are other types of high-value crops that hold much promise for growth.

Hawai'i Island holds most of the State's acreage in commercial forestry (20,921 acres) and pasture (552,091).

	Acreage		Change (2015 to 2020)	
Crop Type	2015	2020	Acres	%
Aquaculture	165	162	-3	-2
Banana	536	599	63	12
Coffee	5,525	6,028	503	9
Commercial Forestry	21,061	20,921	-140	-1
Dairy	1,855	865	-990	-53
Diversified Crop	3,266	4,343	1077	33
Flowers / Foliage / Landscape	1,612	1,538	-74	-5
Macadamia Nuts	21,359	21,405	46	0
Papaya	2,566	3,207	641	25
Sugarcane	-	14	14	N/A
Taro	61	67	6	10
Tropical Fruits	3,144	3,311	167	5
Crop Total	**61,150**	**62,460**	**1310**	**2**
Pasture	554,324	552,091	-2,233	0
Total	**615,474**	**614,551**	**-923**	**0**

Summary of Hawai'i Island Agricultural Footprint and changes between 2015 and 2020. https://hdoa.hawaii.gov/salubreports/



Hawai'i Island Agricultural Footprint in 2020.

Important Agricultural Lands

On Hawai'i Island, there are 56,772 acres designated as Important Agricultural Lands (IAL) by the State Land Use Commission. Of these, about 96% (54,555 acres) were in active agriculture in 2020. Pasture comprises over 90% of these lands (49,812 acres) and commercial forestry (4,743 acres) the remainder. Within the IAL designation zone, there are no cropped fields of any type.

To distinguish Hawai'i Island's important agricultural lands from the State IAL designation, the General Plan Land Use Map's Agriculture land use designations include Productive Agriculture and Extensive Agriculture.

Agricultural Parks

On Hawai'i Island, there are four active agricultural parks (Hāmākua, Keāhole, Pāhoa, and Pana'ewa) equaling 1,571 leased acres as of 2020. Of these leased acres of land, more than half (887 acres) were mapped as being in active cultivation in 2020. Of these, 44 percent (390 acres) were in flowers/foliage/landscape, 40 percent (355 acres) in pasture, and the remainder dispersed across other crop types.

Food Insecurity

In general, food insecure households are uncertain about having, or unable to acquire enough food to meet household needs, largely due to not having enough money for food. Food insecurity is complex and multifaceted and often exists on a spectrum, varying in severity from anxiety about having adequate food in a household to disrupted eating patterns and reduced intake of food. According to a 2020 study conducted by the University of Hawai'i Office of Public Health Studies, Hawai'i County had the highest food insecurity at 31 percent. The overall State food insecurity was estimated to be 22 percent.

Agriculture and Food Systems Goal

Agriculture is a robust, diversified sector that achieves food security and includes a broad range of agricultural-based businesses that highlight value.

Objective 41

Increase access to land for active food production.

Policies

41.1 Support urban agriculture uses including on-site home occupation sales.

41.2 Support innovative agriculture demonstration projects.

41.3 Assist in the expansion of the agricultural industry through the efficient use of productive agricultural lands, capital improvements, and continued cooperation with appropriate State and Federal agencies.

41.4 Assist in the promotion of Hawai´i Island branding for local produce and agriculture products.

41.5 Collaborate across County departments to engage in food systems planning, including the elimination of food deserts.

41.6 Assist in cooperative marketing and distribution endeavors to expand opportunities for local agricultural products for the local market as well as for exports.

41.7 Explore opportunities and methods to utilize local materials and byproducts from agriculture, agroforestry, silviculture, and aquaculture.

41.8 Support the research and development of the agriculture technology industry in collaboration with agriculture applications to optimize production.

41.9 Support regenerative agricultural practices and restoration of traditional knowledge and practices that offer multiple benefits, such as by improving agriculture and food system waste management that can reduce County greenhouse gas (GHG) emissions.

41.10 Support the development of private, County, and State agricultural parks to make land available and distributed equitably and proximate to infrastructure and housing.

41.11 Partner with government, private and nonprofit agencies, and other stakeholders for programs, training, and building community capacity in the promotion of the agricultural industry.

41.12 Increase public-private partnerships to develop and support community-based food systems.

41.13 Support the development of farm labor housing.

Priority Actions

41.a Advocate the State legislature to amend Hawai'i Revised Statutes to include green waste, composting, and fertilizer yards (utilizing only manure and soil) for commercial use as permitted uses on agriculturally zoned land. (INTERAGENCY COORDINATION | PD | phase 1)

41.b Advocate DOH to streamline composting permitting process. (INTERAGENCY COORDINATION)

41.c Support the use of USDA Natural Resources Conservation Service assistance. (PROGRAM | R&D | phase 1)

41.d Advocate for the State to incentivize local food production through expanded tax credits. (INTERAGENCY COORDINATION | R&D | phase 1)

41.e Support training and capacity building related to the requirements of the Food Safety Modernization Act. (PROGRAM | R&D | phase 1)

41.f Invest in a crop suitability tool, including existing and projected water demand. (PROJECT | R&D | phase 3)

41.g Develop a food self-sufficiency strategy including community-based food system assessments and monitoring local food production and consumption. (PROJECT | R&D | phase 1)

41.h Develop and implement an emergency food plan which could be deployed in the event of a natural or economic disaster. (PROJECT | PD - recovery | phase 1)

41.i Partner with government, private and nonprofit agencies, and other stakeholders for carrying capacity studies of fisheries and the establishment of State community-based subsistence fishing areas. (INTERAGENCY COORDINATION | R&D | phase 1 ongoing)

41.j Coordinate with the University of Hawai'i at Mānoa College of Tropical Agriculture and Human Resources to expand the farm food safety education program. (INTERAGENCY COORDINATION | R&D | phase 1)

41.k Support State Department of Agriculture programs to prevent harmful invasive species from becoming established and impacting commercial agriculture. (INTERAGENCY COORDINATION | R&D | phase 1 ongoing)

41.l Support State Department of Education Farm to School programs and other programs designed to provide locally produced food to schools. (INTERAGENCY COORDINATION | R&D | phase 1 ongoing)

41.m Adopt procedures to allow for the development of community gardens and edible landscaping on public lands, maybe through similar agreements like Friends of the Park agreements. (PROJECT | PD, Parks | phase 1)

41.n Provide services and frameworks to support the formation of new commodity groups and other organizations such as farmer cooperatives. (PROJECT | R&D | phase 2)

41.o Amend Hawai'i County Code, Section 15-72 to expand the designated list of parks authorized to allow farmers' market permits to include parks in rural areas that lack appropriate commercial-zoned lands for farmers' markets. (CODE AMENDMENT | PD, Parks | phase 1)

41.p Support and advocate for streamlined leases for agricultural parks.

41.q Update the County of Hawai'i's tax reduction programs to ensure that tax incentives for agricultural land use result in actual public benefits and promote local agricultural production where possible. (CODE AMENDMENT | PD | phase 1)

41.r Create a real property tax exemption (perhaps 4 to 6 years) for farmers entitled to Federal crop loss insurance. (CODE AMENDMENT | PD | phase 1)

Objective 42

Increase interagency coordination, programs, and policy initiatives that improve local agriculture infrastructure.

Policies

42.1 Support the creation of water cooperatives supported with financial sources, such as CFDs. Cooperative users should be responsible for the development, maintenance, and repair of agricultural non-potable water systems.

42.2 Where the County has replaced surface water sources with groundwater sources to meet Safe Drinking Water standards, the County should consider repurposing the surface water sources for agricultural use where the allocation is supportive of the ecosystem.

42.3 Advocate for more flexible and innovative wastewater systems to serve agriculture facilities.

42.4 Support the adaptive reuse or rehabilitation of existing infrastructure or buildings for agricultural processing, including but not limited to the development of commercial kitchens, processing, storage, or distribution facilities.

42.5 Promote the development of a locally grown building material industry through streamlined permitting or building code flexibility.

42.6 Support research and development that promotes local produce while removing interstate marketing restrictions.

42.7 Encourage the use and optimization of the export capacity of airports and harbors for local goods.

42.8 Support research and development of viable biofuel projects that will supply renewable transportation fuels or power for Hawai'i Island in ways that are community-supported, sustainable, ecologically sound, and complementary to food production.

42.9 Support the continued operation of the USDA's Daniel K. Inouye U.S. Pacific Basin Agricultural Research Center facility.

42.10 Support the development of processing and manufacturing facilities.

Priority Actions

42.a Map existing and proposed agricultural infrastructure and facilities. (PROJECT | PD , R&D | phase 3)

42.b Expand programs and options to allow for agricultural irrigation water. (PROGRAM | DWS? | phase 1)

42.c Develop criteria to determine appropriate places for agricultural parks, including the availability of potable water. (PROJECT | PD | phase 2)

42.d Account for verified agricultural water usage in the water use development plan. (PROJECT | DWS | phase ?)

42.e Support the expansion of State agricultural water systems State DHHL, DOA, and ACD: expand agricultural water systems in productive agricultural areas. (INTERAGENCY COORDINATION | PD? | phase 1)

42.f Investigate restoration of the ditch systems to meet anticipated future agricultural needs. (PROJECT | R&D | phase 2)

42.g Amend bulk regulations including building materials for agricultural facilities and infrastructure. (CODE AMENDMENT | PD | phase 1)

42.h Partner with government, private and nonprofit agencies, and other stakeholders to study the feasibility of building code amendments and structural integrity testing for locally produced building materials, prioritizing non-native plant species. (INTERAGENCY COORDINATION | R&D, UH, and County Building Division)

42.i Evaluate grubbing and grading ordinances as they pertain to agriculture including the creation of exemption categories for water storage and aquaculture. (CODE AMENDMENT | PD | phase 1)

42.j Seek State legislation or rulemaking to allow local agricultural producers to make direct sales to consumers at County-designated farmers' markets at a lower GE tax rate. (INTERAGENCY COORDINATION | R&D | phase 2)

42.k Evaluate code and statutory amendments to allow farmworker housing to be developed without requiring the housing be sited on the same parcel (TMK) of the working subject farm. (CODE AMENDMENT | PD | phase 1)

42.l Amend the sign code to remove barriers to allow for off-site directional signage to promote local farms engaged in direct sales and other permitted visitor-related businesses, while minimizing scenic impacts. (CODE AMENDMENT | PD | phase 1)

42.m Amend Hawai'i County Code to include provisions for suitable agricultural infrastructure projects financed by County bonds and liens on real property of participating agricultural stakeholders, whether such assessments on TMKs involve contiguous parcels of lands encumbered under an "Agricultural Improvement District". (CODE AMENDMENT | PD | phase 1)

42.n Incentivize and streamline the process to develop farmworker housing on and off-site. (CODE AMENDMENT | PD | phase 1)

