

CITY & COUNTY OF HONOLULU
Office of Climate Change, Sustainability & Resiliency

2024 Annual Sustainability Report

About This Report Sustainable City Operations

Climate Action Clean & Affordable Transportation

Climate Adaptation & Resilience

Food Security & Sustainability

Sustainable Waste Management Disaster N Preparedeness

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About the Report

This Annual Sustainability Report measures the City and County of Honolulu's overall performance in meeting its sustainability objectives. The Report identifies 40 key performance indicators that illustrate progress towards those objectives and specific targets wherever possible.

This 2024 Report measures the City's performance in Calendar Year 2023 (January 1, 2023 – December 31, 2023). In some instances, data is only made available by City Fiscal Year (July 1, 2022 – June 30, 2023) and is noted as such where applicable.

The City publishes this Report annually to ensure your local government is transparent and accountable in our efforts to increase the sustainability of City operations and equitably address climate change and its impacts in our communities. The creation of this Report is backed by the mandate from Oʻahu residents established in City Charter §6-107 and the Revised Ordinances of Honolulu §2-10.15. The Report is compiled by the City's Office of Climate Change, Sustainability and Resiliency.



Led by Trees for Honolulu's Future, dozens of organizations, businesses, and community volunteers worked together to install this rain garden in Kaimukī, completed with a blessing in January of 2023. Photo credit: Trees for Honolulu's Future

Navigating the Report

This dashboard categorizes the City's sustainability reporting into seven main sections, which can be explored by using the navigation menu along the top of the dashboard.

Each report section contains interactive charts and datasets that demonstrate progress towards the City's sustainability objectives, as identified at the top of each section. Hover over or click on chart features to explore the data in further detail.

- * Sustainable City Operations
- * Climate Action
- $\hbox{* Clean \& Affordable Transportation}\\$
- * Climate Adaptation & Resilience
- * Food Security & Sustainability
- * Sustainable Waste Management
- * Disaster Preparedness



With nine stations running from East Kapolei to Aloha Stadium, Skyline revolutionized Oʻahu's multi-modal transportation system with its Phase I grand opening on June 30, 2023. Photo credit: Department of Transportation Services

Tracking City Goals

Many of the key performance indicators throughout this Report exist to track progress towards the City's broad sustainability objectives and specific climate change targets, established within the City's planning documents, including but not limited to:

- * The Oʻahu General Plan
- * Climate Action Plan
- * Climate Ready O'ahu climate adaptation strategy
- * Water Master Plan
- * Transportation Demand Management Plan
- * Integrated Solid Waste Management Plan

Learn More & Get Involved

Community resilience is a kākou effort. From City leadership to individual action, our collective efforts can drive the change we want to see. Check out the resources at www.resilientoahu.org/getinvolved to learn how you can take action at home or in your community to be a part of our island's progress towards a more sustainable future.

Questions? Contact the City's Resilience Office at www.resilientoahu.org/contact.



Through the City's Climate Champions Program, piloted in 2023, community-based organizations receive support in developing climate adaptation projects that achieve both their organizational missions and strategies in Climate Ready Oʻahu. Photo credit: Resilience Office

Transportation

Sustainable City Operations

CITY OBJECTIVE:

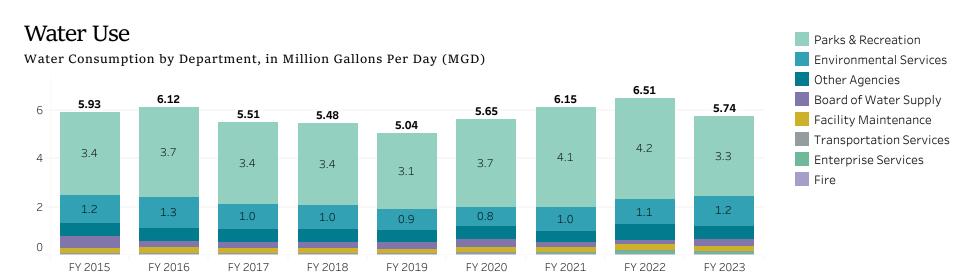
Improve the environmental performance of City operations by integrating sustainability and resiliency values into City plans, programs and policies.



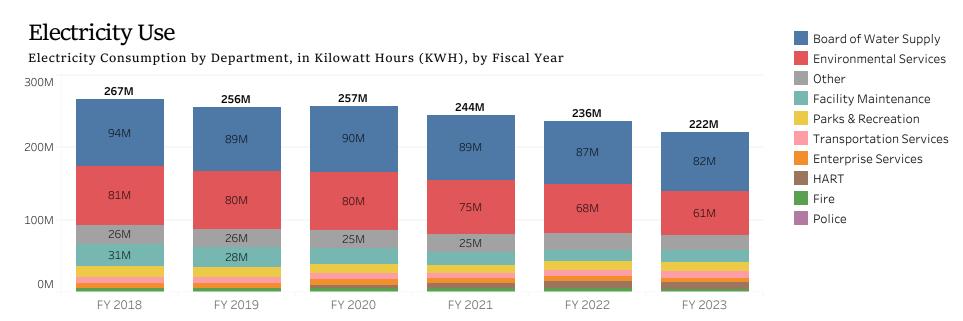
The City's energy savings performance contracts provide energy efficiency upgrades to over 80 City facilities, including LED light conversions at the Ala Wai Golf Course Clubhouse. Department of Design and Construction

The City's Energy Savings Performance Contracts (ESPCs) continue to reduce energy consumption, water usage, and demand on utilities. In just one year of performance, Phase 1 of the <u>City-wide project</u> has already produced \$2,746,750 in utility and taxpayer savings. These cost savings pay for the upgrades being installed at over 80 City facilities like LED light replacements, HVAC retrofits, and EV chargers.

