



AREA-WIDE ILLEGAL DUMPING ANALYSIS FOR CITY OF SACRAMENTO AND COUNTY OF SACRAMENTO

Recommendation Report



July, 24 2018

Report for Sacramento Regional Solid Waste Authority

Prepared by Sam Taylor, Sarah Edwards, Christine Flowers,

Approved by



.....

Sam Taylor
(Project Director)

Eunomia Research & Consulting Inc
33 Nassau Avenue
New York City
New York 11222
United States

Eunomia Research & Consulting Inc
33 Nassau Avenue
New York City
New York 11222
United States

Disclaimer

Eunomia Research & Consulting has taken due care in the preparation of this report to ensure that all facts and analysis presented are as accurate as possible within the scope of the project. However, no guarantee is provided in respect of the information presented, and Eunomia Research & Consulting is not responsible for decisions or actions taken on the basis of the content of this report.

Version Control Table

Version	Date	Author	Description
V0.1	05/30/18	Sarah Edwards, Christine Flowers	Internal review
V1	06/07/18	Sarah Edwards, Christine Flowers, Sam Taylor	First draft to client, for editing and grammar
V2	06/29/18	Sarah Edwards, Christine Flowers, Sam Taylor	Second full final draft
V3	08/10/18	Sarah Edwards	Incorporating client comments

Executive Summary

Illegal dumping describes dumping of waste instead of using an authorized method such as curbside collection or using an authorized disposal site. It is known to cause negative environmental, health, and economic effects. It is a blight in our towns and cities, lowers real estate values, limits tourism and compromises the safety of communities.

Programs that follow the principals of PACE, Prevention, Abatement, Clean-Up and Enforcement are being deployed by the City of Sacramento (City) and Unincorporated County of Sacramento (County), and other agencies including:

- Property Business Improvement Districts;
- Sacramento Municipality Utility District;
- Sacramento Regional Transport;
- Sacramento Water Services;
- Sacramento Regional Parks;
- Universities; and
- Sacramento Area Flood Control Agency.

E.1.0 The Illegal Dumping Problem

The rising number and associated cost of illegal dumping experienced in the City and County is a trend that is being experienced across California. For example, the City of Oakland received 25,000 calls to remove illegally dumped waste in 2017, double the number of calls it received in 2012, and the collection of this waste is costing the city \$5.5 million. There are lessons to be learned from other jurisdictions who have implemented a wider range of programs aimed at preventing and enforcing illegal dumping.

Analysis of existing programs as well as observation and characterization of illegally dumped waste in the City and County has identified eleven trends that were considered when evaluating the existing programs as well as identifying opportunities for program improvement. They are outlined below:

- **Illegal dumping is increasing:** Despite a 40% increase in preventative bulky collections services over the last three years the number of reported illegal dumping incidences has increased by 32% (14,947 to 19,732), although there was a decrease in the County from 2016 to 2017.
- **The cost of cleaning-up illegally dumped waste is almost twice as much as collecting waste through scheduled curbside services.** The cost benefit of preventative versus reactive clean-up services is highlighted in E 1.

E 1: Cost of Scheduled Bulky Collections vs Clean-Up of Illegally Dumped Waste

	Cost for Collection and Disposal	Number of Incidents	Cost per Incident
Illegal Dumping	\$ 1,400,883	19,732	\$ 71.00
Scheduled Bulky	\$ 2,854,103	72,189	\$ 39.54

Source: Eunomia calculation

When the cost of enforcement is added the differential is even greater as shown in E 2.

E 2: Comparison of Costs – Illegal Dumping vs Scheduled Collection (City and County, 2017)

	City		County	
	Illegal Dumping	Scheduled	Illegal Dumping	Scheduled
Cost per incident	\$ 79.65	\$ 65.01	\$ 112.51	\$ 66.91

Source: Eunomia calculation

The current cost of addressing illegal dumping through clean-up and preventative services in the City and County combined is \$16.54 per property or \$6.36 per person.

- **Illegal dumping is small in scale and emanates from residential properties, primary single-family properties.** Over 80% of sites characterized were small in scale and nearly 75% were deemed to be from single family properties which make up 80% of housing stock across the City and County. The types of waste being dumped included furniture refrigerators and freezers, carpets and tires all of which are able to be collected through existing preventative bulky waste collection curbside services.
- **Multiple agencies are clearing illegally dumped waste yet there is no single organization overseeing activities or supporting overarching monitoring or delivery of collaborative coordinated programs.**
- **Enforcement Code is Ineffective:** California Penal Code 374.3 makes illegal dumping on public and private property punishable by a fine up to \$10,000.¹ The City uses an

¹ http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PEN§ionNum=374.3
(Retrieved April 21, 2018)

administrative process and the County a criminal process to enforce this legislation. The current level of fines within the City and County is less than this maximum even for multiple offences, and as such the current fine is insufficient as a deterrent. Equally, the amount of evidence required to demonstrate burden of proof is too high a threshold for the City and County Code to reach which means the likelihood of getting caught is low.

- **Inequitable access to services:** Single-family properties in the City can access 2 free bulky and 2 free e-waste curbside services in a year and can tip waste for free on one occasion. In the County single family properties can request 1 free service. Multifamily properties are not eligible to receive these services because they do not pay rates to the City and County.
- **Usage of preventative services is low:** A maximum of 15% of eligible properties in the County are taking advantage of the free bulky collections compared with 23.5% in the City.
- **Demand exceeds operational capacity in the County:** Single family properties are requesting free bulky collections and are either having to wait up to 4 weeks for collections or being asked to call back when demand has reduced because there are not enough resources to meet demand.
- **Illegal dumping is linked to the level of poverty and number of rented properties.** In line with what has been found in other jurisdictions (for example San Jose), the level of illegal dumping is higher in areas with greater poverty and numbers of rented properties.
- **No service standards:** Neither the County or City has a comprehensive list of internal Key Performance Indicators (KPI's) against which to monitor costs, performance and program effectiveness, or outward public facing service standards. Service standards should set maximum response times for the clearance of illegally dumped waste as well as maximum wait times for bulky curbside services.
- **Limited public engagement and ownership.** The City currently spends approximately \$40,000 a year on campaigns to raise awareness of illegally dumping and to increase incident reporting. In addition, both the City and County provide single family properties with information annually on free services available to them. This is less than other jurisdictions. For instance, the City of Austin spends nearly \$70,000 on litter and illegal dumping education and outreach and the City of Fort Worth nearly \$900,000. Neither the City or the County have an established network working with neighborhood groups or have formal partnerships with organizations like Keep California Beautiful for the delivery of educational programs.

E.2.0 Factors Impacting Illegal Dumping

The causes of illegal dumping may be influenced by multiple factors that are interrelated, but there are six causes identified through the analysis that can be addressed which include:

- **Limited access to free or low-cost disposal points:** The County, unlike the City, does not provide free dump coupons to its single-family properties. County facilities are not close to population centers which is where waste is generated. Illegal dumping is taking place because there is an unwillingness to travel and pay for disposal.
- **Access to and, availability and knowledge of free preventative services:** With only 2% of single family properties in the City using their free dump coupon and 15% and 23% respectively of single family properties in the County and City taking advantage of free bulky collection services there appears to be a low level of public understanding of the free services available. In addition to a lack of knowledge and utilization of services, additional factors contributing to illegal dumping include:
 - Long wait times: The period between a resident making a service request and the County making a collection is often 4 weeks or longer. There are insufficient resources in the County to service bulky requests within a reasonable 2-week time period. Long wait times can lead to residents looking for alternatives one of which is pushing the waste onto the sidewalk and having it reported and illegal dumping, which is generally cleared with 3 days.
 - No bulky programs for multifamily properties: Only one of the consulted franchise haulers said that they offered multifamily properties bulky collections for a fee. The City and County are unable to offer services to multifamily properties due to Prop218 restrictions therefore 20% of all properties in the City and County have no easy low-cost option to dispose of bulky items.
 - Events that are known to produce waste such as rental turnover and student term times: According to United State Census data, 44.8% of properties are rented in the County² and 53.2% in the City³, rental properties have higher resident turnover which can lead to unwanted bulky items that need collection.
- **Lack of deterrent:** Fines within existing City and County codes for illegal dumping are too low and as such, are an effective deterrent. Equally the evidence required to

² Including incorporated cities,

<https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>

³ <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk> from 2016 (Retrieved 04/03/17)

demonstrate wrong doing is too high which means that the likelihood of being caught and prosecuted is low.

- **Ability or willingness to pay:** Illegal dumping incidents are highest in areas with highest levels of poverty demonstrating the need to provide and communicate sufficient number of affordable and convenient services. Even when cost is not necessarily a factor there will always be an unwillingness to pay, especially if compliance is made inconvenient. This issue has been recognized in San Jose, which in 2016 allowed households access to unlimited free collections.
- **Homelessness:** Despite the study not focusing on illegally dumped material emanating from homeless camps, homelessness was identified as the cause of 5% of illegal dumping incidences recorded during the waste characterization.
- **Cultural Acceptance:** Moving away from a culture where illegal dumping is accepted as the social norm and where the only course of action is to report it and get it cleared, to one where illegally dumping is a social faux pas is an important long-term behavior change requirement which is most likely achieved through continued messaging and community engagement and ownership.

E.3.0 Recommendations

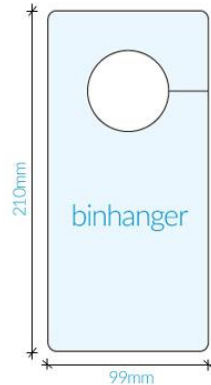
The recommendations presented here are recognized as reducing the incidence of illegal dumping. Recommendations have been developed from Eunomia’s experience and knowledge of best practice from other jurisdictions and were reviewed with City and County representatives at a workshop on May 11, 2018. Recommendations focus on preventative measures rather than reaction cleanup and enforcement, in line with PACE hierarchy.

E.3.1.1 Recommendation 1: Increase Access to and Utilization of Free Collection Services in Single Family Properties

It is proposed that this is implemented through three programs

- 1) Set two-week customer standard for maximum wait time between customer request and collection, this is particularly applicable to the County where wait times can exceed 4 weeks, long wait times increases the likelihood of waste being illegally dumped.

- 2) Increase number of free bulky collections to 2 in the County and add 2 free E-waste collections so that preventative services to single family properties in the City and County are aligned.
- 3) Run targeted multilingual education campaign to increase awareness and participation of free services, this will include placing service information on carts either in the form of a sticker or cart hanger.



E.3.1.2 Recommendation 2: Provide greater access to free local disposal

This recommendation would be delivered through two programs that:

- 1) Improve and expand free dump coupon program:
 - a. City: Allow City residents to use County facilities.
 - b. County: Introduce dump coupon program.
 - c. Multi-Family Properties: Expand City and County dump coupon program to multi-family properties.
- 2) Introduce neighborhood junk waste drop off sites
 - a. At universities at the end of each semester.
 - b. In areas where there are high levels of illegally dumping on a monthly basis.

E.3.1.3 Provide Free Bulky Services to Multi-Family Properties

Use franchisee fees, to which Prop 218 requirements do not apply, to enable the City Recycling and Solid Waste Division (RSDW) and County, Department of Waste Management and Recycling (DWMR) to provide of free bulky and e-waste to multifamily properties as it does to single family properties.

E.3.1.4 Implement Citizen Engagement, Education and Outreach and Partnership Program to reduce burden on City and County and create a 'Pride of Place'.

Communities can to help combat impact illegal dumping by reporting incidences, utilizing free services, helping with clean-up and creating a culture where illegal dumping is unacceptable. Community action and ownership should be cultivated and supported by the City and County. Current budgets and staffing set aside to educate City and County citizens is insufficient to effectively engage residents in the issue and change behavior. Equally

neither the City or County has carried out any market research to understand how resident feel about illegal dumping or what services they would like to see put in place to address it. A central campaign managed through the Sacramento Regional Solid Waste Authority (SWA) under the banner of ‘my Sacramento’ or ‘clean Sacramento’ for instance, through which the City and County can facilitate and operate PACE programs including the following is recommended:

- 1) Call to action to help address the problem much like the current ‘Report It’ campaign;
- 2) Establishing an Adopt a Highway program;
- 3) Linking with Keep America Beautiful and Keep California Beautiful to deliver education and awareness; campaigns and facilitating community clean-ups;
- 4) Provision of grants to communities; and
- 5) Providing annual information to owners of rental properties advising of the services available to them when tenants leave properties, including recommending that they talk to their franchise hauler about bulky waste services and pointing them to the list of haulers that have been granted a Business License.

Carrying out some initial market research to gauge public opinion is also recommended. We recognize how difficult community engagement is and we have been unable to identify an existing organization within the Sacramento area that could take on this role if funded. On this basis it may be necessary for the SWA to fund a part time community engagement coordinator to provide this role.

The success of the recommendations will depend on:

- Commitment by the City and County Boards in support of increased coordination;
- Commitment by the SWA board to support further preventative measures;
- Commitment of time and adequate staffing levels to help oversee implementation;
- Understanding the views of residents on current and future programs; and
- Ongoing monitoring of performance and goals.

E.4.0 Cost and Funding

Each of the recommendations have been evaluated for cost and the estimate is provided in E 4. Full cost breakdown is provided in A.4.0.

E 4: Cost of Delivering Recommendations including Project Management Support During Implementation

Recommendation	City Service	County Service	Assumptions
----------------	--------------	----------------	-------------

1A: Collections Service Standard	N/A	\$	453,206	Based on reducing wait time and capturing 11,158 service requests that could not be provided in 2017 due to lack of resources
1B: 2 free bulky waste collections	N/A	\$	278,617	20% increase in existing collections plus costs for CUBS
1B: E-Waste	N/A	\$	97,270	Service provided through City
1C: Education and promotion of service	\$ 118,000	\$	118,000	Separate leaflet to individual household, stickers/cart hanger, billboards and vehicle banners
2A: Dump Coupon - NARS	\$ 15,000		N/A	\$30/ton, 2000 users at 500lbs per user
2A: Dump Coupon County	N/A	\$	62,522	3000 users, 35% at County (\$30/ton) at 75% at SRT (\$10/Ton) and 500lbs per user
2A: Multifamily property Dump Coupon	\$ 25,660	\$	25,660	2% take-up, 1,644 users. 75% at SRT (\$72.35/Ton), 25% at County (\$30/Ton). Cost for posting coupon
2B: Neighborhood Drop of sites	\$ 168,890	\$	46,806	Assumes three sites, events once a month for one day plus 4 events at universities, most of these would be in areas of highest illegal dumping which is predominately in the City
3: Multifamily property Bulky Collections	\$ 194,713	\$	179,735	10% of properties take-up service, includes route,311 and CUBS costs and annual direct mail leaflet to properties.

4: Education and Awareness campaign	\$ 150,000	\$ 150,000	Based on costs from Oakland
5: Project management	\$ 80,000	\$ 80,000	Based on 8 days per month for 14 months at \$1,250 per day.
6 Market research	\$ 50,000	\$ 50,000	Based on budget from Action Research.
Total	\$ 802,262	\$ 1,541,816	\$ 2,344,079

Funding can be via a number of sources including:

- Franchisee fee;
- General fund;
- Rate increased; and
- Grants.

