Lahaina Long-Term Recovery Plan

DRAFT | OCTOBER 2024





Table of Contents

Acknowledgements			. i
Exe	Executive Summaryii		
Let	Letters from Mayor and Counciliv		
1.	Col	mmunity Overview	• 4
	1.1	Lahaina Land Use and Features	•••
	1.2	Community History and Culture	•••
	1.3	Government Services	
		1.3.1 Public Utilities and Infrastructure	
		1.3.2 Public Safety	
		1.3.3 Human Services	•••
		1.3.4 Government Services Provided by the State of Hawai'i	•••
		1.3.4.1 Public Utilities and Infrastructure	•••
		1.3.4.2 Public Safety	•••
		1.3.4.3 Human Services	
	1.4	Demographics	
		1.4.1 Population	
		1.4.2 Racial Composition	1
		1.4.3 Age Distribution	1
2.	Imj	pacts of Lahaina Wildfires on the Community	.1
	2.1	Economic Vulnerabilities Post-Wildfires	.1
		2.1.1 Tax Revenue Impacts	.1
		2.1.2 Affordability and Housing Availability	.1
		2.1.3 Impacts to Businesses	.1
		2.1.4 Reconstruction of Lahaina	.1
	2.2	Persistent Environmental Vulnerabilities	.1

		2.2.1 Wildfire	14
		2.2.2 High Windstorms	15
		2.2.3 Landslides	16
		2.2.4 Coastal Erosion and Flooding	16
3.	Loi	ng-Term Recovery Plan Purpose	18
	3.1	What is Recovery?	18
	3.2	Previous Plans and Completed Work	19
		3.2.1 How is this Plan Different from the West Maui Community Plan and CDBG-DR Action Plans?	20
	3.3	How will this LTRP be Used, Tracked and Updated?	21
	3.4	Challenges to Recovery	21
		3.4.1 Resilience of Public Utility Systems	21
		3.4.2 Access to Affordable Housing	22
		3.4.3 Economic Recovery and Resilience	22
		3.4.4 Honoring Community and the Environment	22
		3.4.5 Health and Social Services	22
		3.4.6 Planning a More Resilient Future	23
4.	Red	covery Planning Process	24
	4.1	Recovery Framework Guiding Principles	24
	4.2	Stakeholders	24
	4.3	Creation of Recovery Support Function Groups and Meetings	25
	4.4	Recovery Project Identification and Prioritization	26
5.	Co	mmunity Engagement	27
6.	LTI	RP Recovery Principles	29
	6.1	Prioritizing Repopulation	29
	6.2	Protecting Historic and Cultural Resources	29
	6.3	Honoring Community	30

	6.4 Hazard Mitigation and Response	30
	6.5 Rebuilding with Resilience	31
Lor	ng-Term Recovery Priority Projects	33
7.	Priority Projects	34
	How to Read This Plan	34
7. 1	Short-Term	35
	Rebuild Lahaina Plan	37
	National Historic Landmark District Update	39
	Affordable Rental Housing Programs	41
	Asset Management and Acquisitions Program	43
	Healthcare Service Expansion	45
	Enhance Emergency Communication Networks	47
	Energy Resilience & Redundancy	49
	Creation of a Lahaina Memorial	51
7.2	Mid-Term	5 3
	Maui Emergency Management Agency (MEMA) Advancement Program	55
	Lahaina Business Park	57
	Rebuild the West Maui Senior Center	59
	Street Connectivity and Extensions	61
	Kuhua Street Extension	63
	Lahaina Water Infrastructure Firefighting Capacity	65
	Stormwater Resilience and Flood Risk Management	67
	Wai and Watershed Recovery Planning	69
	Wildfire Risk Reduction and Mitigation	71
	Agriculture Planning & Long-Term Food Security	73
	Community Facilities	75

7.3	Long-Term	77
	Lahaina Bypass Phase 1C	79
	West Maui Greenway	81
	Ke Ola Hou	83
	R-1 Recycled Water Expansion	85
	Water Source Development	87
	Creation of a Cultural Corridor and the Restoration of Malu 'Ulu o Lele, Moku'ula and the Loko o Mokuhinia Complex	89
	Revegetating and Reforesting Lahaina and Kula	91
	Green Workforce Development	93
	Preservation, Revitalization, and Reconstruction of Historic and Cultural Spaces	95
8.	Next Steps	97
Acı	ronyms and Abbreviations	99
Glo	ossary of Hawaiian Language Words	101
Ap	pendix A. Brief Economic Analysis	103
Int	roduction	104
Inc	ome Dynamics	104
Ke	y Trends	105
	Sector Employment	105
	Commuting Trends	107
	Housing Availability and Affordability	108
	Summary of Key Trends	110
Tax	x Revenue Impacts	110
Ap	pendix B. County and State Priority Projects	115
Ap	pendix C. Community Vulnerability Considerations (SVI, CEJST, EJScreen)	120
Int	roduction	121

Climate and Economic Justice Screening Tool	
Social Vulnerability Index125	
EJScreen	
Appendix D. Maui Economic Recovery Commission 132	
Figures	
Figure 1. Lahaina Location Map1	
Figure 2. Essential Government Services in West Maui ⁵ 5	
Figure 3. Racial Distribution Across Lahaina Compared to the County, State and U.S 10	
Figure 4. Age Distribution in Lahaina	
Figure 5. Fire-Impacted Residents Considering Leaving the County ¹⁵ 12	
Figure 6. Critical Facilities in Wildfire Risk Area in West Maui ²⁵ 14	
Figure 7. Kaua'ula Winds15	
Figure 8. Landslide Susceptibility ²⁷ 16	
Figure 9. Coastal Erosion Line and 3.2-foot Sea Level Rise Scenario ²⁸ 17	
Figure 10. Disaster Management Continuum18	
Figure 11. Maui Recovery Guiding Principles	
Figure 12. County of Maui Office of Recovery Organizational Structure ³¹ 25	
Figure A-1. Comparison of Median Household Income and Per Capita Income in 2022 ¹ 106	
Figure A-2. Comparison of Population Living Below Poverty Line and Unemployment Rate in 2022 ¹ 107	
Figure A-3. Employment of Working Residents in Lahaina by Industry Sector ¹ 108	
Figure A-4. Total Number of Local Job Positions in Lahaina by Industry Sector ³ 108	
Figure A-5. Inflow/Outflow Analysis: Worker Flows In, Out, and Within Lahaina CDP ³ 109	

Figure A-6. Comparison of Housing Units by Type of Occupancy ³	110
Figure A-7. Comparison of Change in Median Household Income and Monthly Housing Costs, 2012 to 2022 ^{1, 5}	111
Figure A-8. Comparison of Gross Rent for Housing as a Percentage of Household Income in 2022 ²	112
Figure A-9. Share of Total Properties and Total Assessed Value	115
Figure C-1. Lahaina CDP with Identified Census Tracts	122
Figure C-2. Census Tracts within Lahaina CDP Determined to be Disadvantaged According to CEJST (using 2010 census tract boundaries)	124
Figure C-3. County of Maui SVI Compared to Communities Nationally	126
Figure C-4. SVI Percentiles for Lahaina CDP compared to County of Maui and State of Hawai'i	126
Figure C-5. SVI Percentiles for Census Tracts within Lahaina CDP compared to County of Maui and State of Hawai'i	127
Figure C-6. Overall SVI State of Hawai'i Percentile Ranking for Lahaina CDP Census Tracts	128

ONG-TERM RECOVERY PLAN | XII LONG-TERM RECOVERY PLAN | XIII

Introduction

On August 8, 2023, devasting wind-driven wildfires burned through Lahaina, Kula, Olinda, and Pūlehu, on Maui Island in the State of Hawai'i. Lahaina was severely impacted by the wildfires that caused the death of at least 102 individuals, destroyed more than 2,200 structures and resulted in approximately \$5.5 billion in damages.¹ This Long-Term Recovery Plan (LTRP) describes the Lahaina community, impacts from the fire, future vulnerabilities, and the importance of recovery with resilience. The LTRP outlines the long-term recovery process and documents how the County of Maui (County) engaged stakeholders and the public to identify and inform the identification of long-term recovery projects. Finally, this plan will explain how implementing these priority projects will shape the community throughout the rebuilding of Lahaina. While this LTRP focuses on Lahaina recovery efforts, County, State, federal, and community partners are coordinating efforts to address recovery and resiliency in Kula, Olinda, and Pūlehu as well.



Figure 1. Lahaina Location Map

1 FEMA. 2024. Preliminary After-Action Report: 2023 Maui Wildfire. February 8.

1. Community Overview

The following sections include a brief community overview of Lahaina, Maui, including land use and features, history and culture and a demographic analysis.

1.1 Lahaina Land Use and Features

Lahaina has long been a center of Native Hawaiian culture and history and is characterized by its unique setting at the base of Mauna Kahālāwai and nestled between Kahoma and Kaua'ula valleys. The three large streams of Kahoma, Kaua'ula and Kanahā flow out from the valleys—streams which once fed Lahaina's many lo'i kalo and wetlands, including the sacred sites of Loko o Mokuhinia and Moku'ula. Lahaina holds great significance in Hawaiian history and culture and was greatly favored by ali'i for its location, landscape, natural resources, and favorable climate. Over the past 200 years, Lahaina's land use has gone through immense changes reflecting major shifts in the social, political and economic landscape of Maui and Hawai'i as a whole.

Lahaina is predominantly composed of residential areas, with neighborhoods and communities that blend local culture and quaint plantation-style houses with modern features. The town's historic district, centered around Front Street, includes historic and commercial buildings, shops, restaurants, and art galleries, adding to Lahaina's unique character and charm. In Lahaina's historic district, buildings and historic sites capture Lahaina's deep history. Many important Native Hawaiian cultural sites remain intact both above and below the surface, providing a foundation for the community.

Surrounding Lahaina, fallow agricultural lands reflect the history of the economy as water was diverted to supply sugarcane and pineapple plantations from the mid-1800s to the 1900s. Since the demise of these plantations, small farms have been established and community groups and landowners are taking steps towards restoration, with further collaboration and work in the coming years to restore the biocultural landscape of Lahaina for the well-being of the community and environment. Farther mauka of Lahaina, towards Pu'u Kukui, the peak of Mauna Kahālāwai, native forests remain intact and serve as critical watershed areas to recharge the aquifer which supplies water for West Maui.

Lahaina is unique with a deep history and a tight-knit community of families who have called Lahaina home for generations, relative newcomers to Hawai'i and business owners—a community committed to rebuilding in a sustainable and resilient way. As Lahaina recovers, it is important that this process is grounded by the voices of the Lahaina community, prioritizes responsible land stewardship and land use, provides opportunities for sustainable development and regenerative agriculture, and supports the community's overall health and quality of life.²

LONG-TERM RECOVERY PLAN | 1 LONG-TERM RECOVERY PLAN | 2

² West Maui Plan, 2022



Lele - Window to the World sign at Lahaina Small Boat Harbor

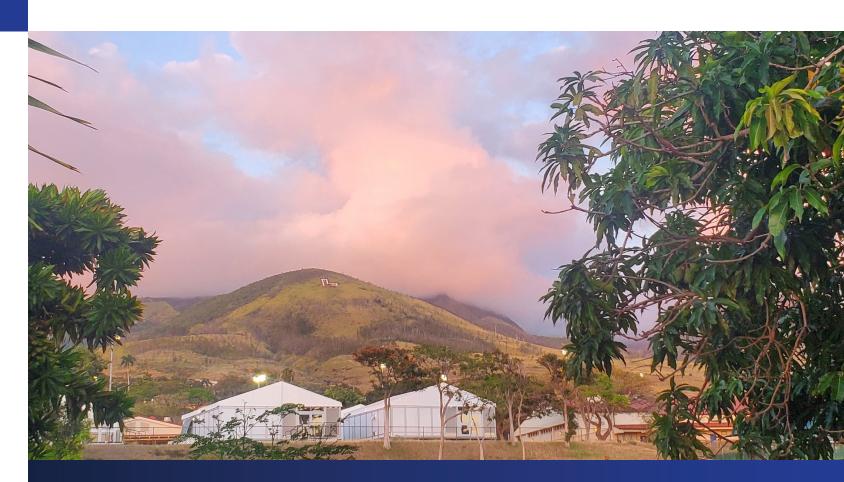
1.2 Community History and Culture

For generations, the Lahaina moku in West Maui served as the seat of power for Maui's ali'i, due in part to the abundance of food from both the land and sea, the beautiful landscape and the spiritual significance of the place.³ Lahaina is traditionally referred to as Malu 'Ulu o Lele, the shaded breadfruit grove of Lele, which refers to a Lahaina once covered in a lush 'ulu forest. Native Hawaiians use a unique system of water management to transport water to lo'i kalo, cultivate food crops and simultaneously recharge the aquifer. Lahaina—dubbed "the Venice of the Pacific" by British captain George Vancouver during his visits to the island in the early 1790s—was once home to Maui's highest concentration of inland fishponds and wetlands, located in the vicinity of modern-day Lahaina.

In 1802, King Kamehameha I made Lahaina the capital of the Hawaiian Kingdom. He built a brick palace, residences and other royal buildings; Lahaina served as the center of the Hawaiian government for over 50 years.⁴ The arrival of foreigners brought new ideologies regarding land, religion and value-systems that shifted the culture and social norms of Lahaina and Hawai'i. In the 1820s, missionaries from New England began settling in Lahaina, bringing new religion and social structures. Foreigners also brought diseases, causing epidemics that reduced the Native Hawaiian population by 90%.³ With increasing foreign influence and declining populations, King Kamehameha III established the Great Māhele in 1848, creating opportunities for private land ownership in Hawai'i. This allowed private interests to acquire land, enabling the creation of

large plantations across Hawai'i initially to grow sugar and then pineapple for export. Streams were diverted to irrigate plantation fields, and many cultural sites in Lahaina were demolished, buried and built over. Beginning in the mid-1900s, Maui's economic emphasis shifted from plantation agriculture to tourism, leading to the development of planned resorts along the coast. Increased tourism to Lahaina and the shifting economics of sugar and pineapple accelerated as the plantation owners found it economically advantageous to develop their lands for tourism or to sell them to others for development. This changed the character of the community from one focused on plantation-based agriculture to one focused on development and tourism.

Today, the culture of Lahaina reflects its complex, multilayered history. The plantation era prompted the immigration of laborers from Europe and then Asia —including Portugal, China, Japan, and the Philippines—resulting in a blending of cultures, which has carried through time to influence social norms and Lahaina community traditions. Lahaina's whaling, missionary and plantation eras were reflected in Lahaina's places of worship, schools, historic structures, waterfront buildings, and harbor. Lahaina's Front Street featured several historic buildings, museums, tourist shops, and restaurants, which coincided with many Native Hawaiian cultural sites beneath the surface. The history of Lahaina tells a story of both loss and perseverance amidst the challenges of colonization and external pressures.



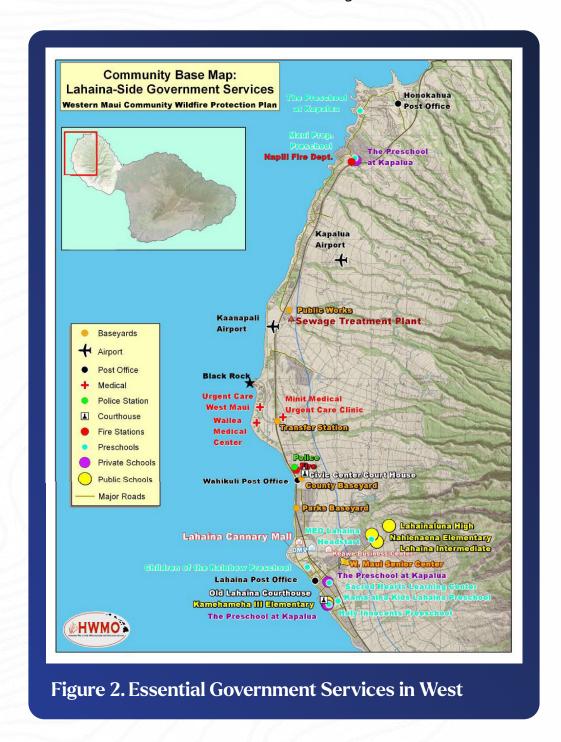
Temporary Classrooms for King Kamehameha III Elementary School on Princess Nāhi'ena'ena Elementary Campus

³ House Maui. 2024. Affordable & Workforce Housing Plan. January.

⁴ Lahainatown.com, 2024, Lahaina Timeline.

1.3 Government Services

The County provides most public-facing government services in Lahaina, including public utilities and infrastructure, public safety and public health. Following the August 2023 wildfires, the County established the Office of Recovery as a centralized hub to coordinate recovery efforts. The office has established partnerships across various levels of government (County, State and federal) to include the private, public and nongovernmental sectors involved in the long-term recovery of impacted communities. Essential services are shown in Figure 2.



⁵ Hawaii Wildfire Management Organization. 2014. Western Maui Community Wildfire Protection Plan.

1.3.1 Public Utilities and Infrastructure



The <u>Department of Environmental Management (DEM)</u> handles wastewater and solid waste disposal through the <u>Wastewater Reclamation Division</u> and the <u>Solid Waste Division</u>, respectively, as well as residential curbside refuse pickup and disposal services in Lahaina. The <u>Environmental Protection and Sustainability Division</u> guides and funds initiatives around natural resource protection, sustainability, conservation, and restoration.



The <u>Department of Public Works (DPW)</u> is responsible for the development and maintenance of public infrastructure on Maui, including County-owned roadways, bridges and stormwater management infrastructure through its Highways Division. The DPW also reviews and administers permits (including those for subdivision, building, electrical, and plumbing) for new development and redevelopment via the <u>Development Services Administration</u>.



The <u>Department of Planning</u> advises County advisory and legislative bodies on planning and zoning, drafts updates to the General Plan, Maui Island Plan and Community Plans, presents reports and recommendations on development proposals, and oversees programs on cultural resources, census and geographic information, flood plain permits and other special projects and permits.



The Office of Recovery is responsible for coordinating recovery efforts following the August 2023 wildfires. They collaborate closely with government entities and the community to facilitate comprehensive recovery initiatives across sectors such as housing, infrastructure and economic revitalization. They allow direct access to County, State, federal, and community service agencies and are committed to rebuilding and revitalizing Maui.



The <u>Department of Agriculture</u> supports the development and continued management of a sustainable regional agricultural system for the County. They aim to promote resident and ecosystem health and boost food security, as well as create a thriving circular agro-economic system that can be a model for the rest of the world.



The <u>Department of Water Supply (DWS)</u> provides potable water to Lahaina, primarily from Kanaha Stream via the <u>Lahaina Water Treatment Facility</u> which was constructed in 1975 to provide municipal wastewater services. They provide water to approximately 36,400 services on Maui and Moloka'i.

1.3.2 Public Safety



The <u>Department of Fire and Public Safety</u>, commonly referred to as the Maui Fire Department (MFD), provides fire prevention, firefighting, search and rescue and hazardous material response. The Maui Police Department (MPD) is responsible for public safety and law enforcement for the County, including traffic safety and enforcement. Lahaina is serviced by one police station and one fire station.



Maui Emergency Management Agency (MEMA) is the local coordinating agency for administering and operating various local, State and federal emergency management programs for the County. This includes planning, preparing and coordinating emergency management operations in meeting disaster situations and coordinating post disaster recovery operations.

1.3.3 Human Services



The <u>Department of Housing</u> expands affordable housing opportunities for low- and moderate-income families through the development of affordable rental housing units, the provision of rental assistance and first-time home buyer assistance and grant and loan programs to support private development of affordable housing.



The <u>Department of Human Concerns</u> supports and maintains a continuum of social services to address the needs of the community through County sponsored programs and partnerships. They support a wide range of community needs through a combination of direct services administered by the department, grant support to non-profit service providers and/or encouraging and facilitating collaboration and partnerships among public and private organizations. Their mission is to support and enhance the social well-being of the citizens of the County.



The <u>Department of Parks and Recreation</u> provides recreational opportunities for residents and visitors to Maui. The department operates and maintains the County's numerous parks, recreation areas and recreational service programs and coordinates with other County departments to enforce rules and regulations of associated facilities.



The <u>Department of Transportation (DOT)</u> facilitates the rapid, safe and economical movement of people and goods throughout the County. The County funds multiple bus services, including the Maui Bus public transit system. Maui Bus provides service in and between various Maui communities, including West Maui, with a bus transfer point located at Lahaina Cannery Mall. Maui Bus also offers commuter routes, which take people as far north as Kapalua.



The Office of the Mayor establishes and directs basic management guidelines for all executive departments of the County and serves as a liaison between the County Council and executive departments and agencies.



The <u>Department of 'Ōiwi Resources</u> was established in 2024 to implement programs to ensure proper management of 'Ōiwi cultural resources. This includes the Hawaiian language, place names, historical and archival materials, cultural sites, iwi and burials, and the variety of natural resources used in cultural practices.



The Office of Economic Development (OED) works in partnership with the community, business and government sectors to strengthen and diversify the economy by supporting existing businesses and assisting in the attraction, development and expansion of new businesses and events that will in turn provide new jobs for our community.

1.3.4 Government Services Provided by the State of Hawai'i

While the County provides most essential services in Lahaina, the State also provides key services.

1.3.4.1 Public Utilities and Infrastructure



The <u>Hawai'i Department of Transportation-Highways Division</u> is responsible for the development and maintenance of highways serving Lahaina and the rest of West Maui. Key thoroughfares include State Route No. 30 (Honoapi'ilani Highway) and State Route No. 3000 (the Lahaina Bypass), which are critical for the recovery of Lahaina and the evacuation of West Maui in the event of a future disaster. The <u>Hawai'i Department of Transportation-Airports Division</u> also owns and operates Kapalua Airport. This airport is approximately 7 miles from central Lahaina and serves the west side of the island of Maui.



The <u>Hawai'i Department of Land and Natural Resources (DLNR)</u> is responsible for managing, administering and exercising control over public lands, water resources, ocean waters, navigable streams, coastal areas (except commercial harbors), and minerals. Key divisions include the <u>Division of Boating and Ocean Recreation (DOBOR)</u> which owns and operates the Lahaina Small Boat Harbor; <u>Commission on Water Resource Management (CWRM)</u> who administers the State Water Code, protecting and managing the waters of the State for present and future generations; <u>Division of Conservation and Resources Enforcement (DOCARE)</u> which is responsible for law enforcement primarily involving cultural and natural resource laws to include coastal zones and aquatic life; and <u>State Historic Preservation Division (SHPD)</u> whose three branches, Architecture, Archaeology and History and Culture collectively strive to preserve and protect Hawai'i's historic identity.



The <u>Hawai'i State Energy Office</u> promotes energy efficiency, renewable energy and clean transportation to help achieve a resilient clean energy economy. They lead statewide energy security and resilience initiatives while catalyzing energy independence and decarbonization, with a goal to achieve 100 percent clean energy by the year 2045.

1.3.4.2 Public Safety



The <u>State's Emergency Management Agency (HI-EMA)</u> plans for and responds to both natural and human-caused emergencies. It is the coordinating agency on emergencies of all kinds between federal and local agencies and prepares and implements a statewide Comprehensive Emergency Management Plan.



The State Fire Marshal coordinates fire protection efforts between local agencies and supports other statewide fire services. They coordinate with State and County law enforcement agencies to enforce state fire code, and review and assess fire risk of the State.

LONG-TERM RECOVERY PLAN | 7 LONG-TERM RECOVERY PLAN | 8



The <u>Hawaii State Public Library System (HSPLS)</u> inspires curiosity and creates opportunities for all to read, learn, and connect. It depends on four sources of government funding, as well as the commitment and support of local volunteers.

1.3.4.3 Human Services



The <u>Hawai'i Department of Education (DOE)</u> has a substantial daily impact on the residents and families in Lahaina. The DOE operates King Kamehameha III Elementary School, which was destroyed by the wildfires and temporarily moved makai of the Kapalua Airport. The department also operates Princess Nahi'ena'ena Elementary, Lahaina Intermediate and Lahainaluna High School. While the purpose of school facilities is primarily education, they may also be used as community shelters for individuals and families displaced by wildfire, tsunami or hurricane.



The <u>Hawai'i Department of Health (DOH)</u> is responsible for public health, providing resources and expertise in family health, public health nursing, environmental, and mental health. Additionally, the Office of Health Status Monitoring is responsible for vital records, including birth, marriage and death certificates. The <u>Surface Water Protection Branch</u> is responsible for the planning and implementation of the nonpoint source pollution control programs for the State.

1.4 Demographics

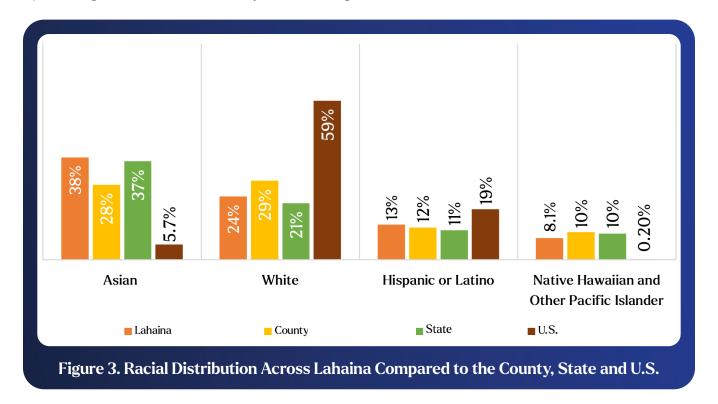
This section summarizes the demographics of Lahaina pre-fire based on American Community Survey and Census Bureau data for the Lahaina census-designated place (CDP). It provides population, racial composition and age distribution for Lahaina, as well as the County, State and U.S. to develop a basic understand of demographics in Lahaina and compare them across geographies. The demographic information presented in this section uses the most publicly accessible and widely used national datasets; these findings should complement and not replace local community knowledge and engagement.

1.4.1 Population

In 2020, the CDP of Lahaina had a full-time resident population of 12,702 people, which was a 9% increase from 2010, and marked a slightly faster rate of growth than the County, State and U.S.⁶ The split of female and male is roughly half the population, which is on par with the County, State and U.S.