Section 9: Visitor Industry

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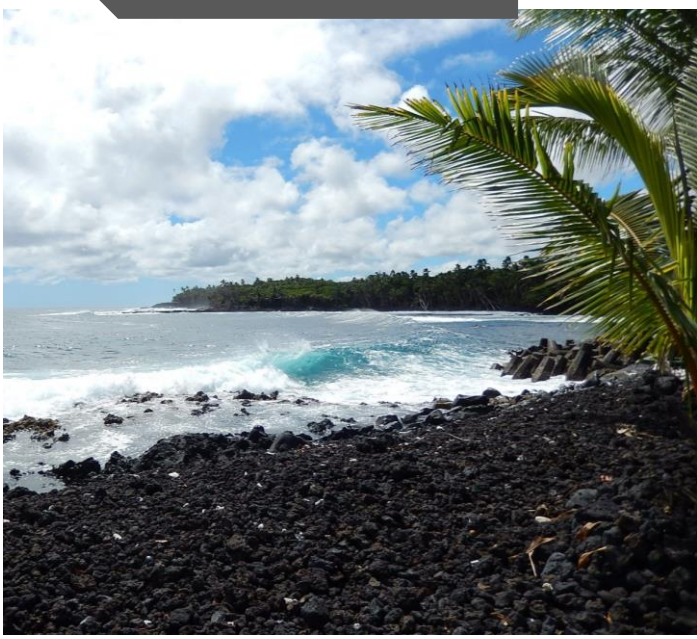


Introduction

As the primary driver of Hawai´i Island's economy, the visitor industry has played a pivotal role in economic development, providing employment opportunities, generating revenue, and supporting local businesses. The growth and evolution of the industry has presented both opportunities and challenges for Hawai´i Island, necessitating a shift towards regenerative tourism as part of the island's vision. To uplift this vision, the General Plan's outlook on tourism emphasizes a collective future that puts the health of Hawai´i Island and its people first. A high quality of life for residents is prioritized in addition to a focus on social benefits that will support a meaningful, reciprocal experience for residents and visitors. As the comprehensive economic element of this Plan, the following policies and actions within the visitor industry section are primarily concerned with preserving the unique qualities of Hawai´i Island while minimizing the visitor industry footprint. Other elements of the General Plan provide further policy direction around land use, infrastructure, and biocultural resource stewardship as they relate to visitor industry impacts.

Regenerative tourism goes beyond the notion of mere sustainability by seeking to restore, enhance, and revitalize the island's ecosystems, communities, and cultural heritage. It strives to create a positive impact by preserving natural resources, supporting local economies, fostering cultural exchange, and promoting environmental stewardship. By adopting regenerative practices, our island can not only mitigate the negative effects of tourism but also ensure the long-term wellbeing and resilience of its communities and ecosystems.

The Hawai´i Tourism Authority (HTA) has established the following four interacting pillars to strategically manage tourism in a sustainable manner consistent with economic goals, cultural values, preservation of natural resources, community desires, and visitor industry needs. The General Plan recognizes the value of these pillars in guiding a balanced relationship between our ´āina, communities, and visitors.

Natural Resources	Respect for natural and cultural resources.
Hawaiian Culture	Support Native Hawaiian culture and the multicultural heritage of communities.
Community	Ensure that tourism and communities enrich each other.
Identity (Brand) Marketing	Strengthen the visitor industry's contributions.

Wahi Pana

The HTA's Hawai´i Island Destination Management Action Plan (DMAP) 2021-2023 highlighted several places that attract visitor activity. Wahi pana are celebrated and storied places in the cultural traditions of Hawai´i, including heiau, royal birthing sites, legendary sites, and places of significance for the people who live there. These sacred places have mana, or spiritual power, and are treated with honor and reverence. Many of these wahi pana are popular due to their unique natural features that exemplify what makes Hawai'i Island special. These qualities and the attention they receive also call for increased maintenance and protection. The following places were carried forward from the Hawai´i Island Tourism Strategic Plan as well as community engagement efforts by the HTA.

Waipi´o Valley
Ka´ū – Papakolea/Green Sands Beach
South Kona – Ho´okena, Miloli´i
Kahalu´u
Kumukahi
Keaukaha
Maunakea

Punalu´u
Ali´i Drive
Pololū Valley
Māhukona
Kalae (South Point)
Kailua Pier
Kealakekua Bay State Historical Park
Ho´okena Beach
La´aloa Beach (Magic Sands Beach)
´Akaka Falls State Park
Keauhou Bay
Banyan Drive
Hawai´i Volcanoes National Park
Hōnaunau Bay, Captain Cook Monument
Wailuku River State Park
Hāpuna Beach State Recreation Area
Kiholo State Park Reserve

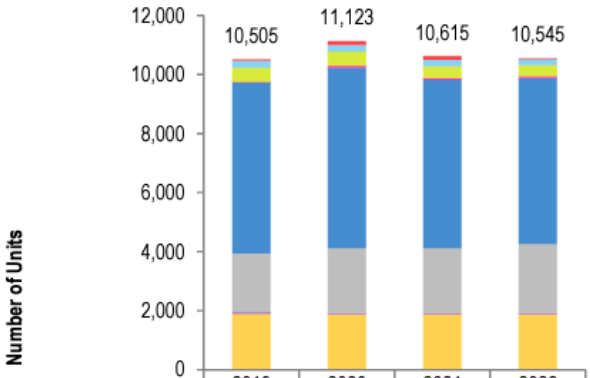
In 2022, over 1.6 million people visited Hawai´i Island, with an average daily census of approximately 37,940 visitors per day. Research shows that many visitors are drawn to the island's famous landmarks and natural beauty.

Month	Average Daily Census
January	37,823
February	38,781
March	37,725
April	37,356
May	34,054
June	41,669
July	43,203
August	36,092
September	33,142
October	36,688
November	35,491
December	43,204

Source: Hawai´i Tourism Authority

Trends in Visitor Unit Inventory

The State of Hawai´i Visitor Plant Inventory reported a total of 81,102 visitor units in 2022, a slight increase of 0.7 percent compared to 2021. Of the state's total visitor units, 13 percent were located on Hawai´i Island.[15] The overall visitor unit count on Hawai´i Island was 10,545 units, a slight decrease compared to the previous year. Hotels continued to comprise the majority of the island's inventory, with 5,609 units. Short-term vacation rentals (STVR) have become a popular accommodation option for visitors. In 2018, the County Council adopted Bill 108 to regulate STVRs on Hawai´i Island. As part of the 2022 Visitor Plant Inventory, the County had reported a significant increase in the number of STVR applications planned additions and new developments across the island.



	2019	2020	2021	2022
HAWAI'I ISLAND TOTAL	10,505	11,123	10,615	10,545
Apt/Hotel	24	119	119	24
B&B	242	230	215	207
Condo Hotel	492	483	393	375
Hostels	23	59	59	59
Hotel	5,782	6,115	5,711	5,609
Vacation Rental Unit	1,992	2,192	2,192	2,346
Other	57	48	48	48
Timeshare	1,893	1,877	1,878	1,877

Hawai´i Island – Inventory by Unit Type
Source: 2022 Visitor Plant Inventory

[15] 2022 Visitor Plant Inventory DBEDT

Visitor Industry Goal

A high quality of life for residents is maintained when a regenerative visitor industry balances the preservation of natural and cultural resources with responsible visitation.

Objective 43

Support the visitor industry investment in the connection with communities, the ʻāina, and our historic and multicultural heritage.

Policies

43.1 Continue to monitor and adopt trends and standards for regenerative tourism.

43.2 County departments should integrate economic development, equity, and sustainability outcomes into their annual goals and reports to the Mayor.

43.3 Identify partnerships and resources with the visitor industry to ensure balance with the social, physical, and economic goals of the County.

43.4 Prioritize the maintenance of County properties and establish appropriate protocols for protection of wahi pana.

43.5 Ensure and expand equitable access to interpretive information about our wahi pana.

43.6 Support the coordination, collaboration, and improvement in public transportation services as well as eco-friendly options.

43.7 Support the coordination, collaboration, and improvement of public accessibility to natural resources with State agencies and private landowners.

43.8 Support partnerships to evaluate visitor industry impacts, develop mitigation strategies, and incorporate educational programs on native Hawaiian and community-based pono practices.

Priority Actions

43.a Identify and invest in opportunities to partner and influence the visitor industry to encourage malama ʻāina activities. (PROGRAM)

43.b Identify and recommend opportunities for installing or improving informational signage to educate about and protect significant sites. (PROGRAM | PD , R&D | phase 2)

43.c Maintain and update the Tourism Strategic Plan through collaboration between community and industry leaders. (PROJECT | R&D | phase 2?)

43.d Implement interpretive programs and stewardship at wahi pana. (PROGRAM)

Objective 44

Increase authentic Hawai ʻi Island visitor experiences.

Policies

44.1 Integrate ʻāina based and place-based values into Hawaiʻi Island's identity.

44.2 Strengthen the accessibility of creative industries and Hawai ʻi Island-made products such as fashion, food, and the arts to the visitor industry.

44.3 Sustain a visitor industry that promotes small business development.

44.4 Encourage eco-tourism and agricultural tourism as regional opportunities.

44.5 The visitor industry shall promote a high quality of life for residents.

44.6 Collaboratively create initiatives and improve existing efforts to provide social benefits through transportation, community assets, and housing.

44.7 Support the promotion and development of community-based programs, festivals, and events that celebrate our communities.

44.8 Maintain efforts to continue dialogue among stakeholders and tie ʻāina-based and place-based values to Hawaiʻi Island's brand.

Priority Actions

44.a Streamline processes for community-based programs, festivals, and events. (PROJECT)

44.b Support efforts to revise Hawai ʻi Revised Statutes, Section 226-8 "Hawai ʻi State Planning Act Objectives and Policies for the Economy - Visitor Industry" to incorporate a regenerative tourism framework. (PROJECT)

44.c Maintain the tracking of resident sentiment towards the visitor industry. (PROJECT | R&D | phase 1)

44.d Continue to seek funds from the State Capital Improvement Program to support facilities including restrooms, parking, and improvements to roads. (INTERAGENCY COORDINATION | PD, R&D | phase 1 ongoing)

44.e Provide technical support for local businesses to promote or further develop their local products, services, and activities in the visitor industry. (PROGRAM | R&D | phase 2)

44.f Identify and reduce barriers that prevent visitor industry companies from buying local Hawaiʻi Island products. (PROJECT | R&D | phase 1)

44.g Explore the feasibility of creating a multi-use facility to accommodate athletic-exhibition-conference activities. (PROJECT | Interagency | phase 2)

44.h Partner with government, private and nonprofit agencies, and other stakeholders to develop and support place-based educational programs and workforce training. (PROGRAM | R&D | phase 1)

44.i Support programs that conduct outreach to students in the fields of Science, Technology, Engineering, Arts, and Mathematics (STEAM) and Indigenous Data Science and connect them to living wage careers in the visitor industry. (PROGRAM | R&D | phase 1)

44.j Develop a toolkit and incentives for businesses to promote regenerative tourism and the Pono Pledge. (PROGRAM | R&D | phase 3)

COLLABORATIVE BIOCULTURAL STEWARDSHIP

Introduction

Collaborative biocultural stewardship is an approach to sustainable development that emphasizes collaboration and partnership building among stakeholders and refers to the integration of cultural and natural resource management strategies to promote conservation, sustainability, and resilience.