Annually the SWA receives \$5m of franchise fees from haulers via multifamily and commercial properties. We recommend that those measures that seek to minimize the risk of illegal dumping from multifamily properties are funded through the SWA. Funding for other recommendations should be assessed on a case by case basis. Further details of funding mechanisms including these used by other jurisdictions are detailed in Section 6.0. Events at universities could be funded through an application to CalRecycle’s Illegal Disposal Site Abatement Grant Program as could community engagement and education campaigns.

E.5.0 Proposed Program

An outline program based upon estimated planning, approval and operational programming is provided in E 5. More detailed individual implementation programs for each recommendation are provided in Section 5.0.

E 5: High-level Implementation Program

Start Month:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1: Bulky Waste Collection Services to Single Family Properties																	
1A - 2 Week Customer Service Standard																	
1B - Increase Number of Bulky Collections and Introduce E-Waste Collections in the County																	
1C: Awareness Campaign																	
2: Access to Free Local Disposal																	
2A: Improve and Expand Free Dump Coupon System																	
City use of NARS																	
County free dump coupon																	
MFP free dump coupon																	
2B: Neighborhood Community Junk Drop Offs																	
University																	
Neighborhood																	
3: Free Bulky Waste to MFP																	

	Planning and Preparation
	Go Live

Contents

E.1.0	The Illegal Dumping Problem	i
E.2.0	Factors Impacting Illegal Dumping	iv
E.3.0	Recommendations	v
E.3.1.1	Recommendation 1: Increase Access to and Utilization of Free Collection Services in Single Family Properties	v
	It is proposed that this is implemented through three programs	v
E.3.1.2	Recommendation 2: Provide greater access to free local disposal	vi
E.3.1.3	Provide Free Bulky Services to Multi-Family Properties	vi
E.3.1.4	Implement Citizen Engagement, Education and Outreach and Partnership Program to reduce burden on City and County and create a ‘Pride of Place’	vi
E.4.0	Cost and Funding	vii
E.5.0	Proposed Program	i
1.0	Introduction	1
2.0	Mechanisms for Addressing Illegal Dumping	2
2.1	Prevention	2
2.2	Abatement	4
2.3	Clean-Up	5
2.4	Enforcement	5
3.0	The Illegal Dumping Problem	5
3.1	Illegal Dumping Overall is Increasing Despite an Increase in Take-Up of Preventative Services	6
3.2	Illegal Dumping is Costly Compared to Preventative Measures	8
3.3	Incidents are primarily small in scale and emanate from residential properties.	10
3.4	Multiple Parties Clearing Illegally Dumped Waste	11
3.5	Enforcement Process Ineffective in Delivering Prosecution	13
3.6	Inequitable Access to Service	15
3.7	Link with Level of Poverty and Number of Rented Properties	15

3.8 Demand Exceeds Operational Capacity	16
3.9 No Service Standards.....	17
3.10 Low Take-Up of Preventative Services	17
4.0 Factors Impacting Illegal Dumping Activity.....	19
4.1 Limited Access to Free or Low-Cost Disposal Points.....	19
4.2 Access to, Availability of, and Knowledge of Free or Low-Cost Preventative Services ..	19
4.3 Lack of Deterrent.....	20
4.4 Ability or Willingness to Pay	20
4.5 Homelessness	20
4.6 Cultural Acceptance	20
5.0 Recommendations and Implementation	21
5.1 Recommendation 1: Increase Access to and Utilization of Free Collection Services in Single Family Properties.....	22
5.2 Recommendation 2: Provide greater access to free local disposal and standardize services.....	27
5.3 Recommendation 3: Provide free Bulky Services to Multi-Family Properties	37
5.4 Recommendation 4: Implement Citizen Engagement, Education and Outreach and Partnership Program to reduce burden on City and County and create a ‘Pride of Place’	42
5.5 Set Reporting and Performance Goals	49
5.6 Performance Goals	50
6.0 Budget and Funding	51
6.1 Budget	51
6.2 Funding.....	52
A.1.0 Case Studies from Other Jurisdictions	55
A.1.1 City of Oakland	55
A.1.2 City of San Jose	56
A.1.3 City of Los Angeles	58
A.1.4 County of Los Angeles	60
A.1.5 Butte County	60
A.1.6 Contra Costa County	62

A.1.7 Kern County.....62

A.1.8 Shasta County.....62

A.1.9 City of Austin63

A.1.10 Fort Worth.....64

A.1.11 Houston.....64

A.2.0 Solutions Long List66

A.3.0 Environmental Courts77

A.3.1 Purpose77

A.3.2 How They Work77

A.3.3 Implementing Legislation.....77

A.3.4 Day-by-Day Management77

A.3.5 Evaluating Success77

A.3.6 Cases Processed per Day78

A.4.0 Budget Implications81

A.4.1 Recommendation 1a: County 2 Week Customer81

A.4.2 Recommendation 1b: Increase Number of Free Bulky Collections and Introduce E-Waste Collections in the County.....81

A.4.3 Recommendation 1C: Bulky Waste Education82

A.4.4 Recommendation 2A: City Free Dump Coupon Redemption at NARS83

A.4.5 Recommendation 2A: County Free Dump Coupon83

A.4.6 Recommendation 2A: Multi Family Property Free Dump Coupon.....84

A.4.7 Recommendation 2B: Neighborhood Junk Drop-Off84

A.4.8 Recommendation 3: Bulky waste collections from Multifamily Properties85

A.4.9 Project Management86

A.4.10 Education and Outreach Campaign86

A.5.0 Project Management Time87

A.6.0 SWA 2017/18 Budget.....89

1.0 Introduction

Illegal dumping is known to cause negative environmental, health, and economic effects. It is a blight in our towns and cities, lowers real estate values, limits tourism and compromises the safety of communities. Both the City of Sacramento (City) and Unincorporated County of Sacramento (County) have put in place programs to attempt to manage the problem in line with the principals set out in CalRecycle’s Illegal Dumping Toolkit, Prevention, Abatement, Cleanup and Enforcement.

Sacramento Regional Solid Waste Authority (SWA) was formed in a 1992 as a joint powers authority partly to oversee commercial waste management in the City of Sacramento (the City) and unincorporated areas of Sacramento County (the County). In recent years, SWA has directed efforts to address illegal dumping, using franchise fees paid by haulers which are paid monthly and distributed quarterly to the City and County on the basis of customers serviced in each jurisdiction.

Eunomia Research & Consulting (Eunomia) has been appointed by SWA to assess the effectiveness and cost of existing services and to recommend future programs to help mitigate the problem. The first stage of the process was to carry-out a detailed analysis of primary and secondary data so as to:

- Quantify the scale of illegal dumping across the City and County;
- Determine the type of illegally dumping incident; littering, small or large scale;
- Identify where illegally dumping was taking place and the likely source;
- Determine the types of waste being dumped; and
- Assess the cost effectiveness of preventative, abatement, cleanup and enforcement efforts.

The methodology deployed to carry out the data analysis and the findings from the analysis are contained in a separated report titled *Interim Findings Report V3*.

This recommendation report draws on the findings alongside feedback from the City and County and best practice from other jurisdictions to:

- Outline Prevention, Abatement, Cleanup and Enforcement (PACE) mechanisms for addressing illegal dumping in the context of City and County (Section 2.0);
- Describe the illegal dumping landscape in the City of Sacramento (City) and Unincorporated County of Sacramento (County) (Section 0);
- Detail factors that influence illegal dumping (Section 4.0);
- Propose a series of costed recommendations based on the enhancement of existing programs and introduction of new services (Section 5.0)

Finally, guidance is provided on:

- Metrics and goals for monitoring performance and evaluating effectiveness of programs (Section 5.5 and Section 5.6); and
- Program funding (Section 6.0).

2.0 Mechanisms for Addressing Illegal Dumping



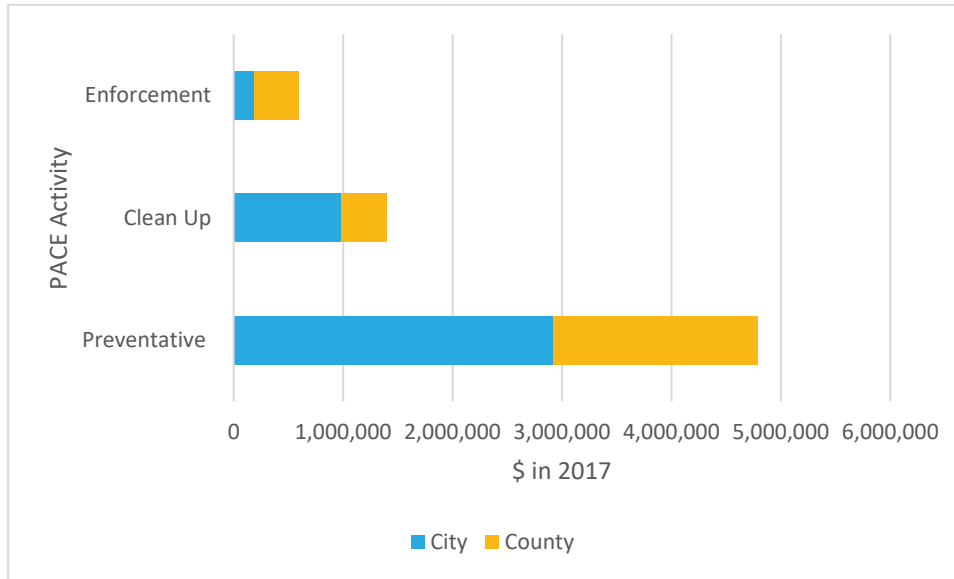
California Department of Resources, Recycling and Recovery (CalRecycle) developed a web-based tool kit for addressing illegal dumping.⁴ The Toolbox is designed as a resource for local government to establish new or expand existing programs. It is based on the experiences of many local communities, that have been combating illegal dumping and includes four essential elements that had previously outlined in EPA's Guidebook including: [Prevention](#), [Abatement](#), [Cleanup](#) and [Enforcement](#) (PACE). It is not the intention to repeat the detail of the toolkit within this report just to reflect on its hierarchy in relation to the current problems and practice outlined in Section 0 and through which to frame the recommendations in Section 5.0.

2.1 Prevention

Prevention activities are the top of the PACE hierarchy. One method of preventing illegal dumping is to provide an accessible authorized collection and disposal service for the waste. Both the City and County have already prioritized spending on scheduled bulky and e-waste preventative services as shown in Figure 2-1 which is encouraging.

⁴ <http://www.calrecycle.ca.gov/IllegalDump/default.htm> (Retrieved April 2, 2018)

Figure 2-1: 2017 Cost for PACE Activities in the City and County



Despite the current level of funding on preventative services, less than 20% of residents are using the service and illegal dumping has increased, particularly in the City.

Preventative services are only effective if they are used. As such, messaging and education on services and services standards is important. Alongside the provision of an accessible authorized collection services for the waste, other preventative mechanisms include:

- Making it harder to illegally dump: This is particularly relevant in known hotspot areas where there is the opportunity for soft (tree planting) or hard (fencing) barriers, or the installation of cameras to act as a deterrent. SWA is already funding new cameras in the City and County. Further action could be for known hotspot areas to be inspected and an assessment made as to potential for physical barriers to be erected for instance in the area along La Mancha Way, (**Error! Reference source not found.**) This is likely to require coordination with different agencies but would provide a long-term solution.

Figure 2-2: Neighborhood Hot Spot, La Mancha Way,



- Making it easier to do the right thing: This includes providing access to convenient low-cost disposal sites which could be accomplished through free-dump coupon schemes or junk drop off programs.
- Having a legislative system and enforcement process that provides a sufficient level of deterrent in terms of likelihood of being caught and level of penalty to deter illegal activity.

2.2 Abatement

Abatement strategies work alongside enforcement and in effect give the perpetrator of illegal dumping the opportunity to clear waste they may have illegally dumped or pay for its proper disposal prior to enforcement action. During the characterization of illegal dumping it was clear that there are residents or landlords that push material out to the public right of way knowing that it will be reported as illegally dumped material and cleared. Pushing the responsibility back to the owner of the waste requires an investigative process to identify the owner of the waste. Both the City and County focus on abatement and in 2017 the City issued 196 Notice of Violations that led to the resident clearing the waste themselves. County code enforcement opened 1,458 cases during its spring clean events in 2017. In each case the owner of the waste was issued an advisory notice informing them that their property was in violation of the code and that a clean-up event was occurring where they could take the waste for free. Of the 1,458 cases opened 1,128 were closed on first inspection, as a result of the resident clearing the waste.

Mechanisms other jurisdictions have utilized include:

- Licenses for small independent haulers: Although the County does require small haulers to obtain a Special Business License to provide hauling services within the county. This listing is offered as a public service and is not intended to warranty or guarantee the work or credibility of the listed hauler.⁵ The public tends to use internet searches such as Yelp to find services. A search for a hauler in the Sacramento area through Yelp provided a list of more than 10 providers of which the top ten were not regulated franchise haulers⁶ and only three of the top ten hauling businesses are on the list provided by the county. The application process to obtain a special business license is simply to complete a form with company details. There is no requirement on the hauler to report on how much or what type of waste they are collecting or provide evidence of proper disposal. Additionally, some small haulers also operate without a Special Business License.

⁵ <http://www.illegaldumping.saccounty.net/Pages/LicensedHaulersDirectory.aspx> (Retrieved April 20, 2018)

⁶ https://www.yelp.com/search?cflt=junkremovalandhauling&find_loc=Sacramento%2C+CA (Retrieved April 2, 2018)

- Clean and Lien: To allow the City and County to clean up and fence off private property/lots that are habitually dumped on and recover the costs a “Clean and Lien” program can be implemented through amending the codes. The amendments would allow for costs incurred by the City and County in respect to assessing a property and clearing the waste to be collected at the time other property taxes are due. **Example Jurisdiction:** Contra Costa County (see Appendix A.1.0)
- Barriers and fencing: Where there is repeated dumping on private lots there is the ability to amend ordinances to force the property owner to fence the land. **Example Jurisdiction:** Contra Costa County

2.3 Clean-Up

A clean-up results when it is not possible to get the owner of the waste to clear their waste or the owner of the waste is unknown. The City and County spend over \$1.4m clearing illegally dumped waste, and it costs almost twice as much to clean up an illegal dumping incident as it does to provide a bulky waste collection, as shown in Table 2-1.

Table 2-1: Cost for Clearing Illegal Dumping vs Providing a Preventative Collection

	Cost for Collection and Disposal	Number of Incidents	Cost per Incident
Illegal Dumping	\$ 1,400,883	19,732	\$ 71.00
Scheduled Bulky	\$ 2,854,103	72,189	\$ 39.54

Source: *Eunomia Calculation*

Illegally dumped waste needs to be cleared quickly so that it does not create a health hazard or encourage additional dumping. Choosing the right equipment to clear items of different sizes and in different areas is important as is working in partnership with other organizations including non-profits to co-ordinate clean-ups and encourage community participation and ownership. The City and County mostly work alone in cleaning up illegal dumping using claws and rear loaders. Other agencies such as Sacramento Regional Transit and Water Services also working independently to clear waste on their land.