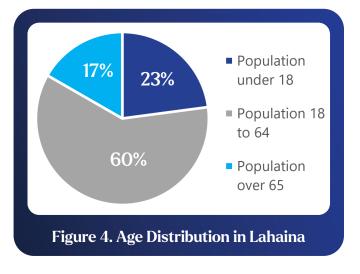
1.4.2 Racial Composition

Lahaina has a greater community diversity than the County and State, including significant populations of Asian, White, Hispanic, Latino, and Native Hawaiian and other Pacific Islanders. Immigrant residents make up 32.9% of the population, which is nearly double the share than in the County, State and U.S. Within Lahaina and the State, Asian residents make up the largest demographic, which consists of a majority Filipino population (27.9%), while White residents make up the largest share in the County and U.S. (Figure 3).



1.4.3 Age Distribution

In Lahaina, residents between 18 and 64 years old make up 60% of the population, with a median age of 38.7 years, which is comparable to the County, State and U.S.⁹ In addition, roughly 1 out of 5 people is below age 18 which signals an upcoming relatively youthful labor force (Figure 4). Kūpuna make up nearly 17% of the population, with roughly 12%, people between 55 and 64 years, aging up in the next 5 to 10 years. The anticipated growth of kūpuna population is reflected by the current emphasis on projects to expand senior services within Lahaina and the County.



⁷ U.S. Census Bureau. 2022. <u>ACS Demographic and Housing Estimates</u>. ACS Demographic and Housing Estimates. ACS 5-Year Estimates Data Profiles, Table DP05.

⁶ U.S. Census Bureau. 2010, 2020. TOTAL POPULATION. Decennial Census, DEC Demographic and Housing Characteristics, Table P1.

2. Impacts of Lahaina Wildfires on the Community

2.1 Economic Vulnerabilities Post-Wildfires

While the full scale of the impact of the August 2023 wildfires is not yet known, wildfires can severely reduce economic activity through commercial property damage, reduced tourism and reduced business activity, resulting in higher unemployment and insurance claims.⁸ The Hawai'i Department of Business, Economic Development and Tourism (DBEDT) estimated a loss of \$2.7 million per day for the approximately 800 business establishments directly affected by the Lahaina wildfires.⁹ In 2022, the island of Maui received over 2,921,000 visitors, close to pre-pandemic levels; through June 2024, the number of visitors year-to-date is 36% less than at the same time in 2022.¹⁰ Refer to Appendix A for a Brief Economic Analysis which further outlines key economic trends and tax revenue impacts.

2.1.1 Tax Revenue Impacts

The Lahaina wildfires could affect tax revenues collected by the County and State in three ways: the loss of properties reduces the tax base by removing the value of the destroyed and damaged properties; reclassifying transient vacation rental (TVR) properties into rental or owner-occupied properties reduces their marginal property tax rate; and the loss of general excise tax due to reduced visitor spending and transient accommodation tax due to few visitor nights spent in TVR properties and hotels. The combination of these effects is expected to result a reduction of revenues by the County.

2.1.2 Affordability and Housing Availability

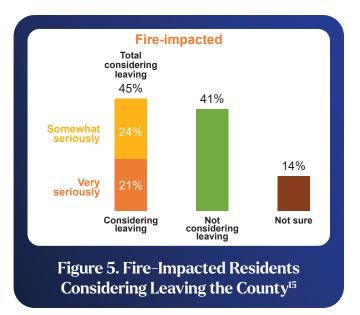
Residents of Lahaina were housing challenged prior to the fire due to limited availability and high cost of dwelling units, both for rent and purchase. The U.S. Department of Housing and Urban Development (HUD) consider households to be income burdened if their monthly housing costs are greater than or equal to 30% of their household income. This indicates their housing costs may impact their ability to afford other basic necessities, such as food and medical services.¹¹ Prior to the fire, 54% of people in Lahaina were considered cost burdened, compared to 53% in the County, 56% in the State and 50% in the U.S.

Of the 2,207 structures damaged or destroyed in the fire, 1,898, or 86% of the total, were estimated to be residential structures, representing a loss of 45% of the total residential housing in Lahaina.^{9, 12} The challenge of finding replacement housing units for residents who lost their homes is exacerbated by the average household size in Lahaina being significantly higher than the average in the County and State. The scarcity of rental housing amidst competition with short-term rentals presents an affordability challenge for displaced residents, increasing the pressure on the housing supply throughout the region. Limited housing availability and high cost of living,

compounded by the fire, have resulted in 45% of fire-impacted respondents to say they are considering leaving the County and moving elsewhere (Figure 5).¹³ A more in-depth economic analysis pertaining to income distribution can be found in Appendix A.

2.1.3 Impacts to Businesses

As of June 30, 2024, total claims collected from over 200 insurers for all lines of business totaled approximately \$3.3 billion, of which \$1.7 billion was for commercial properties.¹⁴ The Federal Emergency Management Agency (FEMA) records from visual inspections after the disaster indicated there were 281 commercial structures destroyed by the fire.¹⁵



With the heavy reliance on tourism, most businesses registered on Maui have been impacted directly or indirectly by the reduction in visitors and its multiplier effects on the economy, according to the Small Business Development Centers (SBDC). Approximately 50,000 fewer tourists visited the island each month over the prior year, leading to nearly a 25% decline in the tourism sector alone. With each visitor estimated to spend \$2,278 over an average 8-day stay on the island, there is a shortfall of approximately \$1.5 billion in foregone revenue between August 8, 2023 and April 2024, as determined by the Hawai'i Tourism Authority, a division of the DBEDT. 17,16

The OED conducted a <u>Maui Business Health Check survey</u> from January to February 2024, to which 290 businesses responded. The survey sheds light on the post-wildfire challenges faced by the Maui business community and offers insights for progress. The objective was to facilitate a deeper understanding of the hurdles that businesses encounter and it pinpoints areas where support and resources are needed.

Among the total 290 survey participants, 106 businesses (36.5%) were from Lahaina, representing a diverse range of industries. The top sectors included tourism and hospitality (27.6%), retail (22.8%), food and beverage (14.5%), and arts, culture and entertainment (11.4%).

LONG-TERM RECOVERY PLAN | 11 LONG-TERM RECOVERY PLAN | 12

⁸ Urban Land Institute. 2020. Firebreak: Wildfire Resilience Strategies for Real Estate. October 30.

⁹ DBEDT. 2023. Maui Wildfire Impacts Economic Recovery. September 6.

¹⁰ Hawai'i Tourism Authority. 2024. Maui County Overview: Visitor Statistics.

¹¹ HUD. n.d. CHAS: Background.

¹² University of Hawai'i News. 2023, Estimated \$5.5B needed to rebuild from Lahaina fire. August 14.

¹³ Hawai'i Sate Rural Health Association. 2024. The Struggles of Maui County. June.

¹⁴ Hawai'i Department of Commerce and Consumer Affairs. 2024. <u>Hawai'i Insurance Division Releases Current Data on Maui Wildfire Claims</u>
July 29.

¹⁵ Economic Recovery Support Function for Maui County, Hawai'i. 2024. Breaking Down Barriers to Business Recovery. FEMA Mission Assignment, Hawaii Wildfires (DR-4724-HI). Draft 2 – Updated June 28.

¹⁶ Hawai'i Tourism Authority. 2024. Visitor Arrivals and Visitor Spending Decreased in April 2024. May 30.

Survey key findings included:

- Of those who participated in the survey, 52.4% reported no change in their business location, 27.8% currently lack a physical space and 19.8% have relocated.
- The top reasons for businesses relocating were building lost in fire (75%), unaffordable leases (8.9%) and fire damage/necessity for renovation (3.6%).
- Out of 290 businesses, 37.6% are still evaluating the impact of the wildfires on their business plans, while 36.2% significantly scaled back but plan to rebuild on Maui.
- Financially, 43.8% of businesses described themselves as "critical, on life support," with only 3.1% reporting "doing great, feeling great."
- More than half of the businesses faced challenges in retaining or hiring employees, resulting in 1,936 job losses.
- A few businesses were able to expand and hire new employees, with 788 people hired since the wildfires.
- Most Lahaina businesses expressed a desire to remain in West Maui, emphasizing the need for accessible office spaces and conducive environments for business operations.

Prior to the fire, employment sectors across Maui were found to have severe shortages of workers, including critical professions like construction, healthcare and technology.¹⁷ For healthcare physicians, the shortage is as high as 43%. Factors for this shortage include high cost of living, lack of inter-state licensing agreements and high income taxes for doctors and clinics. Regulations and uncompetitive compensation were also cited as factors across sectors. These workforce attraction and retention challenges, which are the top two challenges for businesses in Hawai'i,¹⁸ compound existing issues with the cost of doing business and reduced services from the fire. According to 2023 rankings of measures for doing business, the State ranked 49th in 2023 in the U.S. News and World Report Rankings, 47th in CNBC America's Top States for Business in 2023 ranking and 46th in Economic Freedom of North America 2023.¹⁷ Hawai'i also ranks 42nd on the Tax Foundation's 2024 State Business Tax Climate Index in terms of tax rates, collections and burdens.¹⁹

2.1.4 Reconstruction of Lahaina

The cost of recovery efforts related to the August 2023 wildfires paid for by insurance and the County, State and federal government is estimated at approximately \$12 billion,²⁰ exclusive of response and recovery efforts paid for through donations to nonprofits and individuals via platforms such as GoFundMe or unrecovered costs by property owners. The cost of repairs or replacement of homes and buildings needs is estimated at \$5.52 billion,²¹ while the full extent of

infrastructure repairs, upgrades and replacement needs is projected to be even higher if building codes are updated to reflect increased risks due to fire, hurricanes and sea level rise.

Rebuilding community infrastructure is needed to lay the groundwork for residents and businesses to move back into Lahaina. Planning and construction of new and more resilient public infrastructure projects will likely need to be funded by a variety of sources, including government appropriations, grants, loans, and bonds. In addition to obtaining funding, high construction costs due to the decreased availability of construction workers and increased cost of materials, as well as equipment, creates a challenging environment for reconstruction since both materials and crews must be brought to the island and workers must find lodging in an already crowded housing market.

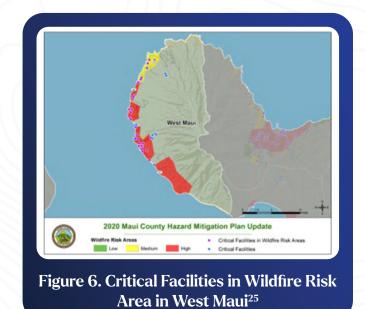
2.2 Persistent Environmental Vulnerabilities

West Maui is vulnerable to multiple environmental hazards that should be considered as the community plans for rebuilding. The County's <u>Hazard Mitigation Plan Update (2020)</u> lists the primary hazards for West Maui as wildfires, coastal erosion, flooding, windstorms, and landslides. It is important to consider all hazards during rebuilding because environmental events may be layered, as occurred on August 8, 2023, when a spot fire ignited during drought conditions and was spread uncontrollably by a wind event.²⁴

2.2.1 Wildfire

Wildfire is a persistent issue in West Maui due to high winds, minimal rainfall, lack of water, and invasive grasses that are highly combustible. Since 1999, West Maui has experienced 28 wildfires, more than other areas in the County. The Hazard Mitigation Plan Update identifies areas around Lahaina as high-risk areas for wildfire (Figure 6).²⁵ Wildfires typically occur in vegetated areas and steep slopes on the leeward areas of the County. Buildings and structures located in areas where development meets vegetated, wildfire-prone undeveloped lands are most at risk.

During the August 2023 wildfires, winds gusting 40 to 50 miles per hour (mph)



resulted in embers that spread fire from its ignition point to structures and other combustible materials. The wind also hampered aerial firefighting capabilities.²² After confirmation there was no fire in the initial area above Lahaina, the MFD was recalled to the scene and reported, "flames showing with running wildfire toward Lahainaluna Road with 40-50 mph gusty winds."²⁴ Within 20 minutes, MFD reported "the ground fire spotted a quarter mile ahead and established itself burning neighborhood structures and the urban conflagration/firestorm began."

¹⁷ Economic Recovery Support Function for Maui County, Hawai'i. 2024. Interim Report Workforce Study. FEMA Mission Assignment, Hawaii Wildfires (DR-4724-HI). Draft - July 10.

¹⁸ Hawai'i Employers Council. 2022. 2022 National Business Trends Survey Hawaii Report. February 1.

¹⁹ Walczak, J., A. Yushkov, and K. Loughead. 2023. 2024 State Business Tax Climate Index. October 24.

²⁰ Hawai'i Office of the Governor. 2024. <u>Governor Green Announces \$4 Billion Global Settlement In Principle To Resolve Maui Wildfire Lawsuits</u>. August 2.

²¹ University of Hawai'i News. 2023. Estimated \$5.5B needed to rebuild from Lahaina fire. August 14.

²² County of Maui Department of Fire and Public Safety. 2023. After-action report Maui Wildfires August 7-11 2023. April 18.

According to the Insurance Institute for Business & Home Safety April 2024 report, "Wildland fire entered Lahaina through connective fuels that bridged the grasslands with the community. These connective fuels are present in many forms, ranging from natural elements like vegetation (e.g., wildland grasslands, shrubs, and trees) to manmade objects such as vehicles and building components like fences. These connective fuels created a pathway for fire to reach and ignite structures—setting off a conflagration."²³ Conflagration occurs when a wildfire spreads into the built environment by uncontrolled structure-to-structure spread.

Strategies to address this vulnerability for new construction could include increasing the separation between buildings and prioritizing the use of fire-resistant construction materials. For existing structures installation of fire-resistant hardscape, vegetation or fencing between structures could slow down or stop conflagration. Firebreaks and fuel reduction surrounding Lahaina could also protect the town from fire.

2.2.2 High Windstorms

Maui has the reputation of being the windiest island in the State with seasonal trade winds that average 15 to 30 mph (north-northeast direction) and Kona winds that average 10 to 20 mph (south-southeast direction). The Lahaina winds, called Kaua'ula winds, are downslope winds (Figure 7). They issue from the canyons at the base of the main mountain mass of western Maui, where the steeper canyon slopes meet the gentler piedmont slope below. These winds have been reported from both the northern and southern side of the western Maui mountains. They are infrequent, occurring every 8 to 12 years on average. However, when they do occur, they are extremely violent with wind speeds that may reach 80 to 100 mph or more. They have been known to damage structures and uproot trees. In 2013, strong winds were recorded that knocked down a power line and 30-foot trees on Ala Moana Street in Lahaina.²⁴



High winds can be the result of tropical systems, frontal systems or Kona low pressure systems. Trade winds from the northeast are funneled between the West Maui Mountains and Haleakalā. This blast of wind will then wrap along the west coast and across Lahaina. In August 2023, Hurricane Dora approached from the south creating a pressure gradient that brought high winds and low humidity to the island, fueling a fire that spread rapidly into Lahaina and towards the

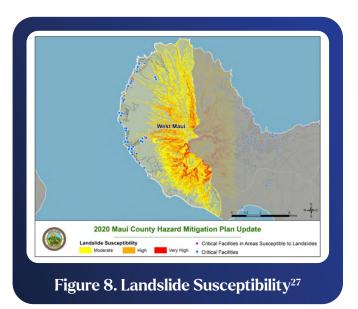
Pacific Ocean. In addition to fueling the fire, high winds downed power lines and trees, hampering evacuation efforts.²⁶

Strategies to address this vulnerability include retrofit of buildings and infrastructure to increase resilience to high-wind events, undergrounding or retrofit of utility lines adjacent to evacuation routes and ensuring building codes adequately address high-wind events.²⁵

2.2.3 Landslides

The County experiences approximately one landslide event per year. Landslides occur along steep slopes and are often caused by intense rainfall events or exacerbated by wildfires. West Maui is generally less vulnerable to landslides than other areas of the County, however, the size of the Lahaina wildfire left large areas bare of vegetation and more vulnerable to erosion and landslides. Several critical facilities, including water and wastewater system facilities, are within landslide susceptibility areas in the West Maui Community Planning Area (Figure 8).²⁷

Strategies to address this vulnerability include revegetating the impact zone and redesigning infrastructure to be more resilient to erosion and landslides.



2.2.4 Coastal Erosion and Flooding

Lahaina is characterized by pocket beaches interspersed with hardened shoreline and seawalls, constructed north of the Lahaina Small Boat Harbor. The effects of sea level rise include passive flooding (still water high-tide flooding), annual high wave flooding (overwash during the largest wave events of the year) and coastal erosion. The area has experienced moderate erosion over time and the average beach width decreased by 26% between 1949 and 1997. Climate change and sea level rise may increase the magnitude and frequency of coastal flooding from high-tide and storm-surge flood events. The State Climate Commission's recognized planning target or threshold for sea level rise exposure is currently 3.2 feet of sea level rise (Figure 9).²⁶ The sea level rise scenario is a projection of where rising water will likely encroach beyond the current Lahaina coastline by 2100. The planning threshold may change over time based on the best available scientific information.

Strategies to address this vulnerability include stricter building requirements and measures to increase resilience, such as elevation, protection and retrofit or relocation of development and infrastructure to less-hazardous locations.

²³ Insurance Institute for Business & Home Safety. 2024. <u>Lahaina: From Conflagration To Resilience</u>. April.

²⁴ Hawai'i Ocean Project. 2018. A Guide to Understanding Maui's Weather.

²⁵ Insurance Institute for Business & Home Safety. 2024. <u>Lahaina: From Conflagration To Resilience</u>. April.

²⁶ Pacific Islands Ocean Observing System. 2024. Sea Level Rise: State of Hawai'i Sea Level Rise Viewer.



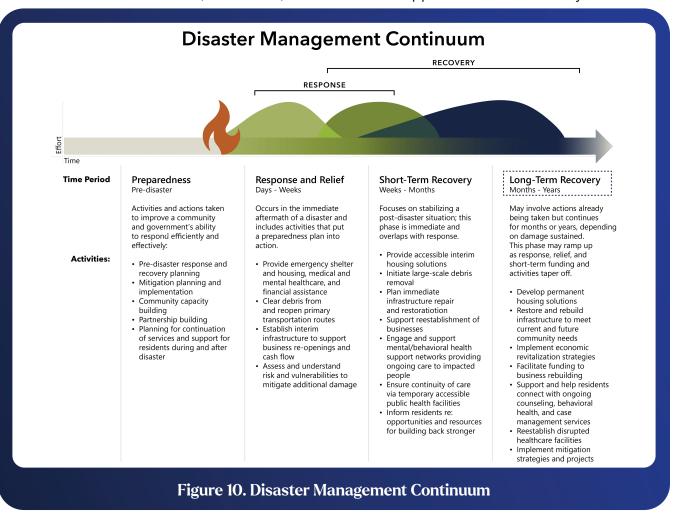
3. Long-Term Recovery Plan Purpose

The purpose of the LTRP is to help Lahaina focus and prioritize projects to ensure a coordinated, holistic and community-informed approach to embodying its recovery principles (Section 6). The LTRP will serve as a guide for the community, a living document that will evolve as the recovery of Lahaina progresses.

3.1 What is Recovery?

Recovery is a sequence of interdependent and often concurrent activities that allow a community to progressively advance toward its planned recovery outcomes.²⁷ From pre-incident through long-term, recovery activities are interconnected and are not, and cannot be, separate and sequential efforts. The disaster management continuum (Figure 10) highlights the overlap between preparedness, response and recovery that a community faces after a significant and widespread disaster.

The LTRP does not encompass all recovery efforts, rather it has a lens toward large scale projects that benefit the greater community. The LTRP works in conjunction with other recovery efforts, such as Hoʻōla iā Mauiakama Disaster Long Term Recovery Group and the Community Development Block Grant – Disaster Relief (CDBG – DR) Action Plan, to support Lahaina's recovery.



27 U.S. Department of Homeland Security. 2016. National Disaster Recovery Framework Second Edition. June.

LONG-TERM RECOVERY PLAN | 17 LONG-TERM RECOVERY PLAN | 18

3.2 Previous Plans and Completed Work

The following work is directly related to the area around Lahaina and was completed prior to the August 2023 wildfires, except for the Maui County Recovery Framework, which was developed in direct response to the fire. These descriptions provide an overall framework and understanding of needs that were identified by the community pre-wildfire and the community's plans for future development.



The Western Maui Community Wildfire Protection Plan (2021) was produced to address elements of fire protection, hazard assessment, wildfire mitigation priorities, and community outreach and education. A community wildfire protection plan generally identifies, prioritizes and recommends treatments for hazardous fuel reduction, as well as measures to reduce ignitability. It is the first step in the fire prevention and post-fire restoration planning process.



The <u>State of Hawai'i Strategic Plan for 2020-2025</u> published in 2019 outlines the primary responsibilities of the HI-EMA, which includes coordinating emergency preparation, mitigating impacts from storms and other hazards and ensuring that emergency management plans across the State are coordinated with each other and other State, federal, local, and private organizations.



The Hazard Mitigation Plan Update (2020) was published by the MEMA and reviews the history of the island as well as contains profiles of the eight community planning areas, including details regarding natural resources, climate, demographics, and physical setting. The planning process included a large community outreach and engagement effort where residents identified high-hazard areas on each part of the island. A risk and vulnerability analysis was conducted using an all-hazard approach and the eight community planning areas. As of August 2024, the Hazard Mitigation Plan is in the process of review and another update is scheduled for publication in 2025.



The West Maui Community Plan (WMCP) (2022) provides a growth framework, goals, policies, and actions to address challenges and opportunities facing the community plan area. The WMCP supports the community's vision and directs future growth and development in West Maui over a 20-year timeframe. The policies and actions outlined in the WMCP are intended to inform the County's decisions related to land use management, review of development projects, changes to zoning and development regulations, prioritizing funding for projects, and establishing new programs and initiatives. The WMCP aligns with the Countywide Policy Plan (2010) and the Maui Island Plan (2012). Prior community plans approached community planning in a more siloed way, whereas the WMCP policies emphasize interconnectedness between natural and human-made systems, structures and services. WMCP Section 3, Growth Framework, accounts for projected growth over the next 20 years, though this plan does not account for damages from the August 2023 wildfires.



The <u>West Maui Community Corridor Framework (2022)</u> stemmed from the WMCP to focus on strategies to transform West Maui into a transit-oriented community. Specifically, this framework addresses the 3.6 miles of Honoapi'ilani Highway that link Lahaina and Kā'anapali to areas within a half-mile of the corridor.



The <u>State of Hawai'i Emergency Operations Plan (2022)</u> establishes a framework to organize and coordinate emergency management activities when the State's assistance is required to save lives and protect public safety, health, welfare, and property. It establishes responsibilities between state department and agencies, as well as how they will work with the HI-EMA. It is intended to be a living document, evolving and improving as outcomes efforts, exercises and incidents are incorporated. A State Capabilities Assessment was completed in April 2024 which builds on the State's Recovery Operations Plan to provide a general framework for disaster recovery operations by specifying the State's role in addressing recovery and resilience needs and its capabilities to support the County for long-term recovery from the August 2023 wildfires.



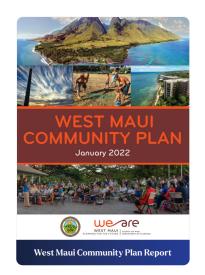
The <u>Maui County Recovery Framework (2023)</u> was developed in response to the August 2023 wildfires and high winds impacting the Lahaina and Kula communities. The LTRP was designed under this Framework, which establishes the structure for organized recovery led by the Office of Recovery within the Department of Management.



The <u>State of Hawai'i 2023 Hazard Mitigation Plan</u> was published by HI-EMA prior to the August 2023 wildfires. HI-EMA serves as the coordinating agency for the four County emergency management agencies and administers the State's hazard mitigation program. The Hazard Mitigation Plan embodies an all-hazards approach utilizing the Threat and Hazard Identification and Risk Assessment process. It intends to strengthen the State's disaster resilience and reduce the impacts and long-term risk to human life and property from hazards.

3.2.1 How is this Plan Different from the West Maui Community Plan and CDBG-DR Action Plans?

Both the LTRP and WMCP provide a framework for County decision-making on funding, projects and programs. While there may be overlap between the plans, they differ in their focus, purpose, timeframe, and geographic extent. The LTRP covers a limited geographic area related to the impact zone, which is smaller than the area of the WMCP that includes all of West Maui. The focus of the LTRP is post-disaster rebuilding, recovery and community restoration, while the WMCP was completed prior to the disaster and its focus is zoning and land use planning for future growth. The LTRP may include projects from the WMCP where they are needed for rebuilding and restoring community, but it also includes additional projects covering a broader range of issues. Recovery projects were aligned with applicable WMCP goals and actions, which are



LONG-TERM RECOVERY PLAN | 19
LONG-TERM RECOVERY PLAN | 20

identified on each project sheet found in Section 7. The LTRP and CDBG – DR Action Plan both include recovery projects, but the CDBG – DR Action Plan has a narrower focus than the LTRP and will be developed after the LTRP. It contains a broad array of recovery projects and is intended to create a framework to guide post-disaster planning processes and activities amongst local, State and federal partners, while the CDBG – DR Action Plan is more focused on identifying funding gaps and unmet funding needs for projects to restore housing, infrastructure and the economy. Projects and programs in the LTRP may be funded by CDBG-DR, but that funding source is not listed for specific projects since the Action Plan isn't developed yet.

3.3 How will this LTRP be Used, Tracked and Updated?

The LTRP contains priority projects that will guide the planning, program development, land use decisions, construction, changes to zoning and development regulations, and funding prioritization for Lahaina's recovery.

The Office of Recovery will track implementation of priority recovery projects and modify or reprioritize projects based on recovery needs, changing conditions, available funding, and community feedback. The projects and programs identified represent a prioritized set of recovery actions at the time of publication. Those actions may be refined during the implementation process to add detail about project components, modify the scope based on funding availability or reprioritize based on need. Any changes to the priority projects will be based on the recovery principles for Lahaina described in Section 6. The County will track changes to the priority projects and provide updates on its website, as appropriate.

3.4 Challenges to Recovery

Challenges to recovery are inevitable, but recovering communities must identify and create actionable steps to overcome them. Six challenges are highlighted through the continued recovery efforts for Lahaina, which focus on infrastructure, housing, health and human services, economics, natural and cultural resources, and planning. Short-, mid- and long-term recovery projects were identified and developed to help ease or eliminate the following identified challenges for the recovery of Lahaina.

3.4.1 Resilience of Public Utility Systems

Lahaina's public water and wastewater systems will require repair and improvements to recover from damage caused by the August 2023 wildfires and be better prepared for future disasters. To increase the resilience of the drinking water system, upgrades are needed for drinking water distribution lines, water storage and pump capacity. Adding backup generators to water and wastewater treatment facilities throughout Maui allows water and wastewater systems to continue running, ensuring access to drinking water during power outages.

Electric power is crucial to the continuity of essential services, not only to public infrastructure, but also for communications, including wired, optical and wireless data and voice. Aerial electrical and communication lines are highly susceptible to storm winds and damage from debris, so hardening utilities is a top priority for the County.