Biocultural stewardship serves as a framework for sustainable development that balances economic, social, and environmental goals. By integrating cultural and natural resource management, the General Plan can promote equitable access to resources and help to ensure the long-term viability of natural systems. The plan can also facilitate community engagement and partnership building, fostering collaborative decision-making and collective action. Ultimately, this approach can promote a more holistic, inclusive, and adaptive approach to land use planning and management that reflects local values, knowledge, and aspirations.

This element seeks to foster a sense of place, identity, and connection to the natural environment and recognizes that the management of natural and cultural resources requires the participation of diverse actors, including communities, governments, non-governmental organizations, and private sector entities. By promoting collaborative decision-making and collective action, we can enhance the effectiveness, equity, and legitimacy of conservation and development policies. By promoting community-based conservation and restoration strategies, we can enhance ecological integrity, promote biodiversity, and safeguard cultural heritage and scenic landscapes. The biocultural approach also acknowledges the role of cultural diversity in shaping environmental perceptions, attitudes, and behaviors. It recognizes that cultural practices arising from traditional ecological knowledge are integral to maintaining ecosystem services and biological diversity.

Collaborative biocultural stewardship goals, policies and actions seek to foster partnerships that are based on mutual respect, trust, and shared values. By engaging stakeholders in a participatory and inclusive process, the plan can incorporate diverse perspectives and knowledge systems into conservation and development strategies. The collaborative approach also acknowledges the need for adaptive management and continuous learning, recognizing that environmental and social systems are complex and dynamic.

Following such practices can promote the co-creation of knowledge, the sharing of resources, and the empowerment of communities. By leveraging the strengths and resources of different stakeholders, we can enhance the capacity of communities to manage natural and cultural resources sustainably. We can also facilitate the creation of new networks and alliances, promoting social cohesion and resilience. Ultimately, the collaborative biocultural stewardship approach can foster a more integrated, inclusive, and equitable approach to conservation and development that reflects the aspirations and needs of local communities.

According to the Hawai´i County Charter, Section 13-29, “For the benefit of present and future generations, the State and its political subdivisions shall conserve and **protect Hawai’i’s natural beauty and all natural resources**, including land, water, air, minerals and energy sources, and shall promote the development and utilization of these resources in a manner consistent with their conservation and in furtherance of the self-sufficiency of the State. All public natural resources are held in trust by the State for the benefit of the people.”

Table 43: Environmental Challenges

Native Habitat	• Hawaii has been known as the extinction capital of the world. • Climate change and sea level rise pose threats to habitat migration and adaptation of native environments' flora and fauna. • Invasive and alien species continue to pose a threat to economic, environmental, and human health. • Carrying capacity of our resources is not comprehensively modelled and monitored. • The County of Hawai'i does not have specific regulations for wetlands, riparian ecosystems, or other valuable habitats. • Longer and/or more severe droughts are associated with an increase in the likelihood of wildfires.
Watersheds	• Island freshwater sources have already experienced saltwater contamination due to rising sea levels and this is expected to continue, significantly impacting food and water security. • The waters surrounding Hawaii Island are affected by increasing waste products such as marine debris, plastic pollution from land and ocean sources as well as effluents, pollutants and toxins generated and released from land-based sources such as cesspools and septic systems. • There is a lack of water quality monitoring on the island. • Green infrastructure planning at landscape and stormwater scales has not been institutionalized. • Watershed protection and management is reliant upon collaboration across all levels of government and must also include communities.
Stewardship	• The County has State-size kuleana when it comes to natural resources that are located or pass through their jurisdictional boundaries. • Along with State size responsibility for protection of public trust natural and cultural resources and a limited budget to do so, Hawaii County has continent-scale variation of its unique natural biomes and ecosystems. • Current regulatory framework cuts across ahupua'a system – State at top, County at bottom. • No centralized County Department is responsible for collaboration and protection of environmental quality.
Cultural Assets	• The County's role and involvement in cultural resources can be difficult to discern. • Miscommunication between different stakeholder groups can lead to conflict over community values. • Restoration and reformation are not clear, and remediation is complex. • Current regulatory framework cuts across the ahupua'a system with the State at the top and County at the bottom • There are differences of specific design limitations – design through, around, above • Scale – communities, community size, defined limits • Differences in worldview, knowing how this came to be, community values can be threatened or supported through socialization (rights, rights of entry) • Incentives for restoration, conservation are limited • Some cultural sites have been impacted in ways that have permanently altered their significance or evolved to include/prioritize another cultures or context's values.
Scenic Character	• The county has not developed a scenic resources protection program, including view impact procedures, criteria, and standards.

Table 44: Environmental Opportunities

Native Habitat	• Hawai'i County can collaborate with State Office of Planning and Sustainable Development to access the HRS 343 database to develop models for monitoring carrying capacity of natural resources. • Conservation work in Hawai'i can continue to evolve from species-specific conservation to focusing on ecosystems and large functional landscapes across multiple land ownership boundaries to protect Hawai'i's spectacular diversity of life. • Keeping the forest healthy and native-dominated offers huge savings in biocultural and water resources that might otherwise be lost to climate change and invasion by non-native invasive species. • Conservation lands, typically valued lowest among all land categories, actually hold huge value in the water resources they represent. • Incentivizing and developing regenerative land uses such as agroforestry can provide sustainable opportunities to Hawaiian ecosystems, flora, fauna and its people. • Hawai'i can become a State-wide adaptation and resiliency leader, focusing on its unique strengths and diversity to evolve with changing realities. • Urban forestry can be prioritized or incentivized in County Code.
Watersheds	• There watershed partnerships have been established to protect our watersheds. • Deepen the integration of Hawaiian biocultural resource management and traditional ecological knowledge across County government. • Practice an integrated approach to ecosystem-based collaborative management that considers the entire ecosystem.
Stewardship	• Interagency collaboration • County government can take a more proactive role in exercising its protective public trust role for natural and cultural resources. • There is increased involvement in existing partnerships. • Collaborating to complete additional EPA approved Watershed plans on the island can increase eligibility for conservation funding into the future.
Cultural Assets	• Hawai'i County's Cultural Resources Commission can support the identification, preservation, protection, restoration, and rehabilitation of historic properties, artifacts, and sites. • Community Development Plans can uplift community values and heritage character.
Scenic Character	• The County has a strong policy foundation for scenic resources. • The County recently completed a scenic resources inventory and mapping project. • Our communities have a strong connection of place.

Environmental Goal

Our natural and cultural resources are thriving and sustainably managed, preserved, and restored to maintain our unique and diverse environment.

Objective 45

Increase the biodiversity and resilience of native habitats.

Policies

45.1 Minimize and mitigate significant impacts, such as degradation, incompatible uses, or other threats, to native Hawaiian habitats and public trust resources.

45.2 Strive to improve the health of our island's forests, watersheds, nearshore environments, and coral reefs.

45.3 Encourage the preservation and restoration of natural landscape features, such as coral reefs, beaches and dunes, forests, streams, floodplains, and wetlands, or aquifer recharge areas that have the inherent capacity to avoid, minimize, or mitigate the impacts of climate change.

45.4 Maintain the shoreline for recreational, cultural, educational, and/or scientific uses in a manner that is protective and respectful of resources and is of the maximum benefit to the general public.

45.5 Increase collaborative efforts to improve coordination to conserve and manage wetlands, streams, and watersheds.

45.6 Encourage the preservation of native vegetation during development activities.

45.7 Improve the use of native or non-native plants of cultural or environmental importance.

45.8 Prioritize native landscaping for all (CoH) public projects.

45.9 Limit the establishment of invasive or alien species.

45.10 Maintain a continuing program to identify and protect exceptional trees, groves or stands of tree.

45.11 Encourage and incentivize green belts, tree plantings, and landscape plans and designs in urban areas.

45.12 Increase collaborative efforts to create and maintain community forests, food forests and other 'agroforestry'.

45.13 Pursue the acquisition of lands for the protection of natural resources.

45.14 Partner with government, private and nonprofit agencies, and other stakeholders to:

a) Implement the Hawai'i State Wildlife Action Plan (SWAP)
b) Better understand and model carrying capacities of the island's habitats and resources
c) Improve the inventory of forested lands and associated ecosystem services
d) Encourage the continued identification and inclusion of unique wildlife habitat areas of native Hawaiian habitat within the Natural Area Reserve System
e) Anticipate future habitat migration, especially wetlands and coastal ecosystems
f) Prioritize quantitative wetland assessment to identify wetlands
g) Expand native/endemic forest cover
h) Improve enforcement for illegal activities that harm or degrade endemic habitats

45.15 Discretionary permit applications shall inventory the following and include appropriate mitigation measures of any impacts on the subject property:

a) Groundwater recharge areas above 3,000 feet elevation
b) Intact native habitats
c) Critical habitat areas as identified by federal or state agencies
d) Exceptional trees
e) Historic, archaeological, or cultural sites or properties

45.16 Any development shall be designed to not adversely impact the following resource asset(s):

a) Rivers, streams, springs, and other naturally flowing surface water bodies
b) Anchialine pools and estuaries
c) Shoreline setback areas, beaches, and dunes

45.17 Maintain shoreline setbacks to:

a) Protect natural shoreline vegetation;
b) Protect marine turtle nesting beaches/areas;
c) Protect water quality;
d) Protect structures from the effects of long-term sea level rise;
e) Protect beaches and shorelines from erosion; and
f) Allow redevelopment of existing waterfront commercial structures consistent with the existing community character and preserve overwater views.