2.4 Enforcement

The foundation or framework for effective enforcement are State and local illegal dumping laws and local ordinances that regulate waste management and prohibit illegal dumping. Ordinances, permits, and licenses are only effective if they are enforced and offenders are prosecuted. Without an active enforcement program, illegal dumpers are unlikely to change

their behavior and the community will not see a reduction in illegal dumping⁷. The City and County have adopted different approaches to enforcing the Penal Code, the City through an administrative process and the County a criminal process.

3.0 The Illegal Dumping Problem

Sections 3.1 to 3.10 outline the illegal dumping problem in the City and County through data analysis and visual characterizations. Further details can be found in the Interim Findings Report.⁸

3.1 Illegal Dumping Overall is Increasing Despite an Increase in Take-Up of Preventative Services

The total number of reported illegal dumping and bulky waste service requests received from 2015 – 2017 is provided in Figure 3-1. Incidents in the County fell by 6.7% in 2017 from 2016, from 7,863 to 7,334. The decrease was coupled with a 15.2% increase in the number of bulky waste collections from 24,266 to 27,963. In contrast, the City saw a 35.2% increase in the number of reported illegal dumping incidences over the same period, 12,398 in 2017, despite 19.3% more bulky waste collections taking place, 44,226. For every 100 people there are 2.51 incidences of illegal dumping per year in the City compared to 1.25 in the County.

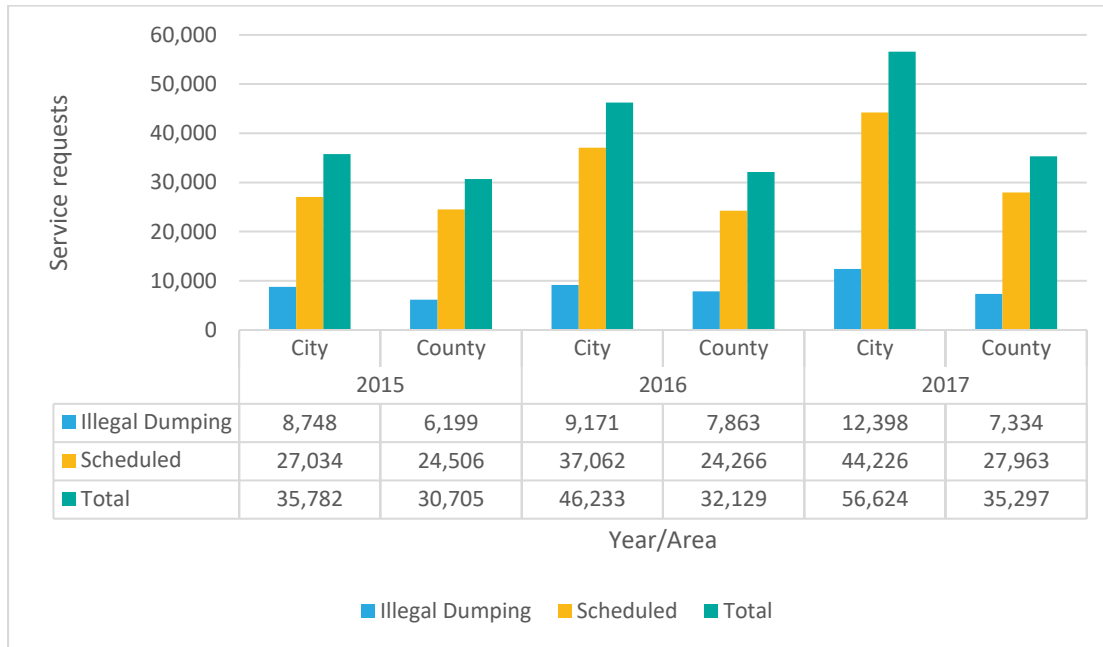
Overall for every incident of illegal dumping cleaned, the City and County are providing 4 preventative collections.

In line with the number of incidences, the quantity of illegally dumped waste collected decreased in the County by 29% in 2017 from 2016 and increased in the City by 29%, as shown in Figure 3-2. For both the City and the County the average amount of waste collected per incident decreased in the County from 0.27 tons to 0.20 tons and in the City from 0.38 tons to 0.37 tons.

⁷ <https://www.calrecycle.ca.gov/IllegalDump/Enforcement/>

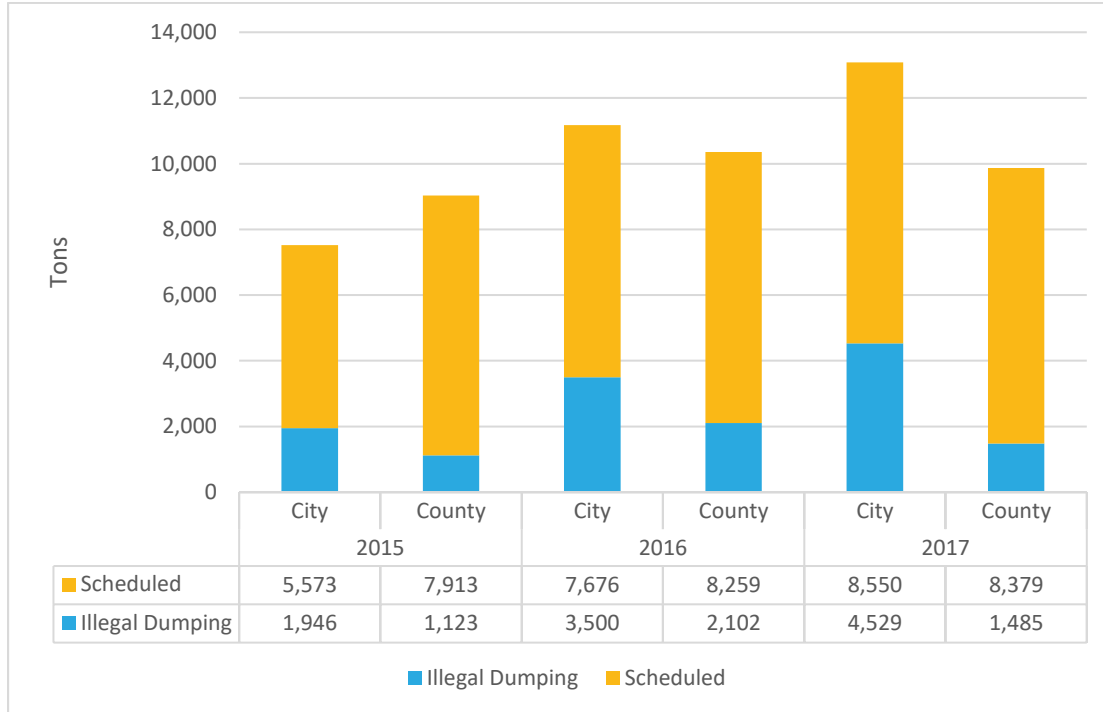
⁸ V3 issued 04/11/18

Figure 3-1: Illegal Dumping and Scheduled Bulky (and E-waste) Service Requests (2015 – 2017)



Source: City and County 311 data and County CUBS data

Figure 3-2: Tons of Waste Collected by City and County in 2015 to 2017



Source: County - Scale data from Kiefer Landfill, SRT and L&D Landfill, City – scale data from SRT and NARS.

Comparison with other jurisdictions

The City and County are not alone in having a growing problem with illegal dumping. In 2017 the City of Oakland received 25,000 calls for services to remove illegally dumped waste, which is double the number of calls it received in 2012.

3.2 Illegal Dumping is Costly Compared to Preventative Measures

The cost in 2017 to the City and County for clearing illegally dumped waste was nearly \$1.4m with an additional \$600k spent on enforcement, \$330k of which was funded by the SWA. A further \$4.5m was spent on preventative services in the form of free bulk item collections and E-waste (City only). Cost to the City and County of providing preventative and cleanup services is provided Table 3-1.

Table 3-1: Cost of Cleanup and Preventative Services in City and County (2017)

Service	Illegal Dumping		Scheduled	
	County	City	County	City
Collection	\$ 262,555	\$ 645,771	\$ 1,168,318	\$ 2,077,451
Disposal	\$ 69,984	\$ 256,057	\$ 355,813	\$ 534,313
311/CUBS	\$ 85,129	\$ 81,387	\$ 346,757	\$ 263,384
Enforcement	\$ 407,451	\$ 188,986	\$ -	\$ -
Education and Outreach	\$ -	\$ 40,000	\$ -	\$ -
Total	\$ 825,119	\$ 1,212,201	\$ 1,870,888	\$ 2,875,147

Source: Eunomia calculation

From a per incident perspective, it is 22.5% more expensive to address illegal dumping compared to providing preventative scheduled services in the City, and 68% more expensive in the County as shown in Table 3-2. It costs more to collect and dispose of illegally dumped waste on a per incident than it does provide collection services (see Table 2-1) and when the enforcement costs are added the total cost of managing illegal dumping versus the provision of preventative services increases further.

Table 3-2: Comparison of Costs – Illegal Dumping vs Scheduled Collection (City and County, 2017)

	City		County	
	Illegal Dumping	Scheduled	Illegal Dumping	Scheduled
Cost per incident	\$ 79.65	\$ 65.01	\$ 112.51	\$ 66.91

Source: Eunomia calculation

The current cost of addressing illegal dumping through clean up and preventative services in the City and County combined is \$16.54 per property or \$6.36 per person.

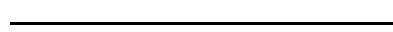
Comparison with other jurisdictions

In February 2017, Texans for Clean Water released a study “The Cost of Litter and Illegal Dumping in Texas: A Study of Nine Cities Across the State.”⁹ According to the study, these nine cities, representing more the 25% of the state’s population, spend more than \$50 million annually on litter and illegal dumping prevention, education, abatement and enforcement efforts. Table 3-3 summarizes the average cost spent managing illegal dumping in two cities within this report that have a similar population as the City and County combined, Austin and Fort Worth. The City and County are spending significantly more on preventative measures less on enforcement and considerably less on education and outreach.

Table 3-3: Cost Comparison

Activity	Austin	Fort Worth	Sacramento City and Unincorporated County of Sacramento
Preventative scheduled collections of bulky and E-waste	\$14,000*	\$1,118,200	\$4,746,035
Reactive clearance	\$1,316,100	\$1,257,500	\$1,400,883
Enforcement	No details provided	\$1,059,200**	\$596,437
Education and outreach ¹⁰	\$68,000*	\$897,100**	\$40,000
Total	\$1,398,100*	\$3,332,000	\$6,783,335

Source: Texans for Clean Water, Burns McDonnell, 2017 * = some data missing, ** costs also litter management.



9

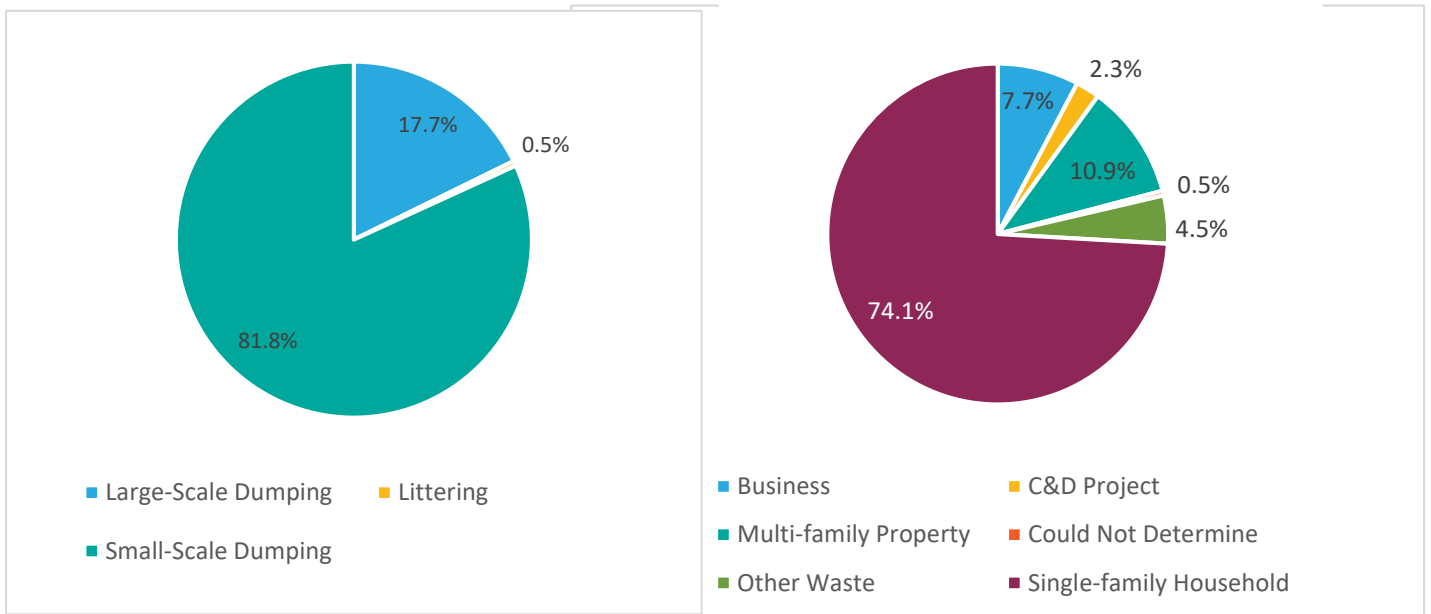
http://www.texansforcleanwater.org/uploads/1/0/9/3/10936519/cost_of_litter_and_illegal_dumping_final.pdf (Retrieved April 15, 2018)

¹⁰ This cost includes litter activities to reduce litter as well as illegal dumping

The problem of illegal dumping is evident across California. The City of Oakland spent a total of \$5.5m in 2017 just clearing illegally dumped waste. Natural Resources Defense Council (NRDC) issued a brief in August 2013 outlining the hidden costs of Litter Clean-Up in California.¹¹ The report estimated that cities, towns and taxpayers are spending about \$428m per year to stop litter from becoming pollution that could harm the environment and economy. Regardless of size, California communities are spending significant sums and effort to combat litter to keep it from ending up in rivers, lakes, canals and eventually the ocean. Sacramento is no exception. According to the report, Sacramento was number six in the top ten California communities for “Annual Total Cost” just behind Oakland and San Jose.

3.3 Incidents are primarily small in scale and emanate from residential properties.

Data gathered during the waste characterization process, as shown in Figure 3-3 and Figure 3-4, conclude that the majority of illegal dumping is small in size and emanates from residential properties, primarily single-family homes. This finding is not surprising when consideration is given to the housing stock which is overwhelmingly single-family, while only 22.5% of properties are multi family in the City and 17.9% in the County.



¹¹ <https://www.nrdc.org/sites/default/files/ca-pollution-in-waterways-IB.pdf> (Retrieved April 15, 2018)

Source: Eunomia field characterization study, March 2018

Photos of small and large pile of illegally dumped waste as found during the characterization are provided in Figure 3-6 and Figure 3-5.