Also ongoing, the <u>Department of Parks and Recreation ESPC</u> is projected to provide \$97 million in utility savings over 20 years while also improving park experience and resource conservation. In response to the Board of Water Supply's request for a voluntary 10% water-use reduction following well closures from the Kapūkakī (Red Hill) fuel contamination, the City, with the help of park users, successfully decreased water usage in parks by more than 15.4% last year.



The City reduced its water use for the first time since the onset of the pandemic, recording its lowest total consumption in three years.



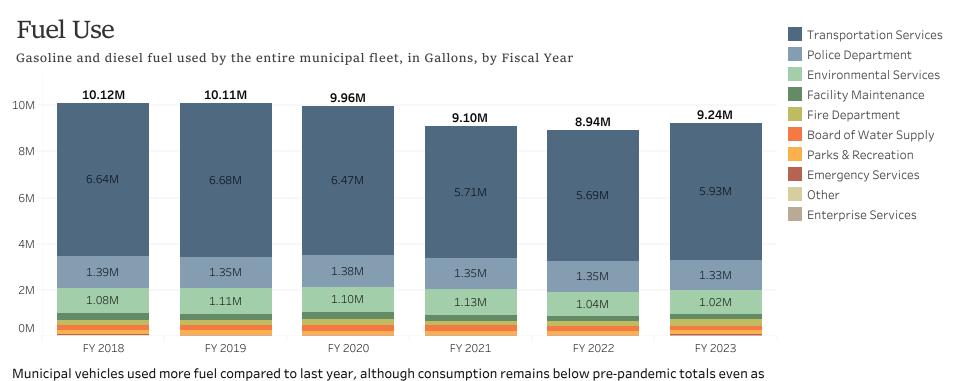
The City used a record-low total of 222 million KWH of electricity this year.

On-Site Renewable Energy

Renewable energy generated onsite by solar/PV projects on City facilities, in KWH, by Fiscal Year

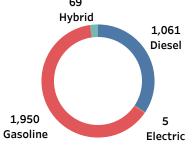


On-site renewable energy from on-site PV projects in city facilities equal 4.3% of this year's total electricity consumption.



more services become available again.

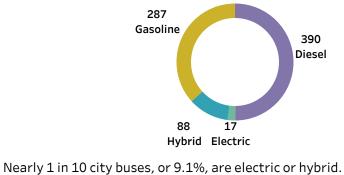




The City fleet includes 74 hybrid and electric vehicles.

Bus Fleet

City Buses by Fuel Type



Municipal Buildings Benchmarking Benchmarking Status by City Property



Climate Action

CITY OBJECTIVE:

Transition to 100% renewable energy and maintain an efficient, reliable, and affordable energy system that achieves net-negative carbon emissions no later than 2045.



In July 2023, Mayor Rick Blangiardi, Hawai'i congressional delegates, and state and federal representatives convened to celebrate local benefits of President Biden's Investing in America agenda, including the awards of Climate Pollution Reduction Grants in Hawai'i and clean energy tax credits made available to residents through the <u>Inflation Reduction Act</u>'s historic climate appropriations. Photo Credit: Resilience Office

Maximizing resource and energy efficiency and increasing renewable energy reduces carbon pollution and mitigates climate change globally. At the same time, these actions create a healthier and more affordable future locally.

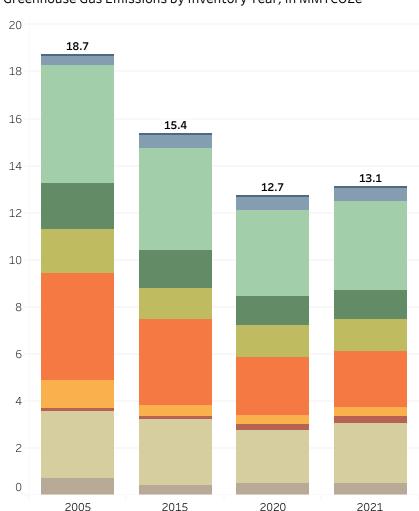
Our understanding of climate change and its impacts continues to get even clearer—the science of which is made accessible by the <u>Honolulu Climate Change Commission</u>'s updated <u>Climate</u> Change Brief adopted in 2023.

Empowered with this information, the City's Resilience Office secured a \$1 million Climate Pollution Reduction Grant from the U.S. EPA to update the City's Climate Action Plan, which outlines a pathway to equitable emissions reductions islandwide.

This Climate Action Plan update will use these federal resources to facilitate community-led planning and prioritization of climate action measures that simultaneously cut carbon pollution and reduce costs of living for O'ahu residents.

