

10. ADMINISTRATION, FUNDING, AND IMPLEMENTATION

10.1 Introduction

The current solid waste management programs, as discussed in previous sections, are primarily administered and funded through various state grants, property taxes, and tipping fees. Departments within the County of Hawai'i develop their budgets on an annual basis. The budgets and funding are submitted by the mayor's office and approved by the County Council.

This chapter describes current conditions of the existing administration and funding within the County, identifies current issues and concerns, presents options currently under consideration by the County, and provides a recommendation for implementation.

10.2 Review of 2009 Plan Update

Exhibit 10-1 below provides a summary of the recommendations put forth in the 2009 Plan update relative to administration, funding, and implementation, and describes the actions taken to achieve each recommendation.

Exhibit 10-1. Status Update of 2009 Plan Recommendations for Residuals Management

2009 Plan Update Recommendation	Status
Establish Solid Waste Division (SWD) Operating Expenses	Ongoing
Establish Capital Improvement Fund Expenditures	Ongoing
Projection of Solid Waste Fund Revenues and Expenses	Maintained existing funding mechanisms with increased tip fees

10.3 Existing Conditions

The County accounts for revenues and expenses for solid waste management in its solid waste fund. Revenues are received from state and county sources. The state provides grants and subsidizes programs, such as glass recycling, e-waste recycling, and the beverage container deposit program (HI-5). State funding is generally allocated based on County population or County's budgetary requests to the state for program administration. The sources of solid waste funding from the County primarily include revenues transferred from the general fund and revenues from fees associated with solid waste disposal at the landfills. In addition, the County typically finances large capital improvement projects with general obligation (GO) bonds.

Budgets for the solid waste fund and capital improvement program are created on an annual basis and approved after a review process by the mayor's office and the County Council that includes public testimony.

10.3.1 Solid Waste Fund Revenues

Exhibit 10-2 presents FY 2017–18 actual and FY 2018–19 budgeted revenues for the solid waste fund. The main sources of revenue are discussed below.

**Exhibit 10-2. Status Update of 2009 Plan Recommendations for Residuals Management
 Solid Waste Fund Revenue**

Revenue Category	FY 2017–18 Actual	FY 2018–19 Budget
Federal Grants		
Total Federal Grants	5,267	0.00
State Grants		
Glass Recycling Program	35,751	111,876
E-Waste Recycling	45,000	160,000
Beverage Container Deposit Program	300,013	452,153
Lava 2018–State	1,756	0.00
Solid Waste		
Landfill Tipping Fees	11,415,595	11,600,000
Landfill Permit Fees	18,230	20,000
General Fund		
General Fund Balance (Previous Year)	0.00	4,385,252
Transfer from General Fund	19,483,277	19,281,770
Miscellaneous Revenue		
Charges for Services–General Government	0.00	0.00
Sale of Equipment	12,965	0.00
Sundry Revenues–Current Year	1,767	0.00
Sundry Revenues–Prior Year	6,629	0.00
Certified Redemption Center	204,625	226,104
Total Solid Waste Fund	\$31,530,874	\$36,237,155

Note: Figures have not been finalized by the County and are pending approval.

A summary of the funding methods used in FY 2017–18 and projected for FY 2018–19 is shown in Exhibit 10-3.

Exhibit 10-3. Solid Waste Fund Revenue Summary, Percent of Total

	Percent of Total	
	FY 2017–18 Actual	FY 2018–19 Budget
General Fund	62%	53%
Tip Fees	36%	32%
Other	2%	15%
Total	100%	100%

10.3.1.1 State Programs

Glass Recycling. The glass recycling program consists of glass containers not included in the state Beverage Container Deposit Program. The program is administered through the state and is subsidized with an advance disposal fee (ADF), currently at 1.5 cents per container. The state allocates funds from this program to the counties based on the population size of each island and distributes these funds on a quarterly basis.

Beverage Container Deposit Program (HI-5). The Beverage Container Deposit Program is a state-administered program, which places a 5¢ redeemable deposit on each beverage container, as defined under law. Consumers may then return the container to redeem their 5¢ at any redemption center. A 1¢ non-refundable container fee is assessed to support the costs of recycling and program administration. Any funds that are not redeemed by consumers may be distributed to County-based programs. The County submits a list of requests to the state on annual basis, outlining budgetary needs for HI-5 projects and program administration.

Electronic Device and Television Recycling Law. The Electronic Device and Television Recycling Law (Chapter 339D-7.5) reinforces product stewardship by requiring manufacturers of electronics to run recycling programs to comply with local government regulations. Manufacturers of covered electronic devices (CEDs) sold in the State of Hawai'i must register with HDOH and pay an annual registration fee of \$5,000 and must set up recycling plans. Television manufacturers must follow the same protocol except for the fee, which is \$2,500 annually. Any manufacturer that sells both CEDs and covered televisions (CTVs) are required to pay a combined \$7,500 in annual registration fees. The state allocates funds from this program to the counties based on the population size of each island and distributes these funds on a quarterly basis. According to HDOH, these programs have been scaled back because of budget constraints (HDOH 2015).

The State Revolving Fund (SRF) program. The SRF program assists local governments in the financing the construction of water pollution control projects necessary to prevent contamination of our groundwater and coastal water resources and to protect and promote the health, safety and welfare of the citizens through awarding of low interest loans. Since the 2009 Plan, the County has benefited from the SRF to finance stormwater-related projects at their recycling and transfer stations.

The County may request additional funds during the year for more redemption centers, shelters, bins, or public awareness programs.

10.3.1.2 County Programs

Landfill Tipping Fees and Permit Fees. The County generates revenue from solid waste disposal through landfill tipping fees and permit fees. In 2019 non-residential customers paid \$110 per ton of solid waste to the landfill, and for customers that dispose of waste on a routine basis, a \$25 one-time annual fee is assessed for account setup and administration costs. Businesses, agencies, farms, and nonprofits are subject to a \$27.50 per ton tip fee for source-separated green waste.