Figure 3-6: Small Pile



Figure 3-5: Large Pile



Source: Eunomia field characterization study, March 2018

Bulky waste items such as mattresses, furniture, carpet and electronics goods were the predominant items found in illegally dumped waste that emanated from single-family properties (48% of piles) and multifamily properties (74% of piles). All of these items could be captured through preventative scheduled bulky waste collections services.

Comparison with other jurisdictions

The source and scale of illegal dumping in the City and County is not dissimilar to that found in other jurisdictions. City of Oakland carried out an analysis of 75 illegal dumping sites in 2017 and found that the waste in 55% of the sites was from residential properties and a further 15% was a neighborhood dump site. Butte County also found in 2005 that 70% of illegal dumping incidents that were reported with evidence were from single-family properties¹².

3.4 Multiple Parties Clearing Illegally Dumped Waste

Although the City and County are the predominant parties clearing illegally dumped waste, costs are also incurred by the parties listed in Table 3-4. Other organizations clearing illegally dumped waste where costs were not available include:

¹²

https://www.buttecounty.net/Portals/22/downloads/IllegalDumping/Illegal%20dumpingupdate2009_optim.pdf (Retrieved April 15, 2018)

- City, County parks department and Regional/Special Parks Districts;
- County sheriff’s department and City police department;
- Universities; and
- Sacramento Area Flood Control Agency.

Table 3-4: City, County and Third-Party Costs for Managing Illegal Dumping

Organization	Illegal Dumping
County	\$ 825,119
City	\$ 1,212,201
Property Business Improvement Districts	\$ 125,550
Sacramento Municipal Utility District	\$ 35,172
Sacramento Regional Transport	\$ 37,840
Sacramento Water Services	\$ 71,701
Total	\$ 2,307,583

Source: *Eunomia Calculation*

Although other parties are involved with the clearance of illegally dumped waste no one party is coordinating or monitoring activities. The extent to which the City RSWD and County DWMR engage with non-profits to help address illegally dumping is limited. The City RSWD engages with Sacramento Regional Conservation Corps for the clearance of illegally dumped waste on hard to access areas and both the City and County Code Enforcement teams and operational team work with sheriff and police departments on the clearance of waste from homeless camps.

Comparison with other jurisdictions

Other jurisdictions work in conjunction with a variety of non-profits and volunteer-based organizations to assist with clean-up of illegally dumped and littered materials along public right of ways and open space. Kern County Waste Management works with the local NGOs. clean-up organizations, businesses and residents to organize cleanup events through its outreach program “Keep Kern Clean” and illegal dumping areas have been cleared by volunteer groups ranging in size from 10 to several hundred. An offshoot of the program is Keep Kern Roads Clean which specifically targets roadside litter and residents and businesses can adopt two-mile sections of the county roads.¹³ These programs work in coordination with Keep Bakersfield Beautiful and the City of Bakersfield. I Love A Clean San

¹³ <http://www.kerncountywaste.com/education/keep-kern-clean>

Diego provides support for San Diego County and many jurisdictions through hosting numerous cleanup events throughout the year in watersheds and open space that include clean-ups of litter and illegally dumped materials. Monterey County has a long-standing program to combat illegal dumping which includes coordinating a large annual spring cleanup event focused on illegal dumpsites with volunteers as well as smaller events throughout the year and promoting a local adopt-a-road program.¹⁴ Additionally, the Litter Abatement Program which is the County Road and Bridge Division of Public Works provides for the collection and disposal debris and hazardous material illegally dumped along County roads through a seven-day a week operation staffed by two rotating litter guards, supplemented by Monterey County Sheriff's Work Alternative Program workers.

3.5 Enforcement Process Ineffective in Delivering Prosecution

Both the City and County provide rewards for information that leads to a conviction for illegal dumping. The City uses an administrative law process and County uses a criminal law process which has greater requirements/burdens for evidence as well as carries different penalties. The cameras currently used by the City have not provided enough actionable intelligence and images to increase the number of prosecutions. Covert cameras are more effective as they do not afford the perpetrator an opportunity to modify behavior. Witnesses who have reported illegal dumping, are generally reluctant to provide testimony required.

Due to the difficulty for both the City and County to collect enough evidence to meet burden of proof requirements the primary function Code Enforcement is providing is one of abatement. By opening cases and issuing notices of alleged violation or violation the City and County give the perpetrator the chance to clear the waste on their own accord. The City issued 196 notices of violation in 2017 and in most cases the perpetrator cleared the waste this is compared to only 8 cases that went to court. Even when cases make it to court the likelihood of the plaintiff attending is 50:50, as the County data shows in Table 3-5.

Table 3-5: County Issued Administrative Orders and Outcome

Year	Issued	Outcome No Contest	Outcome Not Guilty	Outcome Failed to Attend	Outcome Guilty	Outcome Unable to Locate	Outcome Still Open
2016	17	1	4	5	7	0	0

¹⁴ <http://www.co.monterey.ca.us/government/departments-a-h/health/environmental-health/solid-waste-management/illegal-dumping/volunteer-get-involved>

2017	46	5	3	22	8	4	4
------	----	---	---	----	---	---	---

Source: County Code Enforcement Team

Under the County code fines can range from \$250 for the first violation to \$750 - \$2,000 for the third. Level C violations in the City be subject to an administrative penalty of one thousand dollars (\$1,000.00) to two thousand four hundred ninety-nine dollars and ninety-nine cents (\$2,499.99). In reality fines in the County average only \$490, therefore they are not acting as a deterrent nor do they cover the costs of the enforcement process.

Comparison with other jurisdictions

The difficulties experience by the City and County in both gathering enough evidence to issue either an administrative order or citations is not unusual. San Jose only issued 18 in the period from 2016 to January 2018¹⁵. In 2017, the City of Oakland issued 45 citations and only seven offenders paid their fines in full.¹⁶ During same period, the city received more than 25,000 calls for service to respond to reports of illegal dumping. Other jurisdictions have either increased the fine so there is greater deterrent or developed ordinances to lower the burden of proof. Examples include:

- City of San Jose has both an administrative and criminal process and issues the following level of fines:
 - 1st Violation = \$2,500
 - 2nd Violation = \$5,000
 - 3rd + Violation = \$10,000
- Illegal dumping offences in Butte County are an administrative misdemeanor and require only two pieces of addressed mail or other identifying information to prove wrongdoing. Although, fines are low ranging between \$100 - \$300, the second part of the ordinance provides for impoundment of vehicles used in the act of illegal dumping, which acts as a significant deterrent.
- Illegal dumping is also an administrative misdemeanor in Kern County; the level of fine shall not be greater than \$1,000.00 or be covered by imprisonment in the county jail for a period of time not exceeding 6 months, or by both such fine and imprisonment. As with Butte County only two pieces of addressed mail is required as proof of offence.

¹⁵ <https://www.mercurynews.com/2018/01/21/is-san-jose-winning-its-war-on-illegal-dumping/> Accessed 05/29/18

¹⁶ <http://www.ktvu.com/news/oaklands-illegal-dumping-cameras-working> Accessed 04/22/18

3.6 Inequitable Access to Service

Residents in single-family properties in the City are eligible to 2 free bulky, 2 free E-waste per year plus one free dump at the City's SRTS's facility per annum, whereas single-family properties in the County are only entitled to 1 free bulky waste collection. In both the City and County, occupancies of single family properties can pay for additional collections at a cost of \$29.76 in the City and \$25 in the County which is a significantly discounted rate compared to the actual costs of collection and disposal. Residents of multi-occupancy properties are not eligible to these free services because they do not pay the city or County for waste collection and as such Prop 218¹⁷ prevents the provision of services to non-rate payers.

Residents should have access to the same level of service regardless of whether they live in a single or multi-family property. Using franchisee fees, which are not restricted by Prop 218, is one mechanism for funding the expansion of preventative bulky waste collection services to multifamily properties.

Comparison with other jurisdictions

The range of preventative services offered by jurisdictions across California varies considerably. For example, the City of San Jose allows single family properties as many free collections as they need. As of July 2015, City of Oakland added multi-family units (5 plus units) to the program. It allows one free pick-up annually for each apartment or condominium with a total of 1.5 cubic yards of trash per unit, plus 1 large appliance, 2 TVs, 2 tires, and 2 mattresses. Units may self-schedule with a waiver from their property manager. Further details of the Oakland program are provided in Section 5.0.

3.7 Link with Level of Poverty and Number of Rented Properties

There is a greater amount of illegal dumping taking place both in those areas with higher levels of poverty, as well as numbers of rented properties. There are a number of possible reasons for this including:

- Limited disposable income to cover cost of compliant disposal;
- No vehicle to take waste to a permitted facility;
- Greater turnover of occupants; and
- No knowledge of free services.

¹⁷ http://www.lao.ca.gov/1996/120196_prop_218/understanding_prop218_1296.html (Retrieved April 3, 2018)

Comparison with other jurisdictions

A 2017 study carried out in San Jose concluded that illegal dumping was more prevalent in areas where income levels are low, rentals properties are high and there is a high percentage of non-English speaking individuals¹⁸.

3.8 Demand Exceeds Operational Capacity

In 2017, the County received over 39,000 requests for services yet only 27,963 were provided. The primary reason for residents not being able to access services was lack of collection capacity. This is also the reason why residents in the County also have to wait up to four weeks for a collection. If services are not available at the time of need, there is potential for illegally dumping. The County has approximately half the level of resources for the provision of preventative services compared to the City as summarized in Table 3-6.

Table 3-6: Average Level of Resources in City and County by Service (2017)

Service	Average Level of Resource Levels	
	City	County
Illegal Dumping Clearance	2 x rear-loader; and 2 x claw All vehicles have one equipment operator	2 x claw with one equipment operator
Scheduled Services	7 x rear-loader 7 x claw 2 x flatbed vehicle (E-waste and appliances). 1 x pick up and trailer All vehicles have an equipment operator	5 x knuckle boom 4 x rear-loaders All vehicles have an equipment operator

Comparison with other jurisdictions

Typically, residents in the City only have to wait two weeks for a bulky or E-waste collection services.

¹⁸ Illegal Dumping as an Indicator for Community Social Disorganization and Crime, 2017, http://scholarworks.sjsu.edu/cgi/viewcontent.cgi?article=8382&context=etd_theses

3.9 No Service Standards

Neither the City nor the County have in place a comprehensive set of service standards against which performance and cost can be monitored. It is difficult to assess program success or cost effectiveness without a review mechanism using performance indicators, goals or standards.

The County internally seeks to clear illegally dumped waste within 10 days of an incident being logged. 331 Connect data demonstrates that across 2016 and 2017, 97.4% of cases were cleared within the agreed service level period and 85.3% cleared within 5 working days. This figure is not publicized. The City does not appear to have any similar service goal. Neither the City nor the County have a performance standard for the maximum time between requesting a scheduled service and the collection taking place nor are there any metrics to review service costs nor are there any goals for enforcement action (e.g. number of incidents investigated or notices issued).

Comparison with other jurisdictions

The City of Los Angeles has gone to great lengths to provide transparency to its residents on the scale of illegal dumping and the mechanisms it has in place to deter and remedy it. Alongside the installation of 18 surveillance cameras it also carries out quarterly street-by-street assessments through the [CleanStat data monitoring system](#), neighborhood cleanups, and added 5,000 trash bins throughout the City. This data has been aggregated into operational grids which helps the Bureau of Sanitation strategically deploy resources, such as a new dedicated Clean Streets clean-up crew. The most recent quarterly assessment for 2017 can be accessed on the website. As part of the program, Los Angeles residents may now report illegal dumping through the MyLA311 mobile app as well as calling 3-1-1 and can participate in community cleanups being organized in every neighborhood. The Clean Street LA program has been awarded the 2017 Livability Award from the US Conference of Mayors.¹⁹

3.10 Low Take-Up of Preventative Services

A maximum of 15% of eligible properties in the County are taking advantage of the free bulky collections compared with 23.5% in the City. Increasing awareness of these service potentially using different forms of outreach is likely to increase take up helping to reduce the potential for illegal dumping. According to information provided by the City and County, information on the free services is provided to both property owners in rate information, as well as the property occupier through annual service direct mails. Information provided to

¹⁹ <http://dpw.lacity.org/blog/city-board-public-works-celebrates-us-conference-mayor-s-2017-city-livability-award-clean> (Retrieved April 22, 2018)

rate payers will be addressed directly to the rate payer whereas information to the resident of the property is likely not to be individually addressed which reduces the likelihood of the resident opening and reading the information provided. With approximately 50% of properties in the City and County rented ensuring these properties understand what services they are entitled to will help maximize take up. Areas of high poverty have higher levels of rental properties which makes it even more important that these residents receive service information as they have less disposable income.

Comparison with other jurisdictions

The City of San Jose allows all single-family properties to have as many bulky waste collections as they need. This is, in some ways, an easier message to promote which helps raise awareness and service utilization.

4.0 Factors Impacting Illegal Dumping Activity

Understanding where illegal dumping is taking place and what is being dumped is an important first step to understanding why illegal dumping is taking place. The interim report, as summarized in Section 0 have identified the following information:

- Where:
 - Areas around single-family properties
 - Areas with higher levels of poverty
 - City: Twice as many incidents in the City compared to the County
 - Material is primarily being tipped on public rights of way and data gathered during the characterization did not suggest a link between the physical characteristic of the area (e.g. poor street lighting, and the likelihood of illegal dumping). This is supported by recent research in the City of Oakland that found that illegal dumping was just as likely to occur in locations where the areas was either maintained or well-maintained as in areas that were severely or moderately neglected.
- What:
 - Residential bulky waste are predominately mattresses, furniture and electrical appliances, all of which can be collected free of charge through existing preventative bulky and E-waste scheduled service.

The analysis has led us to identify the following factors as having the greatest influence on illegal dumping, essentially the root course of why illegal dumping is taking place.

4.1 Limited Access to Free or Low-Cost Disposal Points

Prior to the waste characterization, the City and County provided a list of 90 known hot spot areas which included sites like that on La Mancha Way, as shown in Figure 2-2. Waste is transported to these sites in a vehicle, dumped because it is convenient to do so, there are no barriers to prevent tipping, and there is no cost and little likelihood of getting caught. Providing more convenient low-cost options should be considered to help reduce the number of known neighborhood dump sites.

4.2 Access to, Availability of, and Knowledge of Free or Low-Cost Preventative Services

Preventative services, such as bulky waste collections and free dump coupons, should be universal regardless of the type of property (e.g. single or multi-occupancy) or tenure type. Residents should not have to wait more than two weeks between requesting a bulky

collection and receiving the collection. A timely service will reduce the temptation to illegally dump materials.

4.3 Lack of Deterrent

Enforcement is only a successful deterrent when:

- the likelihood of getting caught is significant; and
- the penalty reflects the crime.

Although federal and California state law prohibit illegal dumping, the City and County have chosen different mechanisms to enforce it. The City has chosen administrative law and the County criminal citation. Neither process is resulting in significant numbers of prosecutions due to difficulties in meeting burden of proof requirement and the city's requirement for eye witness testimony. Fines, when issued, are significantly under the maximums allowed.