Greenhouse Gas Inventory

CITY TARGET: Net-Negative Carbon Economy by 2045 Greenhouse Gas Emissions by Inventory Year, in MMTCO2e



Subsectors

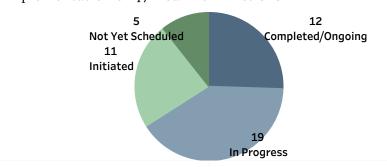
- Agriculture, Forestry, and Other Land Use (AFOLU)
- Industrial Processes & Product Use (IPPU)
- Stationary Energy, Commercial & Industrial Stationary Energy, Other Energy Industries
- Stationary Energy, Residential Transportation, Aviation
- Transportation, Marine Transportation, Off-Highway
- Transportation, On-Highway Waste

Acitivities within the City emitted a total of 13.1 MMTCO2e in 2021,

3% higher than during the pandemic in 2020 but 15% lower than 2015. Energy consumption by residential, commercial and industrial buildings was the largest source of emissions, followed by ground transportation, and aviation.

Climate Action Plan

Implementation of 47 Near-Term Actions

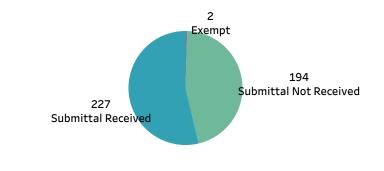


The City's first-ever Climate Action Plan, adopted in June 2021, prioritizes 47 near-term actions in the transportation, energy, and waste sectors that the City can take between 2020 and 2025 to drive down greenhouse gas emissions island-wide on the pathway to net-negative emissions by no later than 2045.

Through swift collaboration across City agencies and community stakeholders, 89% the plan's actions are eitherinitiated, in progres, or completed. The City is due to update the Climate Action Plan in 2025.

Islandwide Building Benchmarking

Residential & Commercial Buildings, >100k+ sq.ft. by **Benchmarking Status**



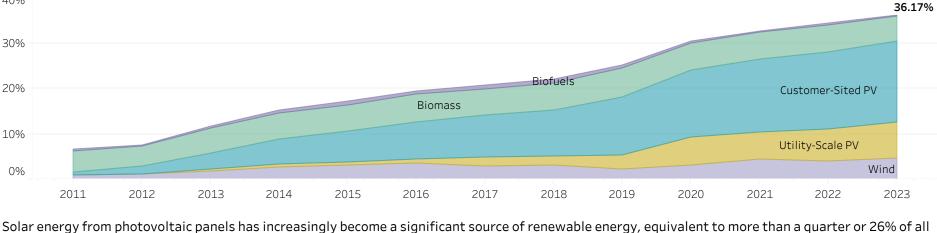
As of April 2024, the City has received energy and water use data from 227 buildings, representing more than half or 53.67% of all buildings with total floor areas of 100,000 sq. ft. and above. This year, buildings with total floor areas of 50,000-100,00 sq. ft. will join our benchmarking efforts and are submitting their energy and water use data for the first time, bringing the total number of buildings in the program to more than 750 by June 30, 2024.

Explore the <u>Better Buildings Benchmarking transparency map</u> to know if your building has already participated in the program, or learn more about the City's benchmarking program.

Renewable Energy Generation

As Percent of Total MWH of Electricity Sales CITY TARGET: 100% Renewable Energy by 2045

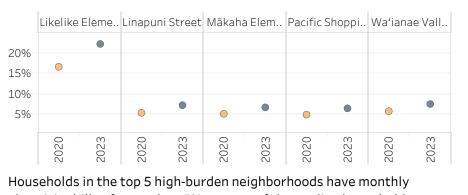
40%



electricity sales on the island.

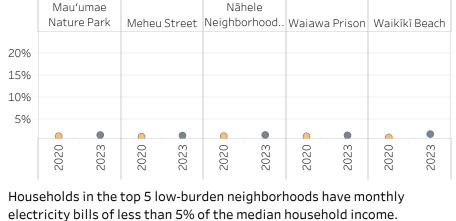
Electricity Burden Average Monthly Electricity Bill as Percent of Median Household Income, by Census Tract

TOP 5 HIGHEST ELECTRICITY BURDEN TOP 5 LOWEST ELECTRICITY BURDEN



electricity bills of more than 5% or more of the median household income. The energy burden in these neighborhoods have been increasing since 2020.

Nāhele



Renewable Energy Tax Credits Percent of Total Tax Credits Claimed by Income Class, HI Statewide

Less than \$10,000 \$10,000 to \$29,999 \$30,000 to \$59,999



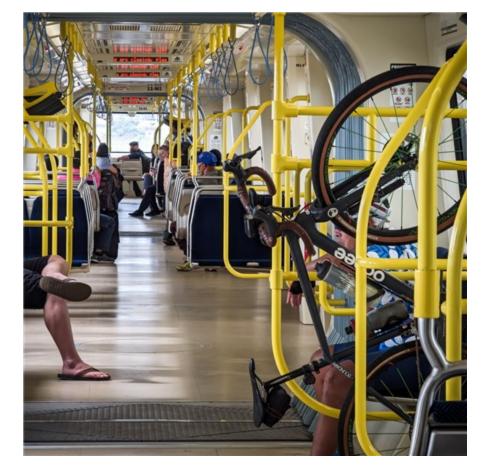
Climate

Action

Clean & Affordable Transportation

CITY OBJECTIVE:

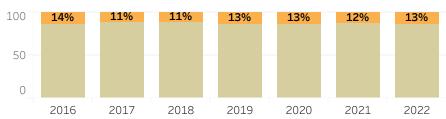
Create an integrated multi-modal transportation system that serves all users safely, efficiently, and at a reasonable cost while minimizing greenhouse gas emissions.