45.18 Landscaping and irrigation shall be designed to maximize water use efficiency and native plants.

Priority Actions

45.a Seek partnership opportunities to support wetland identification and assessments. PROJECT

45.b Codify tree survey requirements as part of site planning. CODE AMENDMENT

45.c Establish clearing limits within the Code and increase tree removal mitigation requirements. Limit clearing of native vegetation during development. CODE AMENDMENT

45.d Revise floodplain management requirements to require consideration of nature-based solutions as alternatives for all projects that have the potential to affect floodplains or wetlands. PROJECT

45.e Develop priorities for management of fire prone invasive species. PROJECT

45.f Amend the Code to include an appropriate list of invasive species to be removed during development activities. CODE AMENDMENT

45.g Support programs designed to avoid the introduction and establishment of invasive species and the control and eradication of invasive species; particularly those that serve as disease vectors. PROGRAM

45.h Partner with the State Land Use Commission to establish a conservation buffer to accommodate shifting native habitats impacted by climate change, particularly wetlands and high-elevation forests. INTERAGENCY COORDINATION

45.i Develop buffer policies to protect native forests, wildlife, and habitat. PROJECT

45.j Create incentives for landowners to retain and re-establish forest cover in upland watershed areas with emphasis on native forest species. PROGRAM

45.k Identify partners and support a public awareness and education campaign to elevate recognition of the value of urban trees as essential infrastructure. PROJECT

45.l Amend the landscape standards (PD Rule 17) to require use of native plants for screening or landscaping. CODE AMENDMENT

45.m Amend the Code to incentivize the establishment of threatened and endangered endemic plants species within their habitable ranges during development approvals. CODE AMENDMENT

45.n Amend the Code to require site clustering of development in order to avoid critical environmental areas and assets. CODE AMENDMENT

45.o Develop and establish Open Space Network Overlay for natural landscape features, such as beaches and dunes, forests, streams, floodplains, wetlands, or recharge areas that have the inherent capacity to avoid, minimize, or mitigate the impacts of climate change. PROJECT

45.p Study, develop and establish a Biosphere Reserve Buffer Zones, either separately or as an overlay district, to guide development within native forest through regulatory measures and economic incentives. PROJECT

45.q Maintain a program for acquiring and/or restoring wetlands and anchialine pools. PROGRAM

45.r Develop comprehensive programs, policies, and provide resources for enhancing urban forestry canopy cover. PROGRAM

45.s Improve urban and community forest management, maintenance, and arboricultural practices. PROGRAM

45.t Increase funding and grants for urban and community forestry. PROGRAM

45.u Support programs to prevent harmful invasive species from becoming established. PROGRAM

45.v Partner with government, private and nonprofit agencies, and other stakeholders to develop a program for identification and protection of plant species of special status, including plants significant for cultural practitioners. PROGRAM

45.w Support seedbanks of native and endemic plant species, especially species that are threatened or endangered. PROJECT

45.x Partner with community groups to apply for funding to restore native habitat including marine, wetland, shoreline, and native upland systems on County-owned or managed lands. PROJECT

45.y Prioritize removal of invasive species during maintenance of County owned or maintained properties. PROJECT

45.z Assess and prioritize County-owned areas for restoration in collaboration with government, private and nonprofit agencies, and other stakeholders. PROJECT

45.aa Review and update the exceptional tree code and inventory to remove invasive species and support the protection of native habitats. CODE AMENDMENT

Objective 46

Preserve the health of the watersheds by improving water quality and reducing runoff.

Policies

46.1 Engage in comprehensive watershed planning to protect all watersheds and identify priority watershed areas to develop or complete watershed management plans and projects.

46.2 Address water best management practices and implement plans for non-point source discharges, such as irrigation flows, agricultural or urban runoff.

46.3 Within mauka areas of high rainfall/fog-drip belt, ground disturbing activities such as excessive soil compaction and excessive removal of vegetative cover should be minimized and mitigated consistent with management strategies that encourage the retention of existing forested and pasture areas, reforestation, minimal coverage by impervious surfaces and other strategies that encourage effective infiltration to groundwater.

46.4 Strengthen best management practices for wildfire management (erosion reduction, sediment control, fire management, storm water management, and natural riparian buffers along perennial and intermittent streams).

46.5 Maintain participation in the development and implementation of the Ocean Resources Management Plan (ORMP), marine zoning plan(s), Marine Managed Areas (MMA's) or other appropriate tool(s).

46.6 Partner with government, private and nonprofit agencies, and other stakeholders to:

a) Implement a comprehensive conservation plan that identifies priority watershed areas for habitat restoration and enhancement.

b) Inventory lands considered necessary for the protection of watersheds, water sources and water supplies.

c) Review and designate forest, river corridors, and watershed areas into the conservation district during State land use boundary comprehensive reviews.

d) Monitor impacts to coral reefs and nearshore environments and address land-based sources of impacts.

e) Restore wetlands and riparian corridors to decrease erosion, increase sediment management, groundwater infiltration, nutrient/pollutant uptake, soil moisture retention, stormwater abatement, and cultural/community connections.

f) Restore stream flows (volumes) to meet public trust purposes or where environmental quality could be improved.

g) Develop reasonable standards to improve stream and coastal water quality monitoring and encourage local communities to develop such projects.

h) Achieve a net increase in nearshore water quality with more AA designations, and/or fewer impaired inland freshwater bodies and impaired marine/coastal waterbodies.

i) Prioritize water quality monitoring activities in areas of existing and potential urban growth.

j) Document pollutant loads for Hawai'i Island streams and coastal waters.

Priority Actions

46.a Review and update the County grading and grubbing ordinances to ensure that they adequately address potential erosion and runoff problems. CODE AMENDMENT

46.b Adopt appropriate measures and provide incentives to control point and nonpoint sources of pollution. PROJECT

46.c Identify and establish appropriate riparian buffer protection areas around streams, ponds, perennial flowing natural springs, and all springs and reservoirs serving as water supplies. PROJECT

46.d Support research to identify and refine priority watershed areas meant to enhance ground and surface water quantity.

46.e Identify and establish appropriate wetland protection areas and regulations to mitigate impacts of development. PROJECT

46.f Partner with land managers to improve infrastructure and grazing management practices for cattle to promote soil retention and mitigate fire risk. INTERAGENCY COORDINATION

46.g Amend the Special Management Area to include wetlands, riparian and adjacent buffer areas accordingly. PROJECT

46.h Build community capacity and agency support for Community Conservation Areas (CCAs) as part of stewardship-based efforts. PROGRAM

Objective 47

Increase direct community restoration and collaborative efforts to conserve and nourish the island's biocultural resources.

Policies

47.1 Encourage an overall conservation ethic in the use of Hawaii's resources by protecting, preserving, and conserving our critical and significant natural resources.

47.2 Foster recognition of the importance and value of the land, air, and water resources to Hawaii's people, their cultures, and visitors.

47.3 Integrate progressive strategies incorporating indigenous and contemporary knowledge and practices to maintain environmental quality at the highest standards, address a changing climate, protect natural resources, and restore ecosystem health for the benefit of present and future generations.

47.4 Protect the reasonable exercise of customarily and traditionally exercised rights of Hawaiians to the extent feasible.

47.5 Promote resource management that is sustainable, responsible, and data driven.

47.6 Require the management of natural resources in a manner that fully minimizes adverse effects on the environment and depletion of energy and natural resources.

47.7 Ensure that activities authorized or funded by the County do not irretrievably damage natural resources.

47.8 Increase public pedestrian access opportunities to scenic places and vistas.

47.9 Increase community stewardship partnerships that focus on management responsibilities and promote community education or shared learning.

47.10 Improve Community Planning capacity building efforts toward coordination, leadership, effective action, connectivity, and impact.

47.11 Contribute to programs of collection and dissemination of data concerning cultural or natural resources.

47.12 Partner with government, private and nonprofit agencies, and other stakeholders to:

a) Protect special areas, structures, and elements that are an integral and functional part of Hawai'i's ethnic and cultural heritage.

b) Identify and protect wahi pana.

c) Promote the preservation and restoration of significant natural and historic resources.

d) Aid in programmatic education concerning historic sites.

e) Maintain the shoreline for recreational, cultural, educational, and/or scientific uses in a manner that is protective of resources and is of the maximum benefit to the public.

f) Encourage the documentation and preservation of traditional ecological knowledge, identifying best management practices for integration.

Priority Actions

47.a Contribute on a regular basis to State or Federal GIS data stores and other programs of collection and dissemination of basic data concerning natural, historic, or cultural resources. PROGRAM

47.b Create special (business) improvement districts to engage in environmental research, restoration and maintenance, natural resource management, climate change or sea level rise adaptation or other purposes to improve environmental conditions and provide community benefit. PROJECT

Objective 48

The historical integrity, character, scenic assets, and open spaces of our communities are protected, restored, and treated as unique assets with significant social and economic value and managed in perpetuity.

Policies

48.1 Require both public and private developers of land to provide historical and archaeological surveys and cultural assessments, where appropriate, prior to the clearing or development of land when there are indications that the land under consideration has historical significance.

48.2 Public access to significant historic sites and objects shall be acquired, where appropriate.

48.3 Encourage the restoration of significant sites on private lands.

48.4 Signs explaining historic sites, buildings and objects shall be in keeping with the character of the area or the cultural aspects of the feature.

48.5 Historic Preservation shall represent the full range and diversity of the multi-cultural heritage of Hawai'i Island.

48.6 Maintain an inventory of significant cultural and historic sites and districts compatible with that of the State Historic Preservation Division.

48.7 Ensure that projects requiring preservation plans are identified on subdivision maps and plan approval site plans.

48.8 The County shall develop a comprehensive management plan for historic and cultural resources that are on County owned properties or on properties managed by the County.

48.9 The County shall use and promote the use of interpretive signage and/or other appropriate methods to recognize landscapes, sites, buildings, and objects of significant historical and cultural importance.

48.10 Maintain the character of County-owned historic structures and bridges, as appropriate.

48.11 Outstanding natural or cultural features, such as scenic resources, water courses, fine groves of trees, heiau, and historical sites and structures, shall be identified and preserved during subdivision.

Priority Actions

48.a Seek private-public partnerships to maintain and steward the preservation of sites, buildings, objects, and landscapes of significant cultural and historical importance. PROJECT

48.b Maintain Certified Local Government status and maximize funding opportunities. PROGRAM

48.c Support the identification of Heritage Landscapes, Corridors, Areas, and Centers. PROJECT

48.d Support development of multi-cultural centers. PROJECT

48.e Support historic district surveys for our urban centers. PROJECT

48.f Partner with the State Historic Preservation Division (SHPD) to establish framework and database for Cultural Impact Assessments. INTERAGENCY COORDINATION

48.g Partner with government, private and nonprofit agencies, and other stakeholders to develop design guidelines for designated communities containing significant historic buildings, sites, or landscapes. INTERAGENCY COORDINATION

48.h Assess and prioritize County-owned lands for historic site restoration in collaboration with government, private and nonprofit agencies, and other stakeholders. PROJECT

48.i Create and maintain GIS overlay of historic districts. PROJECT

48.j Educate and encourage property owners to nominate structures and sites to the State and National Register of Historic Places. PROGRAM

48.k Provide a real property tax incentives for historic properties, including commercial properties. PROGRAM

48.l Support the development a multi-sector public education program regarding historic sites that target key partners such as the hospitality industry, real estate agents, site developers, consultants, schools, youth groups, and civic organizations. PROGRAM

Objective 49

Protect, restore, and enhance our communities' unique scenic character.

Policies

49.1 Consider structural setback from major thoroughfares and highways and establish development and design guidelines to protect important view planes.

49.2 Preserve transportation corridors that have important scenic, historic, recreational, cultural and/or natural resources that enhance the character and scenic resources of communities.

49.3 Protect the views of areas endowed with natural beauty by carefully considering the effects of proposed construction and compatibility during all land use reviews.