4.4 Ability or Willingness to Pay

As highlighted, illegal dumping is more likely in areas where the levels of deprivation are higher. Financial constraints can result in residents either pushing waste out to the sidewalk for it to be reported and collected as illegally dumped waste, or the use of unlicensed individuals who provide low costs services because they are tipping waste illegally rather than disposing of it to permitted facilities. There will always be an unwillingness or an inability for some to pay for the legal cost of waste collection and disposal. This issue has been recognized in San Jose, which in allowed households access to unlimited free collections, regardless of property type.

4.5 Homelessness

Despite the study not focusing on assessing the scale of illegally dumped waste from homeless camps, these were the source of illegally dumped waste at 4.5% of 2,000 sites inspected during the waste characterization study. A total of 13% of sites were adjacent to waterways which is a common location for homeless camps. Sacramento Water Services spent over \$180,000 clearing waste from homeless camps in 2016-17 compared to only \$50,000 clearing illegally dumped waste from other sources such as single and multifamily properties.

4.6 Cultural Acceptance

Moving away from a culture where illegal dumping is accepted as the norm and where the only course of action is to report it and get it cleared, to one where illegally dumping is unacceptable is important for long-term behavior change.

5.0 Recommendations and Implementation

An extensive list of 20 strategies for addressing illegal dumping were discussed with City and County and SWA representatives at a workshop on May 11, 2018. For each solution presented feed-back was obtained on:

- the pros and cons of each strategy;
- potential obstacles and risk factors;
- partner organizations;
- delivery budget implications;
- delivery schedule; and
- funding sources.

Based on feedback provided each strategy was allocated a red, amber, or green rating:

- Green: High viability;
- Amber: Medium viability; and
- Red: Not viable even in the mid to long term.

Details of all solutions, including their viability, is presented are provided in Appendix A.2.0. The green and amber solutions have been grouped and developed into the following recommendations.

- 1. Increase Access to and Collection of Free Collection Services in Single Family Properties;**
- 2. Provide greater access to free local disposal and standardize services;**
- 3. Provide free Bulky Services to Multi-Family Properties; and**
- 4. Implement Citizen Engagement, Education and Outreach and Partnership Program to reduce burden on City and County and create a ‘Pride of Place’.**

In order to deliver the PACE based recommendations above we propose the following overarching administrative, management and governance recommendations implemented.

- Appoint project manager to oversee delivery of recommendations;
- Clarify administrative structure in order to build accountability;
- Seek the views of the community; and
- Set goals and reporting mechanisms for oversight of services standards and to review effectiveness and costs of implemented programs at addressing mitigating illegal dumping.

Three of the solutions that were dismissed during the related to changes to the existing enforcement process including:

- 1) Amending code to reduce the burden of proof to only forms of evidence:
 - a. Reason for rejection: Did not feel the need.

- 2) Amend code to allow the registered owner of a vehicle used to carry out illegal dumping to be penalized even if they are not the perpetrator:
 - a. Reason for rejected: There is a current case in the California Courts regarding citing of the registered owner of the vehicle and if they are responsible for the actions of who they allow use the vehicle. The City Attorney's office is continuing to review the progress of this case and until the case is determined it is not comfortable moving forward at this time.
- 3) Implementation of environmental court to speed up the process and to ensure judge is knowledgeable on environmental issues:
 - a. Reasons for rejection: Current process takes four months and judges understand the issues therefore no apparent benefit of environmental court process over current.

Despite these solutions being rejected, further information is provided on where they have been implemented in other jurisdictions in the case studies in Appendix A.1.0 and A.3.0 which contains details of how an environmental court operates and its benefits.

In the following sub-sections, a description of the recommendations is provided alongside anticipated costs for delivery and indicative schedule for implementation. Cost calculations are provided in Appendix A.4.0. Costs are for delivery only and do not include management time for the planning and preparation. Such implementation costs, association with existing personnel time or appointment of a dedicated project management to cover see implementation could either be covered by SWA from the franchise fees as they are costs associated with the delivery of a program or covered by City Recycling and Solid Waste Division (RSWD) and County Department of Waste and Recycling (DWMR).

5.1 Recommendation 1: Increase Access to and Utilization of Free Collection Services in Single Family Properties

This recommendation is based on a number of sequential phases:

- Phase 1a: Set customer service level standard at no greater than 2 weeks between service request to collection
- Phase 1b: Increase number of free bulky collections to 2 in the County and add 2 free E-waste collections so that single family properties in the in the City and County are aligned.
- Phase 1c: Run an education campaign to increase awareness and take-up of free services

5.1.1 Implementation Schedule

A high-level implementation schedule is provided in Figure 5-1.

Figure 5-1: Recommendation 1 Implementation Schedule

Start Month:	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1A - 2 Week Customer Service Standard														
Validate resource and budget impacts	█	█												
2 week service standard and budget implication approved by Board of Supervisors, City and County			█											
Mobilize resources required to meet service standard				█	█									
Operate with in line with service standard						█	█	█	█	█	█	█	█	█
Publicize new service standard										█				
1B - Increase Number of Bulky Collections and Introduce E-Waste Collections in the County														
Validate resource and budget impacts			█	█	█									
Develop operational implementation plan			█	█	█									
Board of Supervisors, City and County approve service change and budget implications						█								
Mobilize resources							█	█	█					
Publicize new service										█				
Go Live											█			
1C - Awareness Campaign														
Develop education and awareness campaign strategy and plan									█	█	█	█		
Board of Supervisors, City and County approve campaign strategy and plan												█		
Run education and awareness campaign														█

5.1.2 Roles and Responsibilities

Allocation of responsibilities for each of the activities set out in the implementation program is provided in Table 5-1.

Table 5-1: Action Planner

Task Action	Rational	Lead Organization	Support Organization
1A: 2 Week Customer Service Collection Standard for Scheduled Services			
Validate resource and budget implications	To assess business impact and develop operational plan to mobilize resources	County: DWMR – Director ²⁰ City: RSWD – Integrated Waste General Manager ²¹	SWA: General Manager County: Planning
Prepare recommendation report for Board of Supervisions	To obtain agreement from Board of Supervisors for service change and budget allocation	County: DWMR City: RSWD	SWA: General Manager
Mobilize resources	To meet the new service standard	County: DWMR City: RSWD	City: 311 County: CUBS
Publicize new standard	To increase take up of the service	City: RSWD Community Outreach and Media Manager County: Recycling Coordinator	City: 311 County: CUBS
1B: Increase number of free bulky collections in the County and Introduce E-Waste Service			
Validate resource and budget implications	To assess business impact and develop operational plan to mobilize resources	County: DWMR – Director	None
Develop operational implementation plan	To ensure smooth mobilization	County: DWMR – Director	None
Prepare recommendation report for Board of Supervisions	To obtain agreement from Board of Supervisors for service change and budget allocation	County: DWMR	SWA
Mobilize resources	To meet the new service standard	County: DWMR	

²⁰ Department of Waste Management and Recycling

²¹ Recycling and Solid Waste Division

Publicize new standard	To provide service performance transparency	County: Recycling Coordinator	
1C: Awareness Campaign			
Develop education and awareness campaign	To ensure all multi media campaign that will target all demographics	City: RSDW Community Outreach and Media Manager County: Recycling Coordinator	SWA
Prepare Board of Supervisors Report	To obtain agreement from Board of Supervisors for service change and budget allocation	City: RSDW Community Outreach and Media Manager County: Recycling Officer	SWA
Run campaign	To increase take up of preventative services and reduce illegal dumping	City: RSDW Community Outreach and Media Manager County: Recycling Coordinator	SWA

5.1.3 Budget Implication

Cost calculations are provided in Appendix 0 and summarized in the following sub-sections.

5.1.3.1 1A: Two Week Collection Service Standard

The City is, for most customers, making collection within two weeks of a service request. Accordingly, it is not anticipated that this recommendation will substantially impact City resources, and as such, costs.

However, residents of single family properties in the County are often required to wait up to four weeks (or more) for a collection. In 2017, approximately 11,000 calls came through to CUBS that did not result in a collection. The main reason given for these calls not resulting in collections was the lack of resources to enable a collection to be scheduled within the 4-week period. Without any information on:

- The number of these calls that were actually requesting a collection; or
- The percentage of current collections that are carried out in excess to the 2-week proposed maximum wait period.

We have assumed that the County should budget resources to service 11,000 additional collections when the service standard is changed.

Based on both assessment of tons per collection and collections per vehicle per day we estimate that the County would need the following additional resources:

- 2 rear-loaders each with an equipment operator;
- 2 claw-loader each with an equipment operator; and

Based on data received from the County on historic costs we estimate that this would have a budget impact of an additional \$453,206 per year.

5.1.3.2 1B: Align Number of Free collections in County with City

This recommendation seeks to increase the number of bulky waste collections in the County to 2 free bulky waste and introduce 2 free e-waste pickups. Other cities including LA and San Jose now offer unlimited free collections to further help mitigate illegal dumping. This maybe an option in the future if recommendation 2B, neighborhood junk drop-off sites are not established.

Bulky Collection

Based on analysis of County data we have assumed that 20% of existing customers will utilize a second collection. This will require 1 additional claw vehicle and rear-loader plus 2 equipment operators at an estimated cost of \$225,000 per year.

The additional cost for CUBS to process the calls based on the current average cost per call of \$8.86 would be \$52,013

E-Waste

If this option is agreed there are a number of routes the County could take to delivering these services:

- Carryout the services itself. The main problem with this is that the number of collections is unlikely to sufficient to ensure the specialist is 100% utilized:
- Procure the services from a hauler: or potentially
- Put in place an interagency agreement so that the City can utilized their vehicle for the collection of e-waste from the County and the County could pay the City for its services on a per collection basis. If funding for this service comes from the SWA then the interagency agreement would be between the SWA, City and County. Section 2.01.170 of the SWA Joint Power Agreement states that franchise fees can be used to cover SWA administrative, programs and member distributions. Therefore, programs which are preventative or cleanup would be covered if they are identified as a “program” of the SWA.

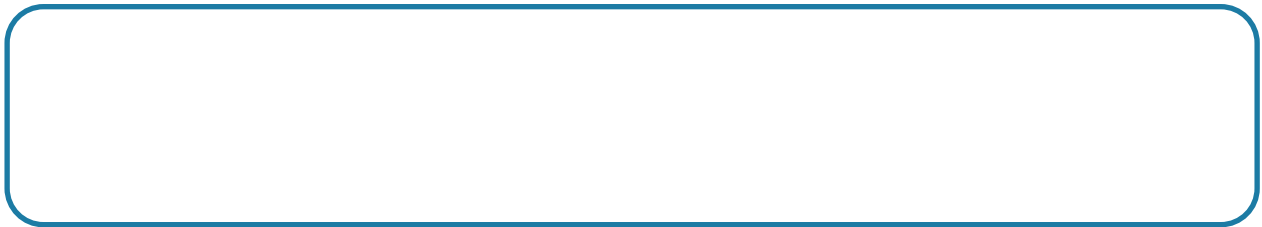
It is unlikely that take-up will be significant in the first year. If 1,000 collections are made the cost, if the service was provided by the City would be approximately \$97,000.

5.1.3.3 1C: City – County Education Campaign

Education and awareness campaigns can take many forms, using a variety of media and engagements techniques. In addition to the existing mechanisms for informing residents of free scheduled collections, which includes annual information brochures with rate information and mailed to each resident, awareness could be raised through:

- Utilization of on truck signs and electronic billboards which are currently used to encourage reporting of illegal dumping;
- Attendance at community events especially in areas where there are high levels of illegal dumping to provide one-on-one education;
- Separate leaflet with details of bulky and e-waste services that is marked to ensure residents read it e.g. 'This letter contains details about free services'; and
- Garbage bin stickers or bin hangers featuring a telephone number, website, and information in multiple languages to notify residents of the free bulky waste service offered.

Budget implications will depend of the design of the final campaign. However, estimated costs for stickers/cart hangers, individual leaflets to each property and billboards and vehicle signs is in the region of \$250,000.



5.1.4 Legislative Impact

There is no requirement to amend or change any of the City or County codes in order to deliver this recommendation.

5.2 Recommendation 2: Provide greater access to free local disposal and standardize services

This would involve the following steps:

- Phase 2a: Improve and expand free dump coupon program; and
- Phase 2b: Introduce clean-ups and neighborhood junk drop offs (replacing spring clean events operated in the County).

5.2.1 Phase 2A: Improve and Expand Free Dump Coupon Program

5.2.1.1 Implementation Schedule

High-level implementation schedule is provided in Figure 5-2.

Figure 5-2: Recommendation 2A Implementation Schedule

Start Date:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
2A - Improve and Expand Free Dump Coupon System																	
City Use of NARS																	
Establish recharge mechanism, draft contract	█	█															
Contract approved by Board of Supervisors, City and County including recharge mechanism			█														
Establish a register account to record when vouchers are used			█														
City to publicize through website (annual brochure) new tipping location				█													
County Free Single Family Property (SFP) Dump Coupon Program																	
County to validate budget assumptions for implementation of County dump coupon program for SFP	█	█	█	█	█												
Establish which 3rd party sites residents can use through RFP process		█	█	█	█												
Establish recharge mechanisms with chosen 3rd party				█	█	█											
Board of Supervisors, City and County to approve budget for County free dump program							█										
Establish a register account to record when vouchers are used								█									
County to produce and issue dump coupon leaflet									█	█	█						
County to publicize new services through website, annual brochure												█					
MFP Free Dump Coupon Program																	
Board of Supervisors agree working group to establish operational plan			█														
Establish working group			█														
Develop operational plan and budget for offering services to MFP				█	█	█	█	█	█								
Board of Supervisors, City and County to approve budget and operational plan for MFP free dump program										█							
Establish a register account to record when vouchers are used											█						
Produce and issue dump coupon											█	█					
Publicize new services													█				

5.2.1.2 Roles and Responsibilities

Allocation of responsibilities for each of the activities set out in the implementation program is provided in Table 5-2.

Table 5-2: Recommendation 2A Action Planner

Task Action	Rational	Lead Organization	Support Organization
2A: Improve and Expand Free Dump Coupon System			
City use of NARS facility			
Establish recharge mechanism, draft contract	To ensure effective costs transfer	City: RSWD – Integrated Waste General Manager ²²	SWA
Prepare recommendation report for Board of Supervisions	To obtain agreement from Board of Supervisors for service change and budget allocation	City: RSWD	SWA
Establish a register account	To record when vouchers are used and enable invoices to be raised by County to City	County: DWMR City: RSWD	
Publicize new standard	To increase take up of the service.	City: RSDW Community Outreach and Media Manager County:	City: 311
County Free Single-Family Property Dump Coupon			
County to validate budget assumptions for implementation of County dump coupon program for SFP	To assess business impact and develop operational plan to mobilize resources	County: DWMR – Director	SWA

²² Recycling and Solid Waste Division

Prepare RFP documentation to determine preferred third party central site	To provide choice of convenient disposal point for all households	County: DWMR – Recycling Co- Ordinator	SWA
Prepare recommendation report for Board of Supervisions	To obtain agreement from Board of Supervisors for service change and budget allocation	County: DWMR City: RSWD	SWA
Produce and issue coupon	To ensure all eligible property occupiers receive notification of new service	County: DWMR	
Publicize new standard	To optimize use	County: Recycling coordinator	
Multi-Family Property Free Dump Coupon			
Gain approval from Board of Supervisors for working group to develop plan		SWA	County: DWMR City: RSWD
Working group to develop operational plan and budget	To determine cost benefit and feasibility	SWA	County: DWMR City: RSWD County: Office of Development & Code Services City: Community Development Department City and County 311
Prepare Board of Supervisors Report	To obtain agreement from Board of Supervisors for service change and budget allocation	SWA	County: DWMR City: RSWD
Mobilize operational plan	To implement solution	County: DWMR City: RSWD	SWA
Publicize new service	To increase take up of preventative services and reduce illegal dumping	City: RSDW Community Outreach and Media Manager	SWA

		County: Recycling coordinator	
--	--	-------------------------------------	--

5.2.1.3 Budget Implication

All budgets provided are based on the assumption that residents will only be entitled to one free tip. Dump coupons are a low-cost preventative solution, as the City and County only has to cover the cost of producing and issuing the coupon and then the disposal cost associated with the waste deposited. The City of Fort Worth allow residents to dispose of unlimited amounts of waste, so long as the deposit can provide proof of residency. If residents were offered unlimited number of tips mechanisms would have to be put in place to ensure this system is not abused by small haulers delivering commercial waste.