3.4.2 Access to Affordable Housing

The destruction of Lahaina homes has displaced many residents. Affordable housing is especially critical for businesses and the workforce rebuilding Lahaina. New homes currently being built and damaged homes to be rebuilt will need to meet the current building codes, which increases the price of new housing and may exceed the insured value of the properties destroyed by the fire. Prior to the fire, 54% of residents within Lahaina were considered "cost burdened" according to HUD, which means their monthly housing costs are greater than 30% of their monthly income.⁹

3.4.3 Economic Recovery and Resilience

The full impact of the fire on the local commercial economy, including all sizes of businesses, residential housing, commercial lodging (short- and long-term), infrastructure, utilities, and tourism has yet to be fully documented. Economic assessments have been completed or are in process, which will assist Lahaina in prioritizing its future recovery efforts, including the U.S. Economic Development Administration's (EDA's) Maui County Breaking Down Barriers to Business Recovery, Workforce Needs Assessment, Logistic Needs Assessment, and Recovery Needs Gap Analysis reports. This is an opportunity to develop an economy that is not solely tourism.

3.4.4 Honoring Community and the Environment

The damage to Lahaina's natural and cultural sites will require extensive rehabilitation. It has become clear there are certain areas prone to future disasters that will require repetitive investment to restore. Lahaina's natural and cultural resources are vulnerable to future fire, storm surge, flooding, and high winds. These natural and cultural sites are central to Lahaina's history and character, creating a community where families want to live, work and play. Strategically restoring natural and cultural resources will be key to restoring the community's sense of place.

3.4.5 Health and Social Services

West Maui has limited on-island availability of medical, public health, mental health, and social services (such as senior citizen services and childcare). While the State's residential population has declined in recent years, its visitor population partially rebounded in 2021 and is expected to increase in the future which further burdens the already limited health and social services available to residents. According to DBEDT's The Health Care Industry in Hawaii, "Multiple factors suggest that Hawai'i's demand for health care services, and thus for healthcare workers, will increase over time." There is a need to improve community health and social services, and by identifying the type and number of medical, public health and social services needed; improving accessibility to those services; and attracting qualified medical professionals to Maui. The shortage of necessary healthcare physicians in the County was 43% in 2023, up 3% from 2022, and is higher than shortages in Hawai'i, Honolulu and Kaua'i counties, as well as statewide. The County would need an additional 181 physicians to accurately meet the medical needs of its population. Per the EDA's interim report on workforce study, demand for pre-license programs in healthcare training continue to exceed schools' capacity to enroll new students.

²⁸ University of Hawai'i System. 2023. Annual Report on Findings from the Hawai'i Physician Workforce Assessment Project. December

3.4.6 Planning a More Resilient Future

Most of Lahaina was extensively damaged or destroyed and will require substantial rebuilding. Besides risk of wildfires, Lahaina is vulnerable to other hazards, including high winds, coastal erosion and flooding. Rebuilding of homes, businesses and infrastructure should consider strategies to increase resilience to eliminate or mitigate these hazards. Strategies may include stricter building codes, redesigned infrastructure incorporating sustainability and resilience improvements and even avoidance by relocating to less-hazardous areas. These strategies may impose greater costs in the present, but reduce the likelihood and, therefore, cost of rebuilding in the future. Implementing community-wide green infrastructure and redirecting future density and land uses have the potential to make the community more resilient to future disasters and reduce community-wide damages, while also providing community co-benefits, such as improved public health, quality of life and recreation.



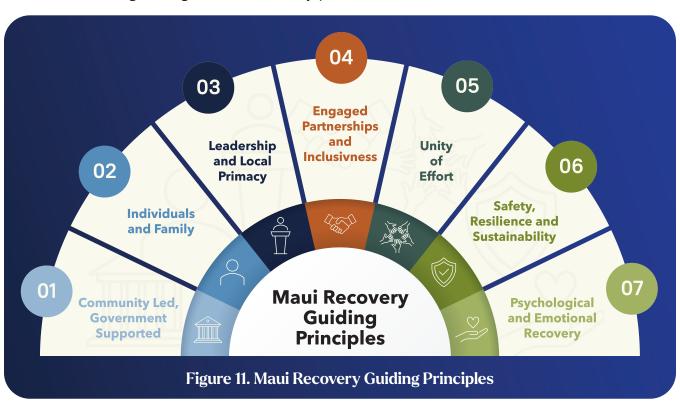
Public Art Project, "Maui Strong", by 600 Maui Students Displayed along a 1,000-foot stretch of the Honoapi'ilani Highway in Lahaina

Source: Maui Public Art Corps

4. Recovery Planning Process

4.1 Recovery Framework Guiding Principles

In response to the August 2023 wildfires, the County developed seven guiding principles, outlined in the Maui County Recovery Framework, that will guide recovery, core capability development and recovery support activities to achieve recovery success. A crucial bridge between community voices and the County's Office of the Mayor, these seven principles were used by the Mayor's Advisory Team to guide recovery operations. They set the basis for residents to be at the forefront of decision-making throughout the recovery process.



4.2 Stakeholders

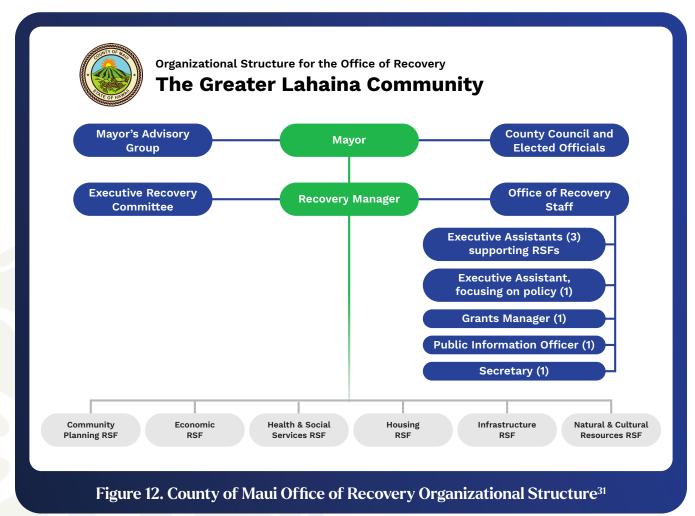
Ongoing recovery efforts are led by active leadership within the County, State and federal partners, and community stakeholders. This LTRP combines and organizes the various recovery needs and interests of the community and effectively prioritizes them based on the preferences of the whole community. This results in a focused recovery that is responsive to the community's needs and objectives in recovery.

4.3 Creation of Recovery Support Function Groups and Meetings

The Maui County Recovery Framework, modeled after the National Disaster Recovery Framework, establishes an organizational structure with six Recovery Support Functions (RSFs): Community Planning, Economic, Health and Social Services, Housing, Infrastructure, and Natural and Cultural Resources.

RSFs are led by the County with participating government agencies and nongovernmental partners and organizations. Each RSF is responsible for recovery activities within its focus area. RSF activities include developing and implementing recovery strategies, coordinating with external partners and stakeholders and reporting progress, challenges, and resource needs for its focus areas to the Recovery Manager.

In October 2023 the County implemented the framework to coordinate and support the recovery effort. RSF leads and stakeholders were identified and the RSFs began meeting individually and collectively to coordinate with internal and external partners, conduct public engagement, analyze disaster impact data, identify recovery needs, and implement recovery strategies (Figure 12).²⁹ RSFs will be replaced with working groups to implement priority projects identified in this LTRP.



²⁹ County of Maui Office of Recovery. n.d. Organizational Structure.

4.4 Recovery Project Identification and Prioritization

The recovery planning effort, and subsequent identification of recovery projects, began with collaborative County, State and stakeholder meetings to better understand how the fire impacted the community. County RSF leads identified long-term recovery projects and collaborated in gathering project information including estimated level of effort, timeframe for completion, potential partners, and potential funding opportunities. These long-term recovery projects are described in Section 7, by time to completion; short-term (1 to 2 years), mid-term (3 to 5 years) and long-term (6 or more years).

An in-person workshop of County and State leads and stakeholders was held on August 23, 2024 to decide which projects would be highlighted in the main body of this document or located in Appendix B. Projects were reviewed based on if they were required, right and/or ready.

Section 7 highlights the 29 projects voted for by workshop participants, while Appendix B describes all projects discussed. Projects in Appendix B are still considered long-term recovery projects but at the time did not meet the group's criteria to be highlighted in the plan. These projects may need additional planning, funding or further exploration to determine how they can best be implemented. This plan is a "living" document and will be reviewed, revised and updated regularly by the County's Office of Recovery.

The Maui Economic Recovery Commission (ERC) is the joint State and County RSF with a membership of 100 plus Maui- and Hawai'i-based leaders who come together with County, State, federal, and foundation partners to support Maui's recovery. They are a dynamic coalition dedicated to shaping a brighter economic future for Maui and Hawai'i. Launched on January 5, 2024, the ERC brings together influential stakeholders from various sectors to collaborate, innovate and uplift Maui after the challenges posed by the August 2023 wildfires. The Maui ERC is comprised of influential community leaders spanning business, culture, economics, nonprofits and workforce development, and is sponsored by DBEDT. From January to September 2024, the Maui ERC underwent a parallel process to develop recommendations, proposals and projects for recovery. The Maui ERC, and their projects, are describe in more detail in Appendix D and at https://www.mauinuistrong.info/mauierc.



Photo from September 10, 2024 Maui ERC meeting at the Maui Arts and Cultural Center, Credit: Mark Middleton

LONG-TERM RECOVERY PLAN | 25 LONG-TERM RECOVERY PLAN | 26 LONG-TERM RECOVERY PLAN | 26



Kelawea Mauka Lahaina Recovery Neighborhood Planning Workshop on April 20, 2024

5. Community Engagement

Community engagement is a critical first step of the long-term recovery planning process. Engaging the community in envisioning the future of Lahaina and how the town will rebuild can be a healing process and an empowering activity in a traumatic and uncertain time. Engaging the public ensures the LTRP is rooted in the community's priorities and that people can be active players in their recovery. No one knows better what is needed to make a community whole again than the people that live, work and love that place. The community should see its voices in the projects and programs included in the LTRP. The feedback gathered during engagement serves as a benchmark to check all projects and programs against to ensure they are supported by the community's priorities.

Engagement for the LTRP is a snapshot in time, capturing the voices of Lahaina today. As projects and programs are initiated and implemented, it will be important to continually check-in with the community to identify shifting priorities and new challenges and opportunities. Some projects will need their own engagement process to ensure their design and implementation are informed by community input. It is important to note that while there are community priorities heard loud and clear from the ongoing engagement, there are also areas of diverse perspectives that will require a deeper dive during project design and implementation. The LTRP will also be updated at logical intervals to mark progress on implementation and recovery, as well as to adjust or add new projects where needed. These plan updates will be important opportunities to check-in with the community on priorities and needs.

The <u>Lahaina Recovery Community Engagement Summary Report</u> captures thousands of comments collected from more than 3,800 Lahaina residents and stakeholder groups who participated

in 11 different County-hosted community engagement activities. The activities included workshops, interviews, testimonials, surveys, and online activities held between September 2023 and July 2024. To maximize participation opportunities, engagement events were designed to be inclusive of the diverse cultural, linguistic, social, and access needs of Lahaina residents. Local language interpreters and translations were provided for neighborhood workshops and online surveys in Hawaiian, Tongan, Tagalog, Ilocano, and Spanish. Providing online engagement opportunities was important to reach survivors who have relocated off Maui.

A common sentiment expressed during the community engagement process was a desire for Lahaina to be rebuilt with an emphasis on residents' needs (more workforce and affordable housing, more diverse job opportunities, locally owned businesses that meet residents' daily needs, improved medical services, and less visitor traffic). Visitors would be welcome to enjoy the rebuilt Lahaina as one element in the economic ecosystem without compromising the local quality of life. Local quality of life could be maintained through improved traffic management, more cultural education for visitors, fewer short-term rentals, and more support for local businesses. Residents also expressed a priority to improve public safety by creating more evacuation routes and stronger fire mitigation and management measures.

Diverse perspectives have also been heard as part of the engagement process on individual long-term recovery projects, such as the design of Front Street and improving parking options. These and other projects will require more public education and discussion before the project design and development process is finalized and implemented.

Additionally, as projects and programs are initiated and implemented, it will be important to continually check-in with the community to identify shifting priorities, new challenges and opportunities. Ongoing engagement will continue beyond this plan to ensure the LTRP becomes a living document that is rooted in community priorities and local people continue to play an active role in the recovery process.



Kelawea Mauka Lahaina Recovery Neighborhood Planning Workshop on April 20, 2024

6. LTRP Recovery Principles

The following recovery principles build off the County's initial Recovery Framework guiding principles to aid in long-term recovery. These principles emphasize community, history and culture and future resilience and safety; they will continue to set the basis for residents to be at the forefront of the recovery process.

6.1 Prioritizing Repopulation

The principle for establishing repopulation as the priority for the long-term recovery of Lahaina is based on the relationship of the people to the land. For many of the survivors, this cultural and spiritual relationship is the result of having spent decades, and in many cases, generations, living, working and being nourished by the land and waters of Lahaina.

Not all community members will be prepared for rebuilding and repopulation at the same time, so priority should be given to accelerating the rebuilding process and repopulation of Lahaina in the following priority:



Owner-occupants



Long-term multifamily rentals



Long-term single-family rentals

In addition to the construction of residencies at multiple price points (affordable, market and accessory), recovery efforts must also support repopulation by providing community support infrastructure such that services are available without needing to leave Lahaina and are ideally easily accessible without a car. These facilities include schools, healthcare facilities (medical, dental and mental health), social services infrastructure to include churches, and commercial properties providing essential human services (grocery stores and banks). Reconstruction of short-term and TVR properties should be discouraged to the extent permitted by law.

6.2 Protecting Historic and Cultural Resources

Lahaina's recovery will be committed to protecting, preserving and restoring Lahaina's historic and cultural resources and sites. Lahaina holds centuries of history and culture—from sacred Native Hawaiian cultural sites to historic buildings and structures to the natural native wetland ecosystem and landscape. The protection of Lahaina's historic and cultural resources must incorporate local community knowledge to ensure that restoration is carried out in a pono way, which prioritizes community needs and generational place-based 'ike. Many community members have personal connections to Lahaina's historic and cultural resources, whether as Native Hawaiians, cultural practitioners, descendants of early immigrants, or residents. Recovery efforts will prioritize community-led initiatives through forming partnerships with key community groups, supporting government agencies and private entities to implement locally driven community visions.

Prior to the August 2023 wildfires, several efforts had been ongoing to protect and restore Lahaina's historic and cultural resources, including the decades-long movement to restore Moku'ula and Loko o Mokuhinia, one of Hawai'i's most sacred cultural sites and former seat of power of Hawaiian ali'i. Lahaina is also comprised of many historic sites and buildings from the whaling, missionary and plantation eras and restoration efforts for these historic sites have been ongoing by community groups. Lahaina's deep layers of history contribute to its character, and

this LTRP takes a community-led approach to preserving Lahaina's significant historic and cultural sites. Long-time residents, respected elders and historical and cultural groups will be engaged to guide the restoration process and build consensus for a path forward that incorporates common objectives of the whole community.

For Native Hawaiians, land and culture are one and the same. The word 'āina encompasses all living things—the land, water, plants, air, clouds, and people—and the phrase mālama 'āina encompasses the notion of a reciprocal relationship between people and land. The restoration of 'āina is the restoration of sacred cultural sources. Recovery planning will incorporate natural resources restoration, sustainability and resilience, through proper management and restoration of waterways, wetlands, native vegetation, and open spaces for the community. Restoration of natural native landscapes and cultural spaces also provides immense psychological and emotional healing opportunities for the community.

6.3 Honoring Community

In the late 1900s, when the government encouraged the shift of Maui's economy from industrial plantation agriculture to tourism, Maui underwent significant environmental, social, cultural, and political change. Over the years, growth in the tourism industry, including the number of tourists and businesses supporting the tourism industry has led to overcrowding at beaches, parks and other natural and cultural areas, and a high cost of living for local residents due to competition for real estate and shipping costs. Most importantly, these changes have impacted the sense of place for residents, not only in Lahaina, but island-wide.

During this time of rebuilding and throughout the long-term recovery process, community voices will be at the forefront of the decision-making process to ensure Lahaina is rebuilt to protect residents' quality of life, and Lahaina's environment, culture and character.

The government plays a pivotal role by offering resources, expertise and structural assistance, ensuring that community-driven decisions are implemented effectively. The government will continue to form partnerships with residents, community groups and business leaders to work together towards a better collective future. It is of utmost importance that the government supports the community in healing, recovering, re-imagining, and rebuilding Lahaina in a way that is aligned with community visions and supports generational community health and well-being.

6.4 Hazard Mitigation and Response

Losses from the wildfires were extensive and will be felt for many years. Lessons learned during recovery can help to mitigate future damages and inform the response to future catastrophic events not only in Lahaina but throughout the State.

Effective mitigation and response start with identification and evaluation of all hazards, whether natural or manmade that may be a result of human activity. Once hazards are evaluated using a risk prioritization methodology, mitigation measures can be developed by government working with the business community, nonprofits, individuals, and families. These measures can be as simple as managing vegetation to reduce fuels in event of fire or as complex as responding to anticipated sea-level rise.

LONG-TERM RECOVERY PLAN | 29 LONG-TERM RECOVERY PLAN | 29 LONG-TERM RECOVERY PLAN | 30

Efforts to mitigate risks may not prove 100% effective, therefore emergency response planning is critical. Emergency response plans need to be tested and validated to ensure that the needed resources are (or can be made) available in time to be effective. Like hazard mitigation, emergency response is a whole of community effort.

6.5 Rebuilding with Resilience

Simply stated, resilience is about reducing risk. Many communities are facing changing environmental and climate conditions from fires, floods and hurricanes. These types of natural shocks can disrupt towns and communities. Added to that are ongoing challenges, such as affordable housing, lack of transportation options, economic development, and stress on municipal services. Since every community is unique, building resilience must be locally driven and tailored to the community's identity and vision. The recommendations in this LTRP are geared towards implementing Lahaina's community vision and overcoming the challenges presented by the August 2023 wildfires. FEMA defines resilience as, "the ability to prepare for threats and hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions."³⁰

The recommendations in the LTRP were developed with resilience in mind and in alignment with the Maui County Recovery Framework's guiding principle: Safety, Resilience and Sustainability. General resilience recommendations include:

- **Embed resilient design** into adaptation strategies and projects to proactively address existing and future risks and vulnerabilities.
- Build capacity in emergency management mitigation. Response and recovery capacity building, through periodic emergency management training, drills and exercises should be a community priority.
- **Vulnerability and risk assessments** should be undertaken periodically to better inform decision-making and investment. Understanding risks will help prioritize actions that will make a community stronger, more resilient and bounce back to the community's vision.

Over time, and with new science and data, all County policies, plans and projects should be reviewed and either validated or updated. Delivering services through the lens of resilience requires discipline and structure to keep up with the best available information to serve and protect Lahaina.

LONG-TERM RECOVERY PLAN | 31

THIS PAGE INTENTIONALLY LEFT BLANK

³⁰ FEMA. 2023. National Resilience Guidance: Background and Key Concepts. March.



Long-Term Recovery **Priority Projects**

Priority Projects

This recovery plan is designed to provide a roadmap for long-term recovery of Lahaina from the August 2023 wildfires. The plan focuses on long-term priority projects that have been identified by County, State and federal partners with input from community members and the general public. These projects represent a snapshot in time of recovery needs and priorities. They were based on the best information at the time which means project details, leads, partners, and time frames may change, and implementation is dependent on funding.

Each priority project has a sheet that can be read using the information below. Sheets are organized by estimated completion time starting with short-term (1 to 2 years), mid-term (3 to 5 years) and long-term (6 or more years). Cost estimates provided are the best estimate at this point in time given available information and are likely to change as projects progress. Potential funding sources are not committed and may change as projects progress. Projects are subject to meeting funding requirement and potential funding sources are subject to appropriation and/or allocation. The list of project partners for each is not exhaustive and may change as a project gets underway.





Short-Term 1 to 2 years



3 to 5 years



TIMING Long-Term 6 or more years

7.1 Short-Term







Rebuild Lahaina Plan

Project Description

This project will be a comprehensive rebuild plan for Lahaina focusing on business centers, public lands, circulation and mobility, and Front Street. This plan will build upon the vision expressed in the West Maui Community Plan, incorporating the National Historic Landmark District (NHLD) guidelines, the West Maui Community Corridor Plan and West Maui Greenway Plan. The proposed project will be finer grained than previous plans, identifying specific areas for mixeduse, parks, housing, transit hubs, and public facilities. It would be completed over multiple phases and may include subordinate plans and visions for Front Street, and public lands and parks. The project will require extensive community engagement including direct coordination with landowners. Following the completion of the Rebuild Lahaina Plan, the County may take the lead on rezoning the area to match the intention of the community. It may also identify needed future projects and a timeline for those projects.

Purpose

The wildfire destroyed most of the structures in the commercial and historic core of Lahaina. This plan provides an opportunity to restore the Lahaina community and to correct aspects of organic evolution of the town that were not ideal for residents. It will evaluate alternative development scenarios, including re-envisioning the future of Front Street, programming for public lands, developing transit-oriented communities, re-purposing the shoreline area in the predisaster commercial area, planning for





Planning







Pioneer Mill Sian

resilience and the long-term protection and enhancement of cultural resources.



"Make it a community that residents and tourist can thrive in and be proud of, highlighting the Hawaiian culture from which it came – sharing Aloha always."

> Community Quote from Long-Term Planning Recovery Survey

Interdependencies and Roadblocks

This plan will require extensive financial and technical support to be completed. Assistance from philanthropic organizations and grant funding should be leveraged to complete this work.

Next Steps

- Develop a scope of work and request for proposal to obtain consultant assistance
- Identify project team members
- Secure funding source for plan development, technical studies and community engagement
- Define project boundary

Alignment with West Maui Community Plan (WMCP)

- Goal 2.1 Ready and resilient
- Goal 2.2 A complete, balanced and connected transportation network
- Goal 2.5 Safe, healthy, livable communities for all
- WMCP Action 2.05 Develop and implement a Lahaina Town Master Plan to integrate land use and multimodal transportation planning that includes a mobility and circulation study, considerations for relocation of the transit hub, and creation of a bus transit corridor on Honoapi'ilani Highway through Lahaina Town.

Project Details



Cost Estimate:

\$1-2 Million



Potential Funding Sources:

- Philanthropy
- County/State funds



Project Lead:

County Department of Planning



Project Partners:

- County Department of Public Works
- County Department of Parks & Recreation
- County Department of Human Concerns
- County Department of Transportation
- County Department of Housing
- County Office of Economic Development
- State of Hawai'i
- Nonprofit Organizations
- Philanthropic Organizations







National Historic Landmark District Update

Project Description

A complete architectural assessment on surviving buildings and structures listed in 1974 nomination form as well as other building and structures that contribute to NHLD that were eligible for listing on the national register of historic places prior to August 8, 2023 wildfires. Hawaiian Kingdom history will also be proposed as another period of significance. Archaeological surveys, Traditional Cultural Properties (TCP) studies and oral history reports will document the rich history of Lahaina. TCP studies should include new and existing oral histories report as well as ethnography. These assessments and studies will be used to update the NHLD nomination for submittal and consideration by the National Park Service (NPS).

Purpose

The last update to the NHLD in Lahaina, was in 1974. The community strongly supported the Historic District prior to the fire. Evaluating the NHLD to determine integrity status following the loss of many historic structures in the wildfire, whether boundaries need to be adjusted, and the impact to include other periods of significance to the NHLD is needed to guide redevelopment in Lahaina. There are architectural design guidelines currently in place and the County's Cultural Resources Commission is the authority for plans within the NHLD.





Lahaina Historic Marker



National Historic Landmark District Update

Interdependencies and Roadblocks

NPS is developing a Section 213 report of the National Historic Preservation Act. This report will contain NPS recommendations relating to the NHLD. This report is due by November 2024. Reviewing it is critical to identify County alignment and/or inconsistencies which may require updating County Code.

Next Steps

- Funding sources will need to be identified beyond the County's limited Certified Local Government grants
- Funding to start developing the TCP studies to document the various cultures of Lahaina is critical for updating the NHLD nomination
- This effort will require professionals that meet the Secretary of Interior standards to complete this work



"Add markers for Historic sites even if the building cannot be restored/rebuilt..."

Community Quote from Long-Term Planning Recovery Survey

Alignment with West Maui Community Plan (WMCP)

- Goal 2.3 Responsible stewardship of resources, culture, and character
- WMCP Action 3.07 Expand the boundaries of the Historic Districts, and proposed companion amendments to the National Historic Landmark District.
- WMCP Action 3.08 Develop a cultural overlay map identifying the location of important historical events, known burial sites and archaeological resources, and known above -ground resources. Create a cultural overlay district to protect cultural assets and establish an efficient review process for property owners.
- WMCP Action 3.18 Develop new design guidelines for Lahaina Town that provide detailed guidance on the following: rehabilitation of historic buildings, additions to historic buildings, construction of new buildings, landscape and streetscape elements and treatment of archaeological properties and cultural sites.

Project Details



Cost Estimate: \$500,000-\$1 Million



Potential Funding Sources:

- Historic Preservation Fund
- County of Maui



Project Lead:

County Department of Planning



- State Department of Land and Natural Resources, Historic Preservation Division
- National Park Service
- Cultural Resources Commission
- Local Community Groups
- County Department of Planning
- County Department of 'Ōiwi Resources







Affordable Rental Housing Programs

Project Description

Ten affordable housing developments were lost in the Lahaina wildfire, including:

One State-owned property:

1. Front Street Apartments (300 units)

Two properties owned by the Hawai'i **Public Housing Authority:**

- 1. David Malo Circle (18 units)
- 2. Pi'ilani Homes (42 units)

Three County-owned properties:

- 1. Komohana Hale (20 units)
- 2. Lahaina Crossroads (20 units)
- 3. Ka Hale A Ke Ola (94-unit homeless resource center)

Three properties owned by private nonprofit organizations:

- 1. Hale Mahaolu Eono (35 units) that is jointly financed by HUD and U.S. Department of Agriculture (USDA)
- 2. Lahaina Surf (112 units) (financed by HUD)
- 3. The Weinberg Court (62 units)

An additional project was privately held, but financed through Low Income Housing Tax Credits (LIHTC), issued by the State and federal governments:

1. Kaiāulu O Kupuohi (89 units)

Combined, these projects provided well over 700 units of affordable housing for Maui residents before the fire. While these projects were an important supply of housing





Affordable Rental Housing Programs

for Maui, there remains a great need for additional housing units to meet demand. This program supports the re-construction of these projects, and where feasible, expansion to include additional units and/ or new affordable housing projects to meet the continuing and growing need. The actual level of affordability is unknown at this time, though it is likely to be set at similar levels as the projects were pre-fire. These projects are identified as a "program" to signify the great need for affordable housing, and to, at a minimum, match the unit number and affordability levels that the former units had.