49.4 Encourage the design of developments and activities that complement the natural beauty of the island.

49.5 Maintain a continuing program to identify and protect viewing sites on the island.

49.6 Preserve and protect significant lava tubes, caves, or other geologic features determined to be significant by a governmental agency or plan.

Priority Actions

49.a Prioritize maintaining the views at scenic overlooks with a frequently maintained vegetation management program which includes eradication of invasive species. Coordinate this work with regular roadway vegetation management maintenance program. PROGRAM

49.b Develop and establish view plane criteria, rankings, and regulations to preserve and enhance views of scenic or prominent landscapes from specific locations, and coastal aesthetic values. PROJECT

49.c Develop a process for reviewing and revising guidelines for designating Natural Beauty Sites. PROJECT

49.d Establish a Scenic Resources Protection Program to identify, inventory, and protect areas of significant beauty. The program could include recommendations from Scenic Resources Inventory and Mapping Project (2016). PROGRAM

Natural Beauty Sites

District of Puna

Site	Tax Map Key	Ahupuaa or Region
Viewplane from Pahoa-Kalapana Highway looking makai	1-2-04, 06, 07, 09	
Kehena Black Sand Beach	1-2-09:21	Kehena
Viewpoint-Shoreline	1-2-09:22	Kekeekee
1955 Lava Flow (Iilewa Cone)	1-2-10:1	Kamaili
Ironwood Groves along Kapoho-Kalapana Road	1-3-03:5; 1-3-07:6, 26	Kauaea; Malama-Ki
Viewpoint-Shoreline	1-3-04:71	Opihikao
MacKenzie Park	1-3-07:26	Malama-Ki
Mango Grove along Pohoiki Road	1-3-08:4, 5	Pohoiki
Keahialaka Spring & Pond	1-3-08:15	Keahialaka
Shoreline	1-3-08:15	Keahialaka
Viewpoint (Puu Kukae)	1-4-02:2	Kapoho
Kapela Bay (Black Sand Beach)	1-4-03:13	Kahuwai
Viewpoint-Shoreline (Hilo & Puna)	1-4-03:13	Kahuwai
Viewpoint & Tidal pool (Makaukiu Pt.)	1-4-03:13	Kahuwai
Ironwood Grove at Nanawale Park	1-4-03:18	Nanawale
Viewpoint-Shoreline (Honolulu Landing)	1-4-03:19	Honolulu
Mango Grove along Kapoho-Honolulu Landing Road	1-4-03, 04	Kahuwai & Halepuaa
Viewpoint-Shoreline	1-5-63:1 to 4	Waiakahuila
Cove with Stone Beach	1-6-01:25	Keaau
Royal Palms fronting Keaau Intermediate School	1-6-02	Keaau
View of Mauna Kea and Mauna Loa from Pahoa-Keaau, Volcano-Keaau Roads, and various Puna subdivisions	Various	Various
Pu'u O'o Lava Flow Region	Various	Various
Ahu ́ailā ́au (Fissure 8)	Various	Various

District of South Hilo

Site	Tax Map Key	Ahupuaa or Region
Banyan Drive Scenic Area	2-1-01, 03, 05	Waiakea
Liliuokalani Gardens	2-1-03:2	Waiakea
Viewpoint of Hilo Bay area with Mauna Kea in Background	2-1-03:2	Waiakea
Viewpoint of Hilo Bay with Mauna Kea in Background	2-1-03:17	Waiakea
Coconut Isle (Mokuola)	2-1-03:19	Waiakea
Reeds Bay (Shoreline)	2-1-05:1	Waiakea
Ice Pond	2-1-06:10	Waiakea
Viewpoint-Shoreline (Leleiwi Point)	2-1-11:5	Waiakea
Lehia Park (undeveloped)	2-1-13:5	Waiakea
Viewpoint-Shoreline (Keokea Point)	2-1-14:13	Waiakea
Lihikai (Onekahakaha) Beach Park shoreline	2-1-14:13	Waiakea
Waiahole Fish Pond	2-1-15:1	Waiakea
Haleolono Fish Pond	2-1-15:42	Waiakea
Leleiwi Park shoreline	2-1-16 to 19	Waiakea
Lokoaka Pond, Akahi Pond, and Kionakapahu Pond	2-1-16:1	Waiakea
Viewpoint-Shoreline (Waiuli Point)	2-1-19:9	Waiakea
Wailoa River Area: • Hoakimau Fish Pond; • Mohouli Fish Pond; • Waiakea Fish Pond	2-2-13:3; 2-2-29:27; 2-2-31:1	Waiakea
Puu Halai	2-3-22	Ponahawai
Rainbow Falls and Area (Wailuku River Park)	2-3-27:1, 2	Piihonua
Kaimukanaka Falls and Area	2-3-27:3, 5	Piihonua
Boiling Pots and Area	2-3-29:12	Piihonua
Viewpoint on hilltop looking over Hilo Bay	2-3-37	Ponahawai
Waiole Falls and Area	2-5-9:4	Piihonua
Peepee Falls and Area	2-5-10:1	Piihonua
Viewpoint from lower Wailuku Bridge looking makai	2-6-02	Piihonua
Viewpoint from lower Wailuku Bridge looking mauka	2-6-03	Piihonua
Alealea Point looking towards Hilo Bay	2-6-15:1	Wailua
Keakanini Falls	2-6-18:4	Piihonua
Hawaii Falls	2-6-18:4	Piihonua
Honolii Beach Area and Stream	2-6-24:1 to 4	Alae
Onomea Bay Area	2-7-09:1, 2, 26; 2-7-10:1	Kahalii-Onomea
Onomea Arch (fallen)	2-7-10:1	Onomea
Akaka and Kahuna Falls	2-8-10:34	Honomu
Kolekole Gulch	2-8-15, 2-9-03	Kuhua-Kaiwiki
Hakalau Bay/Gulch Area	2-9-02, 3-1-01	Hakalaunui-Kamae

District of North Hilo

Site	Tax Map Key	Ahupuaa or Region
Viewpoint of Umauma Gulch (makai from bridge)	3-1-01:1, 24	Wailua
Viewpoint of Falls in Umauma Gulch (mauka from bridge)	3-1-01:23, 30	Wailua
Nanue Gulch-Makai	3-2-01:1, 8	Nanue
Honohina Falls (Nanue Gulch and stream)	3-2-01:11, 17	Nanue
Maulua Gulch	3-4-04:9, 11, 12	Maulua Iki
Kaiwilahilahi Gulch	3-5-03	Kaiwilahilahi
Manawaiopae Gulch	3-5-04	Manawaiopae
Kihalani Gulch	3-5-04	Kihalani
Kuwaikahi Gulch	3-5-04	Kihalani
Kilau Gulch	3-6-01	Laupahoehoe
Scenic Lookout-Laupahoehoe Point	3-6-01:9	Alaea
Laupahoehoe Gulch	3-6-04	Laupahoehoe
Kaawalii Gulch	3-6-05; 3-9-01	Waipunalei-Humuula

District of Hamakua

Site	Tax Map Key	Ahupuaa or Region
Kalopa State Park	4-4-14:1	Kalopa
Mauna Kea State Park area	4-4-16:3	Kaohe
Ahualoa Road	4-5-10	Kaao-Nienie
Nienie (Native forest)	4-6-12:25	Nienie
Viewpoint Lookout Waipio Valley, Kukuihaele	4-8-04:17	Lalakea
Windward Valley System: • Muliwai to Awini; • Waimanu Valley Area; • Waipio Valley Area	4-9-01 to 15	Waipio, Muliwai-Awini, Waimanu
Hiilawe Falls	4-9-09	Waipio

District of North Kohala

Site	Tax Map Key	Ahupuaa or Region
Windward Valley System: • Honokane Valley; • Islands off Awini Valley; • Pololu Valley	5-1-01, 02	Awini, Pololu
Viewpoint-Pololu Valley	5-2-01:1	Pololu
Akoakoa Point	5-2-01:7	Waiapuka
Nanue Bay Area	5-2-01:7, 8	Waiapuka
Kapanaia Bay Area	5-2-01:14; 5-2-07	Makapala, Aamakao
Keokea Beach & Kalalae Pt.	5-2-01:14 to 16	Makapala
Kauhola Point	5-3-07:1	Kukuiwaluhia
Indian Banyan trees at Chalon International of Hawai'i's office in Hawi	5-5-2:23	Hawi
Upolu Point	5-5-06:7	Kokoiki-Upolu
Old Honoipu Landing	5-6-02	Puakea
Kapaa Park	5-6-01:60	Kapaa
Mahukona Harbor and Park	5-7-03:3, 4, 14	Mahukona-Hihiu
Keawanui Bay Area	5-8-01	Kehena, Puanui
Kaiopae Point	5-9-01:6	Waiaka
Waiakailio Bay Area	5-9-01:8	Kahualiilii
Coastline viewplane from Akoni-Pule Highway	Various	
Coastline viewplane from Kohala Mountain Road	Various	
Ironwood trees along Kohala Mountain Road	Various	

District of South Kohala

Site	Tax Map Key	Ahupuaa or Region
Viewpoint (Puu Makela)	6-2-01:25	Kawaihae 2nd
Mauumae Bay/Beach	6-2-02	Kawaihae 2nd
Kaunaoa Bay/Beach	6-2-02:4	Ouli
Kaluhiikanu Beach	6-2-02:6	Kawaihae 2nd
Ohaiula Beach (Spencer Park)	6-2-02:8	Kawaihae 2nd
Upper Waipio Lookout	6-3-01:4	Waipio
View of Kohala mountain	6-5-01	Waiauia
Na Puu (Waimea): Puu Laelae; Hokuula; Puuiki	6-5-01	Keoniki-Puuiki
Waimea Church Row and Surrounding Churches	6-5-04:1 to 6, 8	Waikoloa (Waimea)
Hapuna Bay/Beach	6-6-01:8	Lalamilo
Kaunaoa Point	6-6-02:38	Ouli
Waimea Nature Park (Ulu Laau)	6-6-03:7	Lalamilo
Scenic countryside around Waikii	6-7-01:3	Waikoloa
Makaiwa Bay and Pond, Keawanui	6-8-22	Kalahuipuaa
Pauoa Bay Area	6-8-22	Kalahuipuaa
Puako Bay Area	6-9-01:2; 6-9-02:7, 8	Lalamilo
Anaehoomalu Bay Area	6-9-01:13	Anaehoomalu
Wailea Bay Area	6-9-02:2	Lalamilo
Viewplane along Queen Ka'ahumanu Highway looking mauka and makai	Various	