City Use of NARS facility

As the City already offers residents this service any costs incurred for increased take-up of the services would be covered by the City. Based on an average load of 500lbs per load at a disposal rate of \$30 per ton. Assuming 2,000 residents use the NARS, facility this would equate to an annual cost of \$15,000.

County Free Dump Coupon Program

The second step would be for the County to offer the services to its single-family properties. Estimated operating costs to the City based a proportion of its residents using County facilities at a cost of \$30/ton and proportion using SRT, at preferential tipping rate of \$10/ton and assuming 3,000 vouchers were redeemed would be \$15,000.

The costs printing and distributing the free coupon would be approximately \$0.31 per property and would equate to an annual cost of \$47,500.

Multi-Family Free Dump Coupon Program

If it is assumed that 2% of multi-family properties redeemed their voucher then the cost to both the City and County would be approximately \$25,000, based on use 75% of redeemers using SRTS at a rate of \$72.35 and 25% using a county facility at \$30/Ton.

The costs of printing and distributing the free coupon would be approximately \$0.31 per property. This would equate to an annual cost of \$25,629.

The City of Fort Worth provides three permanent free and convenient drop off stations across the city for residents that accept such items as tires, yard trimmings, old furniture, appliances, electronics, extra household garbage. These are all items that are commonly illegally dumped. The program's success has led to a fourth location being opened and the underused swap shop sections of the drop off stations being repurposed to accept other types of illegally dumped items at a cost of about \$1.36 million annually.

5.2.2 Phase 2B: Neighborhood Bulky Waste Drop Offs

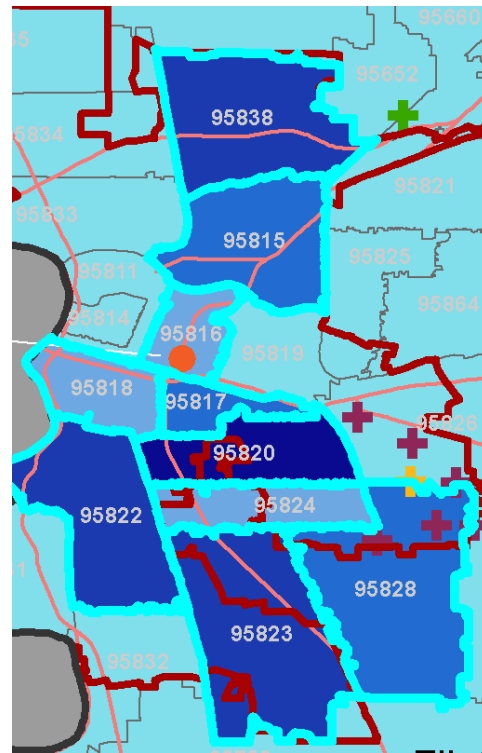
In order to provide more convenient locations for occupiers of single family and multi-family properties to responsibly dispose of unwanted waste, the City and County should consider setting up neighborhood bulky waste drop off sites in those areas that are experiencing the highest levels of illegally dumping. The drop off sites would operate once a month throughout the year either for just one day or over a weekend depending on the popularity of the event.

The main areas where sites should be identified for drop of events are:

- on the border of Del Paso Heights (95815) and Arden/Arcade
- Tahoe Park; and
- on the border of Hollywood Park (95822) and South Sacramento (95823)

In addition we would recommend that events are also held near university campuses at the end of each academic year, coordinated by Code Enforcement staff and or SWA staff.

The introduction of drop off events should be phased to reduce impact on personnel time and to apply lessons learned. The first event should be at a university as it is likely to be easier to both organize and control. Once a location has been implemented we recommend that this is run for a minimum of four months before a second site is introduced. This will ensure the City and County can fine tune the operational process and also evaluate the on illegal dumping in the surrounding areas. During the planning stage a record should be kept of the



number of illegal dumps cleared in the surrounding areas during 4 months prior to the event with details carefully recorded on the types of waste cleared. The same analysis should take place for the first 6 months after the event to ascertain impact. For all recommendations potentially implemented, an ethos of monitoring and evaluation should be embedded in to their design and operation.

5.2.2.1 Implementation Schedule

A high-level implementation schedule is provided in Figure 5-3

Figure 5-3: Recommendation 2B Implementation Schedule

Start Date:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
2B - Neighborhood Community Drop Offs																		
University Campus																		
Secure partner University plus any reuse partners																		
Develop operational plan																		
Internally validate budget and resource implications																		
Board of Supervisors, City and County approval of operational plan, resources and budget and contract																		
Implement operational plan																		
Publicize event through university																		
Operate event over one weekend																		
Evaluate event success																		
Neighborhood Event																		
Develop operational plan including resource requirements and budget																		
Secure site, plus partners including reuse organizations																		
SWA approval of operational plan, resources and budget																		
Implement operational plan																		
Publicize event																		
Operate event over one day/two days																		
Evaluate event success																		
Identify other sites and implement																		

5.2.2.2 Roles and Responsibilities

Allocation of responsibilities for each of the activities set out in the implementation program is provided in Table 5-3.

Table 5-3: Recommendation 2B Action Planner

Task Action	Rational	Lead Organization	Support Organization
2B: Neighborhood Community Drop Offs			
University Campus			
Secure partner university plus any re-use partner	To obtain agreement from Board of Supervisors for service change and budget allocation	City: RSWD – County: DWMR	SWA
Develop operational plan	To understand number of resources and budget	City: RSWD County: DWMR	SWA University, Re-Use Partner
Prepare Board of Supervisors Report	To obtain agreement to implement	SWA	County: DWMR City: RSWD
Implement operational plan		SWA	Dependent on operational plan
Publicize event	To increase take up of the service.	University	City: RSWD County: DWMR
Operate event		County: DWMR City: RSWD	University/Re- use partner
Evaluate event	Determine likelihood of future events	SWA	
Neighborhood Event			
Develop operational plan	To understand number of resources and budget	City: RSWD County: DWMR	SWA University, Re-Use Partner
Assess and secure sites, plus partners including re-use organizations		City: RSWD County: DWMR	SWA, Retailers e.g. Home Depot,

			re-use partner
Prepare Board of Supervisors Report	To obtain agreement to implement	County: DWMR City: RSWD	SWA
Implement operational plan		SWA	Dependent on operational plan
Publicize event	To increase take up of the service.	City: RSWD County: DWMR	City: RSWD County: DWMR
Operate event		County: DWMR City: RSWD	University/Re-use partner
Evaluate event	Determine likelihood of future events	SWA	City: RSWD County: DWMR

5.2.2.3 Operational Considerations

We recognize that there are many operational and management considerations that need to be worked through before the implementation of this recommendation, not least:

- What method will be used to identify a suitable site – e.g. review of County City land, discussions with retailers such as Home Depot for use of car park areas at times when traffic levels allow this, etc.
- What are the criteria for assessing site suitability?

City of San Jose has used its outdoor Special Event permit process as the administrative tool for its neighborhood events

- What is the administrative process through which events will be permitted?
- What are the health and safety implications for staff and users at each site?
- What is the operational process for managing vehicles, if large number of people arrive at a site, should there be a pre-registration process so that the City and County can estimate the number of users and vehicles?
- What is the process for monitoring the site after the event to clear any post event waste, can physical barriers be put in place?
- How many times will residents will be able to use a site in month?
- What should be provided by residents to prove proof of residency? e.g. recent bank statement or current driver’s license with a Sacramento County or City address, who is going to carry out the checks, could this be done through a pre-registration process

- Exactly what materials should be allowed to be deposited? and
- How should residents that bring non-compliant materials be handled (perhaps issued with a supplementary free dump coupon).

All of these would need to be considered by the working group when an operational plan is developed.

A slimmed down alternative to this recommendation would be to offer amnesties for different waste items such as electronic goods or tires at regular intervals at a select number of sites. Messaging would be critical at these events to prevent unwanted items.

5.2.2.4 Budget Implication

The cost for 2 university sites twice a year and 3 neighborhood sites three times a year is estimated to be a total of \$225,186. A cost breakdown is provided in Appendix O and includes the following cost items:

- Containers;
- Enforcement presence;
- 3 operational staff managing event;
- Disposal of waste; and
- Leaflets to properties in the vicinity of the site.

In addition, there are costs associated with production of the operational plan and site identification and assessment.

Events at universities are likely to costs less and could be funded through an application to CalRecycle's Illegal Disposal Site Abatement Grant Program, as could material specific events.

City of San Jose has allocated a budget of \$180,000 for the provision of approximately six neighborhood-led BeautifySJ Days for each of the City's ten Council Districts. Each beautification event averages six to eight 40-cubic yard bins. BeautifySJ days are organized in collaboration with non-profit organizations to divert reusable and electronic items from the waste stream and repurpose otherwise discarded items. Funding is used for the collection bins, one-day tow-away permits, and other associated costs related to the collection of materials.

City of Houston: To aid in prevention, the City operates six neighborhood depositories which accept a wide range of materials that residents may use at no charge up to four times a month to provide a convenient and no cost alternative to illegal dumping. This program costs the City about \$2.2 million annually.

5.2.2.5 Legislative Impact

State

A search for applicable codes that govern the feasibility or potential for locating temporary-one day a week/month manned dropped of points for junk waste in car parks or similar areas provided the following background²³:

Title 14 Natural Resources Code Section, Division 7 Chapter 3 Article 5 covers solid waste stage and removal standards and doesn't directly prohibit such activities but indicates they must confirm to the county solid waste management plan required by Section 66780 of the Government Code. This plan is routinely reviewed and updated by a local jurisdiction in consultation with the LEA and CalRecycle.

City

Under the Title 13 Chapter 13.10.250 of the City code, there is a specific reference to the provision of events which clean-ups and neighborhood junk drop offs drop off events could be deemed to represent. The specific clauses states:

- A. Garbage collection service may include clean-ups and neighborhood junk drop offs programs.
- B. The time and manner of deposit, together with any limitation upon the nature and extent of materials to be deposited, shall be determined by the solid waste manager and communicated to the customer or neighborhood junk drop offs where the program is conducted. (Ord. 2013-0009 § 3)

5.3 Recommendation 3: Provide free Bulky Services to Multi-Family Properties

Bulky waste (and e-waste) services to multi-family properties could be provided by either:

- SWA-registered franchise haulers; or
- the City and County Waste and Recycling Departments

²³ <http://www.calrecycle.ca.gov/laws/regulations/title14/ch3a55.htm> (Retrieved April 2, 2018)

The pros and cons of each approach are provided in Table 5-4.

Table 5-4: Pro’s and Con’s Table

	Franchise	Direct
Pros	<ul style="list-style-type: none"> Have existing relationship and roots of communication with multi-family property owners; Enhances the role of franchisees; Provides a new revenue source for franchise contractors 	<ul style="list-style-type: none"> Appointments can be scheduled through existing 311 and CUBS service centers; Likely to be some spare capacity in first year to accommodate these collections; and One service provider only for services in the City and County; No need to negotiate with third party; Mechanism can be put in place to get reimbursed through SWA; Have access to database on all rented properties
Cons	<ul style="list-style-type: none"> Requires amendment to franchise agreement; Need to negotiate with many different franchisees to agree mechanism for service provision and reimbursement of costs; Costs will include an element of profit back to the franchisee 	<ul style="list-style-type: none"> Likely to require additional resources in mid to long term; Maybe be some opposition from Haulers that currently offers a charge for service

Prop 218 prevents the City and County providing services to multifamily properties however if funding for services was provided by SWA through an interagency agreement than it could not be claimed that the City and County was using rates from single family properties to provide services to multifamily properties.

5.3.1 Implementation Schedule

A high-level schedule for this recommendation I provided in Figure 5-4

Figure 5-4: Recommendation 3 Implementation Schedule

Start Date:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Board of Supervisors agree working group to establish operational plan																
Establish working group																
Develop operational plan and budget for offering services to MFP.																
Board of Supervisors, City and County to approve budget and operational plan																
Implement operational plan																
Publicize new services																
Go live																

5.3.2 Roles and Responsibilities

The key activities required to implement this recommendation are listed in Table 5-5 along with the organization that is recommended to take the lead and support the tasks.

Table 5-5 Recommendation 3 Action Planner

Task Action	Rational	Lead Organization	Support Organization
Gain approval from Board of Supervisors for working group to develop plan	To progress feasibility	SWA	County: DWMR City: RSWD
Working group to develop operational plan and budget	To determine cost benefit and feasibility	SWA	County: DWMR City: RSWD County: Office of Development & Code Services City: Community Development Department City and County 311
Prepare Board of Supervisors Report	To obtain agreement from Board of Supervisors for service	SWA	County: DWMR City: RSWD

	change and budget allocation		
Implement operational plan	To mobilize new service	County: DWMR City: RSDW	SWA
Publicize new service	To increase take up of preventative services and reduce illegal dumping	City: RSDW Community Outreach and Media Manager County: Recycling coordinator	SWA

5.3.3 Operational Considerations

Questions that will need to be asked and answered when developing the operational plan include:

- **Current capacity:** What is the spare capacity in existing residential bulky waste and e-waste services to accommodate multifamily property service requests?
- **Equipment:** Is the current vehicle and collection methodology suitable for collection of waste from multifamily properties? Will vehicles be leased or purchased? What is the timescale for procurement and delivery of a new vehicle?
- **Booking a collection:** How will residents of multifamily properties claim their collection? Will it have to be done through the property manager, via a waiver (see City of Oakland case study below) or through 311 and CUBS?
- **Phasing of implementation:** Should the City and County promote the service first in areas where illegal dumping is highest and phase implementation out over 6 – 12 months to ascertain utilization and to allow resources to scale up over time?
- **Systems:** What needs to be changes to existing 311/CUBS systems to enable booking of services from multifamily properties? What system will record which properties have received a free collection?
- **Role of multifamily property:** Will multifamily properties be eligible for more collections at the current discounted rate provided by the City and County?