Customers may also pay special handling fees on non-routine disposal of solid wastes that require additional personnel or costs for disposal (i.e., solid waste that requires special storage, handling, or disposal practices such as asbestos or petroleum-contaminated soil).

Transfers from the General Fund. The primary revenue source for County solid waste programs is transfers from the General Fund. Property taxes account for the largest portion of the General Fund. Other fund sources include hotel/tourism taxes, public service company taxes, interest on invested funds, and any carryover of the General Fund balance from the prior year. Each County department

forecasts its budgetary needs for the year, and the Mayor's office and County Council approve the budgets pending a review process.

10.3.1.3 Other Programs

Abandoned Vehicle Program. The abandoned vehicle program is funded directly from a portion of the vehicle registration fee. The program receives \$25 per registered vehicle to pay for program administration, towing companies, and scrap metal vendors.

Residential Hauler Credit. Vendors that charge a fee for residential waste pickup may qualify for a residential hauler credit. To qualify, the vendor must have a physical address of each customer. The annual credit to the vendor is determined by the annual number of single-family accounts multiplied by a factor of 1.5 (tons per year per customer) multiplied by the landfill tipping fee (e.g., \$110/ton).

10.3.2 Solid Waste Fund Expenses

FY 2017–18 (actual) and FY 2018–19 (budgeted) expenses for the County solid waste fund are shown in Exhibit 10-4. Expenses have been grouped into categories that reflect the main solid waste functions provided by the County. The expense groupings shown were prepared by an allocation process in which greater than 500 lines of expenditures were assigned to functions using appropriate, available data and professional judgment by County staff.

Exhibit 10-4. Solid Waste Fund Expenses

	FY 2017–18 Actual	FY 2018–19 Budget	Percent of Total	
			FY 17–18	FY 18–19
SWD Operations	13,642,032	15,383,194	43%	43%
West Hawai'i Sanitary Landfill	9,326,825	12,647,456	30%	35%
Recycling Programs	6,570,097	8,046,505	21%	22%
FY 2016–17 Encumbrances	5,416,274	0.00	17%	0%
FY 2017–18 Encumbrances	-3,873,145	0.00	-12%	0%
FY 2017–18 Fund Balance for Future Years	448,790	0.00	1%	0%
Total	\$31,530,874.37	36,077,155.00	100%	100%

Note: Totals may not add because of rounding.

As shown, budgeted expenses for FY 2018–19 are higher than FY 2017–18 actuals. Expenses are projected to increase because of inflation, waste stream increases, increased staffing at recycling and transfer stations, tariffs, import bans, and substantial reductions in forecast prices received for recycled materials. Also, due to the 2018 Kilauea Volcano lava event, many properties were devalued, which resulted in the loss of real property tax revenues, the main source of taxes to the general fund. As shown in Exhibits 10-2 and 10-3, the general fund is the primary source of revenue for the management of solid waste in the County.

Exhibit 10-5 provides the SWD's prioritized capital improvement funding request as submitted to the County Council. These improvements have been included in the Capital Improvement Program forecasts shown later in this section. As shown, the County also made provisions for SHSL closure requirements. Closure and post-closure requirements for the WHSL are the responsibility of the County's contractor.

Exhibit 10-5. Projected Solid Waste Capital Improvements

Project	Prior Funds Allocated	Estimated Cost (in thousands)						Total
		FY 18-19	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	
South Hilo Sanitary Landfill Closure	\$678	\$20,000	\$0	\$0	\$0	\$0	\$0	\$20,678
Rural Recycling and Transfer Station Reconstruction	\$9,874	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$21,874
Closure of Cesspools at Solid Waste Facilities	\$100	\$1,100	\$0	\$0	\$0	\$0	\$0	\$1,200
East Hawai'i Organics Processing Facility	\$100	\$10,401	\$0	\$0	\$0	\$0	\$0	\$10,501
Hilo Scrap Metal Site Remediation	\$0	\$0	\$7,000	\$0	\$0	\$0	\$0	\$7,000
West Hawai'i Materials Recovery System	\$0	\$0	\$500	\$0	\$0	\$0	\$0	\$500
Replacement of Kona Baseyard Building	\$0	\$0	\$500	\$0	\$0	\$0	\$0	\$500
Replacement of Hilo Disposal Area	\$0	\$0	\$0	\$0	\$3,000	\$0	\$0	\$3,000
Replacement of the Kona Disposal Area	\$0	\$0	\$0	\$3,000	\$0	\$0	\$0	\$3,000
East Hawai'i Regional Sort Station (EHRSS) Reload Facility Upgrades (for future transfer of waste to WHSL)	\$0	\$0	\$0	\$700	\$0	\$0	\$0	\$700
Ongoing WHSL Gas Collection and Control System	\$2,651	\$2,000	\$0	\$0	\$0	\$2,000	\$0	\$6,651
Stormwater Improvements for East Hawai'i Transfer Stations	\$0	\$0	\$17,500	\$0	\$0	\$0	\$0	\$17,500

10.4 Issues and Concerns

As discussed in prior sections, the County is considering several potential changes to the current waste management program. Some of the options currently under consideration could be implemented relatively easily and integrated as part of the County's existing waste management system. Other options will require more significant changes including new infrastructure, new administrative positions within the County, coordination with other County agencies, community outreach, behavioral changes by the public (paradigm shift), and in some cases, will require passage of policies, ordinances, and legislation requiring public and commercial participation.

A central issue for the County is determining the best policies and procedures to fund both existing and new waste management programs and initiatives. Currently, residential customers can deliver waste to County recycling and transfer stations at no charge, while commercial haulers must pay tipping fees at the landfills. As shown in Exhibit 10-4, the FY 2017–18 County general fund provides approximately two-thirds of the revenue used to fund current solid waste expenses (excluding debt financing for major

infrastructure). This aligns with the 2009 Plan update. However, general fund transfers supporting solid waste expenses are expected to drop to around 50 percent in FY 2018–19 compared to about 60 percent in FY 2017–18. This is attributable to excess monies from the FY 2017–18 general fund that are expected to carry over to FY 2018–19, and to a lesser extent, an increase in state grant contribution to the glass recycling, e-waste, and beverage container deposit programs.