District of North Kona

Site	Tax Map Key	Ahupuaa or Region
Puu Waawaa	7-1-01:4	Puuwaawaa
Kiholo Bay/Beach Area	7-1-02:8	Puuwaawaa
Keawaiki	7-1-02:8; 7-1-03:2	Puuwaawaa; Puuanahulu
Hualalai	7-2-01; 7-8-01	Kaupulehu
Kaupulehu	7-2-03:1, 2	Kaupulehu
Kua Bay Area	7-2-04	Maniniowali
Opae Ula Pond	7-2-04:1	Makalawena
Makalawena	7-2-04:1	Makalawena
Kahoiawa	7-2-04:3, 4	Awakee
Kakapa Bay Area	7-2-04:4	Kukio 2nd
Kukio Bay/Beach Area	7-2-04:5	Kukio lst
Mahaiula Bay/Beach Area	7-2-05:3	Mahaiula
Kaloko Pond	7-3-09:2	Kaloko
Honokohau Fish Pond	7-4-08	Kealakehe
Honokohau coastline	7-4-08:4, 3	Honokohau-Kealakehe
Aimakapa	7-4-08:10	Honokohau
White Sand Beach	7-4-08:10	Honokohau
White Sand Beach	7-5-05:7	Keahuolu
Viewplane from Kuakini Highway going mauka & makai	7-7 and 7-8	Holualoa-Keauhou
Viewplane from Kamehameha III Road going mauka & makai	7-8-10	Kahaluu-Keauhou
Keauhou	7-8-12	Keauhou 1 & 2
Kahaluu Bay Area	7-8-14	Kahaluu 2
Viewplane along Queen Ka'ahumanu Highway going mauka and makai	Various	Various

District of South Kona

Site	Tax Map Key	Ahupuaa or Region
Kealakekua Bay from Kaawaloa Road and Lower Government Road	8-1-07:1; 8-1-10:1, 2; 8-1-11; 8-2-02, 04	Keopuka, Kaawaloa, Kaawaloa, Kealakekua
Viewpoint	8-3-03	Kahauloa (2)
Cove	8-3-04:1	Keei (1)
White Sand Beach	8-3-04:4	Keei (1)
Viewpoint (Palemano Pt.)	8-3-04:5	Keei (1)
Honaunau Bay & Scenic View from Ke Ala o Keawe Road	8-4-11, 12, 13	Honaunau, Keokea
Kealia Beach	8-5-05:1	Kealia
Kiilae	8-5-05:19	Kiilae
Hookena—Kauhako Bay Area	8-6-13, 14	Hookena, Kauhako
Milolii area	8-9-04	Milolii
Lava flows of 1950, 1926 and 1919	Various	Various

District of Kau

Site	Tax Map Key	Ahupuaa or Region
Manuka Bay	9-1-01:3	Manuka
Pohue Bay	9-2-01:1	Kahuku
Volcano area including National Park	9-2-01:4; 9-9-01	Kahuku, Keauhou
South Point (Ka Lae)	9-3-01:1-3, 7, 9	Pakini Iki, Kamaoa
Mahana Bay	9-3-01:2	Kamaoa
Waiakukini	9-3-01:6	Pakini Nui
Kaalualu Bay	9-4-01: 12, 14	Kiolakaa
Honuapo	9-5-14:1, 7	Honuapo
Kawa (Kawaa) Bay and Spring	9-5-16:20; 9-5-17:7	Kaalaiki, Hilea Nui
Ninole Cove & Springs	9-5-19:12	Ninole
Punaluu Black Sand Beach	9-6-01	Punaluu
Lava Flows of 1868, 1887, & 1907	Various	Various
View of Mauna Loa from Volcano-Ka'u Highway	Various	Various
Scenic view of shoreline between Pahala and Punaluu	Various	Various
Waiohinu Park	Various	Various
Na puu: Enuhe, Makanau, Kaiholena and One	Various	Various

GENERAL PLAN IMPLEMENTATION

Introduction

Establishing an effective planning system, collaborative strategies, and ongoing monitoring is crucial to ensuring the General Plan 2045 vision can be implemented. Implementation of the General Plan's goals, objectives, policies, programs, projects, and interagency coordination will require systemic understanding, decisive leadership, and unprecedented collaboration. The General Plan presents an opportunity to elevate key challenges to be addressed with strategic and coordinated action. The application of the General Plan's objectives, policies, programs, projects, and interagency coordination assists in shaping a clear path forward. Implementation will require follow-up legislative actions such as implementing ordinances and budget decisions.

The purpose of the County Planning System is to serve as a guide for the long-range development, and economic, environmental, and socio-cultural wellbeing of the county in keeping with the values and priorities significant to the people. The intent of this framework includes:

1. ***Local Engagement***
   Foster grassroots participation and balancing of interests by providing opportunities for active civic engagement, where citizens have the means to collaborate with the government and are empowered to effect positive change consistent with plans developed under this chapter.

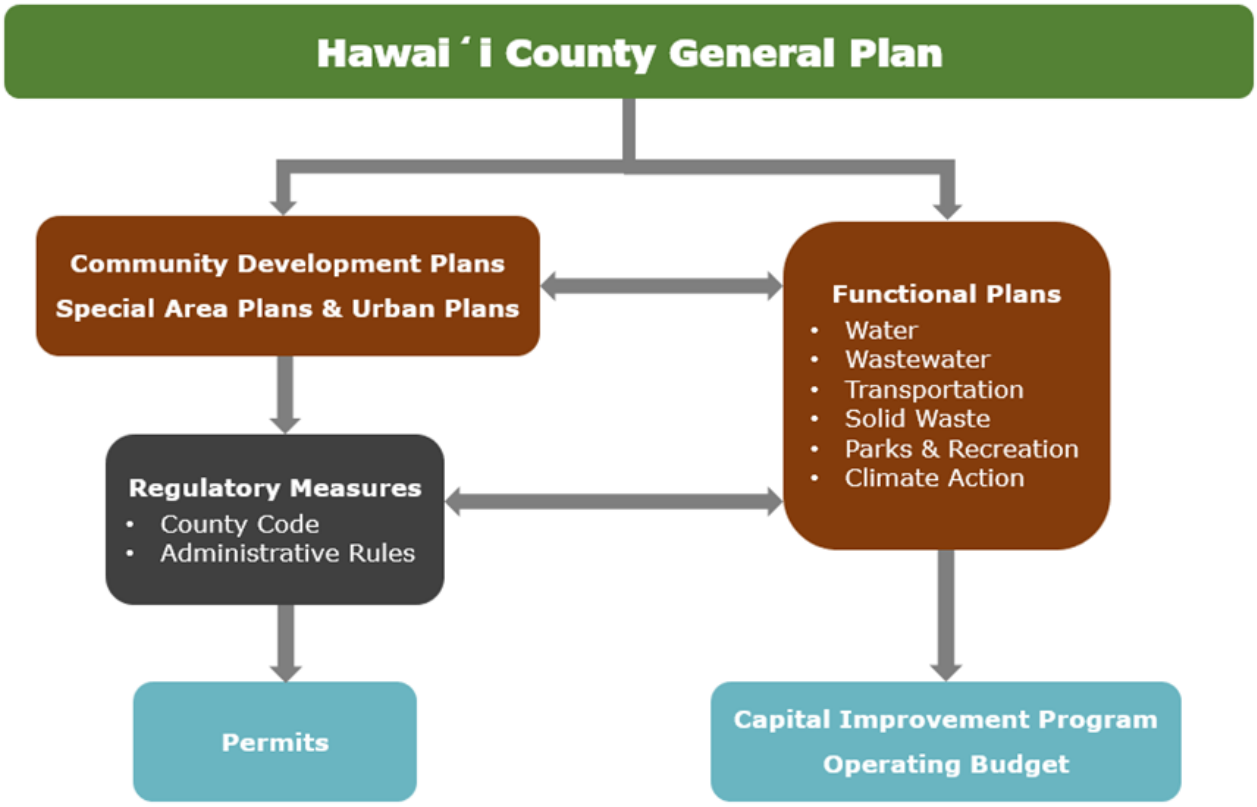
2. ***Long-Term and Holistic Approach***
   Address a broad scope of issues and long-term trends that affect the land and communities, including environmental and cultural-historic protections, natural resources, built environments, infrastructure development, social issues, and the economy.

3. ***Consistent Policies and Implementation***
   Ensure consistency among the General Plan and respective regional plans, as well as consistency among the Plan's policies and implementation measures such as regulations in the Hawai'i County Code, land acquisition priorities, and capital improvements.

4. ***Interagency Collaboration***
   Facilitate collaboration among county agencies in fulfilling the objectives, policies, and actions set forth in the plans developed under this chapter. Facilitate collaboration with State and federal agencies through clarity, consistency and prioritization of common goals and objectives.

5. ***Implementation System***
   Establish an implementation system that is based on county-wide, regional, and agency levels of responsibility and accountability to carry out the plan(s), such as the identification and prioritization of actions, timeframes, responsible agents and stakeholders, funding requirements, funding sources, and allocations.

Planning System



The Planning System is designed to ensure that all its components fit together and serve their intended purpose. This section further defines each of these components and the relationships between them. The diagram above displays a feedback process in which the different aspects of the Planning System inform one another and the lines between them represent opportunities for community participation throughout the process.

Chapter 16

Chapter 16 of the Hawai'i County Code (appendix x) details the legal framework for the Planning System, with an explanation of these components, the legal requirements, and this framework.

Community Development Plans (CDP)

The Community Development Plans translate broad General Plan statements to specific actions, as they apply to specific geographical areas. They serve to provide a forum for community input to reflect the character of each community. These plans create a vision for future growth, and direct physical development and public improvements within a specific area. If there is a direct conflict between the CDP and the General Plan, the General Plan shall be controlling. The Planning Director or County Council may initiate a CDP.

The goal of planning is to maximize the health, safety, and economic wellbeing of all people living in our communities, as well as the land itself. Community planning is the process where community members come together to take intentional collective action and generate solutions to common problems to improve social, economic, physical, and environmental wellbeing while preserving valuable aspects of the culture of and vision for a particular geographic area.

Community Development Plan Framework

During the 2045 General Plan Comprehensive Review process, existing community plans were used to guide the CDP framework. From the adoption of the Kona, Puna, North and South Kohala CDPs in 2008, Kaʻū CDP in 2017, and Hāmākua CDP in 2018, there has been much to learn and grow from as we look to the future. The 2045 General Plan also benefited from years of collective participation in CDP implementation efforts through district Action Committees.

To build on these lessons learned, future CDPs shall be drafted to follow the basic layout of the 2045 Hawaiʻi County General Plan. This creates consistency across all districts of the County to ensure that the language, goals, objectives, policies, and actions, under various subject matters can be easily identified by government agencies, community members, and other stakeholders.

The purpose of a CDP is threefold:

1. Translate the General Plan's broad statements and community development guidelines to actions specific to the planning area to address regional issues and opportunities.
2. Improve and advance communities and community resilience through the acknowledgment and development of community capacity.
3. Provide a process for citizens to engage in civic dialogue and contribute to the identification of community priorities.

The CDP process should identify:

1. *Recommended Governmental Improvements*

Community Development Plans may recommend amendments to various requirements and incentives built into codes, plans, or processes. Such amendments should be consistent with the General Plan, otherwise, amendments to the General Plan should be recommended.