Purpose

The Lahaina wildfire destroyed several hundred affordable housing units owned and/or financed by public entities. This program prioritizes replacement, and potentially expansion, of those lost units to account for the growing need of affordable housing in the area. The initial seven sites of this program remain in public ownership (except the LIHTC-funded project).

Interdependencies and Roadblocks

As ten projects are included in this program, each project will experience individual roadblocks. Ongoing management will be required for as long as the units are in use. If expanded, additional property acquisition and funding will be required for construction of the units.

Alignment with West Maui Community Plan (WMCP)

- Goal 2.5 Safe, healthy, livable communities for all
- WMCP Action 5.15 Obtain funding and implement the expansion of proven housing programs that help residents attain sustainable housing.

Next Steps

- Publicly funded housing is expensive and complex to build
- · Extensive permitting and financing must be obtained, likely well beyond what is available post-fire
- · Each project will need to be located outside of known hazard areas and planned, permitted and constructed as an individual project

Project Details



Cost Estimate:

\$to be determined (TBD)



Potential Funding Sources:

- Community Facilities Direct Loan and **Grant Program**
- Native Hawaiian Housing Block Grant (NHHBG) Program



Project Lead:

- County Department of Housing
- State of Hawai'i



- U.S. Department of Housing and Urban Development
- U.S. Department of Agriculture
- Local Community Groups







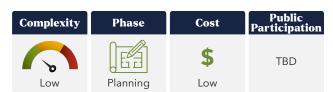
Asset Management and Acquisitions Program

Project Description

This program will spearhead an effort within the County to address the significant need for acquisition of multiple parcels of real property in the impact zone, including along the shoreline for parcels that face development challenges due to sea level rise and other shoreline hazards. There may also be a need to dispose of or exchange some parcels of real property to facilitate wildfire recovery, as well as acquire property for easements and/or property for water and sewer lines, additional right of way for new streets or widening existing streets. There could be a need to acquire property for new major projects, such as a new or expanded county parks, a County office building, other types of projects, and parking structures.

Purpose

This program would identify a general work scope for a new real estate program within the Finance Department, determine human capital needs to adequately staff the department and conduct a hiring program to fill the identified needed positions. It would also establish general levels of expertise necessary for administering a real estate and financing program.





A group of people standing outside of a home



"Don't build on ocean side. Make that a memorial park walkway. New buildings can be two or three stories to make up lost real estate along the shoreline."

> Community Quote from Long-Term Planning Recovery Survey

Interdependencies and Roadblocks

Understanding how this program fits within the current County administrative structure, including operationally, and existing management personnel, is currently the biggest identified roadblock.

Next Steps

- Identification of potential types of acquisitions
- Potential funding sources for acquisition and legal and financial questions related to specific properties or types of acquisitions
- Evaluating current County-owned property to determine if disposal of the property is a good option

Alignment with West Maui Community Plan (WMCP)

- Goal 2.1 Ready and resilient
- Goal 2.5 Safe, healthy, livable communities for all
- WMCP Action 1.05 Prepare and implement an acquisition strategy for parks in West Maui, considering potential sea level rise and climate change.
- WMCP Action 5.01 Obtain funding and prepare an acquisition strategy for Park/Open Space areas identified on the community plan map for parks and recreational facilities in West Maui. The strategy will address planning, development, acquisition, and maintenance of park and open space areas, with a priority on beach park expansion.

Project Details



Cost Estimate:

\$TBD



Potential Funding Sources:

• TBD



Project Lead:

County Department of Public Works



- County Office of Recovery
- County Finance Department
- County Department of Management
- County Department of Planning
- Local Real Estate Professionals and **Appraisers**









Healthcare Service Expansion

Project Description

This project consists of performing a Health Service, Behavioral Health Service and Social Service Gap Analysis and addressing those identified gaps. Maui has faced shortages in healthcare service providers for specialties such as obstetrics, gynecology and pediatrics. This project will identify programs, partners and solutions to increase access to specialized health services.

The gap analysis will build off the ongoing Childcare and Behavioral Health Services Gap Analysis being performed by the University of Hawai'i Maui College, whose purpose is to conduct a succinct gap analysis of childcare and behavioral health services for fire-impacted individuals as part of Hulihia's Lahaina Revitalization Project. Their analysis aims to identify existing services, assess their adequacy and determine areas of need to inform strategic planning and resource allocation. It will assess the current landscape of childcare and behavioral health services available to fire-impacted individuals in the Lahaina area, identify gaps and deficiencies in existing services based on community needs assessments and provide quantifiable data to Hulihia to be mapped using data visualization tools. Once gaps are identified, this project will work to address them.

Purpose

This project will identify areas of shortage in health services exacerbated by the fires in order to be able to expand them down the line and combine cultural understanding with mental health resources. The University





The Maui Wildfire Exposure Study

of Hawai'i analysis identifies a scope of childcare and behavioral health services, so additional analysis must be done on primary health services and social services, including but not limited to: Outpatient Ambulatory Care Centers, Outpatient Health Clinics, Skilled Nursing Facilities, Long-Term Care Units, Dialysis, Older Adult Assisted Living Facilities, Older Adult Memory Care Units, Older Adult Home Health Care Agencies, and Specialty Care on island.



"As we have chronic shortages of every type of healthcare worker and service the county should look at encouraging health care training and services on Maui as an intelligent way to diversify our economy."

Community Quote from Long-Term

Interdependencies and Roadblocks

This project is dependent on the findings of the gap analysis conducted by Hulihia's Center for Sustainable Systems, University of Hawai'i Maui College, and the outcome of the work built off of that gap analysis. There is currently no owner identified for the comprehensive gap services analysis.

Next Steps

- Gaps and duplications in system wide service availability, contributing factors, needed program expansions, and next steps for addressing gaps need to be identified.
- There needs to be coordination with and determination of the scope of analysis proposed by the University of Hawai'i.
- If the scope is focused on health, an alternate mechanism to identify gaps and duplication in social services may need to be implemented.
- Once the gap analysis has been completed, options and stakeholders involved to pursue service expansion should be identified.

Alignment with West Maui Community Plan (WMCP)

• Goal 2.5 Safe, healthy, livable communities for all



The Maui Wildfire Exposure Study

• University program development should be explored and relations between university and industry bolstered.

Project Details



Cost Estimate:

\$TBD



Potential Funding Sources:

- Behavioral Health Service Expansion (BHSE)
- Community Grant Ola Ke Kanaka - Physical, Spiritual, Mental & **Emotional Health**



Project Leads:

- State Department of Health
- University of Hawai'i



- U.S. Department of Health and Human Services
- Economic Development Administration
- County of Maui







Enhance Emergency Communication Networks

Project Description

This project is intended to ensure communication networks are redundant and reliable during emergencies. The project includes a series of facility upgrades and new installations that will provide for increased coordination and communication between and among county departments, responders, non-governmental organizations, and the public. The projects will expand radio and cellular capacity, close gaps in existing communication channels, increase public warning and information sharing, and improve overall emergency response capabilities as a result.

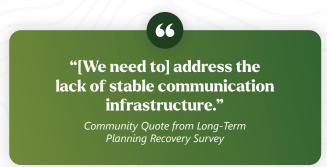
Purpose

The August 2023 wildfires exposed critical vulnerabilities in the communications systems on Maui, demonstrating a need for system augmentation, redundancy measures, expansion and hardening efforts to ensure continuity of communications capabilities during emergencies. Improving redundancy and expanding capacity of the communications systems on Maui will improve public safety in event of emergency. Public messaging and information dissemination directly impacts residents' ability to respond appropriately to emerging crises in a timely and informed fashion.





Image source: AT&T



Interdependencies and Roadblocks

Many of the upgrades and new equipment will be located in remote areas of the island, adding complexity to implementation efforts.

Next Steps

- Finalize the scopes of work for the various projects included in this effort
- Identify resources for implementation

Alignment with West Maui Community Plan (WMCP)

- Goal 2.1 Ready and resilient
- WMCP Action 1.23 Develop and implement a more robust and extensive communications system with alternative backup systems for use during emergencies.

Project Details



Cost Estimate:

> \$30 Million



Potential Funding Sources:

- BEAD Program (Maui Broadband Resilience Program)
- Hazard Mitigation Grant Program -Fire Mitigation



Project Lead:

Maui Police Department



- County Department of Fire and Public Safety
- Maui Emergency Management Agency









Energy Resilience & Redundancy

Project Description

This project includes studies and assessments to provide data about the current state of energy infrastructure and understand the opportunities to improve resilience, redundancy and independence. These studies and assessments will produce projects for implementation that the County of Maui can promote to achieve more resilient power and energy systems in West Maui.

Purpose

Power and energy are priorities for the County of Maui and the impacted community. Studies and assessments will help provide deeper understanding of the current State of the infrastructure and determine next steps toward achieving resilience. These studies will identify potential projects that can be implemented at various locations to enhance redundant power supply for critical services and infrastructure, improve self-sufficiency and increase resilience to mitigate the impact of future disasters.







Interdependencies and Roadblocks

This project requires coordination with Hawaiian Electric.

Next Steps

• Studies will produce a list of projects for implementation

Alignment with West Maui Community Plan (WMCP)

- Goal 2.4 Economic opportunity through innovation and collaboration
- Policy 2.4.8 Support expansion of renewable energy that is broadly supported throughout the community, including small-scale community options, all of which include plans for disposal that does not burden County landfills and decommissioning at the end of the project's intended use.

Project Details



Cost Estimate:

\$100,000



Project Lead:

- County Department of Public Works
- Hawai'i State Energy Office
- Hawaiian Electric



Existing Funding Sources:

- US Department of Energy National Renewable Energy Lab (NREL)
- Previously funded research
- Current FEMA mission assignment



Project Partners:

U.S. Department of Energy







Creation of a Lahaina Memorial

Project Description

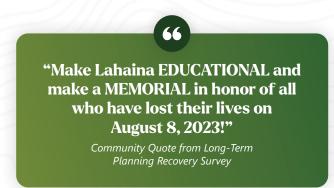
This project involves the creation of a Lahaina Memorial that honors the lives of loved ones lost and the experiences of survivors and community members. The Lahaina Memorial will serve as a healing space for the community to gather, remember and reflect. Planning for the memorial will heavily involve community members and survivors and also serve as a healing process for the community. The location choice and design of the memorial will be community-led to ensure that the space properly honors those lost and serves as an appropriate long-term space for the community.

Purpose

The August 8, 2023 Lahaina wildfire tragically took the lives of at least 102 loved ones, destroyed approximately 2,200 structures homes and businesses and displaced thousands of people. The fire destroyed an entire town that was beloved by many across Maui, Hawai'i and the world. The fire has had immeasurable reverberating effects across the pae 'āina o Hawai'i, and the creation of a Lahaina Memorial is necessary for the healing of the community and remembrance of those lost.







Interdependencies and Roadblocks

Challenges include funding, consensus among community and finding a location in Lahaina.

Next Steps

- Work with community to do initial planning for memorial
- Identify funding opportunities
- Plan memorial
- Design and construct memorial with community leading efforts



"A memorial should be prominently constructed."

Community Quote from Long-Term Planning Recovery Survey

Alignment with West Maui Community Plan (WMCP)

 Goal 2.3 Responsible stewardship of resources, culture, and character



Remembering Lahaina

Project Details



Cost Estimate:

\$TBD



Potential Funding Sources:

• TBD



Project Lead:

- Community
- County Office of the Mayor



Project Partners:

- Maui Economic Recovery Commission
- U.S. Economic Development Administration
- Community Leaders and Members
- National Endowment for the Arts
- National Endowment for Humanities
- Hawai'i Community Foundation





Short-Term 1 to 2 years

Mid-Term

3 to 5 years

6 or more years

7.2 Mid-Term





3 to 5 years for project completion

Maui Emergency Management Agency (MEMA) Advancement Program

Project Description

The MEMA Advancement Program is composed of four major areas of emphasis:

- 1. Emergency Services Infrastructure: Upgrades in emergency services communications and situational awareness infrastructure, data collection, management and dissemination to support policy making, resource allocation and incident support. These systems will also provide key inputs to public information and advisory notices during incidents to include response and recovery.
- **2. Emergency Services Staffing:** Create a MEMA Reserve (on-call paid) and MEMA Volunteer (on-call unpaid) program to provide MEMA with staffing during activations.
- **3. Shelters, Resilience Centers and Assembly Areas:** Building upon previous efforts, suitability analyses will be updated and needs analyses generated for sheltering utilizing both County and Department of Education facilities under various scenarios. Additionally, sites for resilience centers and assembly areas will be identified with associated support requirements under various contingencies.
- **4. Community Engagement:** In addition to ongoing community education and





Maui Emergency Management Agency (MEMA) Logo

preparedness activities, implementing a comprehensive social media strategy utilizing social media monitoring for situational awareness, can provide emergency alert and other relevant information to affected communities during response and recovery and a renewed emphasis on recruitment and training of Community Emergency Response Team (CERT) and Radio Amateur Civil Emergency Service (RACES).

Purpose

This program will improve the County's ability to identify, mitigate and respond to all hazard threats to the community, as well as the community's awareness and ability to prepare for and respond to all hazards

and threats. While situational awareness tools are improving, additional tools and procedures would improve information dissemination, planning and decision making both by MEMA and various partners. Even with the increase in civil service staffing for MEMA, additional personnel resources may be needed to ensure that incident support functions are fully staffed for incidents that last over several operational periods. Creation of a MEMA Reserve would provide Incident Management Team (IMT) support to unified and area commands within the County while a MEMA Volunteer Corps could assist with incident support in the Emergency Operations Center to backfill civil service personnel. The County lacks sufficient hurricane-resistant shelters. This effort will assess the inventory of available shelter facilities, identify needed capital investment to make hurricane-resistant and prioritize improvements.

Interdependencies and Roadblocks

A stable civil service cadre is a critical requirement in executing the proposed program.

Next Steps

 Completion of the MEMA Strategic Plan to include review and approval by Department of Management

Alignment with West Maui Community Plan (WMCP)

- Goal 2.1 Ready and resilient systems
- WMCP Action 1.18 Develop a community-based disaster preparedness plan for West Maui.

Project Details



Cost Estimate:

\$168.750



Potential Funding Sources:

- Emergency Management Baseline Assessment Grant
- Emergency Operations Center Grant Program



Project Lead:

Maui Emergency Management Agency



- County Department of Fire and Public Safety
- County Police Department
- County Department of Public Works
- County Department of Parks & Recreation
- County Department of Human Concerns
- County Department of Transportation
- Hawai'i Emergency Management Agency
- State Department of Education
- State Department of Transportation
- FEMA (grant opportunities)
- Maui Electric
- American Red Cross





3 to 5 years for project completio

Lahaina Business Park

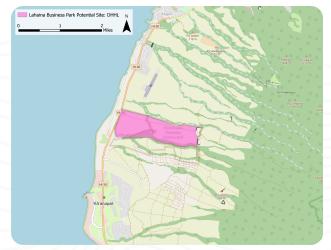
Project Description

This project will develop a site that will create retail and community gathering spaces, celebrate culture and the arts, provide family friendly activities, fundraising opportunities and a venue to learn about the history of Lahaina and the host culture and of other cultures that make up our melting pot in Maui. It will reopen businesses, create a venue for local entertainers, create a new shopping hub with a food and beverage destination, and assist in supporting local businesses. The market will house tiny shops, mini galleries, food trucks/food vendors, beer garden, farmer's market, cultural activities and education, Ohana Game Area, outdoor playground in courtyard area, and picnic tables/umbrellas for outdoor eating/sitting. Several properties are being considered.

Purpose

There is a need to jump start economic revitalization in the Lahaina Business District. The proposed groupings of sprung steel structures can provide large covered spaces that can handle a wide variety of uses, as well as be repurposed when no longer necessary for this current project. The structure can be erected quickly providing Lahaina businesses an accessible location and residents a place of community.





Potential location of Lahaina Business Park



Potential location of Lahaina Business Park

Interdependencies and Roadblocks

Potential locations for where the market will live are being considered but land acquisition is still required. Funding is also necessary to the success of this project.

Next Steps

- Land acquisition
- Building of the structures
- Landscaping
- Various interior renovations (electrical, carpentry, air conditioning, equipment) are still needed for the project to open



Rendering of Malu 'Ulu O Lele

Alignment with West Maui Community Plan (WMCP)

 Goal 2.4 Economic opportunity through innovation and collaboration.



"Farmers Market on Front Street [to] promote Hawaiian culture, history, and food, with shops/restaurants at affordable rent on Front Street. Rebuild a vibrant, exciting, commercial area with "old charm", not modern. Keep multiple offerings of restaurants and music venues-promote local musicians. Change the name of Front Street to historic name."

Community Quote from Long-Term Planning Recovery Survey

Project Details



Cost Estimate:

\$6 Million



Project Lead:

• County Office of Economic Development



Potential Funding Sources:

- U.S. Economic Development Administration
- U.S. Department of Agriculture
- National Endowment for the Arts (NEA): Our Town - FY 2025



- Hawai'i Community Foundation
- Council for Native Hawaiian Advancement
- Office of Hawaiian Affairs
- County, State and Federal Partners
- Other Local Community Groups
- State Department of Business, Economic Development & Tourism





3 to 5 years for project completio

Rebuild the West Maui Senior Center

Project Description

This project will rebuild the West Maui Senior Center with the potential to expand in order to provide more services. The senior center served as a central hub of activity for seniors in Lahaina to learn and grow through a variety of programs. There were charity events such as food and clothing donation drives and nonprofits working with kūpuna and keiki to create care packages for the homeless. The senior center also had public health benefits such as a variety of fitness classes, including but not limited to yoga, hula, cardio and tai chi. There were enrichment activities in addition to these wellness benefits, such as creative endeavors like sewing classes, line dancing, art classes, movie nights and cooking classes. The variety of classes offered not only benefits the kūpuna but also creates more work opportunities for instructors.

Purpose

The Department of Human Concerns has a strong desire to see that the West Maui Senior Center is rebuilt so that it can serve this vulnerable segment of the population. The West Maui Senior Center was always vibrant, and was revered by community members. It served a large number of residents prior to the fires, and the West Maui Senior Center has struggled to keep up with their demand for services due to the loss of this physical location.





Kūpuna from West Maui Senior Center



West Maui Senior Center

Interdependencies and Roadblocks

Funding, infrastructure, zoning limitations, possible redesign of this area, and the desire to have senior services centralized at another location are current concerns for this project.

Next Steps

- Continue to understand funding, infrastructure and zoning limitations to move forward
- Potential to centralize services at another location

Alignment with West Maui Community Plan (WMCP)

• **Goal 2.5** Safe, healthy, livable communities for all



"More senior centers and senior daycare for elders to be able to live with their family but have a place to go during work days. More basketball [and] volleyball indoor courts for our community. Build at least 3 catwalks by the rec center by Shaw St., LLuna rd. and Kapunakea St. So easy and safe access for elders and Keiki's to cross hwy."

Community Quote from Long-Term
Planning Recovery Survey

Project Details



Cost Estimate:

\$TBD



Potential Funding Sources:

- Community Facilities Direct Loan and Grant Program
- Native Hawaiian Housing Block Grant (NHHBG) Program



Project Lead:

County Department of Human Concerns



Existing Funding Sources:

FEMA Public Assistance



Project Partners:

• TBD





3 to 5 years for project completic

Street Connectivity and Extensions

Project Description

This project will provide necessary fire evacuation connectivity on various roads to better support and facilitate public safety in the future. It would consist of a phased approach that would require land acquisition and road improvements for a variety of identified locations where streets do not meet current fire codes, cul-de-sacs are substandard and connections are missing. Streets included are:

- Aki Street Connector
- Papalaua to Aki Street Connector
- Kaakolu Street to Lahaina Bypass
- Kanakea Loop to Lahainaluna Road
- Kuhua Street Extension to Komo Mai
- Dickenson Street Extension
- N. Hakau Place to Lahaina Bypass

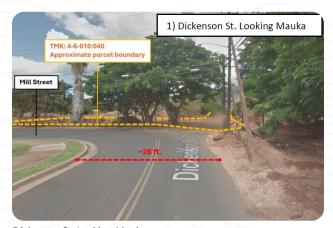
Wahikuli Connectors to Cane Haul Road/ West Maui Greenway:

- Fleming Road
- Wahikuli Road
- Malanai Street

Purpose

Maui Fire Department has reviewed the wildfire impact zone and determined certain streets need to be improved or connected to facilitate public safety in the future. U.S. Army Corps of Engineers (USACE) has also conducted a LifeSim model to review existing conditions and evacuation strategies and determine their effectiveness. The outcome of both efforts is the identification of streets in impacted neighborhoods that would benefit from





Dickenson St. Looking Mauka



Street Connectivity and Extensions

increased connectivity to improve evacuation ability. This project has been identified and prioritized as a key public safety project that needs to move forward within the fire impacted areas to support disaster evacuation. It will provide necessary connectivity, ingress and egress for impacted neighborhoods.

Interdependencies and Roadblocks

Land acquisition for right-of-way, environmental assessment and construction permitting is needed.

Next Steps

- An Infrastructure and Road Master Plan
- Securing right of way
- · Land acquisition and subdivisions
- Preparation of an environmental assessment and construction documents
- Obtain construction permits
- Advertisement for bid and construction

Alignment with West Maui Community Plan (WMCP)

- Goal 2.1 Ready and resilient systems
- Goal 2.2 A complete, balanced, and connected transportation network
- WMCP Action 1.22 Identify additional emergency evacuation routes to access West Maui and isolated neighborhoods.
- WMCP Action 1.27 Identify and implement appropriate safety improvements such as traffic controls to improve the use of the Kahekili Highway and Honoapi'ilani Highway as alternate routes for West Maui during times of emergency.



"...provide more access/roadways for emergencies, less congestion and alternate routes in case of accidents."

Community Quote from Long-Term Planning Recovery Survey

Project Details



Cost Estimate:

>\$10 Million



Potential Funding Sources:

 Reconnecting Communities and Neighborhoods (RCN) Program



Existing Funding Sources:

County of Maui - \$5 million



Project Lead:

County Department of Public Works



- County Department of Fire and Public Safety
- Maui Emergency Management Agency
- State Department of Transportation





3 to 5 years for project completion

Kuhua Street Extension

Project Description

This project is to develop a new public collector roadway which will be aligned east of, and roughly parallel to, Honoapi'ilani Highway (approximately 2 miles) with two travel lanes and additional turn lanes at major intersections. Utilities including drainage, water, sewer, power, telephone, and television will be installed or upgraded. The Kuhua Street extension may include the proposed West Maui Greenway multiuse path.

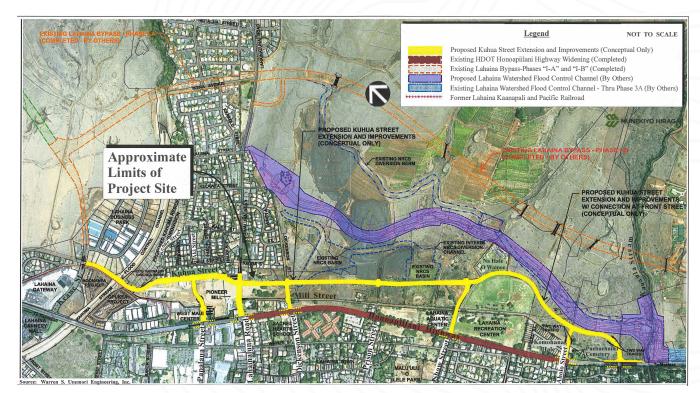
Purpose

As this area is currently undeveloped, it will provide new necessary connectivity, egress, multimodal transportation, and





View South at Kahoma Stream Flood Control Channel Crossing (Cane Haul Road and LKPR Sugar Cane Train Track) Source: County of Maui Department of Public Works.



Kuhua Street Extension and Improvement Project - Conceptual Alignment, not final

LONG-TERM RECOVERY PLAN | 63

utility corridors to West Maui. The project will alleviate existing traffic congestion and improve circulation, including pedestrian-friendly access by incorporating a multiuse trail along its entire length in a later phase. The roadway would also serve as an alternate route during emergencies or in the event of unexpected closures of Honoapi'ilani Highway.

Interdependencies and Roadblocks

Land acquisition for right-of-way and construction permitting will need to be obtained.

Next Steps

- Securing right of way, land acquisition and subdivisions
- Preparation of an environmental assessment and construction documents
- Obtainment of construction permits, advertisement for bid, and construction

Alignment with West Maui Community Plan (WMCP)

- Goal 2.1 Ready and resilient systems
- Goal 2.2 A complete, balanced, and connected transportation network



"We need to widen the roads in the Kuhua Camp area. Aki, Kopili, Paeohi, Kale, Hauola, Kale etc."

> Community Quote from Long-Term Planning Recovery Survey

Project Details



Cost Estimate:

\$36 Million



Potential Funding Sources:

Reconnecting Communities and Neighborhoods (RCN) Program



Project Lead:

County Department of Public Works



- County Department of Water Supply
- County Department of Emergency Management
- County Department of Planning
- Private Landowners





Lahaina Water Infrastructure Firefighting Capacity

Project Description

This project will update the capacity of water infrastructure in Lahaina by improving pipeline and facility deficiencies to meet current hydraulic criteria to address low fire flow residual pressures in the water system. The County's Department of Water Supply identified the most critical capacity deficiencies in the water system to be insufficient storage and undersized waterlines. Priority projects to mitigate deficiencies include:

- 1. Construction of a new 1.7-million-gallon water storage tank to increase Lahaina's water system's storage from 4.4 million gallons to 6.1 million gallons
- 2. Small diameter pipeline upgrades to correct hydraulic deficiencies and improve fire flow
- 3. North-South Transmission Main upgrades to improve the conveyance of water from North of the Lahaina system to South of the system

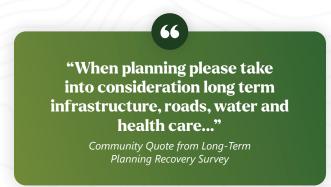
Purpose

By improving fire flow capacity of the water system, this project will improve public safety and support the County's Department of Water Supply in fulfilling its core mission of reliably delivering safe drinking water for generations. This project will immediately benefit Lahaina in the long-term recovery process and protect the community from future wildfire events. The Maui Fire Chief's Wildfire After Action Report dated 4/17/2024 recommended that recovery efforts include





Fire Hydrant



increasing the Lahaina water system's ability to meet fire flow requirements.