In FY 2017–18, about 36 percent of the funding was derived from landfill tipping fees, and in FY 2018–19, tipping fees are estimated to contribute closer to 32 percent. Except for a projected lessened reliance on the general fund in FY 2018–19, these percentages are relatively unchanged from those reported in the 2009 Plan update. This indicates that few changes to the overall funding structure have occurred since the last planning effort, although tipping fees have increased from \$85 to \$110 per ton during the past 5 years. According to Ordinance Number 18-5 (Appendix F), which amends HCC 20 of the, the landfill charge rate per ton cannot exceed \$116 in 2022. Exhibit 10-6 shows a breakdown of the landfill charge rates through 2022 (Ordinance No. 18-5).

Exhibit 10-6. Landfill Charge Rates 2018-2022

2018	2019	2020	2021	2022
\$108	\$110	\$112	\$114	\$116

The funding mechanisms, administration, and types of programs and legislation required to implement modifications to the existing waste management program will depend on the options selected for implementation in this Plan update. It is likely that additional regulations will be necessary to successfully implement changes to the County's current program and to encourage changes in the current patterns of waste disposal by both the public and commercial businesses.

Three key issues facing the County that may require legislative changes include:

- Increasing diversion by thinking of waste as a resource and reducing wasteful behavior.
- Minimizing or eliminating illegal dumping.
- Reducing contamination at the recycling and transfer stations and green waste facilities.

In addition to legislation and ordinances, community outreach and education will also be necessary to effect a change in public perception of the issues surrounding waste management, and thereby influence established behavior patterns. As community involvement and concern for waste-related environmental stewardship increase, it is expected that acceptance of additional fees and regulation regarding waste disposal practices will become more widely embraced by the public and commercial sectors.

As part of the Plan update process, the County is evaluating potential options and setting both recommendations for waste management. To successfully expand and adapt the current county-wide waste management program to meet its goals, the County will need to:

- Make decisions regarding the path forward according to the Plan's recommended priorities.
- Take advantage of best practices and lessons learned from other jurisdictions regarding funding and administration mechanisms, and related legal and regulatory requirements.

The County must also consider the potential implications of various existing Federal, State, and County regulations on the implementation of the waste management program.

10.5 Administration and Funding Options

Many of the options being considered in previous chapters of this Plan update would require changes to existing methods of administering and funding programs. Some administration and funding options for consideration follow.

10.5.1 Establishing Solid Waste as an Enterprise Fund

As discussed above, about two-thirds of the County's expenditures for solid waste management are currently funded by the County's general fund which is primarily supported by property taxes. There are some disadvantages associated with the current funding system, including:

- Property tax funding provides no financial incentive for residents to reduce waste.
- Using property taxes to fund solid waste services can be perceived as unfair because property tax collections are not correlated specifically with the types and volumes of waste generated, potentially leading to inequitable subsidization.
- It can be somewhat more challenging to manage solid waste programs based on funding allocation of money from the general fund, because the money in the general fund may be redirected towards other pressing county needs.

Another funding mechanism for solid waste systems costs commonly used in many communities is to establish a self-sustaining enterprise fund. An enterprise fund can be supported primarily by user fees, dedicated taxes, or dedicated property taxes. Some advantages often cited for enterprise funds include:

- Promoting fairness by charging specifically for waste composition and volume disposed.
- Reducing burden on the general fund.
- Requiring more sensitivity to customer's needs.
- Allowing managers more discretion; however, still holding them accountable to customers.
- Running government more like a business.

The main disadvantages cited for enterprise funds is that they can be regressive and place a burden on the poor by increasing the amount they must pay for an essential service like waste management. Enterprise funds also may be more cumbersome to administer (management of financing) and politically unpopular for those with the expectation that solid waste is subsidized through the general fund. Several factors would be considered to establish an enterprise fund system:

- Determine local authority (i.e., Can the County legally charge solid waste management user fees?).
- Gain support from decision makers.
- Decide the appropriate type of user fees to support the enterprise fund.
- Perform full cost accounting to identify and report costs of operation, including the preparation of a long-range budget.
- Educate the public.

10.5.2 Separating Solid Waste Management as a Line Item on Property Taxes

The County could provide additional information to customers about the cost of managing solid waste by adding a separate line item on property tax bills outlining the amount of the tax used to fund solid waste services. A possible breakdown might include the three primary categories of expenses shown in Exhibit 10-3: SWD Operations, West Hawai'i Sanitary Landfill, and Recycling Programs. The addition of a line item on property taxes would be an interim step to educate the public on the breakdown and costs of solid waste management.

10.5.3 Establish PAYT System at County Recycling and Transfer Stations

As discussed in greater detail in Chapter 3, there are several ways that the County could implement a PAYT system at recycling and transfer stations. A PAYT program may be implemented via:

- Charging residents' solid waste by weight through the addition of scales at County recycling and transfer stations while accepting drop-off of recyclable or compostable materials at no charge.
- Charging residents' solid waste by volume where residents pre-purchase tags and/or bags that they would then place their waste in and haul to their nearest recycling and transfer station.
- Charging residents' solid waste by volume being disposed of, while allowing drop-off of recyclable or compostable materials.
- Implementing universal curbside collection of garbage for all households in the County where practical.

Two methods that would minimize staffing requirements at the stations include a "tag" or "bag" system. In a tag system, property owners would be issued tags along with their semi-annual property tax bills that could be used as "currency" for delivering waste, and extra tags could be available for purchase at County offices or retail outlets. Arrangements would need to be made for renters not served by a building collection service.

A bag system would consist of requiring all residents to put waste into a standard type of plastic bag that would be available for purchase at County offices and/or retail outlets.