Case Study: Oakland introduced one free bulky waste services to multi-family properties in July 2015. In the first year 1,059 collections from multi-family properties were made with each collection. A total of 1,321 tons of material was collected from the 1,057 appointments along with 6,553 items that are counted instead of weighed. An average single-family bulky appointment consists of 225 pounds of material and 1 to 2 items that are counted not weighed. It was calculated that in the first year 10% of multi-family properties took advantage of the service.

The property manager receives, on the monthly billing statement, the building's allotment for bulky pickup, measured in cubic yards. With each scheduled Bulky Collection, the allotment is decreased by the volume collected, and the remaining balance is reported on the next bill. In multi-family buildings of 5+ units, residents may self-schedule a bulky pickup directly with Waste Management (the City's Contractor), with a waiver from the property manager, or by arranging the pickup through the property manager. Apartment residents may download a waiver from OaklandRecycle.com website. This is recommended for buildings 5 to 14 units without on-site property managers. Bulky collection at curbside or by debris box can be scheduled as well. Curbside collection is recommended for buildings with easy curbside access and 20 units or fewer.

5.3.4 Budget Impact

Operating Budget

The extent to which the new service is promoted with multi property owners, management companies and residents will depend on uptake and as such the level of additional personnel and vehicles that will be required. The implementation of other recommendations such as increasing the number of free bulky collections in the County to single family properties will influence the final number of routes and as such total costs.

Calculation of costs associated with an increase in free bulky waste collections in single family properties has been based on the assumption that 20 collections can be made per day. This was based on an average quantity per collection of 444lbs take as calculated from tonnage and collection data provided by the City. The average weight of waste collected from multifamily properties in City of Oakland is 225lbs, almost half of the average collected from single family properties in the City. One reason for this difference might be that generally multifamily properties are smaller than single family properties and have less

space to store waste before requesting a collection. Using the data from the City of Oakland we have assumed that 30 collections can be made a day and that 10% of properties participate in the first year. To make 8,300 collections in the City and County combined there would be a need for 1 additional route if using a boom and rear-loader. This is estimated to cost an additional \$225,000 per year.

In addition, there would be:

- Costs associated with 311 and CUBS processing the calls: The average cost per call in the City is \$5.96 and County \$8.86 based on 10% of multifamily properties in the first year this would equate to a total cost of \$61,000;
- Supervisor costs associated with overseeing the service and administration support for the function; plus
- Cost for leaflets to individual properties or property managers which would equal \$25,629.

One-Time Costs

There will be additional one-off costs associated with developing the operational plan and budget and project managing the implementation of the plan. It is unlikely that this recommendation could be implemented using existing personnel due to the time requirements. We would recommend a fixed-term project manager is put in place. Section 6.0 contains an estimate of the amount of project management time required to implement this and the other recommendations set out. A budget cost for this function is also provided.

5.3.5 Legislative Impact

The City and County can only provide scheduled free collections to its rate payers under Prop 218. However, if the cost of services to multifamily properties is covered entirely by SWA through the franchise payment there is no reason why the City and County could not provide these services and reimburse the jurisdictions for these expenditures.

5.4 Recommendation 4: Implement Citizen Engagement, Education and Outreach and Partnership Program to reduce burden on City and County and create a ‘Pride of Place’

5.4.1 Citizen Empowerment and Partnership Working

The City and County should explore opportunities to engage their citizens to participate directly in illegal dumping prevention, abatement, clean up and enforcement through existing partnerships and development of new partnerships with governmental agencies, businesses and NGOs. One existing partnership that can be expanded is with the Sacramento Regional Conservation Corps. Additional services could be provided through additional contracts for prevention and cleanup programs. An additional program that could

be given a boost if it is undersubscribed through partnership development is the Sacramento County Adopt-A-Road program.²⁴ The City could also develop a similar program for streets or Neighborhood Adopt-A-Block Program. There isn't an existing local NGO in the Sacramento region that specifically focuses on community engagement and volunteer actions to improve the environment as it is related to illegal dumping and litter. There are several NGO's that conduct clean-ups on a regular basis such as the American River Parkway Foundation and Sacramento Area Creeks Council, but they focus their cleanup efforts in the river and creek riparian corridors. If their bandwidth could be expanded, these activities could extend to the streets and roadways in Sacramento County and the City since all storm drains lead to the creeks and river.

Keep California Beautiful (KCB) supports local Affiliate programs of Keep America Beautiful in other areas of the state and could do so in Sacramento. These programs vary in structure and most are a form of public-private partnership. Local governments sometimes provide support either through staffing or contracting with the organization if it is an independent NGO. One example of structure is Keep Riverside Clean and Beautiful, which includes partnerships with Chamber of Commerce for staffing and fiscal oversight with a contract with the City for assorted services and programs including regular clean-ups conducted with volunteers and payment of disposal costs.²⁵ Keep LA Beautiful is administered and staffed through the Office of Beautification.²⁶ Keep Bakersfield Beautiful (KBB) is an NGO. The City of Bakersfield Mayor and City Councilmembers each appoint one board member and one alternate board member to the KBB Committee.²⁷ The day to day management of activities is completed by a city staff person.

The process of establishing a local affiliate is generally conducted over a 6-12-month period, which includes identifying potential partnerships, NGOs and or agencies that could be the lead organization and fiscal agent or making the determination that a new organization should be established. KCB recently assisted California State University, Sacramento (SacState) in becoming the first campus affiliate in the nation. The SWA could develop a partnership with SacState to assist with some activities. Sac State Sustainability is the organizational unit that helps provide support for efforts in the community.²⁸

Regardless of whether a local affiliate is set up the SWA could put allocate funds to support local community led clean up events and the City and County could highlight work carried out by such groups on their website.

²⁴ <http://www.sacdot.com/Pages/AdoptFAQ.aspx> (Retrieved 6/3/2018)

²⁵ <http://www.krcb.com/> (Retrieved 6/3/2018)

²⁶ <http://dpw.lacity.org/office-community-beautification> (Retrieved 6/3/2018)

²⁷ <http://www.bakersfieldcity.us/gov/depts/kbb/default.htm> (Retrieved 6/3/2018)

²⁸ <http://www.csus.edu/aba/sustainability/> (Retrieved 6/3/2018)

5.4.2 Education and Engagement

Branding all PACE activities provided by the City and County under a single umbrella of perhaps a SWA 'Clean Sacramento' campaign will help raise awareness of the issue and of the different services the City and County are providing. It could also provide the opportunity to increase community pride and engagement of citizen volunteers and businesses proactively. If the resources and support are available along with a common message individuals and business in the community are more likely to take actions to achieve the program goals of decreasing illegal dumping and abating sites quickly and in a more cost-effective manner.

Community-based social marketing has emerged as an alternative to traditional education campaigns. CBSM is based upon research in the social sciences that demonstrates that behavior change is often most effectively achieved through initiatives delivered at the community level that focus on removing barriers to an activity while simultaneously enhancing the activity's benefits. CBSM brings together knowledge from the field of social marketing with a variety of behavior change "tools" drawn from social psychology, environmental psychology, and other social sciences.

Best practices from CBSM helps developed targeted messaging. A clear and concise social marketing plan with different messages and promotional ideas per audience should be developed. The messages should be vivid, credible, positive, specific and relevant to the target audience.

Messaging needs to be clear and easily understood, the County's use of the term ABNCU for Area Based neighborhood Cleanup, is not an easy to grasp term, since it is not technically used for neighborhood cleanups. The City publicly uses the term 'junk pick up' which is more informative and what we have used to describe the neighborhood drop off sites. Information on services should be provided in different media forms and languages at regular intervals to maximize service utilization.

The City of Oakland has recently requested funding for a long-term media campaign focused on resetting community norms. The campaign is designed to change the current social practice of putting excess garbage in the right of way and simply hoping it will disappear or using the Call Center to report it. The campaign is expected to emphasize that this is an unacceptable habit. The campaign would speak to "if we want a clean and beautiful city, community or neighborhood it starts with us and where we live." A media effort of this type would be a high-profile campaign in all neighborhoods, using outdoor media, like billboards, buses, bus shelters, etc. Additionally, in-home impressions through on-line media, direct mailings, targeted radio and TV, and bill inserts could be used. At a minimum, a cost to run an intensive media campaign sequencing imprints over a one-year period would be \$300,000 as broken down in

Table 5-6: Stop Illegal Dumping Media Campaign

Item	Estimated Cost
Media Buy	\$110,000
Direct Mail	\$92,000
Radio and On-line Media	\$48,000
Development and Production	\$50,000
Total	\$300,000

Source: City of Oakland Public Works Committee Agenda Report, Approved 08/31/18

5.4.3 Maximize Value from Code Enforcement

The interim assessment found that neither the City or the County are executing large numbers of prosecutions, which is the case for many jurisdictions. Meeting the burden of proof threshold is the biggest obstacle especially for a criminal citation. When cases do make it in court, almost 50% of offenders fail to attend. Finally, for those cases that do result in a penalty the average value is \$490 which clearly does not cover the cost of the enforcement process or act as a sufficient deterrent. Soon to be installed cameras may help identify and prosecute offenders, but evidence of the usefulness of cameras is mixed from other jurisdictions. It will be important to monitor the benefit the new cameras provide before investing in any more.

None of the proposed enforcement-based solutions, which sought to reduce the burden of proof and which would require a change to existing City and County codes (Appendix A.2.0) were supported by the City and County at the workshop. Although there is a need to continue to provide an enforcement function code enforcement resources may be better spent abating and preventing illegal dumping including:

- Managing the junk drop off program as set out in Section 5.2.2. This would include identifying and assessing sites, liaising with landowners if the site is not City or County land, and overseeing activities when the event is taking place;
- Identifying illegal dumping hotspots and assessing them for suitability for physical barriers as suggested in Section 2.1 . This would include, identifying land owner which might be a state agency and working with the land owner to assessing which barriers could be installed;
- Supporting at community outreach events aimed at increasing awareness of preventative.

This slight shift in remit should be reflected in contracts between SWA and the City and County code enforcement functions. The goals set out in Section 5.5 are based on this approach.

5.4.4 Resourcing, Oversight and Administration

The success of the recommendations will depend on:

- Commitment by the SWA board to further push preventative measures;
- Commitment by the City and County Boards in support of increased coordination;
- Commitment of existing personnel time and additional project management support to help oversee implementation; and
- Ongoing monitoring of performance and goals.

The project management of the delivery of the recommendations is unlikely to be able to be covered by existing personnel. It is therefore proposed that the SWA either appoints a full-time project manager for 14 -18 months or appoints a consultant to help it delivery the approved recommendations. Each option has its pros and cons, and these are set out in Table 5-7.

Table 5-7: Project Manager Recruitment Option

Recruitment Option	Pros	Cons
Direct recruit	Dedicated resource that could be used to Potentially less cost	Length of time required to develop job description and go through recruitment process

Consultant	Quicker to appoint Experienced at delivering similar project Support of wider team of experts	Potential requirement to go through RFP process Lack of familiarity with local resources and structures
-------------------	---	--

An estimate of how much time the project manager would need to spend on each recommendation is provided in Appendix A.5.0, assuming on average 8 days per month over 14 months at a consultant rate of \$1,250 per day this would equate to a total cost of \$140,000.

The project manager will be responsible for setting up process through which the City and County will report performance against goals and performance metrics as described in Section 5.5 and preparing monthly report for SWA and quarterly reports for the Board of Supervisors in addition to setting up any necessary working groups and overseeing the delivery schedule for each approved recommendation.

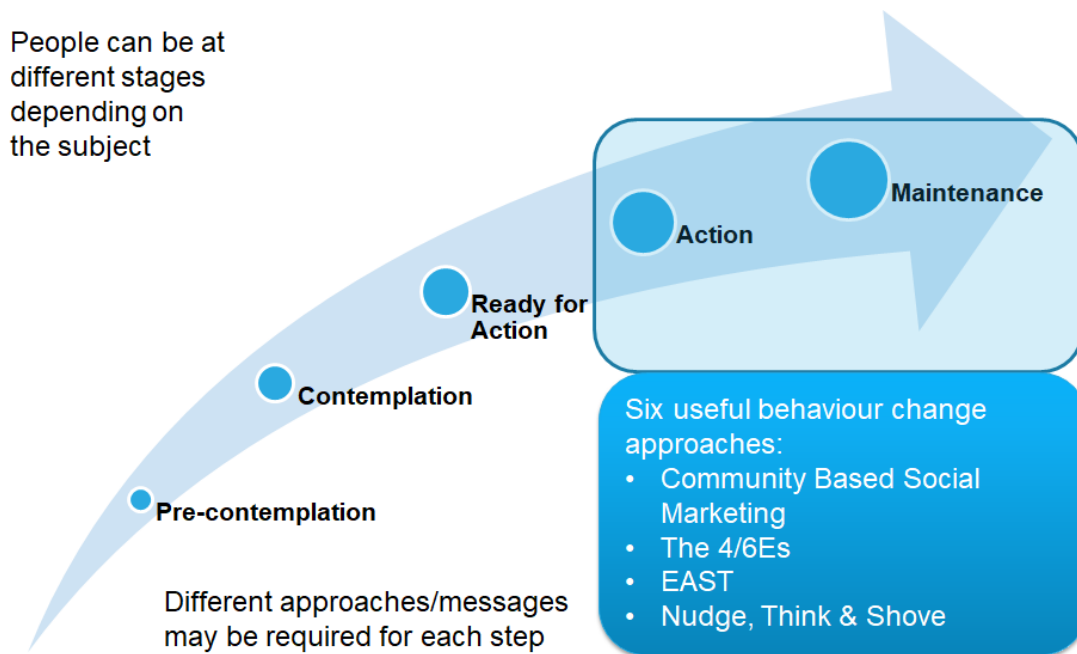
5.4.5 Resident Input

The success of any program will be dependent on the people of Sacramento utilizing the services and being motivated to help address the issue. We recommend that through the SWA, market research is carried out to understand:

- Current levels of awareness of the issue and the preventative services on offer?
- Why people are or are not using the services?
- What changes they would like to see?

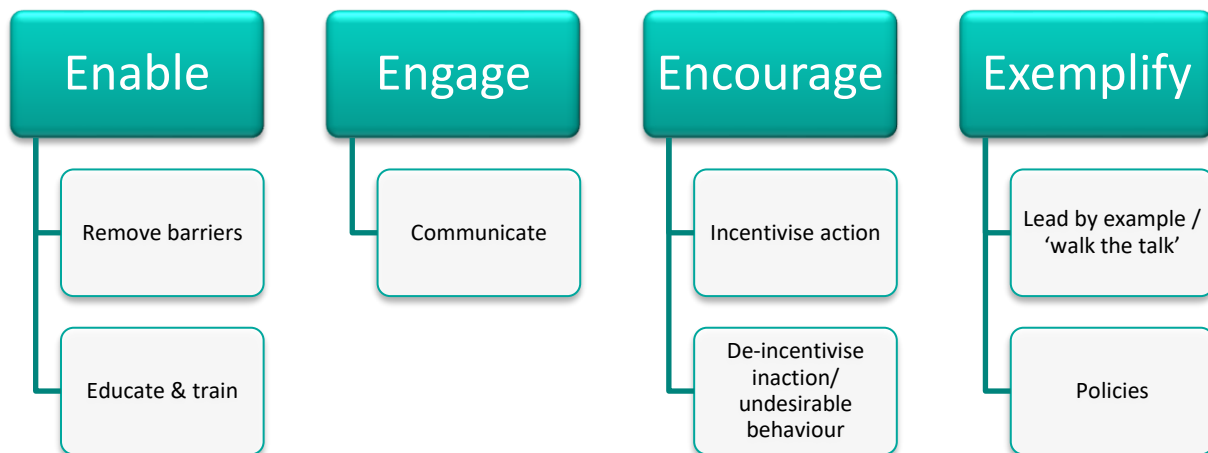
People are usually at different stages in the ‘action pathway’ from total lack of awareness (pre-contemplation) to continually fully engaged (Maintenance) as shown in Figure 5-5. At each stage people require different messages to take them to the next step and an important factor is making the progression as easy or as attractive as possible (by removing barriers, improving the experience, providing the motivation etc.).