Interdependencies and Roadblocks

This project addresses the infrastructure upgrades necessary to meet capacity needs, but water source development is also a critical component of addressing capacity deficiencies. This will require collaboration with CWRM to secure the necessary water use permit allocations to accommodate new water source development in West Maui.

Next Steps

- Continue to partner with the State
 Department of Health and State Hawaiian
 Housing Authority to secure funding
- Identify funding for the new storage tank

Alignment with West Maui Community Plan (WMCP)

- Goal 2.1 Ready and resilient systems
- WMCP Action 1.28 Preserve and maintain existing reservoir and water storage infrastructure within West Maui for fire protection capabilities and agricultural uses.



A Maui Fire Department truck. (Kevin Fujii/Civil Beat/2024)

Project Details



Cost Estimate:

\$47.8 million



Potential Funding Sources:

\$23.1 million for storage tank TBD



Existing Funding Sources:

- Hawai'i Department of Labor BIL Loan -\$9.6 million for small diameter pipeline upgrades)
- Hawai'i Department of Health BIL Emerging Contaminants Loan - \$15.1 million for north-south transmission main upgrades
- State Hawaiian Housing Authority -\$12.1 million for new pipeline in Wahikuli



Project Lead:

County Department of Water Supply



- State Department of Health
- State Department of Land and Natural Resources
- State Commission on Water Resource Management
- State Hawaiian Housing Authority







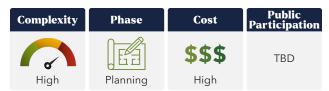
Stormwater Resilience and Flood Risk Management

Project Description

This project will increase the County's capacity to handle floodwaters, making it more resilient to flood risk. It includes current projects like the Lahaina Town Drainage Master Plan Update (to address localized flooding in urbanized areas of Lahaina Town) and preliminary design for the flood control project (retention basins and diversion channels mauka of Lahaina Town). This project is supported through USDA Natural Resources Conservation Service's (NRCS) Watershed and Flood Prevention Operations Program. The County DPW is the local sponsor with Stantec as contractor. The project is currently working on a supplementary environmental impact study since the original Environmental Impact Statement was written in the 1980s, and a hydrologic and hydraulic study. Once studies are completed, USDA NRCS and DPW will discuss the data, needs and how the Lahaina Watershed can address the needs through feasible conservation practices, either structural or non-structural.

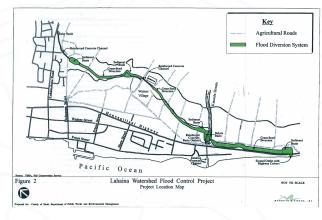
Purpose

This project will implement holistic stormwater and flood management, minimize stormwater runoff into the ocean and manage floodwaters across West Maui.





Flood risk management



Lahaina Watershed Flood Control Project

Interdependencies and Roadblocks

This project aligns with the current effort to develop a watershed management plan for Kahoma and Kaua'ula watersheds. Currently there is a lack of sponsorship for NRCS projects. The current contract NRCS has is for roughly \$1.4 million, but with the additional scoping going on because of the fires there are going to be more funds needed. This project will have to compete nationally for design funding.

Next Steps

 Identification of funding source(s) and design



"Incentivize 100% stormwater control and infiltration (with simple vegetative swales) to eliminate brown water events that impact our reefs and to recharge the aquifer..."

Community Quote from Long-Term Planning Recovery Survey

Alignment with West Maui Community Plan (WMCP)

- Goal 2.1 Ready and resilient systems
- WMCP Action 1.38 Update the Lahaina Town Drainage Master Plan for Low Impact Development (LID) and develop an implementation plan
- WMCP Action 1.39 Support the implementation of flood control projects and siltation basins mauka of Honoapi'ilani Highway, including the remaining phases of the Lahaina Watershed project to address problem areas.
- WMCP Action 1.40 Maintain a current inventory of drainage facilities in West Maui for use in developing long-term plans to address stormwater issues
- WMCP Action 1.41 Improve stormwater management systems along the Lower Honoapi'ilani Road to minimize stormwater runoff to the ocean.

Project Details



Cost Estimate:

\$TBD



Potential Funding Sources:

Watershed Protection Grants Program



Project Lead:

County Department of Public Works



- County Department of Agriculture
- State Department of Land and Natural Resources, Division of Aquatics Resources
- U.S. Army Corps of Engineers
- Environmental Protection Agency
- State Department of Health
- U.S. Department of Agriculture Natural Resources Conservation Service
- State Department of Health, Surface Water Protection Branch







Wai and Watershed Recovery Planning

Project Description

Wai and watershed recovery planning for Lahaina moku and Kula moku will plan for mauka to makai holistic restoration efforts for the well-being of the environment and people. This project involves the creation of a Wai and Watershed Recovery Working Group for Lahaina and Kula moku comprised of various County, State, federal, and community groups to discuss wai and watershed recovery current efforts and future needs. This project involves management planning for the watersheds of Lahaina moku, including Wahikuli, Kahoma, Kaua'ula, Launiupoko, Olowalu, Ukumehame, Papalaua, and Pohakea. This project also involves community water planning in Lahaina moku for ecosystem function, water supply for community needs and water supply for watershed restoration activities. The goal for this project is to plan for key water and watershed restoration projects from mauka to makai, such as reforestation with native plants, fuels reduction of invasive grasses, restoration of stream flow, establishment of agroforestry and agriculture, flood control, and erosion control.

Purpose

This project is key to revitalizing the health of the environment and people, reducing fire and hazard risks for the community, increasing aquifer recharge, restoring native habitats, and maintaining the health of the coral reef ecosystem. Currently, there are no watershed management plans that cover



"Fresh water belongs to the public; redirect the watershed to parched lands."

Community Quote from Long-Term Planning Recovery Survey

the Lahaina impact zone, and the majority of the lands directly surrounding Lahaina in the mid-watershed region lie fallow with invasive grasses that pose high fire risks for the community. The development of a watershed management plan can facilitate collaboration and project implementation across County, State, federal, and community groups and open pathways to funding sources. The community has also expressed interest in development and implementation of a community-led water plan, which focuses on water systems and community governance over water in West Maui.

Interdependencies and Roadblocks

Many government agencies, community groups, and private landowners remain siloed but groups must work together for holistic mauka to makai recovery and long-term success. At the core of most recovery efforts are questions of the future of Lahaina's

wai and water supply and its potential use and/or purpose. Urban development and natural resources stewardship is another challenge; development requires land and water, which places strain on natural resources and activities like reforestation, conservation, agriculture and food security, restoring stream flow, and recharging the groundwater aquifer. Oftentimes, funding for studies, planning and implementation is limited as economic benefits of wai and watershed planning aren't recognized.

Next Steps

- Identify individuals, agencies and groups to include in working group discussions
- Build relationships among groups
- Get funding watershed plans and studies
- Identify key projects and actions to restore the fallow grasslands surrounding Lahaina and restore Lahaina's watershed from mauka to makai
- Develop a multiagency management program for the middle watershed area

Alignment with West Maui Community Plan (WMCP)

- Goal 2.1 Ready and resilient systems
- **Goal 2.3** Responsible stewardship of resources, culture, and character
- WMCP Action 3.17 Implement recommended actions that are within the County's jurisdiction form the West Maui Mountains Watershed Management Plan and the USACE West Maui Watershed Study, when complete

to steward the unproductive former plantation lands which currently lie fallow

Develop a division in the County
 Department of Agriculture to manage
 the middle watershed

Project Details



Cost Estimate:

\$TBD



Potential Funding Sources:

- Cooperative Watershed Management Program
- Coral Reef and Natural Resources Program
- · Philanthropic
- County, State and Federal Partners



Existing Funding Sources:

State Department of Health applied to U.S. Environmental Protection Agency for Technical Assistance Grants



Project Lead:

- County Department of Agriculture
- County Department of Water Supply



- West Maui Ridge to Reef
- County Department of Water Supply
- County Department of Public Works
- State Department of Land and Natural Resources
- U.S. Department of Agriculture Natural Resources Conservation Service
- Environmental Protection Agency
- Kamehameha Schools
- Ku'ia Agricultural Educational Center
- West Maui Land
- Hawai'i Housing Finance and Development Corporation
- Mauna Kahālāwai Watershed Partnership
- Kipuka Olowalu
- Kula Community Watershed Alliance
- Hawai'i Association of Watershed Partnerships
- Living Pono Project (Pu'u Kukui Watershed)
- Maui Economic Recovery Commission
- State Department of Health, Surface Water Protection Branch





Wildfire Risk Reduction and Mitigation

Project Description

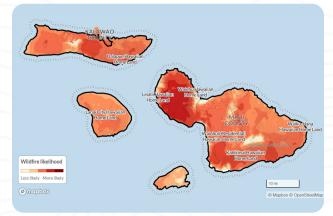
This project includes several multidisciplinary actions to reduce and mitigate wildfire risk for the town and increase community resilience and preparedness for future fires, as mentioned in the County's Hazard Mitigation Plan:

- Work across County, State, federal, community, and private groups to establish a green break and/or fire break at the Wildland Urban Interface (WUI) around Lahaina town
- Update and implement actions in the current West Maui Community Wildfire Protection Plan (CWPP)
- Update and implement the Upcountry Maui CWPP and South Maui CWPP
- Update the West Maui CWPP

Purpose

This project is key to reducing wildfire risk for Lahaina in the future. The grasslands around Lahaina pose a fire risk to the town, and a multiagency approach is needed to establish a green break and/or fire break at the WUI around the town. While holistic reforestation, agroforestry and ungulate grazing plans on private lands can reduce fire risk for the town, those efforts take time, and an immediate need is to protect the town. CWPPs outline specific actions to take to protect a community from future wildfires and are a prerequisite for some federal funding opportunities for wildfire protection projects. The current West Maui CWPP, Upcountry CWPP and South Maui CWPP identify and prioritize key place-based actions in need





Wildfire likelihood in Maui County

of funding and implementation. CWPPs are typically updated every 10 years, and the West Maui CWPP and Upcountry CWPP are both due for an update.

Interdependencies and Roadblocks

Challenges including funding, cross-coordination among agencies to establish a green break/fire break and long-term maintenance of the green break/fire break, political and community buy-in for new policies, and the identification of leadership for project implementation.

Next Steps

- Meetings among County, State, federal, community, and private landowner groups to develop an approach for implementing a WUI green break/fire break
- Updates by Hawai'i Wildfire Management Organization (HWMO) to the Upcountry CWPP with funding through US Forest Service Community Wildfire Defense Grant Program
- Identify funding for update of the West Maui CWPP and the implementation of key actions in the current Upcountry and West Maui CWPP
- Continued work across County agencies to propose new policies to reduce wildfire risk
- To develop a community wildfire education campaign

Alignment with West Maui Community Plan (WMCP)

- Goal 2.1 Ready and resilient systems
- WMCP Action 1.13 Develop wildfire information campaign with signage to build public awareness of wildfire hazards and engage the community to create and maintain fire breaks and to encourage native dryland plants in landscaping.
- WMCP Action 1.14 Proposed amendments to the MCC to required developments to incorporate defensible space around structures and communities.
- WMCP Action 1.15 Propose amendments to the MCC to require landowners of large vacant land in high fire hazards areas to prepare and carry out a fuel management plan

Project Details



Cost Estimate:

\$TBD



Potential Funding Sources:

- U.S. Department of Agriculture and U.S. Forest Service Community Wildfire Defense Grant
- Philanthropic
- County, State and Federal Partners



Existing Funding Sources: HWMO received Community Wildfire Defense Grant \$130,309 to update

the Upcountry CWPP



Project Lead:

- County Department of Fire and Public Safety
- State Fire Marshal



- Various Community Conservation and 'Āina Organizations
- Watershed Partnership groups
- Hawai'i Wildfire Management Organization
- Large Landowners
- State Department of Transportation
- County Department of Public Works
- County Department of Agriculture
- State Department of Land and Natural Resources
- State Department of Health, Surface Water Protection Branch
- County Department of Planning
- Maui Emergency Management Agency
- Hawai'i Emergency Management Agency





Agriculture Planning & Long-Term Food Security

Project Description

Building off the County of Maui Department of Agriculture 2024-2028 Strategic Plan, this recovery project involves the creation of a Lahaina Moku Agriculture Plan to develop and prioritize agriculture initiatives for Lahaina moku's agriculture, farms, food systems, and ecosystems.

Goals of the plan include:

- Developing a regional sustainable and diversified agriculture industry
- Supporting local farming initiatives
- Building economic resilience
- Supporting the health of residents and ecosystems through natural resource restoration and stewardship
- Improving food security and access to healthy food

Key example efforts include:

- Supporting emergency feeding needs
- Supporting recovery of farms damaged in the fires
- Establishing new agriculture and agroforestry industry areas in Lahaina to turn former plantation lands into production
- Building agriculture infrastructure such as cold storage and dry storage

Purpose

Historically, Native Hawaiians cultivated the land to feed and sustain generations, and Lahaina was particularly favored by ali'i for its abundance of food and ideal climate conditions. Even just 50 years ago,





Volunteers clean up the nursery, make ready for new plants at Lahainaluna High School. PC: JD Pells / Maui Now

Lahainaluna High School's agriculture program fed the Lahaina community, with students growing fruits and vegetables and caring for chickens and livestock. Today, the Lahaina community and government agencies have expressed interest in alternative economic industries to tourism and reinvigorating sustainable agricultural practices to reshape Maui's economy, generate jobs, and feed the community. Hawai'i's communities are extremely food insecure and vulnerable to future disasters and supply chain issues and placing economic strain on residents and business owners due to high food costs. After the August 2023 wildfires, thousands of displaced survivors were in need of immediate feeding support, and a coalition of various government and community groups came together to form

the Maui Emergency Feeding Task Force to address community needs. Emergency feeding needs are ongoing and future initiatives are needed for future food resilience to disasters and for long-term self-sufficient food security.

Interdependencies and Roadblocks

Challenges include funding, the need for comprehensive collaborative strategies across community, private landowners, business and hotel owners, and government agencies. Political, community and tourist industry buy-in, conflict between tourism and other economic industries, water supply and water infrastructure in regions of Lahaina surrounding and mauka of the town, and industrial plantation land use from mid 1800s to 1900s changed the landscape and climate of Lahaina.

Alignment with West Maui Community Plan (WMCP)

- Goal 2.4 Economic opportunity through innovation and collaboration
- **Goal 2.5** Safe, healthy, livable communities for all
- WMCP Action 4.01 Develop and implement a West Maui Agriculture Strategic Plan.

Next Steps

- Identify funding and develop the Lahaina Moku Agriculture Plan
- Implement actions, strategies, initiatives, and programs and establish partnerships and funding for implementation

Project Details



Cost Estimate:

\$TBD



Potential Funding Sources:

- Micro Grants for Food Security (MGFSP)
- Community Food Projects Competitive Grant Program (CFPCGP)
- Philanthropic
- County, State and Federal Partners
- Hawai'i Community Foundation



Project Lead:

County Department of Agriculture



Project Partners:

- Farmers, Ranchers, Agriculture Community and Value Added Producers
- U.S. Department of Agriculture
- State Department of Business, Economic Development & Tourism
- County Office of Economic Development
- State Department of Agriculture
- State Department of Education
- State Agribusiness Development Corporation
- Common Ground Collective
- Hawai'i Farmers Union United
- Maui Emergency Feeding Task Force





Community Facilities

Project Description

This project includes the replacement of two important, high priority community facilities: King Kamehameha III Elementary School and the Lahaina Public Library. These projects are separate and independent, and neither have definitive locations or designs as of the publishing of this plan. The replacement of King Kamehameha III Elementary School involves the identification of a permanent site, while the Lahaina Public Library replacement will identify a new site for the library. This project also involves discussions and planning for the long-term use of the 'āina in the original facility locations for community benefit. King Kamehameha III Elementary School and the Lahaina Public Library are both currently located along the Lahaina coast on Native Hawaiian culturally significant sites. The community has expressed interest in establishing a cultural corridor encompassing the 'āina of these sites to serve cultural practitioners, provide opportunities for community education, rewrite the narrative of these spaces, and elevate the visitor experience in correct cultural management practices.

Purpose

For the replacement of King Kamehameha III Elementary School, locating a new school will require direct community outreach to families of former student along with staff and the general public. Schools have a profound impact on the community, and thus should be carefully located to serve students safely and with easy pedestrian and vehicular access.





King Kamehameha III School



Koa Kaihi

The Lahaina Public Library Replacement will require community input and planning as it should be centrally located and easily accessible to all residents of Lahaina and West Maui. Planning for the long-term use of the 'āina of the original facility sites will require county-state coordination and community outreach to cultural practitioners, generational families and residents of Lahaina.

Interdependencies and Roadblocks

Schools and libraries are essential public facilities and can have a profound impact on the functioning of a community. Location siting and design for both projects will require public outreach and coordination with the Lahaina Rebuild Framework project.

Next Steps

 Identify new sites with community engagement and then starting the design and construction process



"Working with the State for more/improved public school and public library facilities. More county parks. Places for teens to hangout. Restore/return natural flow of water mauka to makai."

Community Quote from Long-Term
Planning Recovery Survey



Lahaina Public Library

Project Details



Cost Estimate:

\$TBD



Potential Funding Sources:

• TBD



Existing Funding Sources: FEMA Public Assistance



Project Lead:

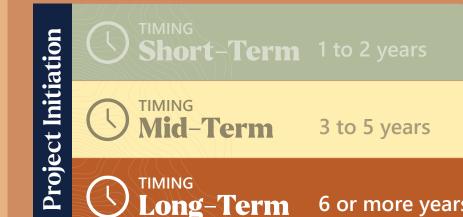
- State Department of Education
- State Libraries System



- County of Maui
- Local Community Groups
- County Department of 'Ōiwi Resources



7.3 Long-Term



TIMING Long-Term

6 or more years

3 to 5 years

Lahaina Bypass Phase 1C

Project Description

The project involves the construction of a four-lane, controlled access, bypass highway between Keawe Street and Honokowai, a distance of approximately 5 miles. The bypass will extend northward from its terminus at Keawe Street as it passes to the east of the Ka'anapali Resort and then proceed in a northwesterly direction until it reaches Honokowai, south of Mahinahina Gulch. The minimum right-of-way width will be 150 feet. A Ka'anapali Connector will be located to the north of the Lahaina Civic Center and will be approximately 1 mile in length.

Purpose

This project will extend the current boundaries of the Lahaina Bypass to increase connectivity and continue development of a utility corridor in West Maui. This project has high interest and support from community members, and would serve an added benefit of providing redundancy in the transportation system in West Maui.





The Lahaina Bypass



C11: Lāhaina Bypass Phase 1C

Interdependencies and Roadblocks

This project is reliant on land acquisition for right of way and requires the Environmental Impact Statement to be updated. The State DOT is currently prioritizing adjustments to existing infrastructure and is not currently planning to engage in projects for new construction / new capacity. This project will need to be added to the State's Transportation Improvement Program to be considered for federal funding opportunities.

Next Steps

- Securing right of way
- Land acquisition and subdivisions (2 years)
- Preparation of construction documents -Plans, specifications, and estimate
 (2 years)
- Obtaining construction permits roadway, highway, grading, driveway, building, electrical, and plumbing permits (2 years)
- Advertisement for bid and construction

Alignment with West Maui Community Plan (WMCP)

- Goal 2.1 Ready and resilient systems
- WMCP Action 2.2.6 Support construction of the planned Lahaina Bypass Road to promote safe, efficient travel across the region without encouraging further urbanization or impeding agricultural operations.



The Lahaina Bypass

Project Details



Cost Estimate: \$80-\$150 Million



Potential Funding Sources:

- U.S. Department of Transportation, Federal Highway Administration
- Reconnecting Communities and Neighborhoods (RCN) Program



Project Lead:

State Department of Transportation



- U.S. Department of Transportation
- Maui Metropolitan Planning Organization
- County Department of Public Works



West Maui Greenway

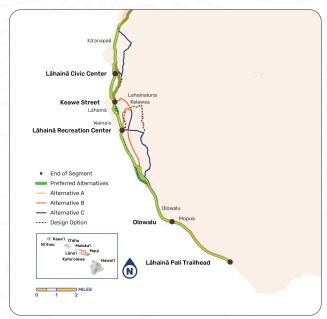
Project Description

The West Maui Greenway is a proposed 25-mile multiuse trail that will connect Ukumehame to Līpoa Point. It will provide a safe, multimodal transportation option to using the Honoapi'ilani Highway and act as an alternative evacuation route accessible to vehicles in an emergency, as well as a fire and fuel break for fire protection. Welcoming people of all ages and abilities who walk, bike, or use assisted mobility devices, the West Maui Greenway was identified as a priority project in numerous previous planning efforts. The Maui Metropolitan Planning Organization received federal funding and produced the West Maui Greenway Plan (September 2022) which developed a preferred route alignment, breaking the corridor into seven segments and trail types. This project focuses on Phase 1 which includes Segments 3, 4, and 5 from Lahaina Civic Center to Launiupoko Beach Park (5.25 miles).





West Maui Greenway



West Maui Greenway Proposed Alternatives

Purpose

The West Maui Greenway will provide a variety of community benefits when complete. It will serve as a multimodal transportation corridor providing connections to key community destinations, resilience benefits and a utility corridor for power lines and water and wastewater lines. It is also anticipated to provided an amenity to Lahaina that will encourage adjacent economic development.

Interdependencies and Roadblocks

Route alignment and design for Phase 1 need to be coordinated with the Lahaina Rebuild Framework project as the West Maui Greenway is a key urban design feature for the town. Right-of-way acquisition, funding and long-term management and maintenance of the greenway are key challenges.

Next Steps

- Begin environmental permitting, community engagement, and right of way acquisition investigations for Phase 1
- Secure funding for right of way acquisition, design and construction

Alignment with West Maui Community Plan (WMCP)

- Goal 2.2 A complete, balanced and connected transportation network
- WMCP Action 2.12 Complete the West Maui Greenway Multiuse path to provide safe, off-road path for walking and bicycling between parks, neighborhoods and businesses.

Project Details



Cost Estimate:

\$15.43 Million



Potential Funding Sources:

- Rebuilding American Infrastructure with Sustainability and Equity (RAISE)
- Active Transportation Infrastructure Investment Program (ATIIP)
- Recreational Trails Program (RTP)
- NPS
- Philanthropy
- Local Community Groups
- County of Maui



Project Lead:

- County Office of Recovery
- County Department of Public Works



- County Department of Parks
 & Recreation
- Maui Metropolitan Planning Organization
- National Park Service Rivers, Trails, and Conservation Assistance
- West Maui Greenway Alliance
- Local Community Groups
- State Department of Transportation







Ke Ola Hou

Project Description

This project will create an affordable program and administrative space in West Maui for nonprofit and government organizations to provide health, education and human services to wildfire survivors. It is meant to be a multipurpose center for resilience, mental health assessment and therapy, as well as a community resource gathering space. Services and activities range from quiet walks, gardening and conversations, to group activities like kanikapila, lei making, variety of classes, and social and community gatherings. There will also be healing help, from lomilomi to emotional support or professional therapists and many different opportunities to talk story.

Purpose

Ke Ola Hou would provide long-term stability to an established program that incubates and accelerates wellbeing for members of the community. For programming to take place, the State Department of Health had put out a request for proposals in September 2023 regarding potential interest in providing behavioral health, traditional healing, cultural practitioner, translation and interpretation services and general wellnessrelated services. These will be the prioritized providers upon requesting provider presence at the Resilience Center upon opening, and any remaining space will be offered publicly and shared with other interested parties.

A community survey was provided with responses from 122 members of the community, including 115 full-time residents.



















Various Logos



Temporary Location of Ke Ola Hou

Of these participants, 57% identified mental health as a service they are in need of to support their path to resilience, 45% identified stress and trauma coping services as programs they would participate in, and 74% responded that it was very important for them to have a say in the development of the new healing and resilience center.

Interdependencies and Roadblocks

This project is dependent on construction and timelines for renovations. Construction costs are somewhat variable and are consuming a large amount of the allocated budget. There is a limitation to 5 years for the identified interim space per the landowner.

Next Steps

- · Long-term programming scoped and funded
- Partnerships established and funding secured for a physical space rental (current lease is for 5 years)

Alignment with West Maui Community Plan (WMCP)

• Goal 2.5 Safe, healthy, livable communities for all



"We need to solve the mental health crisis in Lahaina and on Maui."

> Community Quote from Long-Term Planning Recovery Survey

Project Details



Cost Estimate:

First Year: \$1.7 million First 5 years: \$5.5 million



Potential Funding Sources:

• Community Grant – Ola Ke Kanaka - Physical, Spiritual, Mental & **Emotional Health**



Existing Funding Sources:

\$1.4 million secured from the County budget



Project Lead:

- County Department of Human Concerns
- State Department of Health



- Rotary Club
- Kaiser Permanente
- Alano Club
- Na Mea Ike 'la
- American Red Cross
- County of Maui



R-1 Recycled Water Expansion

Project Description

This project includes a suite of planning, design and construction activities to improve and expand the recycled water distribution infrastructure in West Maui. It will improve, repair and rehabilitate old pipelines, ditches and reservoirs, as well as construct new distribution pipelines, laterals, meters, and other appurtenances to service non-potable water needs from Honokowai to Olowalu. It will expand customer base and usage of recycled water, may potentially provide irrigation to support replanting of native vegetation for erosion control in the impact area and may provide irrigation to a potential firebreak mauka of Lahaina. It includes the following tasks:

- Lahaina Wastewater Treatment Facility (improve, repair and rehabilitate old pipelines, ditches and reservoirs already in place)
- Honokowai R-1 Water Distribution
 System (sign, permitting, management
 and construction of new R-1 distribution
 pipelines, laterals, meters and other
 appurtenances within Honoapi'ilani Hwy.,
 Lower Honoapi'ilani Road and Ka'anapali
 Shores Place)
- Lahaina Recycled Water Force Main
 (Assessment, design, permitting for the rehabilitation/replacement of an existing 6,700-foot force main, construction of a second force main, pump station, access road and supporting utilities/improvements)
- Lahaina R-1 Recycled Waterline for Firebreak (Development of 5 miles of 16-inch recycled waterline conveying





Injection Well

200,000 gallons of recycled R-1 water daily from an R-1 reservoir, supplied by DEM's Lahaina Wastewater Treatment Plant)

Purpose

Maximizing the use of recycled water is a high-priority for the community, County and State. With drought conditions increasingly threatening water supplies in West Maui and the scarcity of water resources leading to ongoing concern over water access, the community looks to improve resource management. Utilizing R-1 Recycled Water for agricultural purposes in West Maui, from Olowalu to Honokowai, could positively influence the hydrology of Lahaina and contribute to other restoration efforts including fire mitigation and wetland restoration. R-1 expansion will also decrease reliance on injection wells.