There would be many implementation challenges associated with this system. An extended phase-in period would be necessary accompanied by an intensive public education program. A PAYT program could be a user fee option integrated into an enterprise funding program (see Section 10.5.1). This program has been shown to work in other jurisdictions on the mainland and in Hawai'i (e.g., Kaua'i).

10.5.4 Modifications to Existing Programs and Practices

The County could consider modifications or improvements to existing programs that may increase revenue instead of changing funding mechanisms (e.g., enterprise fund):

- Seek more non-user-fee funding (e.g., federal grants, opportunities such as SRF).
- Increase recycling rates through improved operations (e.g., public outreach, transfer and recycling station upgrades).
- Determine adequacy of handling fees on non-routine solid wastes (e.g., asbestos, petroleum-contaminated soil).
- Increase participation of the hotel/tourism industry through tax incentives or other mechanisms.

- Determine adequacy of the registration fee for the abandoned vehicle program.
- Reevaluate the residential hauler credit program.
- Regularly review and, when appropriate, renegotiate the WHSL contract.

10.5.5 Illegal Dumping Prevention

Illegal dumping of household and commercial waste can have a variety of potential negative impacts. Hazardous chemicals generated from illegally dumped waste can contaminate groundwater and surface water, potentially affecting both human health and aquatic habitats. Flooding can result from blockage of streams and drainage culverts. Property values can be affected by illegal dumping, economic impacts resulting from costs of clean up can affect County resources, and illegal dumping degrades quality of life –the beauty of the island for residents and visitors. Additional efforts to prevent illegal dumping would be particularly important if the County were to implement a PAYT program or dramatically increase the tipping fee.

This section describes existing regulations at the federal, state, and local level. It also describes illegal dumping prevention measures within the County, issues and concerns, and options to deter illegal dumping that have the potential to bolster the County's existing prevention system.

10.5.5.1 Regulations

At the federal level, Statute 42 United States Code (USC) 6928(d)(2)(B) & (C) of the Criminal Provisions of the Resource Conservation and Recovery Act (RCRA) indicts offenders who knowingly treat, store, or dispose of hazardous waste without a permit with penalties up to 2 years of incarceration and a \$50,000 per day in fines.

The County regulates "littering" and the state regulates "illegal dumping." The state defines illegal dumping as the illicit disposal of solid waste that is equal to or greater than 1 cubic yard. The County's litter law does not quantify what is considered litter; therefore, it could be less than or greater than 1 cubic yard.

In accordance with Hawai'i Revised Statutes Chapter 342H (HRS 342H), illegal dumping could be subject to enforcement action and administrative civil penalties up to \$10,000 per day. Those who knowingly dispose of solid waste equal to or greater than 1 cubic yard and less than 10 cubic yards are subject to criminal penalties (petty misdemeanor) up to \$25,000 per day for each offense. If illegal dumping is equal or exceeds 10 cubic yards, it is considered a class C felony and potentially subject to \$50,000 for each separate offense. If illegal dumping is suspected, a complaint can be filed with the State Department of Health, Solid and Hazardous Waste Branch, State Department of Attorney General Investigations Office, District Health Office located in Hilo, or Hawai'i County Police Department (HCPD).

Hawai'i County Code (HCC 20-8) contains provisions that prohibit littering. In the past five years, revisions such as Ordinance 12-1, aimed at reducing plastic bag littering and pollution, have been enacted to further reduce contamination. These provisions cover the materials commonly encountered in the municipal waste stream and prohibit discarding or disposing of these materials on either public or private property. Violators may be fined up to \$1,000 and/or not more than 200 hours of community service for each offense. Cost recovery for cleanup is also allowed under the current County code.

10.5.5.2 Countywide Illegal Dumping Prevention

The County's HawaiiZeroWaste.org website provides a wealth of information related to illegal dumping including:

- A link to "Trash Free Hawai'i" website, an initiative by the State of Hawaii Department of Transportation (DOT), Highways Division, and O`ahu District's Storm Water Management Program, which seeks to reduce litter entering the storm drains that ultimately enter the ocean.
- State of Hawai'i's regulations, including information related to potential hazardous contaminants that may be within commercial or industrial waste from small quantity generators.
- Education of the potential health consequences of open dumps (illegal dumps).
- Actions that can be carried out by private landowners, contractors, and "everyone" to address and prevent illegal dumping, including reporting procedures.
- A link to a brochure that describes how to conduct a community cleanup of a dump site.
- Contact information for the County Department of Public Works, Highways Maintenance Division, to request rubbish removal in County right-of-way.
- Information emphasizing the role of small businesses in the handling of hazardous materials, including a link to HDOH guidance and other resources.

The County holds household hazardous waste collection events per year at well-known and well-publicized locations in Hilo, Kona, Waimea, and Pāhoa. Chapter 6 provides further information regarding the handling of hazardous waste.

The 501(c)(3) nonprofit, Keep the Hawaiian Islands Beautiful website, provides an online litter "hotline" as another avenue to report illegal dumping. The nonprofit's mission emphasizes the engagement of individuals to take a greater responsibility for improving the community environment and preserving the beauty of the Hawaiian islands. Solid waste initiatives and recycling, beautification, and litter prevention and control are activities emphasized by the nonprofit.

10.5.5.3 Issues and Concerns

Regardless of the existing regulatory framework and "grassroots" approach to prevent illegal disposal of rubbish, illegal littering or dumping still occurs, notably along roadways in more rural areas, on vacant lots, and in gulches with major roadways crossing them or near industrial facilities. Enforcement of existing illegal dumping and litter laws is challenging due in part to the rural nature of the County.

Currently enforcement of the County code is the responsibility of the HCPD. Because littering is not one of the higher priorities for HCPD, many of the violators who litter are not caught or penalized. DEM staff do not have the training or legal authority to enforce litter laws. The County would increase its potential liability if it required DEM employees to enforce policy, even within the confines of County recycling and transfer station properties.