Skyline provides for sustainable and efficient travel and also facilitates greater multi-modal transportation options with built-in bike racks and easy connections to new and existing TheBus routes. Photo credit: Department of Transportation Services

Transportation Cost Burden

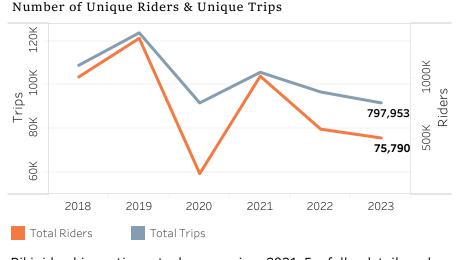
Percent of Total Annual Household Expenses



Non-Transportation Expenses Transportation Expenses

Transportation cost as a portion of total household expenses has remained constant since at least 2016.

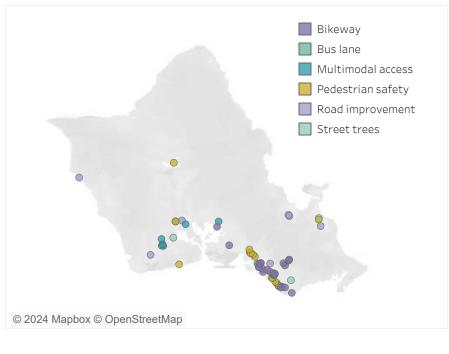
Biki Ridership



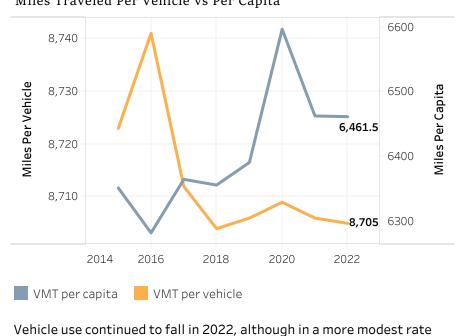
Biki ridership continues to decrease since 2021. For fuller details and Biki usage highlights, see the Biki 2023 Annual Report here.

Complete Streets

Location of Complete Streets projects, by project type



Vehicle Miles Traveled (VMT) Miles Traveled Per Vehicle vs Per Capita



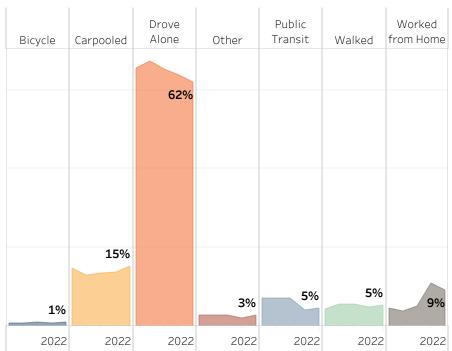
than in 2021. VMT per capita is falling faster than VMT per vehicle, suggesting that commuters are consolidating their trips by carpooling or using other modes of transportation.

The City takes a comprehensive approach to developing a safe, affordable, and fossil fuel-free transportation network, outlined in City planning documents like the O'ahu Bike Plan, Pedestrian Plan, and Transportation Demand Management Plan, newly released in 2023. The Transportation Demand Management Plan—the City's first—provides specific targets and strategies for reducing vehicle miles traveled and increasing use of non-vehicle modes of transit.

The historic opening of Skyline (Phase I) in June 2023 was a major step forward in expanding multimodal transit options for those who choose affordable and sustainable commutes from place to place. Skyline riders enjoy the benefits of reducing local air pollution, avoiding ground-level traffic, and saving on transportation expenses—all while taking in those sky-high views.

Commute Mode Share

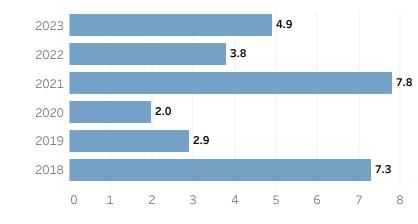
Percent of Commuters by Mode of Travel to Work CITY TARGET: 5% increase in non single occupancy vehicle mode share



Greener modes of travel increased their commute mode shares in 2022. Biking's mode share increased from 0.8% to 1.0% representing 1,107 more commuters biking to work compared to the previous year. Public transit's mode share continues to recover from a sharp decline during the pandemic, while the share of commuters who drive alone to work continues to follow a decreasing trend since 2019.

Bike Facilities

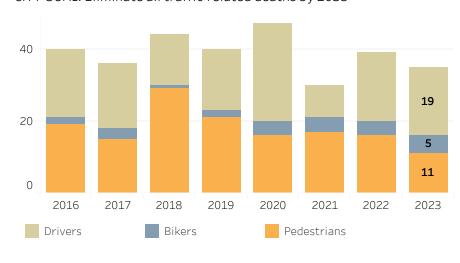
Miles of Infrastructure Built CITY TARGET: double bike commute mode share by 2025



The City built a total of nearly five miles of bike infrastructure in 2023, or about a mile more than it did last year.