Interdependencies and Roadblocks

Potential challenges could include permitting and access, as some components are planned to impact privately-owned land. This may result in additional projects to complete, beyond those captured in this project.

Next Steps

- A safety analysis of the West Maui reservoirs needs to be completed
- Project design is anticipated in 2025 and construction is anticipated in 2027



"We need to make use of R-1 water in order to keep the historically drought ridden community with water to keep areas green and mitigating the risk of fires spreading again."

Community Quote from Long-Term
Planning Recovery Survey

Alignment with West Maui Community Plan (WMCP)

- Goal 2.1 Ready and resilient systems
- WMCP Action 1.30 Improve interconnection between
 Department of Water Supply subsystems in West Maui.
 WMCP Action 1.33 Identify and encourage potential new users of recycled water, including parks, golf courses, and agriculture and expand recycled water storage and conveyance systems in West Maui to increase the reuse of recycled water.

Project Details



Cost Estimate:

>\$105,000,000



Potential Funding Sources:

- Bureau of Reclamation Title XVI
- U.S. Environmental Protection Agency Community Change Grant
- U.S. Environmental Protection Agency Water Quality Improvement Programs
- Improvement District Program
- Water Infrastructure Finance and Innovation Act (WIFIA)



Existing Funding Sources:

County Department of Water Supply Capital Revolving Fund



Project Lead:

County Department of Environmental Management



- County Department of Planning
- County Department of Environmental Management
- County Department of Water Supply
- County Department of Argiculture
- Private Landowners
- State Department of Land and Natural Resources - Commission on Water Resource Management
- Maui Economic Recovery Commission
- State Department of Health, Surface Water Protection Branch



Water Source Development

Project Description

This project will expand water use and availability by increasing access to existing ground water sources and establishing new connections to the County's potable water system.

1. Honokowai Tunnel Intake And Transmission Line

Project would provide a new potable water source by constructing a horizontal tunnel and skimmer well to capture groundwater in Honokowai Valley. No further treatment would be required. CWRM has determined that water from tunnel does not impact stream flows, as stream flows for Honokowai Valley are generated farther upstream. Project benefits include diversification of source, redundancy within the system and provides a lower-cost source alternative than drilling a new well.

2. Lahaina Wells Development: Launiupoko Well #1 and #2, Honolua Well H1 and H2

The project will include development of two well fields in Launiupoko aquifer and two well fields in Honolua aquifer to provide additional supply to the Lahaina area to ensure adequate water supply.

Purpose

This project aims to increase availability of water to meet community needs. Expanding water availability serves the needs of the community and provides for increased





Drinking Water

66

"Develop a water system that provides adequate water to all and does not depend only on rainfall (desalination plants, wells that provide a lot of water such as the one proposed in upcountry)."

> Community Quote from Long-Term Planning Recovery Survey

resilience. The County's Department of Water Supply's Maui Island Water Use and Development Plan (2022) adopted strategies to maximize surface water production up to treatment plant capacity when stream flow allows (as the most affordable water supply) and develop sufficient wells to rely on in dry season. This project will aid in the mitigation of drought impacts on the water supply. Additionally, it will enable the use of the Kanaha stream for ecosystem restoration

projects as part of rebuilding Lahaina. Increased well capacity will also provide additional water flow for fire suppression.

Interdependencies and Roadblocks

Uncertainty over water use permit allocations from DLNR CWRM to accommodate new water source development in West Maui, requiring further coordination. There are also private property concerns.

Next Steps

- Secure water use permits to develop drinking water wells in Launiupoko and Honolua aquifers. Engineering and construction are upcoming for development of the wells
- Design is anticipated to take place from 2024 to 2026 with construction to be completed by 2028

Alignment with West Maui Community Plan (WMCP)

- Goal 2.1 Ready and resilient systems
- WMCP Action 1.29 Develop basal groundwater sources in West Maui to timely serve planned population growth and offset decreased surface water diversions.
- WMCP Action 1.30 Improve interconnection between Department of Water Supply subsystems in West Maui.

Project Details



Cost Estimate:

Wells Development: \$36,600,000 Tunnel Improvements: \$4,400,000



Potential Funding Sources:

- County Department of Water Supply Capital Revolving Fund
- FEMA Hazard Mitigation Grant



Existing Funding Sources:

- Commission on Water Resource Management - Partial Funding
- County Department of Water Supply Capital Revolving Fund
- County Department of Water Supply Capital Improvements Plan



Project Lead:

County Department of Water Supply



Project Partners:

- State Department of Land and Natural Resources, Commission on Water Resource Management
- County Department of Public Works



Creation of a Cultural Corridor and the Restoration of Malu 'Ulu o Lele, Moku'ula and the Loko o Mokuhinia Complex

Project Description

This project will see to the creation of a cultural corridor and the restoration of Malu 'Ulu o Lele, Moku'ula and the Loko o Mokuhinia Complex. A Cultural Corridor along the coast will restore, honor and protect culturally significant sites from Moku'ula to the King's Lo'i Kalo—including other sites such as, Loko o Nalehu, Loko o Kalua'ehu and Hale Piula. Restoration of the three areas will create a sustainable and vibrant cultural space that remembers and highlights Hawaiian history, restores Lahaina's natural wetland coastal ecosystem and cultural historical sites, supports the wellbeing of the Lahaina community, and, with the planting of 'ulu trees throughout Lahaina town, reduces urban heat index and provides an abundant food source for generations to come. This project will provide healing for the community, wetland restoration, habitat restoration, cultural restoration, restoration of Native Hawaiian places of historical and spiritual significance, flood mitigation and control, fire risk mitigation through green breaks and water breaks, increase in water flow and groundwater recharge, and a buffer between the ocean and the town to mitigate hazards of sea level rise, shoreline erosion and waves.



Purpose

Historically, Loko o Mokuhinia was a 17-acre pond among West Maui's large network of coastal wetlands. Located within the pond was Moku'ula, an island reserved for high ranking ali'i. Moku'ula and Loko o Mokuhinia were highly sacred and culturally significant spaces and served as the residence of Kihawahine, a mo'o goddess and spiritual guardian. In the mid 19th century, water diversions to largescale plantations in West Maui led to the eventual stagnation of Loko o Mokuhinia. In the early 20th century, the pond was filled and turned into Malu 'Ulu o Lele Park, and today Moku'ula and Mokuhinia lie about 2 to 3 feet underground. The Native Hawaiian community and broader local community have been fighting for the restoration of Moku'ula and Mokuhinia for decades. The 2023 Lahaina wildfires stimulated a renewed push across Hawai'i for the revitalization of Moku'ula and Mokuhinia for the healing and recovery of the Lahaina community and lāhui.

Interdependencies and Roadblocks

Restoration of Moku'ula and Mokuhinia will require collaboration and communication between the community and government agencies across County, State and federal levels. Community visions for restoration may look different from one another. Restoration will require several years for planning and implementation, so funding needs will be ongoing. Additionally, restoration will have interdependencies with other recovery efforts like the reconstruction of the town, watershed restoration and water and stream flow, so timing and coordination will be key in the planning phase.

Next Steps

- Community engagement is necessary with Native Hawaiian groups and leaders, the Lahaina community and the broader lāhui across Hawai'i to ensure that restoration efforts are community led
- Undertake a comprehensive planning process to analyze the area's historical, cultural and archaeological significance
- Study the existing environmental and hydrological conditions
- Assess potential land acquisition needs
- Conduct community engagement
- Develop a master plan and implementation plan
- Identify funding sources for the planning process, implementation and maintenance of the site

Alignment with West Maui Community Plan (WMCP)

 Goal 2.3 Responsible stewardship of resources, culture, and character

Project Details



Cost Estimate:

\$TBD



Potential Funding Sources:

- National Endowment for the Arts (NEA): Our Town
- Choice Neighborhoods Planning Grants
- County, State and Federal Partners
- Philanthropic Funders
- Hawai'i Community Foundation
- U.S. Department of Agriculture



Project Lead:

County Department of 'Ōiwi Resources



- Lineal and Generational Descendants and Caretakers
- Community
- Na 'Aikane o Maui
- Kūpuna Council
- Hui Wa'a Kaulua
- State Department of Land and Natural Resources
- National Park Service Rivers, Trails, and Conservation Assistance
- State Historic Preservation Division
- State Department of Health, Surface Water Protection Branch







Revegetating and Reforesting Lahaina and Kula

Project Description

This project will revegetate Lahaina with native plants, canoe plants and culturally appropriate plants to restore the burned landscape, increase resilience, beautify the town, increase storm water infiltration and groundwater recharge, and provide food and material sources for the community. It will educate the community about native plants and resilient landscaping. Reforesting Lahaina (beyond the town) and Kula with native plants will restore the native landscape, reduce invasive plant fuel loads, increase fire and hazard resilience, increase groundwater recharge, and provide food and material sources for the community. This project includes key efforts such as:

- Create a Maui Native Nursery Network of existing nurseries around the island to establish partnerships and increase operations to provide plants to Lahaina, Kula, Pūlehu, and Olinda
- Establish new nurseries in Lahaina moku to grow plants to revegetate the town
- Establish biosecurity protocols and quarantine areas in new nurseries
- Establish and expand composting facilities in Lahaina for waste diversion and generation of mulch for revegetation, soil restoration, and erosion control
- Reforest the middle watershed area surrounding Lahaina town to turn the unproductive invasive grasslands into thriving forested and agriculture areas; Reforest the DLNR lands in upper mauka
- Implement other reforestation projects





"Restore the natural environment; reforest mauka, restore moku'ula and others, plant trees in all residential and commercial areas, encourage small agriculture, catch & store rainfall, manage streams so they feed the aquifer. 'Aina and kai are our baseline infrastructure. Preserve and protect." Community Quote from Long-Term Planning Recovery Survey

led by organizations across Lahaina, Kula, Olinda, and Pūlehu.

Purpose

The Lahaina impact zone needs to be revegetated with appropriate fire resilient native plants and canoe plants to reduce fire risk and erosion. Community members want to revegetate their homes, and public properties such as street medians and open spaces need to be revegetated. Surrounding Lahaina, invasive buffelgrass has regrown in the impact zone on private lands and the surrounding areas beyond still pose high fire risks for the town. For the safety and environmental well-being of Lahaina, it's essential to form multiagency partnerships to manage the private lands surrounding the town, by removing invasive fuel loads, replanting with native plants to reduce

fire and wind risk, restoring the native landscape, and creating new agriculture and agroforestry industry areas.

Interdependencies and Roadblocks

A major challenge is creating partnerships between private landowners, government agencies and community groups. Litigation against the landowners around Lahaina also pose barriers to working together and taking action to restore the landscape. Funding for revegetation and reforestation projects and long-term maintenance of lands are also challenges. The County currently does not have policies to require the management of fallow lands.

Next Steps

• Identify funding for the nurseries in the Maui Native Nursery Network to expand growing and seed banking operations and funding and partner sites to establish new nurseries in Lahaina/West Maui

Alignment with West Maui Community Plan (WMCP)

- Goal 2.3 Responsible stewardship of resources, culture, and character
- Goal 2.5 Safe, healthy, livable communities for all
- WMCP Action 5.05 Conduct a baseline study of West Maui's urban tree canopy and establish a goal for canopy cover increase and a strategy to achieve this goal.
- WMCP Action Plan 3.17 Implement recommended actions that are within the County's jurisdiction form the West Maui Mountains Watershed Management Plan and the USACE West Maui Watershed St.
- Expand and create regional composting facilities in Lahaina
- Establish partnerships to manage and reforest land surrounding Lahaina

Project Details



Cost Estimate:

\$TBD



Potential Funding Sources:

- Tree and Soil Research Fund **Grant Program**
- Kaulunani Urban & Community Forestry Program
- Landscape Scale Restoration
- County, State and Federal Partners
- Hawai'i Community Foundation



Project Lead:

- County Department of Agriculture
- State Department of Land and **Natural Resources**



- U.S. Department of Agriculture
- State Department of Agriculture
- Kula Community Watershed Alliance
- Lahainaluna High School
- Kamehameha Schools Ku'ia Agricultural **Educational Center**
- Living Pono Project
- Kaiāulu Initiative
- Various Maui Nurseries
- State Department of Health, Surface Water Protection Branch







Green Workforce Development

Project Description

This project includes development of an environmentally conscious green workforce and creation of green job opportunities for a sustainable Hawai'i and Maui—to provide economic opportunities for local people to stay and live in Maui while also restoring the environment. Key goals of this project include diversification of economy, beyond tourism, towards a circular sustainable economy; return of thriving agriculture industry to Lahaina; increase accessibility and create jobs in conservation, agriculture, environmental science, regenerative tourism, and climate change resilience; create educational programming, career pathways, and mentorship programs for youth to transition from elementary to high school, to college, to careers; create a workforce of local people who can do the natural resources restoration work and maintenance for Lahaina and Maui in the coming years; and create regenerative pono tourism practices through programming, incentives, education and policy.

Purpose

Maui is highly dependent on tourism as its main economic driver. After the 2023 fires and the 2020 COVID-19 pandemic, Maui and Hawai'i's economic vulnerabilities were clearly shown, as thousands lost their jobs and millions of dollars of daily revenue abruptly halted. Maui must look to alternative economic industries for short, mid and long-term recovery and community wellbeing. Additionally, younger generations often move away from Maui due to lack of





job opportunities and high cost of living. For recovery efforts involving revegetation, landscape restoration and reforestation, for example, Maui lacks sufficient local workforce and capacity for implementation. This recovery project would address the need to train a local workforce for natural resources restoration and maintenance work for recovery, as well as generate long-term job opportunities in alternative economic industries such as agriculture, conservation and natural resources management.



Community Quote from Long-Term Planning Recovery Survey

solutions."

Interdependencies and Roadblocks

Challenges include the current economic dependence on tourism, unclear direction for economic future of Lahaina and Hawai'i, education of new workforce and re-education of current workforce, differences in intentions, purposes, and underlying goals, people (especially younger generation) leaving Maui and Hawai'i due to lack of job opportunities, high cost of living, low wages (typically for service, conservation and 'āina jobs), and constraints of Hawai'i State Department of Education.

Next Steps

- · Creation of 'āina-based educational opportunities
- Provide equitable access to education, workforce and professional development, programs for P-20

Alignment with West Maui Community Plan (WMCP)

- Goal 2.4 Economic opportunity through innovation and collaboration
- Innovation and entrepreneurship, mentorship program, and sustainable tourism practices and programming

Project Details



Cost Estimate:

\$TBD



Potential Funding Sources:

- U.S. Department of Agriculture
- Philanthropic
- County
- State
- Other federal grants
- Hawai'i Community Foundation



Project Lead:

- County Department of Agriculture
- University of Hawai'i
- State Department of Education



- Farms
- Hawai'i Green Growth
- Ulupono Initiative
- Kupu
- County Department of Agriculture
- County Department of Public Works
- County Department of Planning
- The Nature Conservancy
- Watershed Partnerships
- Living Pono
- U.S. Department of Agriculture -Natural Resources Conservation Service
- State Department of Land and **Natural Resources**
- State Department of Agriculture
- Hawai'i Tourism Authority
- State Department of Business, **Economic Development & Tourism**





Preservation, Revitalization, and Reconstruction of Historic and Cultural Spaces

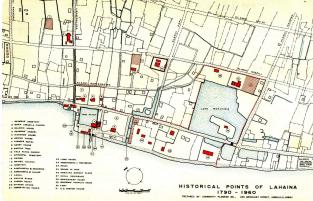
Project Description

project involves preservation, rehabilitation, restoration, and/or reconstruction of historic buildings in Lahaina lost to the fire, as well as cultural spaces and stories. Key efforts include: restoration of historic structures; creation of a Lahaina historic corridor that aligns with the establishment of the Lahaina cultural corridor; a multicultural center and museum to create space for community members to gather and celebrate culture and heritage; oral histories from survivors and residents of Lahaina and Kula to capture their experiences and memories before the fire, the day of, and after the fire; and potential feasibility study to designate Lahaina as a National Heritage Area by NPS. This project will honor the culture and history of Lahaina by partnering with Lahaina community members, supporting government agencies, historic property owners, and community groups involved in historic preservation and restoration such as Lahaina Restoration Foundation.

Purpose

Almost all of Lahaina's historic buildings were damaged or completely destroyed in the August 2023 wildfire. Building foundations and some historic building materials remain; though significant planning, funding, coordination, and community engagement is needed to rebuild the historic structures.





Historical Map of Lahaina, Maui, Hawai'i

Community members and leaders have expressed interest in restoring historic structures and establishing a historic corridor in Lahaina. The fires also destroyed Lahaina's museum, Na 'Aikane o Maui (Maui's only Native Hawaiian cultural center), as well as irreplaceable historical artifacts. A new museum space in Lahaina would provide a space to share the history of Lahaina and house artifacts, while a multicultural center would provide a much-needed space to learn, practice culture and strengthen the spiritual, mental and physical health and well-being of individuals, families, and communities. It would prepare next generations to become contributing people in their communities, families and nations and provide access to recordings of oral histories which provides opportunities to document stories, traditions and experiences and share these with the broader community. Oral histories are significant traditions to Native Hawaiians and other cultures to pass down information from generation to generation.

Interdependencies and Roadblocks

Gaining consensus between groups, identification of leadership, funding, economic viability, and long-term funding and maintenance. Additionally, there are competing opinions on post-contact building/site restoration, shoreline management area requirements, updated shoreline setbacks, and other land use controls for Front Street's redevelopment.

Next Steps

- Establish connections within the community and identify community leads, funding opportunities, planners and contractors for the rebuild planning
- Scope, plan and complete oral history

Alignment with West Maui Community Plan (WMCP)

- **Goal 2.3** Responsible stewardship of resources, culture, and character
- WMCP Action 3.08 Develop a cultural overlay map identifying the location of important historical events, known burial sites and archaeological resources, and known above-ground resources. Create a cultural overlay district to protect cultural assets and establish an efficient review process for property owners.
- WMCP Action 3.26 Obtain funding and implement cultural and educational programs to perpetuate Hawaiian heritage.

project and multicultural center and museum with community and supporting agencies

Project Details



Cost Estimate:

\$TBD



Potential Funding Sources:

- Smithsonian
- Hawai'i Museums
- Hawai'i Community Foundation
- · Office of Hawaiian Affairs
- County, State and Federal Partners
- Philanthropic
- Save America's Treasures
- Historic Preservation Fund and Income Tax Credit



Existing Funding Sources:

FEMA Public Assistance and Certified Local Government Funds



Project Lead:

- Private and Local Organizations
- County Department of 'Ōiwi Resources



- Lahaina Strong
- Kūpuna Council
- Na 'Aikane o Maui
- Lahaina Restoration Foundation
- Kamehameha Schools
- County Department of Planning
- County Archaeologist
- University of Hawai'i
- Smithsonian

- Bishop Museum
- State Department of Land and Natural Resources
- Department of Interior
- Kumu Pono Associates
- Jodo Mission
- Kupuna Council
- National Park Services
- Historic Building Property Owners

8. Next Steps

The projects and programs identified in the LTRP span a wide variety of types, purposes and paths towards implementation, operation and maintenance. Some are construction projects, such as the Kuhua Street Extension, Rebuild West Maui Senior Center and R-1 Recycled Water Expansion. Some have significant planning components, such as the Rebuild Lahaina Plan, Wai and Watershed Recovery Planning and Creation of a Cultural Corridor. Others include heavy program and partnership development and will be ongoing for years to come, such as Wildfire Risk Reduction and Mitigation, Agriculture Planning and Long-Term Food Security and Green Workforce Development. Regardless of the project type, successful planning, implementation and management of each recovery project depends on proper coordination and tracking of scoping, funding, timing, permitting, and public engagement. Within this ongoing long-term recovery effort, each identified recovery project is in one of four general project stages:

- Planning Projects in the **planning** stage include a concept and may need additional
 definition or details. They need to be defined and scoped before appropriate resources
 and funding can be considered. Studies and plans are often required to take these projects
 to the next stage, providing details and vetting the project idea with the public and
 potential implementation partners and regulators. Such planning efforts typically draw from
 community demographic information, assessment of needs, coordination with strategic
 partners, and overall visioning efforts to help define community and project priorities.
- Design Projects in the **design** stage are at the point of defining critical details, such as material, cost, timing, location, or funding, before implementation or construction. At this stage, potential limitations and constraints, as well as potential cost savings and benefits, are identified through engineering and design, providing a more accurate estimate of potential costs. A clear understanding of funding availability and requirements is critical at this stage. Another crucial component is acquiring the proper permitting. All these steps can impact the timing and scope of a project but if done properly, provide a more efficient allocation of resources.
- Implementation Projects in the **implementation** stage have already been programmed and funds may have been allocated or spent. Construction may be underway or new programs and efforts are starting up. Monitoring and controlling the project progress is critical at this stage to ensure that the final design is properly being followed, intended benefits are being achieved and funding and permitting requirements are being met.
- Operation and maintenance The last stage of the project is operation and maintenance.
 In this stage, a facility or program is operational, but additional resources may be needed to successfully continue the operation. Proper operation requires continued investment of resources be taken into consideration.

Throughout the recovery effort, project priorities, goals and support may change, and this plan provides a framework to help the County track and adapt to changing conditions while moving through implementation. The County has identified the following next steps in the long-term recovery process:

- 1. The County will hold two public open houses to introduce and receive community feedback about the Draft LTRP. This plan will also be available online for all interested parties to view and comment on.
- 2. Community feedback will be compiled and reviewed through November 2024, with feedback incorporated into the Final LTRP and published by the end of December 2024.
- **3.** Project-specific community engagement will be held, as necessary, during the planning process for high-profile projects. This will further the community's understanding of recovery projects and gather support to move through the process toward implementation.
- **4.** The County will track the progress of recovery projects and provide updates for the public via Maui Recovers and other means to ensure transparency and access to the community.
- **5.** Briefings and one-on-one meetings with County departments, directors, State officials, and stakeholders will continue throughout the long-term recovery process. It is especially important for the County to hold multidisciplinary work sessions to engage departments that may not be the project's lead agency but could be a necessary partner in the process.
- **6.** Identification of funding opportunities will be a vital component of the long-term recovery process. Projects may need multiple funding sources to be implemented, and the County will develop a defined strategy to access funds throughout the process.
- **7.** Local and State priorities should match the County's recovery projects. This will require continued coordination by all stakeholders and regular review of the County's 6-year Capital Improvement Program.
- **8.** Grants management is extremely important with the influx of funding from outside sources. Funds management is required to maintain grants and retain funding throughout the project's life cycle. Additional staff may be needed to manage grants for recovery projects.

Acronyms and Abbreviations

CDBG – DR Community Development Block Grant – Disaster Relief

CDP census-designated place

County County of Maui

CWPP Community Wildfire Protection Plan

CWRM Commission on Water Resource Management

DBEDT State of Hawai'i Department of Business, Economic Development and Tourism

DEM County of Maui Department of Environmental Management

DLNR State of Hawai'i Department of Land and Natural Resources

DOE State of Hawai'i Department of Education

DOH State of Hawai'i Department of Health

DOT Department of Transportation

DPW County of Maui Department of Public Works

EDA U.S. Economic Development Administration

ERC Economic Recovery Commission

FEMA Federal Emergency Management Agency

HI-EMA State of Hawai'i Emergency Management Agency

HWMO Hawai'i Wildfire Management Organization

HUD U.S. Department of Housing and Urban Development

LIHTC Low Income Housing Tax Credits

LTRP Long-Term Recovery Plan

MEMA Maui Emergency Management Agency

MFD County of Maui Department of Fire and Public Safety

mph mile(s) per hour

NEA National Endowment for the Arts

NHHBG Native Hawaiian Housing Block Grant

NHLD National Historic Landmark District

NPS National Park Service

NRCS Natural Resources Conservation Service

OED County of Maui Office of Economic Development

RSF Recovery Support Function

TBD to be determined

TCP Traditional Cultural Properties

TVR transient vacation rental

USACE U.S. Army Corps of Engineers

USDA U.S. Department of Agriculture

WMCP West Maui Community Plan

WUI Wildland Urban Interface

LONG-TERM RECOVERY PLAN | 99 LONG-TERM RECOVERY PLAN | 100

Glossary of Hawaiian Language Words³¹

'āina: land, earth.

ali'i: Chief, chiefess, officer, ruler, monarch, peer, headman, noble, aristocrat, king, queen, commander; royal, regal, aristocratic, kingly; to rule or act as a chief, govern, reign; to become a chief

Great Māhele: the great land division

'ike: to see, know, feel, greet, recognize, perceive, experience, be aware, understand

kanikapila: to play or make music

kaua'ula: a strong wind from the mountains, occasioned by the breaking over of the trade winds; often destructive at Lahaina

keiki: child

kona: leeward sides of the Hawaiian Islands

kuleana: right, privilege, concern, responsibility

kūpuna: elder, grandparent or older person

lāhui: nation, race, tribe, people, nationality; great company of people

lele: to fly, to jump

lo'i kalo: irrigated terrace of taro

lomilomi: to rub, press, squeeze, crush, mash fine, knead, massage; masseur, masseuse

mālama 'āina: care of the land

makai: to or toward the ocean

mauka to makai: ridge to reef

moku: district, island, islet, section

mo'o: lizard

'Ōiwi: indigenous, native

Pae aina o Hawaii: Group of islands; the Hawaiian Archipelago

pono: goodness, uprightness, morality, moral qualities, correct or proper procedure, excellence, well-being, prosperity, welfare, benefit, behalf, equity, sake, true condition or nature, duty; moral, fitting, proper, righteous, right, upright, just, virtuous, fair, beneficial, successful, in perfect order, accurate, correct, eased, relieved; should, ought, must, necessary

'ulu: the breadfruit (Artocarpus altilis), a tree perhaps originating in Malaysia and distributed through tropical Asia and Polynesia

wai: water

mauka: to or toward the inland

³¹ Hawaiian language definitions derived from the Ulukau Hawaiian Dictionaries at wehewehe.org



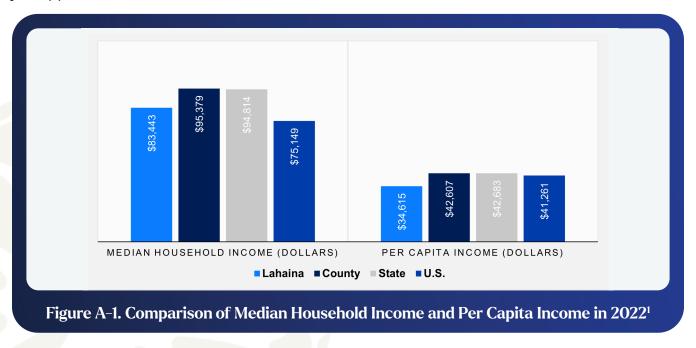
Appendix A. Brief Economic Analysis

Introduction

This analysis utilizes demographic and employment data from the U.S. Census Bureau to provide an overview of the economic conditions in the Lahaina Census Designated Place (CDP) (Lahaina) relative to the County of Maui (County), State of Hawai'i (State), and United States (U.S.). The analysis includes an evaluation of household income dynamics and an introduction to the key trends in employment by sector, commuting patterns, and housing characteristics. The information provides the recent historical changes and current conditions of the economic environment for residents, workers, and businesses in Lahaina to contextualize the anticipated impacts of the August 2023 wildfire disaster. Definitions for indicators used in this evaluation can be found in this American Community Survey (ACS) 2022 Subject Definitions.