10.5.5.4 Options to Prevent Illegal Dumping

Illegal Dumping Prevention Studies

It is anticipated that passing ordinances or legislation that requires the public to pay for waste disposal on a per unit basis may, in the short term, increase the occurrence of illegal dumping. Studies conducted in rural areas of Kentucky concluded that when additional fees were implemented for public waste disposal, illegal dumping increased, especially in areas where a higher percentage of the population had low or poverty-level incomes. However, most jurisdictions implementing programs such as PAYT reported only short-term increases in illegal dumping, and a decline to pre-implementation rates of incidence within the first 1 to 2 years after implementation. Exhibit 10-7 presents four programmatic areas the EPA has suggested focusing on for preventing illegal dumping.

Exhibit 10-7. Four Programmatic Areas for Preventing Illegal Dumping (EPA 1998)

Cleanup Efforts. Cleanup projects will require a coordinated planning effort to ensure that adequate resources and funding are available. Once a site has been cleaned, signs, lighting or barriers may be required to discourage future dumping. Signs should indicate the fines and penalties for illegal dumping, and a phone number for reporting incidents. Landscaping and beautification efforts may also discourage future dumping, as well as provide open space and increase property values.

Community Outreach and Involvement. This may be the most important tool in ensuring that this practice is effective. The organization of special cleanup events where communities are provided with the resources to properly dispose of illegally dumped materials increases the understanding among residents of illegal dumping impacts and supplies opportunities to correctly dispose of materials which may otherwise be illegally dumped. Integration of illegal dumping prevention into community policing programs or use of programs such as Crime Stoppers may also be an effective way to increase enforcement opportunities without the additional cost of hiring new staff. Producing simple messages relating the cost of illegal dumping on local taxes and proper disposal sites will aid in eliminating the problem. Having a hotline where citizens can report illegal activities and educating the public on the connection between the storm drain and water quality, and other potential hazards associated with dumping refuse into streams or drains will decrease disposal of waste into streams or storm drain inlets.

Targeted Enforcement. This tool involves the use of ordinances to regulate waste management and eliminate illegal dumping through methods such as fines, cost recovery penalties for cleanup, and permit requirements for waste management activities, to name a few. These fines and penalties can be used to help fund the prevention program or to provide rewards to citizens who report illegal dumping activities. Other recommendations for this tool include training of staff from all municipal departments in recognizing and reporting illegal dumping incidents, dedicating staff who have the authority to conduct surveillance and inspections, and writing citations for those caught illegally dumping.

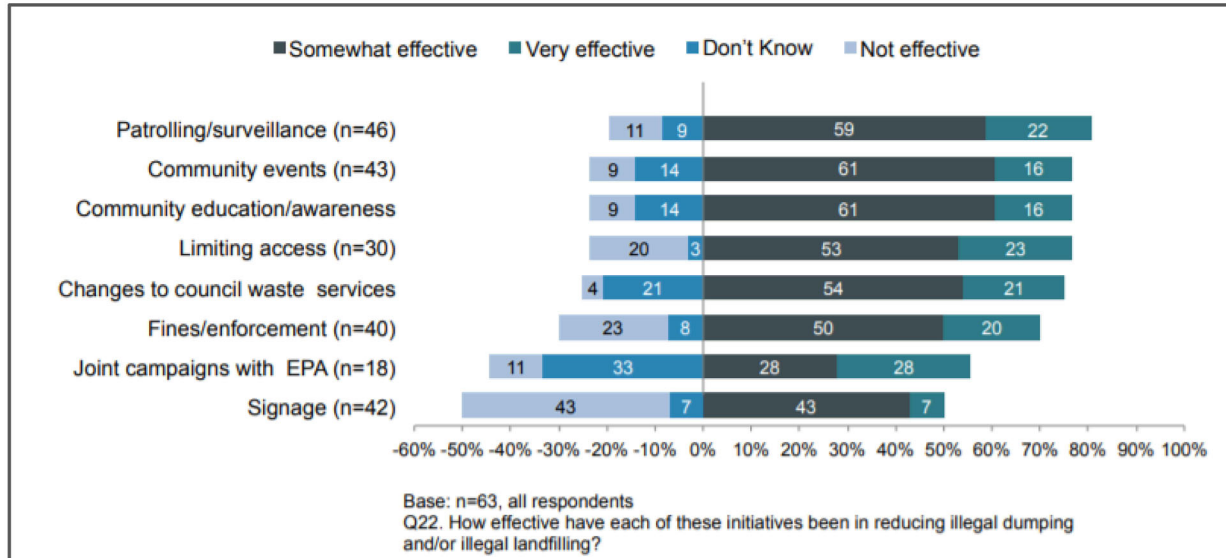
Tracking and Evaluation. This tool measures the impact of prevention efforts and determines if goals are being met. Using mapping techniques and computer databases allows officials to identify areas where dumping most often occurs, record patterns in dumping occurrence (time of day, day of week, etc.), and calculate the number of citations issued and the responsible parties. This allows for better allocation of resources and more specific targeting of outreach and education efforts for offenders.

Source: EPA (1998)

The New South Wales Environmental Protection Agency conducted a report on illegal dumping including an online survey consisting of 63 government authorities, 100 trade and industry authorities, and 1,009 community members. Respondents were given various methods to reduce illegal dumping and were asked to rank their effectiveness. Patrolling and surveillance were viewed as the most effective, with 81 percent of participants responding that the method was “somewhat or very effective.” Community outreach and education was viewed by 77 percent of participants as “effective,” and fines/enforcement were viewed by 70 percent of participants as “effective.” Relating to joint campaigns with the New South Wales EPA, 56 percent of local government authorities stated the method was “very effective,” while signage received the least support with 43 percent of respondents stating the method was “not

effective” (NSW 2015). Exhibit 10-8 graphically depicts the outcome of the illegal dumping survey performed by the New South Wales EPA.

Exhibit 10-8. New South Wales Survey on Illegal Dumping (North South Wales 2015)



Source: NSW (2017)

Illegal Dumping: County’s Options

A combination of passing more severe penalties for illegal dumping, targeted enforcement actions by HCPD, establishment of new community outreach and participation programs, and other actions found to be successful in other jurisdictions may help to curb illegal dumping in the County. Potential actions that may be considered for the County to prevent illegal dumping are listed below.