2. *Advocacy Strategies*

Advocacy strategies are effective means to advance community priorities through coordinated efforts by County and non-County agencies and organizations. This requires that the community, County agencies, and elected officials work in collaboration with other organizations to advance the CDP's advocacy program.

3. *Acquisition Priorities*

Community Development Plans may identify priority acquisition properties for

consideration in the County Public Access, Open Space, and Natural Resources Preservation Program. Candidate parcels for this program include those that feature historic and culturally significant sites, and natural resources in need of protection.

4. ***Capital Projects***
   The County Charter stipulates that Capital Improvements shall be prioritized based on criteria aligned with the General Plan and Community Development Plans. Providing a clear direction on where various community Capital Improvement priorities are needed creates a reference for them to be easily incorporated into the County budget process and Functional Plans for government agencies. The General Plan should focus on major, multi-district level infrastructure projects such as wastewater, water, and roads. Whereas Community Development Plans should focus on capital improvement projects as they relate directly to the character and community amenities in their respective district – examples of this include parks, transit hubs, and community centers. If additional capital improvement projects are identified in the review process for a Community Development Plan revision, the General Plan should be amended to include them.

5. ***Programs and Community Actions***
   Community Development Plans shall identify desired programs and the community's role in planning and implementing the programs. They should focus on proactive, community-based, collaborative actions. Community planning is a collective effort that benefits from proactive leadership and actions that enrich the community. Examples of this include after-school youth programs, neighborhood watch, environmental advocacy groups, and collaborative small business events (such as farmers markets or co-ops).

6. ***Social Capital and Community Network Mapping***
   During the process of reviewing a Community Development Plan, instances where community needs are not met may be identified. Examples of this may include a need for community gathering spaces such as parks or recreation hubs. Community Development Plans may identify such needs and outline a plan of action for community members and other stakeholders to coordinate efforts, combine and collect resources, and connect public and private sector agents to advocate for such enhancements to their community.

Urban Development Plans

Urban Development Plans are a means of implementing the policies and objectives of the General Plan and/or Community Development Plans within towns, villages, and other areas of existing urban development or within areas specifically intended for new or more intensified urban development. They comprise a minor portion of a larger, regional community planning area. They shall be consistent with and implement the visions, objectives, and policies of the General Plan and applicable community development plans. If there is a direct conflict between the Urban Development Plan and the General Plan, the General Plan shall be controlling. An Urban Development Plan is initiated by or through the Planning Director or County Council.

The Urban Development Plan process should identify:

1. ***An analysis of problems, needs, and opportunities***

2. ***Appropriate planning standards***
   - Public services and transportation
   - Housing unit densities, urban design
   - Streetscaping and landscaping design
   - A statement of proposed considerations for historic or archaeological features in the proximity of the plan's area, which may consider restoration, access, buffers, and other measures as appropriate.

3. ***Sequencing and phasing of development or redevelopment, public facilities, infrastructure***

4. ***Implementation program***
   CIP, financial element, and schedule.

Special Area Plans

Special area plans provide the basis for regionally scaled programs for the protection, restoration, or recreational and educational use of specific, natural, and/or cultural and historic resources and features identified in the General Plan or an encompassing Community Development Plan as highly valued community natural assets. A Special Area Plan is initiated by or through the Planning Director or County Council.

The Special Area Plan process should identify:

1. ***An analysis of the needs and opportunities***

   Concerning the purposes and objectives of the special area plan area.

2. ***A statement of planning standards and principles***
   - Land uses
   - Environmental protocols, principles, objectives, and standards
   - Proposed considerations for historic and/or archaeological features, which may consider restoration, access, buffers, and other measures as appropriate.

3. ***Sequencing and phasing of development or redevelopment, public facilities, infrastructure***

4. ***Implementation program***
   CIP, financial element, and schedule.

Public Agency Functional Plans and Programs

The Functional Plan shall identify priority issues and specific needs of the agency responsible for implementation. The Plan addresses a specific need, program, or issue that the agency is primarily responsible for. The Plan may, but is not required to, be adopted by ordinance or resolution.

The Functional Plan should contain objectives, policies, and implementing actions consistent with the visions, goals, and objectives of the General Plan and Community Development Plans to address the priority issues and needs identified to help inform the Capital Improvement and Operating Program. Each department and agency of the County that prepares a Functional Plan should present the construction and operation of infrastructure, facilities, and programs. Actions may include organizational or management initiatives, facility or physical infrastructure development initiatives, initiatives for programs and services, or legislative proposals.

Capital Improvement Program (CIP)

Capital Improvement projects are an important vehicle for ensuring community needs can be implemented. The County Charter sets forth the procedure for the submittal and adoption of the CIP budget.

Prioritization of Capital Improvement Projects

Achieving What We Appropriate

The CIP is a 6-year schedule of improvements – it sets forth the greatest infrastructure needs of the County, anticipated funding, and timing of the projects. However, in practice, the County is only able to fund about 30 percent of the projects that are appropriated into the CIP budget. Several factors influence the urgency and sequencing of CIP projects. According to the County Charter, "Capital improvements shall be prioritized based on criteria aligned with the General Plan, Community Development Plans, emergency expenditures and other pertinent functional plans" (§10-6(a)(2)). This speaks to the need to coordinate infrastructure priorities through our Planning System, creating avenues for interagency collaboration, and providing clear criteria to guide the prioritization of projects.

For the CIP to comprehensively prioritize and allocate the financial resources available to the County within the context of the General Plan, the CIP will be prepared as follows:

- The CIP will be based on clear priority criteria;
- The CIP will integrate several sources of funding improvements, including the fuel tax;
- The CIP will coordinate County projects with State CIP projects and available Federal funding;
- The total County costs for the projects selected for the CIP will not exceed an amount that could be prudently financed taking into consideration the debt service capacity of the County;
- Where additional studies are needed to prioritize projects from an island-wide or regional perspective, functional plans may be funded through the CIP; and
- A system will be established to monitor the status of projects.

To prioritize the lists of proposed capital improvements contemplated by County agencies as required by the Charter, the Planning Director shall consider:

1. ***Funding Source***
   The capacity of a funding source available for a proposed improvement may be a factor in determining priority. Potential funding sources include general obligation bonds, general revenues, special funds, land-secured financing, State revolving fund, block grants, federal sources, or other reliable sources. The capital budget shall not exceed prudent debt service limits for general obligation and other sources that affect the borrowing capacity of the County.

2. ***Health and Safety***
   The budget should be proportional to adequately address health and safety needs.

3. ***Long-Range Project Delivery***
   All phases of a project, including planning, land acquisition, design, construction, equipment, and furnishing, shall be addressed in the multi-year Capital Improvement Program. Priority shall be considered to complete projects that are ready to be constructed while planning phases are needed for future priority projects.

4. ***Nonrecurring Rehabilitation (extreme deferred maintenance)***
   Deferred maintenance of existing facilities, as determined by the responsible agency, should be considered a high priority for those facilities intended by the responsible agency to remain in active, long-term service. Regular maintenance needs to be included in the operating budget.

5. ***Cost-Benefit Analysis***
   Cost-benefit analyses are used to weigh the benefits of the project against the costs. Costs can address issues such as increased maintenance costs, liability, improper prioritization (other important projects not being funded), and equity concerns. Whereas benefits can address community priorities, environmental improvements, reduced maintenance costs, and reduced legal compliance costs.

6. ***Level of Service***
   The General Plan's Level of Service standards should be considered to address equity and realize the delivery of services among the planning areas.

7. ***Land Use Policies***
   Higher priority may be given to improvements that influence growth patterns consistent with the General Plan or Community Development Plans.

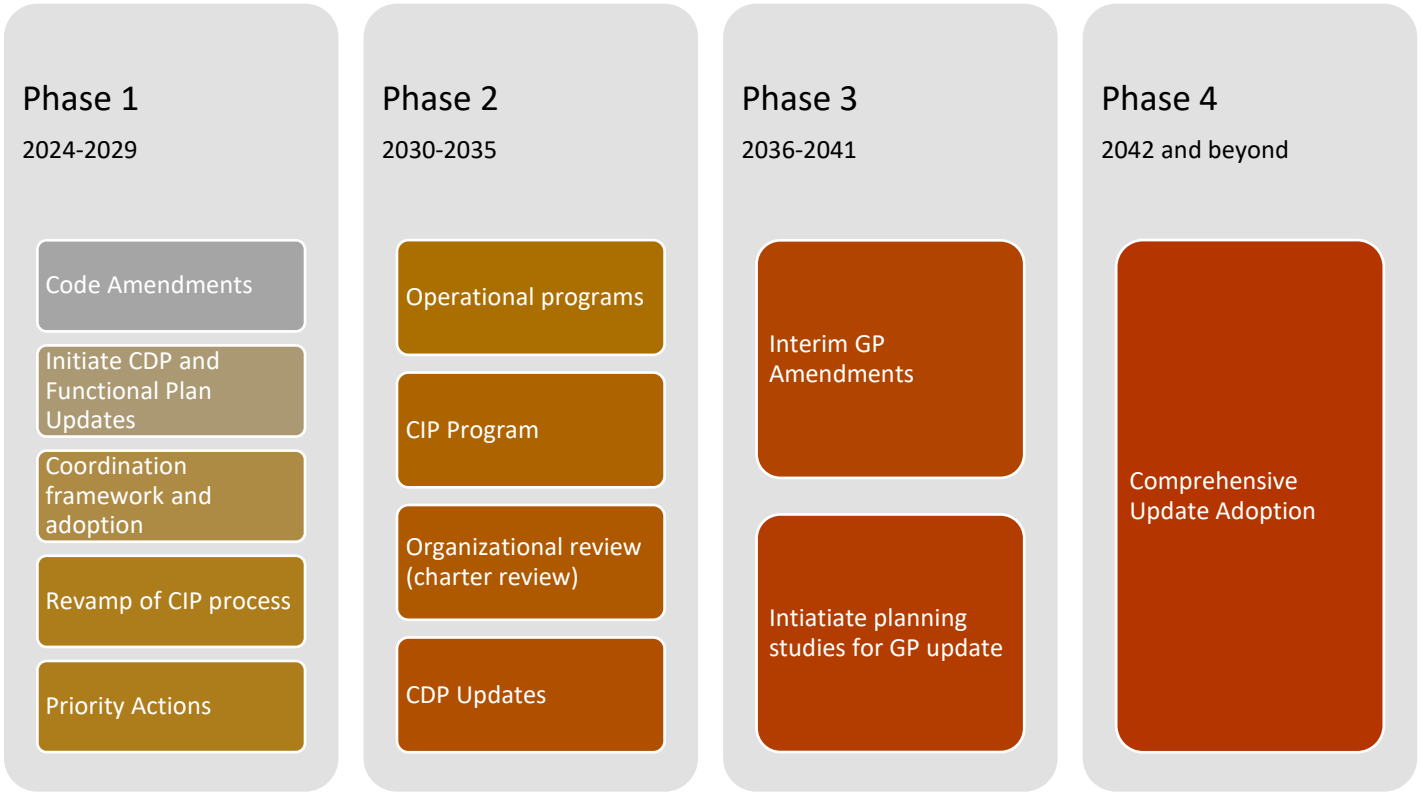
Key Areas for Collaborative Focus

While the General Plan is comprehensive and can provide a holistic and integrated approach, it is a County plan and is therefore limited in its reach. Likewise, this Plan is grounded in the understanding that many of the County's greatest challenges and opportunities cannot be solved with policy, regulation, or independent action. These and other challenges that require systemic understanding, decisive leadership, and unprecedented collaboration need to be considered as part of the Capital Improvement Program. The clearest examples, all of which have direct impacts on residents' quality of life, are affordable housing, health and wellness, active transportation, energy, climate change, economic development, and environmental stewardship.