Income Dynamics

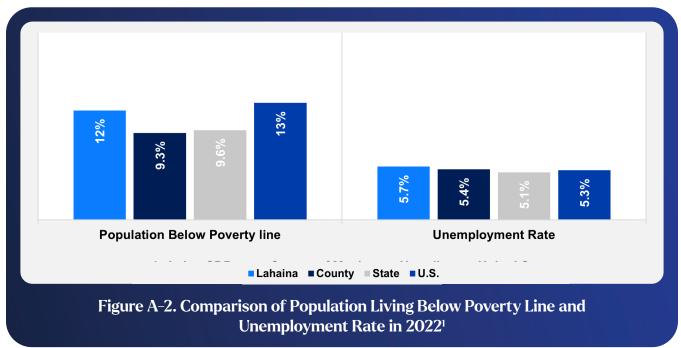
The median household income in Lahaina in 2022 was \$83,443, more than 10% lower than the median income for both the County and State, but 10% higher than the U.S. (Figure A-1).¹ Similarly, the per capita income for residents of Lahaina in 2022 was \$34,615, almost 20% lower than the per capita income for the County, the State, and the U.S. In Lahaina, the average household size is 3.53 persons, compared to 2.96 persons in the County and 2.92 persons in the State; in the U.S., the average household size is 2.50 persons.² The difference in household size, median household income, and per capita income between Lahaina, the County, the State, and the U.S. illustrates the number of income earners per household in Lahaina required to support the household as an economic unit. To compare, in Lahaina, there are an average of two employed workers per household, while it is 1.52 employed workers in the County, 1.39 employed workers in the State and 1.26 employed workers in the U.S. This comparison emphasizes the importance of creating job opportunities in Lahaina.



¹ U.S. Census Bureau. 2024. <u>DP03 Selected Economic Characteristics</u>. ACS 5-Year Estimates Data Profiles, 2022.

² U.S. Census Bureau. 2024. <u>DP04 Selected Housing Characteristics</u>, ACS 5-Year Estimates Data Profiles, 2022.

In 2022, 11.7% percent of Lahaina's population was living under the poverty line, which was approximately 25% higher than the rate at the County and State levels, though slightly below the U.S. poverty rate of 12.5% (Figure A-2).¹ The unemployment rate of the worker population in Lahaina was slightly higher at 5.7% than at the County (5.4%), State (5.1%), and U.S. (5.3%) levels.

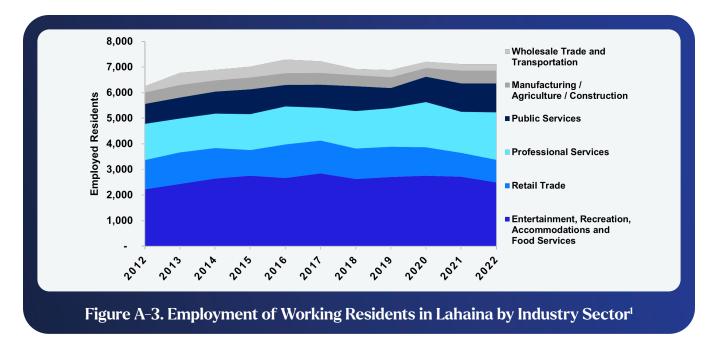


Key Trends

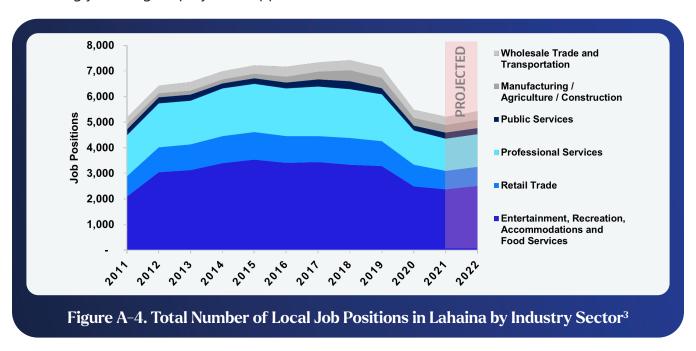
The analysis evaluates and compares the trends in the key economic indicators for Lahaina, the County, the State, and the U.S. to illustrate the potential impacts of the recent economic disruption to the community in Lahaina. The key economic indicators include the employment by industry sector, the commuting trends of workers in the region, and housing availability and affordability. Evaluating these economic indicators provides the context for understanding the susceptibility of the regional economy to a disruptive event and how the residents and businesses in Lahaina would be affected by the changes in their employment, mobility, and housing.

Sector Employment

In 2022, 35% of workers living in Lahaina were employed in tourism-dependent industries, which include the arts, entertainment and recreation, and accommodation and food services sectors. These sectors make up the greatest source of employment for the residents of Lahaina. The percentage share of workers in these industries exceeded the average for the County (23%) and State (16%). Tourism-dependent businesses made up over 270 of 860 total new jobs taken up by residents of Lahaina since 2012. Despite the growth in population and employment in Lahaina through 2022, several sectors experienced a decline in employment since 2012, including the wholesale and retail trade sector and the agriculture, forestry, and fishing sector. Manufacturing, professional services, construction and transportation sectors showed modest increases over the same period. The total employment and the employment by sector (represented by the various shaded areas) from 2012 to 2022 for the residents of Lahaina is shown on Figure A-3.



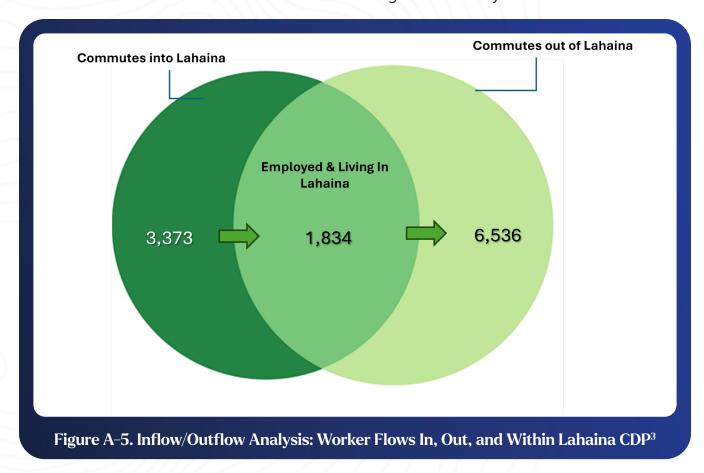
While education, health care, and social assistance services make up the second largest employer for the residents of Lahaina, there remains a major gap between the availability of teachers, nurses, and social workers and the needs of the community. While almost 940 residents of Lahaina (13% of workers) are employed in the education, health care, and social assistance services sectors, only approximately 230 of those positions are within Lahaina.³ In 2021, employment opportunities in Lahaina had fallen by 30% since their peak of 7,400 in 2018 because of the economic impacts of the COVID pandemic and localized economic conditions (Figure A-4), resulting in residents increasingly seeking employment opportunities outside of Lahaina.



³ U.S. Census Bureau. 2024. LEHD Origin-Destination Employment Statistics (2002-2021). Washington, DC: <u>U.S. Census Bureau, Longitudinal-Employer Household Dynamics Program</u>, LODES 8.1.

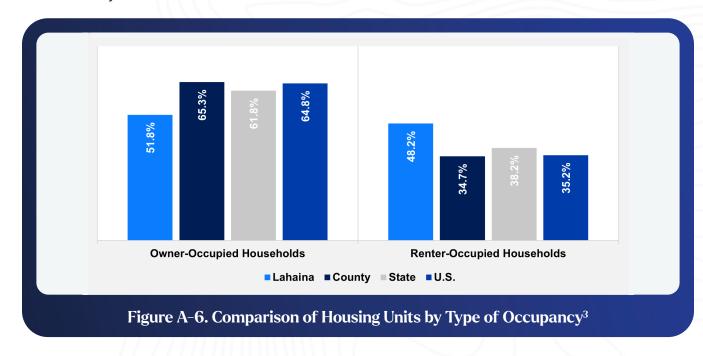
Commuting Trends

In 2022, working residents constituted 55% of the total resident population of Lahaina with the percentage of working residents trending downward slightly from 58% in 2012.¹ Over the same period, the percentage of working residents in Lahaina employed locally fell from 54% to 42%.³ The mean commute time for working residents increased from 14 minutes in 2012 to 19 minutes in 2022, almost 40%, indicating a growing divide between home and employment for residents.⁴ For comparison, in the County, the mean commute time for working residents grew from 21 minutes to 23 minutes, an increase of 11%, over the same period. In 2021, the number of working residents of Lahaina totaled 7,115, while the number of job positions located in the town of Lahaina totaled 5,207.³ Nearly 3,373, or 65%, of the job positions in Lahaina were staffed by workers living outside of the area, while 6,536 of the working residents of Lahaina were employed outside of the area (Figure A-5). The commuting and employment data illustrate the interdependencies between the residents and businesses of Lahaina and the wider regional economy.



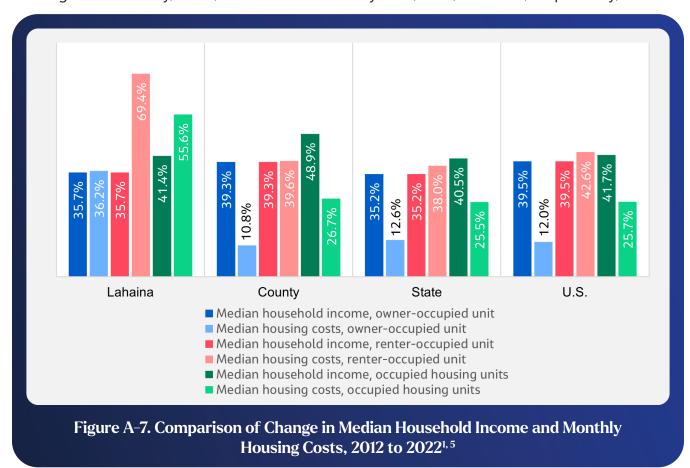
Housing Availability and Affordability

The housing characteristics in Lahaina illustrate the diversity in homeownership trends and living arrangements. In 2022, 52% of housing units in Lahaina were owner-occupied compared with 65% of housing units in the County, 62% of housing units in the State, and 65% of housing units in the U.S. (Figure A-6).² In Lahaina, the average household size of owner-occupied housing units is 3.80 persons, while renter-occupied housing units measure 3.25 persons. As discussed in Section 2, in Lahaina, household income is highly dependent on household size, relative to the average in the County, State, and U.S.



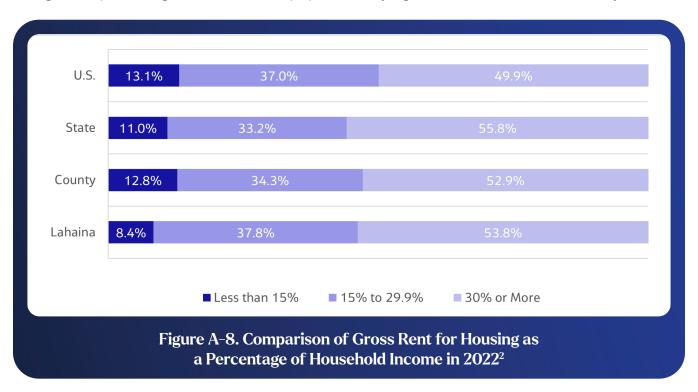
⁴ U.S. Census Bureau. 2024. S0801 Commuting Characteristics by Sex. ACS 5-Year Estimates Data Profiles, 2012 to 2022

Relative to the County, State, and U.S., the increase in median monthly housing costs for owner-occupied and renter-occupied housing units in Lahaina have far outpaced the growth in their median household income from 2012 to 2022 (Figure A-7).⁵ In the County, State, and U.S., homeowners experienced an increase in median household income over monthly housing costs by a margin of 20% to 30%, while homeowners in Lahaina broke even on their household income and housing costs. While the increase in median monthly housing costs for renters exceeded the growth in their median household income in Lahaina, the County, the State, and U.S., renters in Lahaina experienced a nearly 70% increase in housing costs, while their household income only increased by 36%. For comparison, the median monthly housing costs for renter-occupied housing in the County, State, and U.S. increased by 40%, 38%, and 43%, respectively, over the



same period. Given the shortage of long-term rental housing and homes for sale in Lahaina and the surrounding areas, the housing costs for the residents of Lahaina would be expected to continue outpacing their household income. In Lahaina, for 54% of renter-occupied housing units, gross rent exceeded 30% of household income, a threshold where households are considered "cost burdened" (Figure A-8).² In comparison, the percentage of "cost burdened" renter-occupied households in the County, State and the U.S. was 53%, 56% and 50%, respectively. The phenomenon would be exacerbated for residents in Lahaina by the current economic circumstances, driving more households to become "cost burdened." The result can be the displacement of residents to other areas of the County and beyond to pursue available housing and employment opportunities,

an increase in commuting time and costs for residents to reach better-paying employment, and/ or a greater percentage of the resident population trying to live from less discretionary income.



Summary of Key Trends

The resilience of the economy in Lahaina can be predicted from the trends of its structural elements, including the distribution of employment by sector, the trend in housing costs for renters and homeowners, and the disparity in household income. Evaluating these metrics provides insight into how the residents and businesses in Lahaina would be affected by a shock to the system, such as a natural disaster. The combination of employment opportunities within the tourism-dependent sectors in Lahaina and throughout the County, the financial risk of renters and new homeowners exposed to rising housing costs, and the downward pressure on household incomes can result in long-lasting consequences for the community in Lahaina. The shortage in the affordable housing supply and the shrinking employment opportunities in Lahaina could be expected to displace residents from Lahaina to other areas of the County, cascading into the challenges of housing affordability, ability to maintain households, and adequate employment.

Tax Revenue Impacts

The fires at Lahaina are anticipated to affect the level of tax revenues generated by residential and commercial properties and transient accommodations and by the general excise tax (GET) on business revenues. The County collects tax revenues based on the assessed value of real property and the sale of goods and services by businesses. The tax revenues generated by properties are based on the property classification and the taxable assessed value of the property (Table A-1).

⁵ U.S. Census Bureau. 2024. <u>\$2503 Financial Characteristics.</u> ACS 5-Year Estimates Data Profiles, 2012 to 2022.

Table A-1. Real Property Tax Rates by Property Classification in the County of Maui, as of July 2023⁶

PROPERTY CLASSIFICATION	TAX RATE (PER \$1,000 OF ASSESSED VALUE)
Owner-occupied Tier 1: up to \$1,000,000	\$1.90
Owner-occupied Tier 2: \$1,000,001 to \$3,000,000	\$2.00
Owner-occupied Tier 3: over \$3,000,000	\$2.75
Non-owner-occupied Tier 1: up to \$1,000,000	\$5.85
Non-owner-occupied Tier 2: \$1,000,001 to \$4,500,000	\$8.00
Non-owner-occupied Tier 3: over \$4,500,000	\$12.50
Apartment	\$3.50
Hotel and Resort	\$11.75
Time Share	\$14.60
TVR-Short-term Rental Home	\$11.85
Long-term Rental Tier 1: up to \$1,000,000	\$3.00
Long-term Rental Tier 2: \$1,000,001 to \$3,000,000	\$5.00
Long-term Rental Tier 3: over \$3,000,000	\$8.00
Agricultural	\$5.74
Conservation	\$6.43
Commercial	\$6.05
Industrial	\$7.05
Commercialized Residential	\$4.40

TVR = transient vacation rental

Based on the tax assessment data of real property published by the County, the assessed value of real property has steadily grown from 2019 to 2023.^{7, 8} Over this period, the assessed value of properties classified as short-term rentals or TVR grew by 82%, outpacing the growth in the taxable value of owner-occupied properties (43%) and all other property types (34%). In 2023, TVR properties in the County made up 17% of properties but 25% of total assessed value, as compared to owner-occupied properties making up to 35% of properties and 25% of total assessed value and non-owner-occupied properties making up to 23% of properties and 24% of total assessed value (Table A-2).⁹ Based on the tax rates and the total assessed value of these types of properties, TVR properties and rental properties make up a significant contribution of property tax revenues for the County; for comparison, based on their assessed value, the property tax revenues from hotels, resorts and time shares are approximately only half of the revenues from TVR properties.

Table A-2. Property Characteristics and Taxable Assessed Value of Real Property in County of Maui in 2023

PROPERTY CLASSIFICATION	NUMBER OF PROPERTIES	SHARE OF TOTAL PROPERTIES	TOTAL ASSESSED VALUE	SHARE OF ASSESSED VALUE
Short-term Rental/ TVR	13,700	17%	\$18,733,318,200	25%
Owner-occupied	28,491	35%	\$18,758,782,900	25%
Non-owner- occupied	18,478	23%	\$17,700,551,200	24%
Other Residential	4,315	5%	\$3,175,471,800	4%
Non-residential	16,672	20%	\$15,476,967,500	21%
Total	81,656	100%	\$73,845,091,600	100%

The August 2023 wildfires are anticipated to affect the level of tax revenues generated by rental and owner-occupied properties and transient accommodations. In the West Maui tax zone (Zone 4), which includes Lahaina, the mix of properties results in a portfolio where the tax base is skewed more to TVR properties and non-residential properties (which includes hotels/resorts, commercial/industrial and agricultural/conservation properties). Compared to the County, TVR properties make up 32% of properties and 33% of total assessed value, while owner-occupied properties make up 20% of properties and 9% of total assessed value and non-owner-occupied properties make up to 20% of properties and 19% of total assessed value (Table A-3).

Table A-3. Property Characteristics and Taxable Assessed Value of Real Property in West Maui in 2023

PROPERTY CLASSIFICATION	NUMBER OF PROPERTIES	PERCENTAGE OF TOTAL PROPERTIES	TOTAL ASSESSED VALUE	SHARE OF ASSESSED VALUE
Short-term Rental/ TVR	6,507	32%	\$8,172,742,800	33%
Owner-occupied	3,918	20%	\$2,385,591,700	9%
Non-owner- occupied	4,062	20%	\$4,656,100,000	19%
Other Residential	1,018	5%	\$507,540,000	2%
Non-residential	4,561	12%	\$9,415,950,400	37%
Total	20,066	100%	\$25,137,924,900	100%

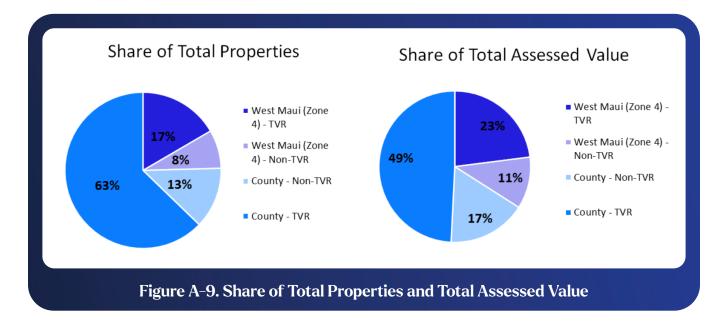
Property assessment data indicate properties in West Maui (Zone 4) represent 25% of the properties and 34% of the total taxable assessed value in the County (Figure A-9). The properties destroyed in the 2023 wildfires represent a loss of approximately 11% of existing residential properties in the region. Considering the financial impact on the County's budget, the properties destroyed or damaged in the Lahaina Fire represent about 3% of the County's property tax base, indicating a minor adjustment on their total property tax revenues. The tax revenues from the impacted properties in Lahaina would likely not be recovered until their reconstruction.

⁶ County of Maui. 2023. Resolution No. 23-129, FDI. May.

⁷ County of Maui. 2024. Maui County 2024 Summary of Taxable Properties by Land Class. April.

⁸ County of Maui. 2020. Maui County 2020 Summary of Taxable Properties by Land Class. April.

⁹ County of Maui. 2024. Assessment Summaries as of 4/18/2024. April.



The County assesses a Transient Accommodations Tax (TAT) on the rental proceeds and/or fair market value of TVR properties at a rate of 3% tax in addition to the State's tax rate of 10.25%; at almost 9% of tax revenues, it represents the second largest General Fund revenue source, following real property taxes.¹⁰ In addition to property tax, as of January 2024, the County levies a surcharge of 0.5% on top of the State's rate of 4% for the GET assessed on business revenues from residents and tourists.¹¹ Changes in spending by households and visitors in Lahaina and the County, notable amidst the drop in visitors and displacement of residents in West Maui following the 2023 wildfires, and business disruptions are expected to negatively impact GET revenues.

A proposed bill from the Mayor calls for the phase out of TVRs in order to make these units available for long-term housing; this may likely reduce the tax revenues generated by the TAT.¹² There are 7,000 TVR units in the County with nearly 2,200 in West Maui. In West Maui, TVR units are anticipated to be phased out by July 1, 2025, with all other units countywide by January 1, 2026, upon the bill's approval. For fiscal year 2024, the County adopted a balanced budget of \$1.1 billion with the TAT revenues valued at \$60 million and property tax revenues valued at \$535 million.¹⁰ In March 2024, the Mayor's office proposed a balanced budget for fiscal year 2025 valued at \$1.3 billion with TAT revenues valued at \$60 million and property tax revenues valued at \$586 million.¹¹ The reduction or phasing out of TVR properties would be expected to significantly reduce these revenues, likely resulting in a budget deficit based on current published projections.

LONG-TERM RECOVERY PLAN | 113

THIS PAGE INTENTIONALLY LEFT BLANK

¹⁰ County of Maui. 2023. Fiscal Year 2024 Operating and Capital Budget: Revenue Overview. p. 114. September.

¹¹ County of Maui. 2024. Fiscal Year 2025 Mayor's Proposed Budget. p. 75. March.

¹² County of Maui. 2024. Mayor Bissen moves to repeal decades-old TVR rule to expand long-term housing inventory. May.



Appendix B. County and State Priority Projects

TO BE FINALIZED FOR FINAL REPORT.