- **Civil and Criminal Penalties.** Develop legislation that sets more severe civil and criminal penalties for illegal dumping activities than what is legislated by the state (HRS 342H). Legislation could be worded such that the penalties increase with the egregiousness of the violation, and based upon a weight, volume, or types of material that are dumped, and location of illegal activity (that is, higher penalties for dumping into streambeds). Legislation could require violators to pay for consequential damages and cleanup costs resulting from specific violations.
- **Targeted Enforcement.** Work with the community and the HCPD to develop a targeted enforcement program. Incentives could be offered for monitoring and reporting of illegal dumping to authorities, and methods could be developed for periodically evaluating illegal dump sites for evidence of the identity of the violators. Legislation supporting prosecution of violators based on the evidence of ownership at the time of the violation derived from dumped materials may need to be developed to effectively implement such a program.
- **Community Education, Outreach, and Involvement.** Develop programs with school and community groups or organizations to emphasize prevention, and conduct periodic clean ups of illegal dump sites, to raise community awareness and involvement in reducing illegal dumping activities.
- **Install Signage at Problem Areas.** Install signage where illegal dumping typically occurs listing the more severe civil and criminal penalties for violators to curb future dumping. This process may be completed in conjunction with the planned re-signing at recycling and transfer stations, as stated in Chapter 5, Public Education and Information.

- Increase Security at Recycling and Transfer Stations. Hire full-time attendants to monitor the recycling and garbage facilities to deter potential violators. Install a fence around Miloli'i to reduce illegal dumping during non-operating hours.
- Small Quantity Generator Program. Inform small businesses how to best dispose of their hazardous waste to reduce illegal dumping and contamination. Businesses who are small quantity generators (SQGs) and produce between 100 and 1,000 kilograms per month of hazardous waste may accumulate waste for up to 180 days without a permit. As described in Section 10.5.5.2, the County provides information and guidance targeting businesses (SQGs) on their HawaiiZeroWaste.org website. This program could be bolstered by initiatives such as County interaction with small businesses through meetings and site visits.
- Recycling and Transfer Stations. Allow small businesses to utilize the recycling and transfer stations for recycling (see Recommendations, Chapters 4 and 8).

10.6 Plan Recommendation

Exhibit 10-9 outlines the 10-year funding projections for the 84 recommendations identified throughout this Plan. Fluctuations in markets and uncertainties regarding the outcomes of programs that will be operational early in the planning period will likely involve the County continuing with the current system of funding most operating expenditures using property taxes and tip fees until the outcome of programs are better understood. The County must ensure that DEM has resources commensurate with the needs of all current and future solid waste programs. Based on the analyses presented above and discussions with the SWAC, the Plan recommends implementing the following administrative activities during the next planning period:

- 1. Prepare a Solid Waste System Financial Analysis.** Prepare the analysis to align with programs identified in this Plan and to achieve less reliance on the general fund. Major capital expenditures would continue to be funded through general obligation bonds. The planning effort would also consider methods and costs associated with the discouragement of illegal dumping, particularly because there is a correlation between this undesirable activity and the implementation of a PAYT program.

Note: Chapter 3, Section 3.6 (Recommendation 2) discusses the analysis of a PAYT program or other funding mechanism for source reduction. Chapter 8, Section 8.8 (Recommendation 1) discusses the continued operation and maintenance of recycling and transfer stations until a decision on the best method of collection and transfer is determined, and to also explore alternative funding mechanisms via a feasibility study.

- 2. Regularly review and, when appropriate, renegotiate WHSL contract.**

Exhibit 10-9. Recommended Programs and Capital Improvements

Program	Status and Type	High Priority	Year 1 FY 19-20	Year 2 FY 20-21	Year 3 FY 21-22	Year 4 FY 22-23	Year 5 FY 23-24	Year 6+ FY 25-29
Chapter 3. Source Reduction								
Develop County policies or ordinances that mandate certain actions be taken to reduce the source of waste currently entering landfills.								
➤ Develop a County ordinance that requires a waste reduction plan be submitted to obtain a commercial building permit.	Ongoing/ Program	--		\$13,000				
➤ Work with other counties to develop Extended Producer Responsibility (EPR) policy statements or resolutions. As a component of EPR policy, implement a campaign to develop EPR for difficult-to-recycle products, and lobby state and federal lawmakers to advance EPR initiatives.	Ongoing/ Program	--		\$38,000 (policy)			\$40,000 (campaign)	
➤ Implement a County government source reduction program policies, procedures, and incentive programs that will reduce waste streams currently being generated within various County departments and agencies.	Ongoing/ Program	--			\$39,000			
Investigate a pay-as-you-throw (PAYT) program or other funding method.								
	Planned/ Program	--						See Chapter 10 Prepare a Solid Waste System Financial Analysis
Improve the current reuse facility program:								
➤ Work with contractors managing reuse centers to create a list of preferable donations to distribute to customers.	Planned/ Program	--					No Added Cost	
➤ Work with the contractor managing the reuse centers to be more selective about merchandise, emphasizing items that are lightly used, clean, and in good condition. Improve signage, organization, and display of merchandise.	Ongoing/ Program	--					No Added Cost	
➤ Provide more covered space at reuse centers.	Planned/CIP	X	\$75,000	\$76,000	\$78,000	\$79,000	\$80,000	\$414,250
➤ Collaborate with the volunteer-based Laupāhoehoe Reuse Center to increase participation of volunteers.	Planned/ Program	--					No Added Cost	
➤ Continue public-private partnerships with organizations such as Goodwill Industries to develop reuse centers at existing outlets within the County.	Ongoing/ Program	--					No Added Cost	
➤ Consider expanding the program to other recycling and transfer stations and/or upgrade the Laupāhoehoe Reuse Center	Ongoing/ Program	--					\$116,000	\$250,000
Expand and improve public education and awareness programs.								
➤ Develop a business waste audit and education program to foster source reduction within the local business community.	Ongoing/ Program	X						
	Planned/ Program	--			\$39,000	\$39,500	\$40,000	\$210,000