Monitoring and Evaluation

Implementation Priorities and Phases

As shown in the figure below, implementation will occur over several phases that build upon the work completed in the previous phases. The first phase is the consistency phase and will require a hard look at our policy and planning framework to ensure consistency with this General Plan. It includes implementation actions such as auditing codes to determine needed updates and updating our Community Development Plans and other relevant plans. The second phase will require code updates, capital improvement planning, and funding, a review of the County's organizational structure to support the mandated Charter review, and possible interim amendments to the General Plan to address any strategic gaps identified in the first phase. The third phase is where implementation continues to occur mainly through land use and infrastructure decisions. The comprehensive update to the General Plan will also be initiated during this phase. Finally, the fourth phase is where the General Plan comprehensive update will be completed, and it is anticipated that another cycle of similar implementation phases will begin. Priority implementation actions (i.e., programs, projects, and interagency coordination) generally fall into the first phase. However, other factors could drive implementation priorities such as available funding. A complete list of all the implementation actions can be found in the implementation table.



Monitoring and Evaluation Plan

Purpose

Provide regular and predictable ways of measuring progress and preparing for updates.

Monitoring Mechanisms

Measurable indicators, or performance measures, will be used to monitor progress toward the objectives. Examples of indicators that can be used to monitor the progress of implementation have been provided in the table below. However, it is important to note that indicators may vary over time as progress is made and each department is responsible for reporting on the indicators that are relevant.

Progress Reports

Mayor's Annual Report

As part of the Mayor's Annual Report, the County Departments will prepare an implementation status report annually serving to monitor progress towards achieving the goals and objectives identified within the General Plan. To the extent possible, the report should contain measurable indicators related to the goals and objectives of the plans that make up the County Planning System.

5-year Implementation Status Report

The Planning Director will include a 5-year status report as part of the Mayor's Annual report. This status report shall report on the status of any urban development plans, functional plans, special area plans, master plans, and related priority implementation actions. The director may also include information regarding the implementation of private development master plans in the 5-year implementation status report.

Comprehensive Review and Update Schedule

The Planning Director shall initiate a comprehensive review of the General Plan and prepare a set of recommended amendments for independent review by the Windward and Leeward Planning Commissions and then adoption by the County Council. The comprehensive review shall be initiated not more than fifteen years after the date of adoption of the previous amendments resulting from a comprehensive review and submitted to the County Council not more than twenty years after the date of adoption of the previous amendments resulting from a comprehensive review. This allows for regular updates and adequate implementation time between updates.

Example Indicators

ADAPTING TO CLIMATE CHANGE FOR ISLAND-WIDE HEALTH		EXAMPLE INDICATORS
Goal:	We ensure a just transition to a climate resilient island by addressing the causes and impacts of climate change through incorporating equitable climate mitigation and adaptation priorities into policies, programs, infrastructure, and decision-making.	• Number of public awareness campaigns on climate adaptation • Reduction in County GHG • Number of climate adaptation research and development projects supported
Objectives:	1. Ensure that climate actions are equitable and uplift historically marginalized and disadvantaged communities. 2. Achieve net carbon neutrality by 2045. a. Achieve a 100 percent renewable-powered County fleet by 2035 and 100 percent renewable ground transportation by 2045. b. Support the achievement of 70 percent renewable energy for the electricity sector by 2030, with 40 percent from renewables and 30 percent from efficiency, and 100 percent by 2045. 3. Improve the identification of climate change threats, assessment of potential consequences, and evaluation of adaptation options.	
SUSTAINABLE DEVELOPMENT AND RESILIENT COMMUNITIES		
Section 1: Land Use		**EXAMPLE INDICATORS**
Goal:	We strategically apply progressive land use strategies incorporating indigenous and contemporary knowledge and place-based practices to direct and manage growth for the health and safety of our communities.	• Number of developments that follow Character Guidelines. • Residential and commercial densities are increased within the Urban areas • Increase of SLU Rural • Acres of Agriculture property tax class
Objectives:	4. Maintain community character and land use compatibility. 5. Increase the integration of natural systems planning. 6. Increase equitable planning and decision-making processes. 7. Reduce the threat to life and property from natural hazards and disasters. 8. Increase the use of Smart Growth principles to focus development within existing urban centers. 9. Maximize the alignment and use of Rural designated lands to preserve rural character and lifestyle. 10. Support the active use of Productive Agricultural lands.	
Section 2: Transportation Access and Mobility		**EXAMPLE INDICATORS**
Goal:	Each community is connected by a multimodal and modernized transportation network that provides a system for safe, efficient, and comfortable movement of people and goods.	• Reduced VMT • MTA ridership • Number of miles in bike lanes and public access • Increase of bike lanes and public access • Reduced traffic fatalities
Objectives:	11. Achieve a transportation system that is consistent with and will accommodate planned growth. 12. Increase transportation connectivity. 13. Increase mass transit ridership by 50 percent. 14. Reduce vehicle miles traveled (VMT). 15. Achieve a transportation system that employs all modes of transportation at a community scale. 16. Incorporate green infrastructure to reduce stormwater runoff. 17. Increase transportation safety for transportation's most vulnerable users and reduce traffic fatalities. 18. Adequately maintain public transportation systems. 19. Improve accessibility to airports, harbor systems, and support facilities.	
Section 3: Public Utilities		**EXAMPLE INDICATORS**
Goal:	Our communities are adequately served by sustainable and efficient public infrastructure, utilities, and services based on existing and future growth needs, sound design principles, and effective maintenance practices.	• Utilities are planned for our urban areas • Energy efficiency • Reduce water consumption per household • Increased use of permeable surfaces and landscaping
Objectives:	20. Improve the efficiency, reliability, and sustainability of essential infrastructure systems. 21. Strive towards energy self-sufficiency. 22. Advance policies, programs, and initiatives for public and/or private investment in broadband and telecommunications infrastructure. 23. Increase the protection of existing and potential sources of drinking water. 24. Planned and developed municipal sewer capacity is expanded to serve our Urban Growth Areas and reduce sewage-related impacts on water quality. 25. Increase green infrastructure practices.	
Section 4: Public Facilities		**EXAMPLE INDICATORS**
Goals:	Our communities are safe and protected, and residents have access to quality, integrative health, education, and social services to support a high quality of life for residents of all ages.	• % of budget dedicated to maintenance

	Our communities are adequately served by sustainable and efficient public infrastructure and services based on existing and future growth needs, sound design principles, and effective maintenance practices.	• Police and Fire staffing milestones • Zero waste efforts
Objectives:	26. Adequately maintain public facilities 27. Protect the health and wellbeing of residents and visitors. 28. Achieve Zero Waste in Hawai´i County by 2045. 29. Each community has access to a wide range of educational opportunities. 30. Park facilities are located within a 10-minute walk in urban areas and a 10-minute drive in rural communities. 31. Each community has access to healthcare facilities, programs, or community-based care.	
Section 5: Housing for All		**EXAMPLE INDICATORS**
Goal:	Residents have access to adequate and affordable housing to meet the needs of the population and provide equitable opportunities for household flexibility and mobility.	• Number and variety of newly constructed housing units for rent and sale
Objectives:	32. Increase the number and variety of newly constructed housing units for rent and sale that addresses a range of Area Median Income (AMI). 33. Monitor, conserve, and improve the existing housing stock. 34. Prioritize providing quality affordable housing for Hawai´i's residents.	
Section 6: Integrated Systems		**EXAMPLE INDICATORS**
Goal:	We are governed by integrated systems that are efficient, equitable, and organized to facilitate coordination and collaboration.	• Cost savings • Multiple funding streams • Equitable distribution of County services
Objectives:	35. Increase collaboration and cooperation for efficiency, effectiveness, and responsiveness. 36. Maintain fiscal integrity, responsibility, and efficiency. 37. Achieve equitable outcomes for County programs, policies, and allocation of resources.	
THRIVING, DIVERSE, AND REGENERATIVE ECONOMY		
Section 7: Economy Introduction		**EXAMPLE INDICATORS**
Goal:	Our economy is diverse, regenerative, and innovative, improving and maintaining the financial wellbeing of our residents with a focus to increase local economic opportunities.	• Number of County apprenticeships, fellowships, and internships • Increase in emerging industries
Objectives:	38. Improve access at all levels for education and training. 39. Increase the growth and health of small businesses. 40. Incorporate resiliency, diversity, and innovation in County programs, plans, and research to support healthy economic development and revitalization.	
Section 8: Agriculture and Food Systems		**EXAMPLE INDICATORS**
Goal:	Agriculture is a robust, diversified sector that achieves food security and includes a broad range of agricultural-based businesses that highlight value.	• Increase in food production • % investment in ag infrastructure
Objectives:	41. Increase access to land for active food production. 42. Increase interagency coordination, programs, and policy initiatives that improve local agriculture infrastructure.	
Section 9: Visitor Industry		**EXAMPLE INDICATORS**
Goal:	A high quality of life for residents is maintained when a regenerative visitor industry balances the preservation of natural and cultural resources with responsible visitation.	• Increase in interpretive programs
Objectives:	43. Support the visitor industry investment in the connection with communities, the ´āina, and our historic and multicultural heritage. 44. Increase authentic Hawai´i Island visitor experiences.	
COLLABORATIVE BIOCULTURAL STEWARDSHIP		**EXAMPLE INDICATORS**
Goal:	Our natural and cultural resources are thriving and sustainably managed, preserved, and restored to maintain our unique and diverse environment.	• Increase in native habitat coverage • Improved water quality-less brown water advisory days • Increase % of budget for restoration
Objectives:	45. Increase the biodiversity and resilience of native habitats. 46. Preserve the health of the watersheds by improving water quality and reducing runoff. 47. Increase direct community restoration and collaborative efforts to conserve and nourish the island's biocultural resources. 48. The historical integrity, character, scenic assets, and open spaces of our communities are protected, restored, and treated as unique assets with significant social and economic value and managed in perpetuity. 49. Protect, restore, and enhance our communities' unique scenic character.	