Traffic-Related Deaths

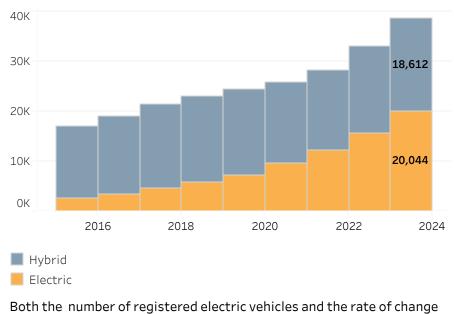
Number of Fatalities by Type CITY GOAL: Eliminate all traffic-related deaths by 2035



Traffic-related deaths decreased from 2022 to 2023.

Registered Electric Vehicles Number of vehicles registered on O'ahu by fuel type

City Target: 100% renewable ground transportation by 2045



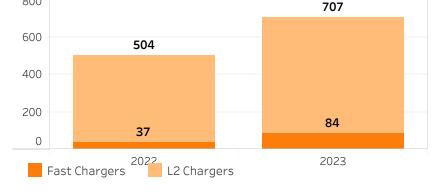
are increasing every year.

Number of ports by type City Target: 100% renewable ground transportation by 2045

Electric Vehicle Charger Ports

800

on the island at 791.



Level 2 chargers have doubled from 2022 to 2023, while fast

chargers increased by 40%, bringing the total number of chargers

EV Charger Locations



Climate Adaptation & Resilience

CITY OBJECTIVE:

Prepare for the impacts of climate change by empowering people with resources to adapt, cultivating connections between people and native ecosystems, and ensuring safe and reliable infrastructure.



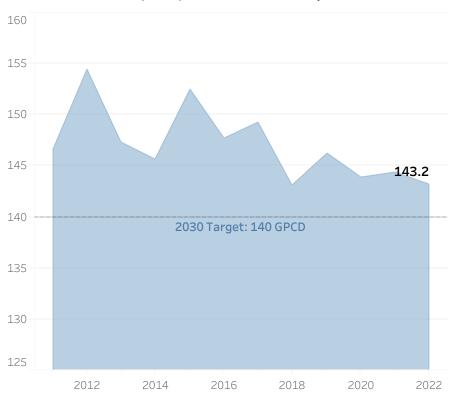
The City's first Climate Champions cohort attend a workshop and hana at Mālama Loko Ea Foundation. Photo Credit: Resilience Office

Climate adaptation means proactively preparing for and adjusting to the impacts of our changing climate. On O'ahu, climate hazards include sea level rise and coastal erosion, rising temperatures and extreme heat, flash flooding, drought and wildfire, and hurricanes. In 2023, after extensive community engagement and collaboration with local experts, the City released its first-ever climate adaptation strategy, Climate Ready O'ahu. With 12 overarching strategies and 57 implementable actions, this strategy provides our vision for a climate-ready future.

Backed by this vision, the City continues proactive implementation of climate adaptation solutions, including the City's Climate Champions Program first piloted in 2023. Through this program, the City supports community-based organizations in developing projects that align with the City's climate-ready vision to foster community-led design and ownership of local adaptation efforts. The City's Resilience Office secured a \$1M U.S. EPA grant last year to expand the program through 2026.

Water Use Per Capita

In Gallons per Capita per Day (GPCD) CITY TARGET: Reduce per capita use to 140 GPCD by 2030



The City is on track to hit its goal of reducing water consumption per capita to 140 GPCD by 2030.

Wastewater Reuse

In Million Gallons Per Day (MGD) CITY TARGET: Double wastewater reuse by 2030

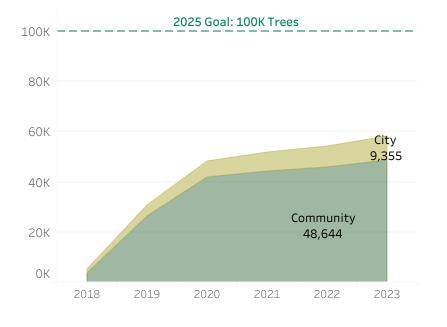


The City recycled 11.3 MGD of wastewater per day, roughly 8% of the city's total water consumption per day.

Tree Plantings

Running Total of City- and Community-Recorded Tree

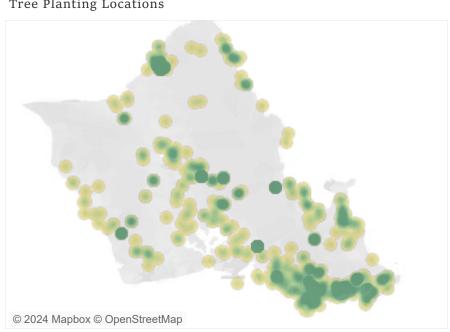
Plantings CITY TARGET: Plant 100,000 trees by 2025.



The City planted a total of 795 trees in 2023, bringing the total city plantings to 9,355 since 2018. We also recorded an additional 2,884 trees planted by community members this year, bringing the overall total of recorded tree plantings to 57,999.

100K Trees O'ahu Map

Tree Planting Locations



Hover on each planting site for more info.

Don't see your individual or group tree planting? Recently planted a tree? Click **HERE** to get it on the map!