Exhibit 10-9. Recommended Programs and Capital Improvements (continued)

Program	Status and Type	High Priority	Year 1 FY 19-20	Year 2 FY 20-21	Year 3 FY 21-22	Year 4 FY 22-23	Year 5 FY 23-24	Year 6+ FY 25-29
➤ Develop a visitor industry waste reduction education program.	Planned/ Program	X			\$39,000			
➤ Continue reuse education, outreach, and public awareness campaigns to encourage public participation and use of the reuse centers.	Ongoing/ Program	X			No Added Cost			
Chapter 4. Recycling								
Develop County policies or ordinances that mandate certain actions be taken to improve recycling rates.	Ongoing/ Program	X						
➤ Thoroughly investigate mandates prior to implementation including assessment of markets (should be well-established), operational viability (solicit input from recycling and transfer station attendants, haulers, landfill operators), and implementation in other jurisdictions with an emphasis on other Hawai'i counties.	Ongoing/ Program	X		\$13,000			\$14,000	\$30,000
➤ Establish a differential tip fee ordinance	Planned/ Program	--			\$33,000			
➤ Investigate the feasibility of establishing a mandatory curbside collection program for some single-family residences.	Planned/ Program	--			\$100,000			
➤ Establish mandatory source separation and recycling ordinance, which would require all businesses and institutions to recycle select types of materials. This could include implementing landfill bans for select recyclables.	Planned/ Program	--		\$32,000	\$10,000	\$10,000	\$10,000	\$50,000
➤ Develop legislation that requires owners and managers of multi-family dwellings and multi-tenant commercial buildings to provide recycling	Planned/ Program	--			\$33,000			
➤ Conduct research and coordinate with legislators and waste managers within Maui, Kaua'i, and Honolulu counties, to evaluate the potential for combining efforts to develop a statewide landfill diversion strategy.	Planned/ Program	--						\$36,000
➤ Lobby the State to change school waste collection contracts to mandate that recycling services are included.	Planned/ Program	X			No Added Cost			
Modify infrastructure at recycling and transfer stations to accommodate and expand recycling.	Ongoing/ CIP	X			See Chapter 8 reconstruct one or more recycling and transfer stations annually.			
Improve signage at recycling and transfer stations to provide the public with comprehensive information about recycling opportunities and procedures.	Ongoing/ Program	X			\$129,000	\$131,500		
Allow small businesses to use the recycling and transfer stations to recycle selected materials.	Planned/ Program	X			\$32,500	\$33,500	\$34,000	\$178,000

Exhibit 10-9. Recommended Programs and Capital Improvements (continued)

Program	Status and Type	High Priority	Year 1 FY 19-20	Year 2 FY 20-21	Year 3 FY 21-22	Year 4 FY 22-23	Year 5 FY 23-24	Year 6+ FY 25-29
Work with the HDOH Solid and Hazardous Waste Branch to modify recycling and transfer station operating permits to accommodate expanded recycling services.	Planned/ Program	X	\$13,000					
Expand education and outreach programs for both large and small businesses to foster participation in commercial recycling programs.	Ongoing/ Program	X		\$32,000	\$33,500	\$34,000		\$178,000
Install additional recycling bins in parks and other public areas.	Ongoing/ Program	X		\$12,000	\$12,000	\$12,000		\$40,000
Increase recycling opportunities at community events.	Ongoing/ Program	X	\$10,000	\$10,500	\$11,000	\$11,500		\$56,500
Establish goals that are expressed and measured in terms of environmental impacts (e.g., greenhouse gas emissions, toxicity, energy use) and consider full life cycle impacts, in addition to tonnage-based landfill diversion or waste recovery goals.	Ongoing/ Program	X		No Added Cost				
Annually or bi-annually assess existing local and regional markets for materials across the waste stream; study service voids for missed opportunities to recover commodities.	Ongoing/ Program	--		No Added Cost				
Chapter 4. Organics								
Improve education and outreach programs that promote improved management of organics.	Ongoing/ Program	--	\$31,000	\$31,500	\$32,000	\$33,500	\$34,000	\$178,000
Ensure that the contractor responsible for administering the organics program is meeting contractual requirements.	Planned/ Program	X		No Added Cost				
Expand and further develop a master composter program – includes planning and implementation.	Planned/ Program	--						\$350,000
Develop a training program and guidance materials for farmers and gardeners.	Planned/ Program	--				82,500		\$248,000
Implement a 'Stop Wasting Food' program that would benefit programs such as local food banks.	Ongoing/ Program	--						Part of Overall Public Education Program
Partner with others to establish compost demonstration gardens at recycling and transfer stations or other visible locations in the community	Planned / Program	--	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$13,000
Onsite composting program (subsidized composting bins and distribution to residents and businesses)	Planned/ Program	--						\$610,000
Landfill organics ban implementation study	Planned/ Program	--			\$30,000			
Organics management facilities and equipment	Ongoing/ Program	X						
➤ Add food waste drop-off bins at recycling and transfer stations that already collect green waste	Planned/ Program	--			\$54,000			

Exhibit 10-9. Recommended Programs and Capital Improvements (continued)