Project Name	Project Description	Kuleana	Project Lead	Timing
Homeowner Support Programs	Homeowners are experiencing long-term financial impacts caused by the pandemic which have been exacerbated by wildfires. There is a need to increase long-term housing options within the County to assist displaced families after the wildfires. These programs support the need for financial assistance to affected homeowners and increased available new housing units for Maui residents with the goal to preserve community stability and facilitate effective recovery. The programs will be open to homeowners displaced by the wildfires and will build off of the Maui Homeowner's Assistance Fund (MHAF), which is a COVID-19 assistance program designed to provide mortgage and other qualified housing expense assistance being offered to homeowners displaced by the August 2023 wildfires. It includes the Ohana Assistance Program which launched July 1, 2024, to provide grants to County homeowners up to \$100,000 to defray the cost of design and construction of an attached or detached Ohana unit to owner occupied grant applicants.	County	County Department of Housing	Short-Term (to be completed in 1-2 years)
West Maui Business Center (WMBC)	The West Maui Business Center (WMBC) provides comprehensive support service that includes small business advising/coaching, workshops, business research and resources, and networking opportunities. Project partners offering in-person and/or virtual assistance are County Office of Economic Development, American Job Center, Maui County Business Resource Center Hawai'i Small Business Development Center Network, Maui Economic Development Board, Maui Economic Opportunity, and County Department of Liquor Control. Most services are provided at no cost; fees may be incurred from specialized services. More information can be found at: https://www.mauinuistrong.info/westmauibusinesscenter	County	•County Office of Economic Development •State of Hawai'i	Short-Term (to be completed in 1-2 years)
Infrastructure Assessment and Improvement Studies	The project includes various analyses that take a holistic view of the current infrastructure in place and evaluate future infrastructure needs in and around the impact area, ultimately identifying improvements necessary to implement the community's vision for recovery. These assessments and studies will also evaluate the development and redevelopment opportunities of county-owned land in Lahaina to support decision making and will include an assessment of the impacts of sea level rise on various rebuilding scenarios. Based on the findings of the site analyses and potential redevelopment opportunities, land use modifications may be identified (e.g. zone changes). These efforts will build on goals, policies and implementation actions identified in the 2022 West Maui Community Plan. The individual studies will include roadways, drainage, water, sewer, electrical and telecommunication systems.	County	County Department of Public Works	Short-Term (to be completed in 1-2 years)
Economic Innovation and Development	This project includes four State recovery projects: *Maui Comprehensive Economic Development Implementation Fund - Provide targeted funding to priority infrastructure, workforce and economic development projects identified by the forthcoming Maui Comprehensive Economic Development Strategy implementation plan. *Prioritizing Maui Business for Innovate Hawai'i Tech and Innovation Grants - Hawai'i Technology Development Corporation (HTDC) prioritized Maui tech and manufacturing business with grant assistance when applying for competitive grant program administered by Innovate Hawai'i. This is a competitive grant focusing on economic impacts for the State. *Small Business Training for Tech and Manufacturing - HTDC prioritized Maui tech and manufacturing business with grant assistance when applying for competitive grant program administered by Innovate Hawai'i. This is a competitive grant focusing on economic impacts for the State. *Ecommerce Training Program - HTDC has priorities helping impacted tech and manufacturing business with digital business ecommerce training and implementation. Program resources have been prioritized for Maui companies if they need assistance.	State	Department of Business, Economic Development & Tourism - Hawai'i Technology Development Corporation	Short-Term (to be completed in 1-2 years)

Project Name	Project Description	Kuleana	Project Lead	Timing
Building Resilience Incentives	This would promote high codes for rebuilds for residential and commercial buildings. For each hazard type there would be clear ladder showing if higher codes were used, they would further increase their resilience and reduce their hazard vulnerability.	State	State Disaster Recovery Coordinator	Short-Term (to be completed in 1-2 years)
Comprehensive Environmental Monitoring and Sampling Plan (CEMSP)	This project will include the following key activities: *Monitor, measure and report potentially harmful substances in the environment: Air, Ash and Debris, Beach Sand, Coastal Sediment, Coastal Waters, West Maui Temporary Debris Storage (TDS) Site, and County Parks' Soil Testing and other facilities and locations as requested and relevant to Maui Wildfires recovery; *Create and maintain a Maui Environmental Data Portal to present, interpret and explain monitoring data in lay terms using narrative and data visualization tools. Suitable for adaptation to future incidents; and *Prepare Comprehensive Environmental Monitoring and Sampling Plan.	State	State Department of Health, Environmental Management Division	Short-Term (to be completed in 1-2 years)
Long-Term Disaster Case Management program	Disaster Case Management (DCM) is an essential part of recovery as it connects survivors with case managers to assess and address their needs through the creation of a disaster recovery plan. This project encompasses the long-term disaster case management program that extends beyond response activities.	State	State Department of Human Services	Short-Term (to be completed in 1-2 years)
Lahaina Water Infrastructure Resiliency and Hardening	This project will increase the reliability of the Lahaina water system's ability to meet fire flow requirements and have backup supplies by targeting the most severe infrastructure vulnerability and risks within the system. The highest priority projects include: Replacement of non-functional Fire Suppression System at Lahaina Water Treatment Plant; Rehabilitation of exposed raw waterline and finish waterline and the Lahaina Water Treatment Plant; Installation of permanent on-site emergency generators and upgrade of outdated Motor Control Systems at Kanaha Wells #1 and #2 and Waipuka Wells #1 and #2; Replacement of outdated backwash filter necessary for water treatment; Installation of Mahinahina Backup Well to provide backup supplies for up to 6 months; and Installation of emergency generator at Backup Well site at the Mahinahina Water Treatment Plant.	County	County Department of Water Supply	Mid-Term (to be completed in 3-5 years)

Project Name	Project Description	Kuleana	Project Lead	Timing
Harbor Restoration	This project includes: Phase 1 - Harbor Building Reconstruction: Reestablishment of fuel (completed in June 2024), demolition of the current building and building reconstruction and Phase 2 - Dredging to restore capacity. Mala Wharf rehabilitation will be considered for use as an emergency backup option in the event of loss of service at Lahaina Harbor.	County	 U.S. Department of Transportation State Department of Transportation County Department of Public Works 	Mid-Term (to be completed in 3-5 years)
Inter- Island Ferry System	This project will create an inter-island ferry system that would deliver public transportation between Maui, Lana'i and Moloka'i to improve access to resources for remote locations. It would provide increased resilience and could serve as evacuation and transportation of goods and services in the event of an emergency. Additionally, the ferry system would allow for money generated from revenue would go back into the County rather than to private corporations. There would be lower construction disruption and costs compared to building bridges, trains and tunnels.	County	•Maui Metropolitan Planning Organization •County Department of Transportation	Long-Term (to be completed in 6+ years)
Wahikuli Subdivision Gravity Sewer System	This project will make enhancements to the existing wastewater infrastructure in Lahaina, including planning, design and construction of a proposed gravity sewer system to service approximately 231 households, currently serviced by cesspools. The Environmental Protection Agency (EPA) is providing direct technical assistance to support the County, including the County Department of Environmental Management, Department of Public Works and others as needed by developing documents necessary for construction. The intent of this technical assistance is to deliver the project "shovel ready" to the County for construction implementation. The EPA's Technical Assistance period of performance is approximately 18 months from contract award date.	County	County Department of Environmental Management	Long-Term (to be completed in 6+ years)
West Maui Hospital and Foundation	This project will provide construction funding and land acquisition for a Critical Access Hospital in West Maui that will include 25 acute and sub-acute beds, five emergency room (ER) bays and three operating rooms (ORs). It is being lead privately with County inclusion.	Private	Private	Long-Term (to be completed in 6+ years)



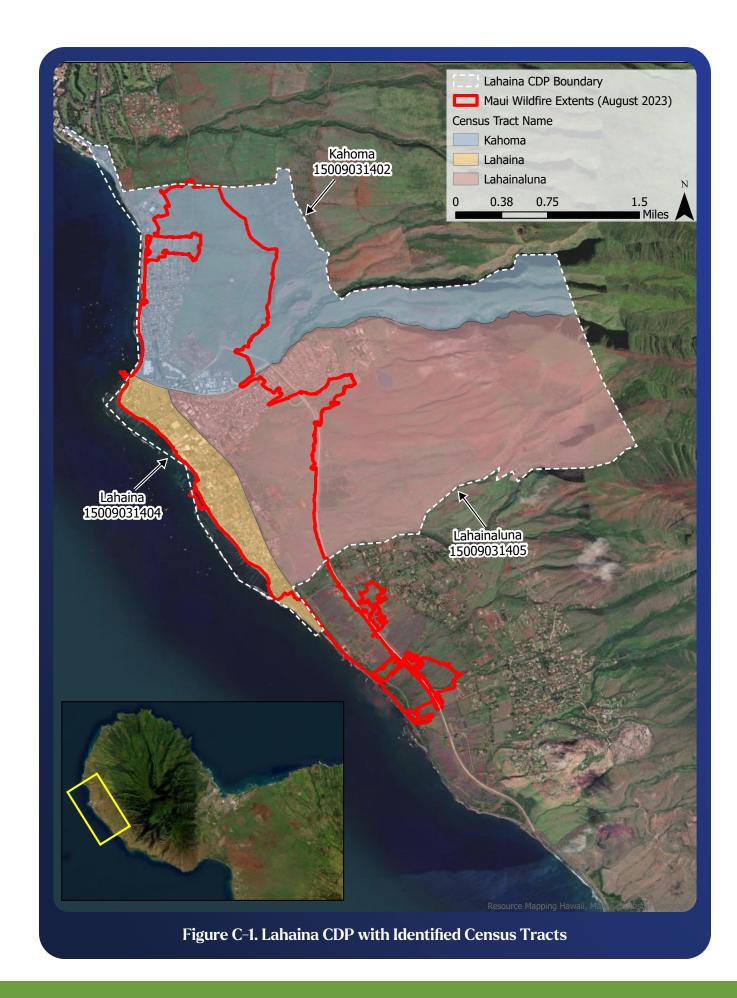
Appendix C. Community Vulnerability Considerations (SVI, CEJST, EJScreen)

Introduction

This appendix describes three screening tools developed and used by federal agencies to understand community vulnerability using a nationally consistent approach and datasets. These tools include the U.S. Council on Environmental Quality's <u>Climate and Economic Justice Screening Tool (CEJST)</u>, the Center for Disease Control and Prevention and Agency for Toxic Substances and Disease Registry's (CDC/ATSDR) <u>Social Vulnerability Index (SVI)</u>, and the U.S. Environmental Protection Agency's (EPA) <u>Environmental Justice Screen (EJScreen)</u>. The purpose of this appendix is to define social characteristics, vulnerabilities, and environmental justice (EJ) considerations of the burn area, consisting of Lahaina Census Designated Place (CDP) (Lahaina), with those of the county and state using the three tools. These tools each have different approaches and strengths that serve to provide context and substantiate applications for funding and community assistance needs.

Though these are not the only tools available to communities to screen and assess place-based vulnerabilities and disadvantages, the three presented here are publicly accessible and the most widely used tools developed by federal agencies. These statistics are based on national datasets and are to be used as an indicator of community vulnerability when compared to state or national indicators. The unique characteristics of high costs and higher than national average earnings in Hawai'i and Lahaina may not reflect the constraints of local communities. These tools are helpful for federal and state funding opportunities and reporting but should complement local community knowledge and engagement.

The methodologies by which disadvantage is characterized and calculated vary depending on agency objective, which is reflected in each tool. Therefore, it is instructive to compare the results across tools. Lahaina consists of three census tracts, which were individually screened and compared across each of the three tools for more detailed insight into the community (Figure C-1).



Climate and Economic Justice Screening Tool

CEJST is used by federal agencies to identify disadvantaged communities that will benefit from programs included in the Justice40 Initiative, as per presidential Executive Order 14008. The tool helps identify communities that have been "marginalized by society, overburdened by pollution, and underserved by infrastructure and other basic services."

The most recent CEJST was developed in 2022 using various datasets. Results are provided at the census tract level using tract boundaries from 2010. A tract is considered disadvantaged if it meets the <u>respective threshold</u> for any of eight categories of burden.¹ Federally Recognized Tribes, including Alaska Native Villages, are also considered disadvantaged communities, as are census tracts that are surrounded by disadvantaged communities at or above the 50th percentile for low income.

Each category includes a threshold related to income or high school education, in addition to environmental criteria:

- The Climate Change category considers expected loss rates for agriculture, expected buildings, and population, and projected future flood and wildfire risks, combined with low income.
- The Health category considers asthma, diabetes, heart disease, and low life expectancy, combined with low income.
- The Legacy Pollution category considers abandoned mine lands, Formerly Used Defense Sites, and proximity to hazardous waste facilities, Superfund sites, and Risk Management Plan facilities, combined with low income.
- The Water and Wastewater category considers underground storage tanks and releases and wastewater discharge, combined with low income.
- The Energy category considers energy costs and particulate matter (PM 2.5) in the air, combined with low income.
- The Housing category considers historic underinvestment, housing costs, lack of green space, lack of indoor plumbing, and lead paint, combined with low income.
- The Transportation category considers diesel particulate matter exposure, transportation barriers, and traffic proximity and volume, combined with low-income populations.
- The Workforce Development category considers linguistic isolation, low median income, poverty, and unemployment, combined with low high school education rates.

Screening Lahaina's three census tracts using CEJST shows that none of them are burdened by any of the eight categories and, therefore, would not be considered disadvantaged according to this tool's criteria (Table C-1). In part, these results may reflect disproportionately large number of higher-income earners and education rates compared to lower income and education rates.

LONG-TERM RECOVERY PLAN | 122 LONG-TERM RECOVERY PLAN | 123

¹ White House Council on Environmental Quality (WHCEQ). 2022. <u>Climate and Economic Justice Screening Tool, Technical Support Document.</u> Version 1.0. November.

This can overshadow any disadvantaged households and does not demonstrate the level of inequality that may exist within each census tract.

Figure C-2 shows the disadvantage status of each census tract according to CEJST.2 Each tract is determined to be disadvantaged if any of the eight categories listed in Table C-1 are burdened, if none are burdened the tract is not considered disadvantaged.

Table C-1. CEJST Categories Exceeded for Lahaina CDP Census Tracts

Census Tract 2010 ID ^[a]	Total Categories Burdened	Climate Change	Health	Legacy Pollution	Energy	Water and Wastewater	Housing	Transportation	Workforce Development
15009031402	0	No	No	No	No	No	No	No	No
15009031404	0	No	No	No	No	No	No	No	No
15009031405	0	No	No	No	No	No	No	No	No

[[]a] All of these census tracts include areas outside of town limits. Tracts were excluded if less than 1% of the tract area falls within the town.



Figure C-2. Census Tracts within Lahaina CDP Determined to be Disadvantaged According to CEJST (using 2010 census tract boundaries)

Social Vulnerability Index

The SVI is an index, database, and mapping tool that helps to identify socially vulnerable communities. Social vulnerability, according to SVI, refers to the demographic and socioeconomic factors that adversely affect communities that encounter hazards and other community-level stressors.³ The tool helps planners and health officials identify and prepare communities that may need additional support before, during, or after natural or human-caused disasters.

The most recent SVI was produced using 16 variables from 2020 census data.³ Original SVI results can be viewed at the county level as well as the census tract level.

SVI assesses the following four themes individually, which are then combined into an overall score:

- Socioeconomic Status considers poverty, unemployment, housing cost burdens, and high school education rates.
- Household Characteristics consider people over 65 and under 17, people with disabilities, single-parent households, English-speaking abilities, and uninsured people.
- Racial and Ethnic Minority Status considers people of color.
- Housing Type and Transportation considers housing in mobile homes, structures with 10 or more units, group homes, crowded conditions (more people than rooms), and households without a vehicle.

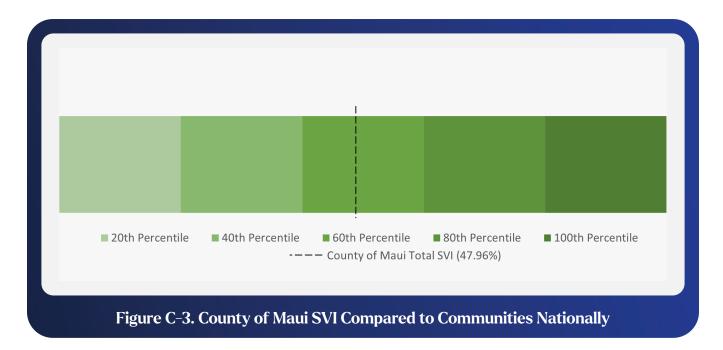
A higher index value indicates greater vulnerability. Communities can also be compared using percentiles, which indicates the percentage of communities against which the assessed community scores more highly (i.e., a ranking of 0 [=0%] indicates least vulnerability, while 1 [=100%] indicates greatest vulnerability).

At the county level, Maui's SVI falls within approximately the 60th percentile of vulnerable communities nationally (Figure C-3), with an overall SVI of 47.96%.⁴

² White House Council on Environmental Quality (WHCEQ). 2024. CEJST Explore the map.

³ Centers for Disease Control and Prevention/Agency for Toxic Substances and Disease Registry (CDC/ASTR). 2022. CDC/ATSDR Social Vulnerability Index 2020 Database Documentation.

⁴ Centers for Disease Control and Prevention/Agency for Toxic Substances and Disease Registry (CDC/ASTR). 2024. CDC/ATSDR Social Vulnerability Index (SVI) Map.



Scores related to the four themes and overall SVI for Lahaina CDP, the County of Maui, and the State of Hawai'i are shown in Figure C-4, as well as a breakdown of the four themes and overall SVI for each census tract in Figure 5. Compared to the County of Maui and the State of Hawai'i, Lahaina ranks relatively more vulnerable on all SVI themes, except for Racial and Ethnic Minority Status.

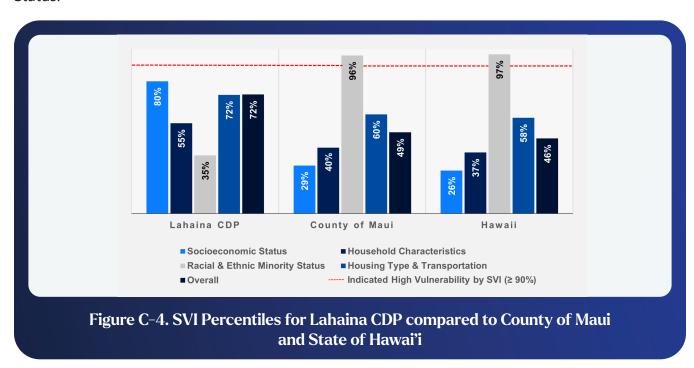
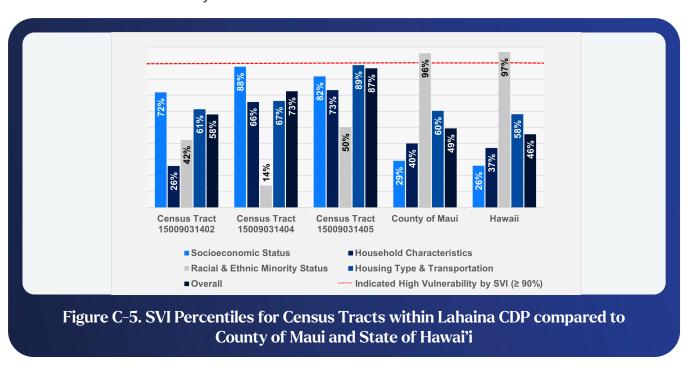


Figure C-6 shows census tract-level SVI results for Lahaina where each census tract is color-coded according to overall State of Hawai'i percentiles. Each has a different percentile ranking indicating geographic variation in social vulnerability throughout Lahaina, such as a higher Racial and Ethnic Minority Status or Household Characteristics in one census tract over another, which can be seen in Figure C-5.

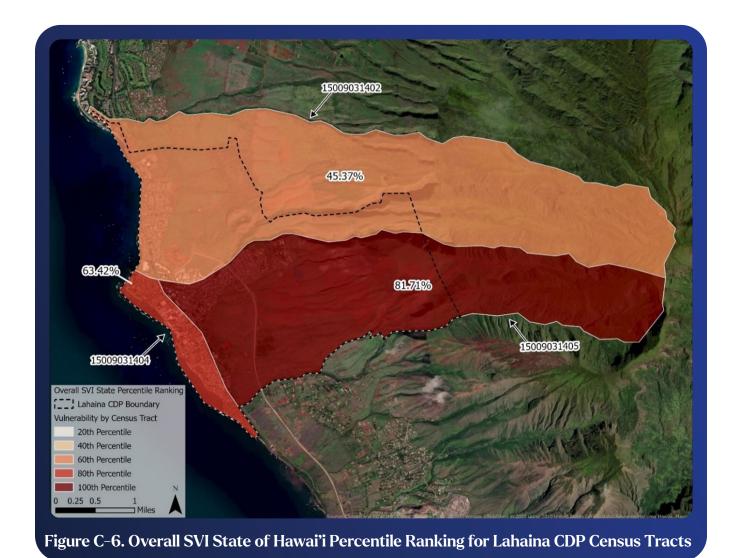
Each of the Lahaina census tracts rank as more vulnerable overall and across most SVI themes than the county or state, except for Racial and Ethnic Minority Status for all census tracts and Household Characteristics in census tract 15009031402 (Figure C-5). The lower score for Racial and Ethnic Minority Status, for example, indicates that there is a lower percentage of minorities, including but not limited to Hispanic or Latino (of any race), Black and African American; American Indian and Alaska Native; Asian; Native Hawaiian and other Pacific Islander; and people of two or more races, in the census tract than there is in the county or state. As a standalone indicator, this does not identify the relative level of disadvantage for that specific population, which may be greater than the census tract average. However, taken together with the other themes, the SVI score factors the other vulnerabilities into an area's total, which gives the census tract a higher overall score than the county or state.



EJScreen

EJScreen is a mapping and screening tool developed by the EPA that assesses a community's relative vulnerability to specific environmental hazards by combining environmental and socioeconomic indicators. EJScreen's demographic and socioeconomic indicators point out vulnerabilities unique to specific populations that other screening tools do not. The most recent tool was developed in 2024 using various datasets including American Community Survey (ACS), CDC Places, National Oceanic and Atmospheric Administration (NOAA), and the U.S. Department of Agriculture (USDA). For early applications of EJScreen, the 80th percentile is used as a preliminary benchmark to determine vulnerability.

⁵ U.S. Environmental Protection Agency (EPA). 2024. <u>EJScreen Environmental Justice Mapping and Screening Tool: Technical Documentation for Version 2.3</u> July.



Two separate indices, EJ and supplemental, are derived for the following 13 different environmental indicators:

- Particulate Matter 2.5
- Ozone
- Nitrogen Dioxide
- Diesel Particulate Matter
- Toxic Releases to Air
- Traffic Proximity
- Lead Paint
- Superfund Proximity
- RMP Facility Proximity
- Hazardous Waste Proximity
- Underground Storage Tanks

- Wastewater Discharge
- Drinking Water Non-Compliance

An EJ index combines a single environmental factor with two socioeconomic indicators: low income and people of color populations. The supplemental indices use a similar approach but instead combine a single environmental factor with five socioeconomic indicators: low income, unemployment, limited English, less than high school education, and low life expectancy populations.

A higher index value indicates greater vulnerability. Communities can also be compared using percentiles, which indicates the percentage of communities against which the assessed community scores more highly. EJScreen results are developed at the census block level and can also be exported at the municipal, county, and state levels.

For most indicators and indices, Lahaina falls within the least vulnerable 25% of communities compared to the state and the nation, except for people of color, limited English-speaking households, underground storage tanks, flood risk, and lack of health insurance, for which it is in the most vulnerable 25% in the nation (Tables C-2 through C-6).⁶ Compared to the state, Lahaina is in the most vulnerable 25% for population under age 5, underground storage tanks, flood risk, and lack of health insurance. Furthermore, EJ vulnerability can be viewed at the tract-level which allows users to see more closely where these vulnerabilities are occurring. For example, census tract 15009031404 is considered a food desert, indicating limited access to healthful foods. To have food desert status, an area must meet both low-income and low-access criteria. It is important to note, however, that the presence of certain resources, like a high-end grocery store, in an area of low- or mixed-income does not mean that it is socially or economically accessible. In addition, even within the same census tract, there are often physical obstructions to access, such as roads or terrain, that cannot be fully understood through a census tract level indicator.

Table C-2. Lahaina CDP Relative Vulnerability for Socioeconomic Indicators

SOCIOECONOMIC INDICATORS	PERCENTILE COMPARED TO STATE OF HAWAI'I	PERCENTILE COMPARED TO NATION
Demographic Index	Middle 50%	Middle 50%
Supplemental Demographic Index	Middle 50%	Middle 50%
People of Color	Middle 50%	Most Vulnerable 25%
Low Income	Middle 50%	Middle 50%
Unemployment Rate	Middle 50%	Middle 50%
Limited English Speaking Households	Middle 50%	Most Vulnerable 25%
Population Less Than High School Education	Middle 50%	Middle 50%
Population Under Age 5	Most Vulnerable 25%	Middle 50%
Population Over Age 64	Middle 50%	Middle 50%
Limited Life Expectancy	Middle 50%	Least Vulnerable 25%

⁶ U.S. Environmental Protection Agency (EPA). 2024. EPA's Environmental Justice Screening and Mapping Tool (Version 2.3).

LONG-TERM RECOVERY PLAN | 128 LONG-TERM RECOVERY PLAN | 129

Table C-3. Lahaina CDP Relative Vulnerability for Environmental Indicators

ENVIRONMENTAL INDICATORS	PERCENTILE COMPARED TO STATE OF HAWAI'I	PERCENTILE COMPARED TO NATION
Nitrogen Dioxide (NO2)	Middle 50%	Middle 50%
Diesel Particulate Matter	Middle 50%	Least Vulnerable 25%
Toxic Releases to Air	Least Vulnerable 25%	Least Vulnerable 25%
Traffic Proximity and Volume	Least Vulnerable 25%	Middle 50%
Lead Paint	Middle 50%	Middle 50%
Superfund Proximity	Least Vulnerable 25%	Least Vulnerable 25%
RMP Facility Proximity	Least Vulnerable 25%	Least Vulnerable 25%
Hazardous Waste Proximity	Least Vulnerable 25%	Least Vulnerable 25%
Underground Storage Tanks	Most Vulnerable 25%	Most Vulnerable 25%
Wastewater Discharge	Least Vulnerable 25%	Least Vulnerable 25%
Drinking Water Non-Compliance	Least Vulnerable 25%	Least Vulnerable 25%
Flood Risk	Most Vulnerable 25%	Most Vulnerable 25%

Table C-4. Lahaina CDP Relative Vulnerability for EJ Indexes

EJ INDICES	PERCENTILE COMPARED TO STATE OF HAWAI'I	PERCENTILE COMPARED TO NATION
Nitrogen Dioxide (NO2) EJ Index	Middle 50%	Middle 50%
Diesel Particulate Matter EJ Index	Middle 50%	Least Vulnerable 25%
Toxic Releases to Air EJ Index	Least Vulnerable 25%	Middle 50%
Traffic Proximity EJ Index	Least Vulnerable 25%	Middle 50%
Lead Paint EJ Index	Middle 50%	Middle 50%
Superfund Proximity EJ Index	Least Vulnerable 25%	Least Vulnerable 25%
RMP Facility Proximity EJ Index	Least Vulnerable 25%	Least Vulnerable 25%
Hazardous Waste Proximity EJ Index	Least Vulnerable 25%	Least Vulnerable 25%
Underground Storage Tanks EJ Index	Middle 50%	Middle 50%
Wastewater Discharge EJ Index	Least Vulnerable 25%	Least Vulnerable 25%
Drinking Water Non-Compliance EJ Index	Least Vulnerable 25%	Least Vulnerable 25%

Table C-5. Lahaina CDP Relative Vulnerability for Supplemental Indexes

SUPPLEMENTAL INDICES	PERCENTILE COMPARED TO STATE OF HAWAI'I	PERCENTILE COMPARED TO NATION
Nitrogen Dioxide (NO2) EJ Index	Middle 50%	Middle 50%
Diesel Particulate Matter Supplemental Index	Middle 50%	Least Vulnerable 25%
Toxic Releases to Air Supplemental Index	Middle 50%	Least Vulnerable 25%
Traffic Proximity Supplemental Index	Middle 50%	Middle 50%
Lead Paint Supplemental Index	Middle 50%	Middle 50%
Superfund Proximity Supplemental Index	Least Vulnerable 25%	Least Vulnerable 25%
RMP Facility Proximity Supplemental Index	Least Vulnerable 25%	Least Vulnerable 25%
Hazardous Waste Proximity Supplemental Index	Least Vulnerable 25%	Least Vulnerable 25%
Underground Storage Tanks Supplemental Index	Middle 50%	Middle 50%
Wastewater Discharge Supplemental Index	Least Vulnerable 25%	Least Vulnerable 25%
Drinking Water Non-Compliance EJ Index	Least Vulnerable 25%	Least Vulnerable 25%

Table C-6. Lahaina CDP Relative Vulnerability for Critical Service Gaps

CRITICAL SERVICE GAPS	PERCENTILE COMPARED TO STATE OF HAWAI'I	PERCENTILE COMPARED TO NATION
Broadband Internet	Middle 50%	Middle 50%
Lack of Health Insurance	Most Vulnerable 25%	Most Vulnerable 25%

LONG-TERM RECOVERY PLAN | 130 LONG-TERM RECOVERY PLAN | 131



Appendix D. Maui Economic Recovery Commission





County of Maui Office of Recovery

200 S. High Street Wailuku HI 96793 https://www.mauirecovers.org/officeofrecovery