Tree Canopy Cover

Inventory of Trees by Species and Location

CITY TARGET: Increase Urban Tree Canopy Cover to 35% by 2035

Food Security & Sustainability

CITY OBJECTIVE:

Drive the development of an environmentally sustainable, equitable, economically robust, and resilient food system for O'ahu through coordinated action across a wide range of sectors.



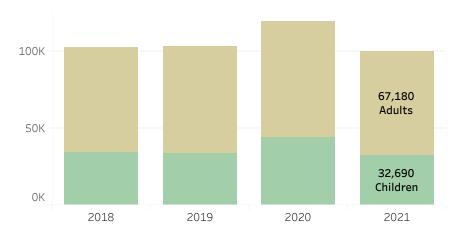
The City's Office of Economic Revitalization (OER) partnered with the State of Hawai'i to host two Food Summits with the Micronesian community to build valuable relationships and discuss food security needs and indigenous knowledge and practices in farming and sustainability. Photo credit: OER

Food security exists when all people have physical, social, and economic access to sufficient, safe, and nutritious food for an active and healthy life. Economic access is a critical dimension of food security—along with availability, nutrition, and stability—as most residents experiencing food insecurity cannot afford to buy food.

Household food insecurity is, however, just one element of our broader food system. For instance, food hubs are key to building a more robust and localized food economy that is more resilient in the face of shocks and stressors like climate change impacts. Community gardens can also provide opportunities for residents to supplement their diet with nutritious food while building social connections, all towards living healthier lifestyles.

Food Insecurity

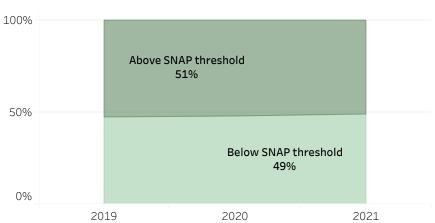
Number of Food Insecure Persons on O'ahu



Feeding America's most recent <u>Map the Meal Gap</u> report estimates 99,870 people on O'ahu experienced food insecurity in 2021. Nearly a third were children.

SNAP Eligibility

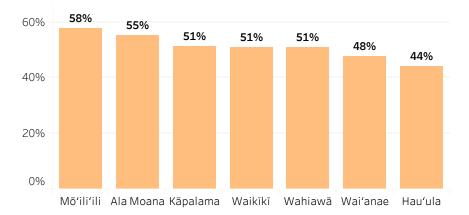
Percent of Food Insecure Persons on O'ahu, by SNAP eligibility



Federal nutrition assistance programs like the Supplemental Nutrition Assistance Program (SNAP) are critical to supporting food insecure families on O'ahu. However, nearly half of food insecure households are not eligible for SNAP because they earn more than the eligibility threshold (200% of the Federal Poverty Level) or are denied access for other reasons.

ALICE Households

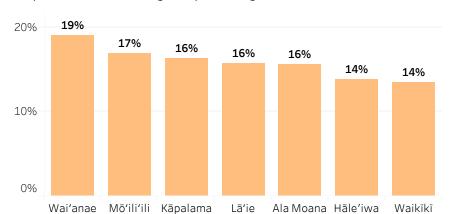
Percent of households earning less than cost of living Top 7 ZIP codes with highest percentage



ALICE refers to households that are Asset-Limited, Income-Constrained, and Employed. Even though they earn more than the federal poverty level, ALICE households are unable to afford the basics necessary to live and work on O'ahu, such as housing, child care, food, transportation, and health care. The average Household Survival Budget for a family of four (two adults, one infant, one preschooler) in Hawai'i is over \$100,000.

Households below Poverty

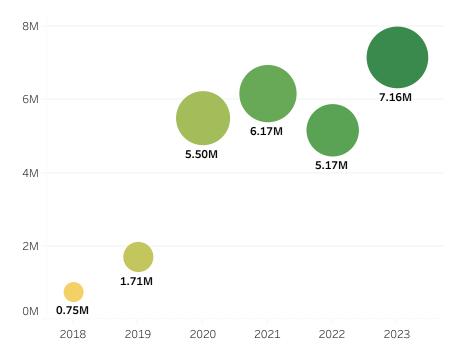
Percent of households with incomes below poverty line Top 7 ZIP codes with highest percentage



The federal poverty line is measured at a household income of \$31,920 or below for a family of four. Among the top 7 neighborhoods with the highest percentage of households with incomes below the federal poverty line, more than half or four of them have also high percentages of ALICE households. Addressing food insecurity in these specific locations can maximize both spatial efficiency and potential beneficiaries.

Food Hub Sales

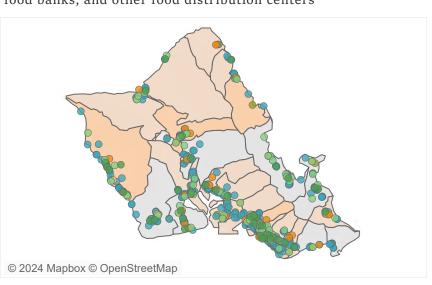
Total Sales of O'ahu Food Hubs, in \$



A food hub is a centralized facility that connects local, small-scale, and traditional farmers and producers with consumers and markets by providing essential services such as storage, distribution, and marketing. Sales of local produce at food hubs on O'ahu have rebounded from last year to a record of \$7.2 million.