Program	Status and Type	High Priority	Year 1 FY 19-20	Year 2 FY 20-21	Year 3 FY 21-22	Year 4 FY 22-23	Year 5 FY 23-24	Year 6+ FY 25-29
➤ Formulate compostable bag ASTM D6400-compliance legislation	Planned/ Program	--			\$33,000			
➤ Add organics/yard waste disposal to existing brochures/signage	Ongoing/ Program	X			\$10,000		\$11,000	
➤ Expand the number of drop-off locations for green waste and/or food waste at recycling and transfer stations	Planned/ Program	--					\$59,000	
➤ Continue operation of mulch facilities at WHSL and SHSL	Ongoing/ Program	X			No Added Cost			
Investigate organics collection programs, including a residential curbside collection program and recycling and transfer station drop-off facilities. As part of this investigation, perform pilot food waste demonstration projects with the potential for eventual expansion into full-scale food waste management programs.	Planned/ Program	X		\$55,000				
Chapter 5. Education, Outreach, and Public Awareness								
Implement a 3-year education and social marketing program to educate the public and business community about landfill diversion initiatives and opportunities.	Planned/ Program	X		\$93,000			\$98,000	
Conduct a waste management attitude residential survey.	Planned/ Program	--			\$125,000			
Ensure County has staffing levels commensurate with the needs of the public outreach program.	Ongoing/ Program	X			To be Determined Through Program Implementation			
Chapter 6. Household Hazardous Waste (HHW) / Electronic Waste (E-Waste)								
Ensure enough staffing to operate HHW/ e-waste programs successfully.	Ongoing/ Program	X			To be Determined Through Program Implementation			
Implement HHW/ e-waste education, outreach, and public awareness program.	Ongoing/ Program	X					\$39,500	\$84,000
Research and evaluate elements of successful e-waste/ HHW programs implemented in other jurisdictions and integrate those successes into the County's program	Ongoing/ Program	--				No Added Cost		
Explore e-waste take back programs with state and manufacturers/sellers.		--						
➤ Conduct research to assess what legislation may be required to mandate and manage take-back programs for specific types of e-waste.	Planned/ Program	--					\$39,000	
➤ Coordinate with other counties and the State to develop and implement e-waste EPR take-back programs.	Ongoing/ Program	--						

Exhibit 10-9. Recommended Programs and Capital Improvements (continued)

Program	Status and Type	High Priority	Year 1 FY 19-20	Year 2 FY 20-21	Year 3 FY 21-22	Year 4 FY 22-23	Year 5 FY 23-24	Year 6+ FY 25-29
➤ Coordinate with local retailers to facilitate implementation of take-back programs for e-waste.	Planned/Program	--						
➤ Assess legislative actions that may be necessary to improve e-waste programs including demanufacturing, storage and handling, and funding equity.	Ongoing/Program	--						
Conduct additional HHW collection events (10 to 12 additional per year)	Planned/Program	X	\$400,000	\$400,000	\$400,000	\$400,000	\$400,000	2,000,000
Explore legislative actions for hazardous products and packaging take-back programs.		--						
➤ Conduct research to assess what legislation may be required to mandate and manage take-back programs for specific types of hazardous waste or packaging.	Planned/Program	--			\$39,000			
➤ Assess what legislative actions may be necessary to facilitate storage and handling of hazardous products and packaging at various types of collection locations, and funding equity.	Planned/Program	--						
Explore a public-private partnership for a local e-waste campaign (on-island demanufacturing).	Ongoing/Program	--						\$43,000
Chapter 7. Special Waste								
Continue to integrate a Do-It-Yourself Used Motor Oil program within the County's public education and information program.	Ongoing/Program	X			No Added Cost			
Increase the number of Recycling and Transfer Stations that accept white goods. Continue to explore the feasibility of removing the freon at the site to simplify the handling, loading, and transport of white goods.	Planned/Program	--			\$25,000	\$25,000	\$25,000	\$50,000
Continue to ensure that recycling facilities responsible for dismantling of white goods are trained properly for the recovery and recycling of Freon-containing appliances.	Ongoing/Program	--			No Added Cost			
Continue to promote tire recycling best management practices within the County's public education and information program.	Ongoing/Program	X			No Added Cost			
Chapter 8. Collection and Transfer								
Retain the County's system of recycling and transfer stations; however, also explore alternative funding methods via a feasibility study.	Planned/Program	X			See Chapter 10 Prepare a Solid Waste System Financial Analysis.			
Reconstruct one or more recycling and transfer stations annually.	Ongoing/CIP	--	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$20,350,000
Consider 'Satellite' compaction units for recyclables at select stations	Planned/CIP	X			\$40,000	\$41,000	\$41,000	\$42,000
Reduce operating hours at recycling and transfer stations and consider closing one or more stations.	Planned/Program	--			Potential Cost/Savings to be Determined			

Exhibit 10-9. Recommended Programs and Capital Improvements (continued)

Program	Status and Type	High Priority	Year 1 FY 19-20	Year 2 FY 20-21	Year 3 FY 21-22	Year 4 FY 22-23	Year 5 FY 23-24	Year 6+ FY 25-29
Change County code to allow small businesses to drop off recyclables at recycling and transfer stations.	Planned/ Program	X		\$13,000				
Enable nonprofits and community organizations specifically involved with litter abatement to drop off non-recyclables at transfer stations without the need for daily waivers or permits.						No Added Cost		
Conduct an operational efficiency analysis to lower costs.	Ongoing- Planned/ Program	X			\$56,000			
Chapter 9. Residuals Management								
Consider recovery and treatment technology for handling of municipal solid waste if all of the following criteria are met: 1) waste diversion approaches already in operation are ineffectual or cost-prohibitive in meeting County waste reduction goals, 2) it can be demonstrated that the technology is environmentally sound and economically feasible, and 3) the technology has a verifiable and viable commercial track record (minimum of 5 years).	Planned/ Program	--				No Added Cost		
Investigate the feasibility of a landfill with a sorting and reuse area for construction and demolition materials.	Planned/ CIP	X			\$125,000			
Update infrastructure at the WHSL and EHRRS.	Ongoing/CIP			\$7,000				
Engage in dialog with the State/Countries about joint solutions (e.g., Discuss with City and County of Honolulu, the shipping of market-driven unrecyclable materials to their H-Power WTE plant).	Planned/ Program	X				No Added Cost		
Chapter 10. Administration and Funding								
Prepare a Solid Waste System Financial Analysis.	Planned/ Program	--			\$125,00	\$125,000		
Regularly review, and when appropriate, renegotiate WHSL contract.	Planned/ Program	X				No Added Cost		

Note: Assumes 1.75 percent annual inflation