Food Assistance Finder

Locations of stores participating in food assistance programs, food banks, and other food distribution centers



Percent of ALICE Households (w/ Incomes below Poverty Line) by ZIP

58%

17%

Food Assistance Location Type

□ DA BUX
□ Kupuna Food Bo.. □ WIC Store
□ Food Pantry
□ SNAP Retailer

Ohana Produce.. Soup Kitchen

Sustainable Waste Management

CITY OBJECTIVE:

Manage an integrated and sustainable waste system that prioritizes source reduction, maximizes resource recovery, and provides safe, reliable, and environmentally sound collection and disposal systems



Opened in October 2023, the new Kapolei Convenience Center increases Leeward residents' access to responsible disposal of residential waste and recyclables. Photo credit: Department of Environmental Services

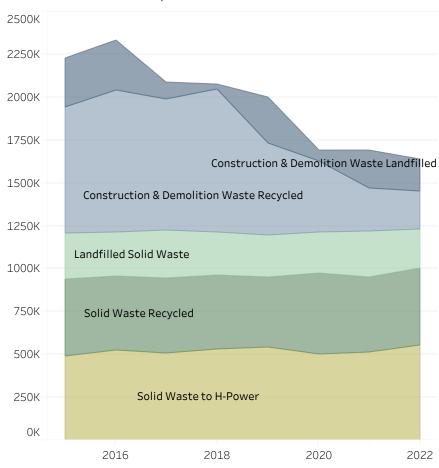
As a small, isolated island with limited landfill space, sustainable waste management is paramount to protecting our public health and the environment. A good waste system includes recycling and re-use, but a great waste system prioritizes waste reduction first and foremost. In implementation of the City's Integrated Solid Waste Management Plan, the City established a **Source Reduction Working Group** in 2023 to collaboratively determine the best approaches for promoting reduction of waste generation.

The City also accelerated new composting initiatives including:

- * Sand Island Wastewater Treatment Plan expansion project to increase biosolid production and recycling for agricultural soil amendment; * City Council adoption of Ordinance 23-30 to allow for curbside collection of compostable materials in green waste collection starting 2025; and
- * Completion of the O'ahu Compost Project Chinatown pilot program. These initiatives promote efficient use of waste resources and reduce the carbon impact of our waste system islandwide.

Total Waste Generated

Total Waste Generated, in Tons

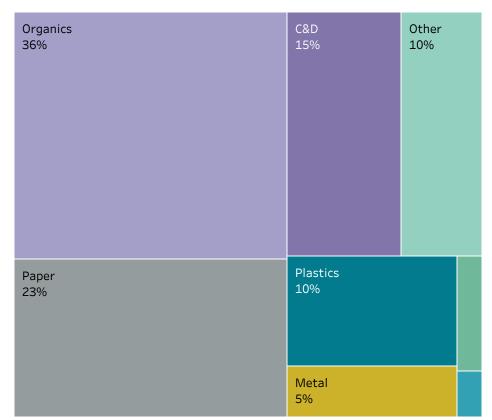


Activities on O'ahu have generated generated less waste annually since 2016, with waste from construction and demolition showing the greatest reduction.

Waste Composition

O'ahu Total Waste Composition (2017)

CITY TARGET: Reduce single-use plastics in the waste stream

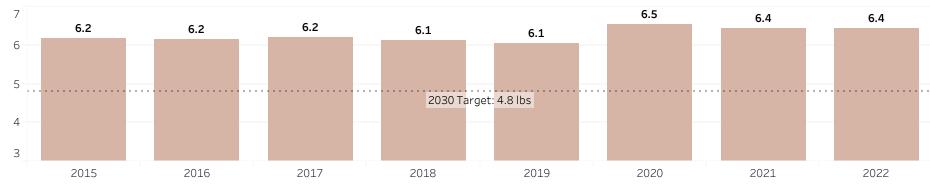


The 2017 waste composition study provides insight on major waste types in the waste stream. Organic waste and paper comprise more than half or 59% of O'ahu's total waste, while 10% are from plastics.

Per Capita Solid Waste Generated

Solid Waste Generated Per Capita, in Pounds

CITY TARGET: Reduce per capita solid waste generation 25% by 2030.



Per capita solid waste is about the same as last year's.

Waste Diversion

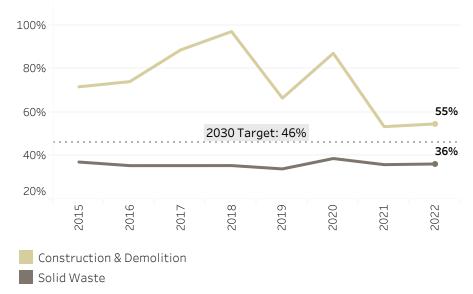
Percent of Solid Waste Diverted from Landfill by Source CITY TARGET: Increase landfill diversion rate to 96% by 2030.



The rate of solid waste being diverted away from landfills has largely remained constant since 2015. While there were significant reductions in construction and demolition waste generated, the diversion rate for this waste type has not increased since the pandemic.

Recyling

Percent of Waste Recycled by Source CITY TARGET: Increase recycling rate by 10% by 2030.



The recycling rate for municipal solid waste has remained the same since 2015, while the recycling rate for construction and demolition waste has not increased since the pandemic.

Disaster Preparedeness

CITY OBJECTIVE:

Create disaster-prepared communities that protect against natural disasters, climate change, and other emergencies; enable cost-effective disaster response and recovery that enhances community resiliency.



Community participants at a North Shore Resilience Hub workshop, one of the over 110 outreach events in development of the Resilience Hubs Network Report that engaged over 3,000 residents. Photo credit: CERENE

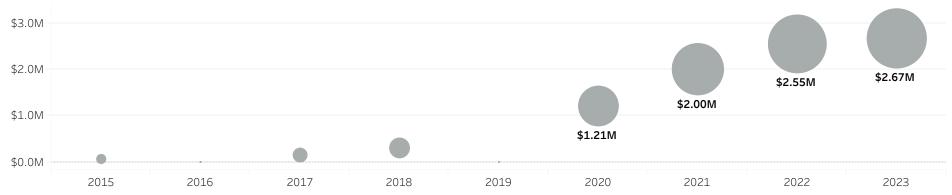
2023 was another historic year—the hottest year on record and record-setting for number of billion-dollar disasters in the U.S., including the devastating fires on Maui. With disasters projected to increase in severity and frequency due to climate change, building our resilience pre-disaster is key to increasing safety and "bouncing forward" after.

Resilience Hubs are community-led, trusted gathering spaces that provide resilience-enhancing services before, during, and after disaster events. In 2023, the Center for Resilient Neighborhoods (CERENE) at Kapi'olani Community College partnered with the City's Resilience Office and other organizations and community members to publish a Resilience Hubs Network Report. This report identifies preferred potential hub locations and tangible neighborhood-level next steps to improve community resilience and acts on Resilience Action 15 of the O'ahu Resilience Strategy.

The City also successfully recertified its participation in the FEMA Community Rating System program. Our community's inclusion in the program not only increases local flood resilience but provides a 10% discount on annual flood insurance premiums for O'ahu National Flood Insurance Program policyholders.

Hazard Mitigation Funding

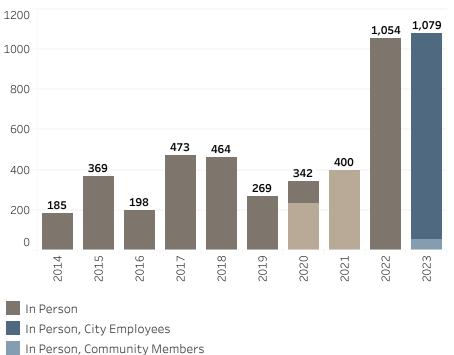
Federal Hazard Mitigation Funding Awarded, In Million \$



The City received a record amount of hazard mitigation funding from the Federal Emergency Management Agency (FEMA).

Disaster Preparedness Trainings

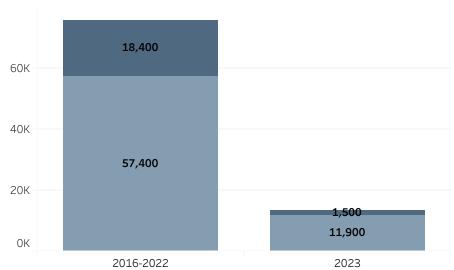
Number of Individuals Trained in Disaster Preparedness



The City provided trainings to roughly the same total number of individuals as last year. For this year and moving forward, this report will categorize trained individuals into city employees and community members.

HNL.info app downloads

App downloads by OS



The City's mobile app HNL.info was downloaded over 13,000 times from Android and iOS app stores. The app is free and provides real-time updates about traffic situations, weather advisories, upcoming public events, and other important information related to disaster preparedness.

Improving Home Safety

Virtual

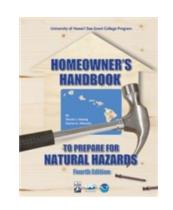


On O'ahu, more than 7 out of 10 single-family homes, or 71%, were built before 1988 and thus lack sufficient hurricane wind resistance measures that were required in subsequent building codes.

Not sure if your home has enough resistance against hurricane winds? Check the City's real property tax map to find out when your building was built.



Homes with insufficient wind resistance can be made safer with continuous load path retrofits. These create a continuous connection between a house's roof and foundation to help keep the roof from blowing off during a hurricane. The goal of retrofitting is to add as many as reasonably possible, starting at the top (A1) and working down (C5).



The fourth edition of the Homeowner's Handbook to Prepare for Natural Hazards is a free resource with a wealth of personal resilience information. The Handbook covers how to install retrofit measures for your home like hurricane clips, window protection, and roof strengthening.

Download a copy of the handbook.

More Progress

Comparing National Benchmarks

While we recognize O'ahu is unique, it can be helpful to compare our progress to other communities'. Below is a collection of national rankings that show how we stack up to our peers driving sustainability performance across the U.S.

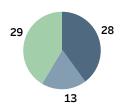
Community Resilience Priorities

This Report also provides an annual opportunity to showcase progress on implementation of the Oʻahu Resilience Strategy. While the Strategy does not contain specific targets like other City planning documents, it serves as additional documentation of 44 specific community priorities—or Resilience Actions—related to increasing community resilience and addressing pressing community challenges, including climate change and costs of living.

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Resilience Strategy Actions

Actions Completed or Ongoing



- Climate Ready O'ahu
- Community Rating System for Flood Resilience
- Updates to Shoreline Regulations