Figure 5-5: Action Pathway



The 4E's is probably the most relevant behavior change model to use address illegal dumping and to feed into an education and outreach program as shown in Figure 5-6.

Figure 5-6: 4E's Behavioral Change Model



5.5 Set Reporting and Performance Goals

Service performance and costs should be monitored, if SWA is funding PACE programs performance indicators and goals should be put in place to allow the SWA Board of Supervisors to assess cost effectiveness and monitor improvements. Additionally, efforts would require cooperation from the County Board of Supervisors and City of Sacramento Council.

5.5.1 Data Quality

Accurate data is required to monitor the effectiveness of existing programs and to design and plan future initiatives. Data quality was a concern during the analysis phase. Greater levels of reporting by City and County resources against key performance indicators as proposed below will naturally help improve data quality and transparency which will lead to more informed budget decisions.

5.5.2 Reporting

On a quarterly basis the City and County should report to the SWA and the Board of Supervisors the following information using a standard template:

- 1) Prevention:
 - a. Number of scheduled bulky and e-waste collections carried out.
 - b. Percentage of scheduled collections carried out within 10 business days of request.
 - c. Tons of waste collected through scheduled collections and number of e-waste items by type.
 - d. Details of any education and awareness campaigns carried out e.g.
 - i. Number of community outreach events carried out and estimate of the number people the event affected.
 - ii. Leaflets issued.
- 2) Abatement:
 - a. Percentage of cases opened that were closed as a result of the perpetrator clearing its waste.
 - b. Number of illegal dumps where details of ownership was available.
 - c. Identification of and proposals for hot spot sites that would benefit for physical barriers to prevent illegal dumping.
 - d. Number of adopt-a-road schemes.
 - e. Number of volunteer hours spent clearing litter and illegal dumping cleanup activities.
- 3) Cleanup:
 - a. Number of illegal dumping incidents cleared, per day, month and quarter.
 - b. Quantity (or number of items) cleared.
 - c. % of illegal dumps cleared within 3 days.

- 4) Enforcement:
 - a. Number and location of inspections carried out, highlighting hot spot locations.
 - b. Number and location of ongoing investigations and information to each investigation using case reference number.
 - c. Number of Citations/Notice of Violation issued and number initiated through camera footage
 - d. List and map of hot spot areas proactively monitored
 - e. Summary of data emanating from cameras and details of how this is being used.
 - f. Average level of fine issued.
 - g. Percentage of cases opened that led to a conviction.

The above information should also form part of an annual report alongside full breakdown of costs incurred by program.

5.6 Performance Goals

Goals set will be dependent on the recommendations taken forward. However key performance goals for consideration include:

1) Preventative

Increase take up of free scheduled collections by:

- 2% in 2018/19 (from 2017 levels)
- 5% in 2019/12 (from 2018/19 levels)
- 5% in 2020/21 (from 2019/20 levels)

Carryout 95% of scheduled bulky and e-waste collections with 2 weeks of service request

2) Abatement

Increase the number of Adopt a Highway locations by 5% each year

80% of cases opened where evidence is available to be cleared by perpetrator

3) Cleanup

Clear 95% of illegal dumping within 3 days for report.

Carryout at least 3 multi agency clean-up events

Increase public reporting of illegal dumping incidents

4) Enforcement

Average level of fine issued

% of cases opened that led to a conviction

6.0 Budget and Funding

In the following sub-sections, we have sought to outline the budget and funding implications.

6.1 Budget

Table 6-1 summarizes the estimated annual costs associated to City and County Budgets with implementing the recommendations set out in Section 5.0.

Table 6-1: Cost of Recommendations

Recommendation	City Service	County Service	Assumptions
1A: Collections Service Standard	N/A	\$ 453,206	Based on reducing wait time and capturing 11,158 service requests that could not be provided due to lack of resources in 2017
1B: 2 free bulky waste collections	N/A	\$ 278,617	20% increase in existing collections plus costs for CUBS
1B: E-Waste	N/A	\$ 97,270	Service provided through City
1C: Education and promotion of service	\$ 118,000	\$ 118,000	Separate leaflet to individual household, stickers/cart hanger, billboards and vehicle banners
2A: Dump Coupon - NARS	\$ 15,000	N/A	\$30/ton, 2000 users at 500lbs per user
2A: Dump Coupon County	N/A	\$ 62,522	3000 users, 35% at County (\$30/ton) at 75% at SRT (\$10/Ton) and 500lbs per user

2A: Multifamily property Dump Coupon	\$ 25,660	\$ 25,660	2% take-up, 1,644 users. 75% at SRT (\$72.35/Ton), 25% at County (\$30/Ton). Cost for posting coupon
2B: Neighborhood Drop of sites	\$ 168,890	\$ 46,806	Assumes three sites, events once a month for one day plus 4 events at universities, most of these would be in areas of highest illegal dumping which is predominately in the City
3: Multifamily property Bulky Collections	\$ 194,713	\$ 179,735	10% of properties take-up service, includes route,311 and CUBS costs and annual direct mail leaflet to properties.
4: Education and Awareness campaign	\$ 150,000	\$ 150,000	Based on costs from Oakland
5: Project management	\$ 80,000	\$ 80,000	Based on 8 days per month for 14 months at \$1,250 per day.
6 Market research	\$ 50,000	\$ 50,000	Based on budget from Action Research.
Total	\$ 802,262	\$ 1,541,816	\$ 2,344,079

6.2 Funding

In 2017/18 the SWA received in excess of \$5m through franchisee fees, some of which, are indirectly paid by multifamily properties. Appendix A.6.0 contains the SWA 2017/18.

Currently, SWA franchise fees distributed to the County and City are used for a variety of different purposes including funding activities by City and County code enforcement teams. In the County a proportion of the fees fall into the general fund are used to subsidize discounted monthly rates to seniors and other qualified residents. \$400,000 of SWA franchise fees provided to the City go to the general fund to collect illegal dumped piles. In the past Household Hazardous Waste programs and closed landfills have been funded by the SWA FF as well as Green-Cycle.

It seems reasonable to suggest that those programs that target multifamily properties, including providing multifamily property dump coupons and bulky waste collections, and those that are likely to be accessed by multifamily properties which is the neighborhood junk drop off program, should be funded through the franchise payment.

Recommendations including allowing the City's residents to use free dump coupons at County facilities and the County introducing a free dump coupon could be covered through existing rate payments as costs are relatively small, \$15,000 each for the City and County.

Funding of the expansion of the County bulky service so that: all residents that request a service receive a collection with two weeks; number of free collections is increased to two per annum (rolling program to prevent rush of service requested at end of year); and addition of separate e-waste collections; could either be through SWA franchisee fees or appropriately via an increase in rates. The total cost to the County for expansion of these preventative services is estimated to be \$830k per annum, this would equate to an increase in rates of \$0.45 per property per month²⁹, it is worth noting that there has not been a rate increase in the County for 5 years.

The City and County can also apply for funding from the next open cycle of the CalRecycle Illegal Disposal Site Abatement Grant Program³⁰, to cover the cost of the project manager to oversee the program of recommendations, pilot universities and neighborhood junk drop off-events, and to cover part of the market research and media campaign, from. The City of Oakland submitted an application for \$125,000 for its media campaign.

Innovative approaches to raising money funds to address illegal dumping from other jurisdictions include:

- In the City of Austin an alternative revenue stream is the "Clean Community Fee" that residents pay (\$8.05) including single family homes and apartment and condo dwellers and a monthly fee (19.85) that commercial properties pay to help keep Austin clean. In 2016, \$2,100,000 from the Clean Community Fee was collected and distributed across program in the Austin Resource Recovery Department and the Austin Code Department to pay for street sweeping litter and illegal dumping abatement and cameras for illegal dumping enforcement;
- The City of Fort Worth has two sources of alternative funds to support activities including a special assessment rate that property owners in downtown property improvement district (PID) and the storm water utility fee based on impermeable cover charged to residential and commercial properties as well as a monthly

²⁹ Based on 153,297 single family properties in the County

³⁰ <http://www.calrecycle.ca.gov/LEA/GrantsLoans/SolidWaste/LEA/FY201718/Instructions.pdf> accessed 06/28/2018

environmental fund fee which is scaled for apartment customers and industrial customers; and

- To offset costs of illegal dumping, the Harris County District Attorney requests that illegal dumpers pay a \$300 restitution fee or the use and maintenance of the cameras and a cleanup fee based on the cost incurred for the cleanup. This amount is in addition to any fines, jail time or community service.

A.1.0 Case Studies from Other Jurisdictions

A.1.1 City of Oakland

This City of Oakland is looking at a variety of activities to combat illegal dumping, some of which are working well, and others are not. The City is providing information to the community about the scope of the problem and resources on the Office of Public Works (OPW) website³¹. The website provides detailed information including mapping of reported dumpsites, data on types of materials dumped as well as a link to an interactive map that allows you to click on time periods, slices of the pie chart, and more to view the number and type of service requests to which OPW responded.

The City of Oakland has spent \$100,000 on a pilot surveillance camera program, with the purchase and use of four cameras and license plates readers that may be moved around the city to identify illegal dumpers. However, the cameras don't appear to be impacting the larger problem and the City is determining if the program should be continued.³² In 2017, the City of Oakland issued 45 citations in 2017 and only seven offenders paid their fines in full. During same period, the city received more than 25,000 calls for service to respond to reports of illegal dumping, and during the last half of 2017 was able to respond to 95% of the calls within one day. The calls for service have doubled in the last five years. According to the February 2018 media report, the City is focusing on eradication and education as the main tools to try to reduce the impacts of dumping.

The City's bulky item pick-up program is still undersubscribed. As of July 2015, it added multi-family units (5 plus units) to the program and increase it by 56,000 units. It allows one free pick-up annually for each apartment or condominium with a total of 1.5 cubic yards of trash per unit, plus 1 large appliance, 2 TVs, 2 tires, and 2 mattresses. Units may self-schedule with a waiver from property manager. Much of the dumping is occurring in residential areas and repeat offenders represent approximately 10% of the dumping activity. This information is based on a study completed in August 2017, which also provides data about the geographic origin of illegally dumped material, and types of materials dumped amongst other information.³³ Additionally, during the survey the conditions of the infrastructure (e.g., concrete, asphalt, fences, landscaping, graffiti) were noted on a five-

³¹ www2.oaklandnet.com/government/o/PWA/o/FE/s/IDR/index.htm (Retrieved April 22, 2018)

³² <http://www.ktvu.com/news/oaklands-illegal-dumping-cameras-working> (Retrieved April 22, 2018)

³³ <https://oakland.legistar.com/LegislationDetail.aspx?ID=3108761&GUID=91485569-0C10-4D75-B680-1C999F90AFBA&Options=&Search=> (Retrieved April 22, 2018)

point scale from well-maintained to severely neglected. Thirty-two percent of the piles were noted to be in moderately neglected to severely neglected surroundings, with another 27% on maintained landscape indicating that actions to help maintain surroundings could be helpful. The City promotes community improvement partnerships such as Keep Oakland Beautiful to improve the community appearance through stewardship.

The City promotes a reward program for reporting illegal dumping.³⁴ Witnesses who report critical information to catch illegal dumpers can receive up to half of all penalties collected in successful enforcement actions based on the witness's reports. There are four ways in which a witness can provide information to the City including, telephone, email, online and through a mobile app. However, this program may not be utilized fully as there is a requirement for the witness to appear and testify if the reported illegal dumping incident proceeds to a hearing or judicial proceeding. However, anonymous illegal dumping reports are allowed through these channels without the possibility of getting a reward.

A.1.2 City of San Jose

The City of San Jose has a comprehensive initiative to reduce illegal dumping.³⁵ It is comprised of four pillars: removing; prevention, enforcement and community reporting: 1. The City established the Removing and Preventing Illegal Dumping (RAPID) Team in July 2016. This team is responsible for the following:

- Picking up [illegally dumped items reported by the public](#)
- Monitoring illegal dumping hotspots citywide
- Removing on average 25 tons of dumped materials per week from city streets and public areas

In addition to the RAPID team, Republic Services sweeps various routes within commercial areas for illegally dumped items on a weekly basis.

Residents are provided with free bulky item pickup services and a comprehensive list of items that are accepted and alternative collection programs is provided on the City Website. The City also promotes opportunities to volunteer in volunteer cleanup programs through the [Beautify San Jose Portal](#) as well as promoting various Adopt-A- Creek and Adopt a Spot Programs on their [website](#).

The City has an enforcement program that allows for fines including: first violation \$2,500, second Violation \$5,000 and three or more violations \$10,00. In November 2015, the City Council approved an ordinance (Ord. 29645) amending Chapter 9.10 of Title 9 of the San

³⁴ <http://www2.oaklandnet.com/Reward/index.htm> (Retrieved April 22, 2018)

³⁵ <http://www.sanjoseca.gov/index.aspx?NID=5337> (Retrieved April 22, 2018)

Jose Municipal Code to add the definition of illegal dumping and language prohibiting illegal dumping³⁶; and adopted a resolution amending the Administrative Citation Schedule of Fines to add new fines for illegal dumping in section 9.10.545. The City Ordinance³⁷ related to illegal dumping, is broad and states: that any person whose identifying information is found in illegally dumped solid waste or hazardous materials or who is otherwise responsible for illegal dumping of solid waste or hazardous materials on any public or private property within the city is subject to enforcement and that each act of illegal dumping on a separate area of a single location is a separate violation even if each occurs on the same general time and day as well as that any person who disposes of solid waste or hazardous materials through illegal dumping shall be responsible for cleaning up and properly disposing of the illegally dumped solid waste or hazardous materials in addition to any other authorized enforcement action.

The City encourages residents to report illegal dumping through an online system or mobile app but doesn't have a reward system.

Review of available information suggests that efforts are making an impact.³⁸ In December 2015, the City launched an anti-dumping pilot program, then expanded the program during the 2016-2017 fiscal year. The City's efforts to develop a comprehensive program have helped it gain national recognition. Environmental Services Division led a citywide task force and developed what Keep America Beautiful describes as a "comprehensive program focused on prevention, cleanup, education and community engagement to provide practical and convenient alternatives to reduce illegal dumping."³⁹

It also included a coordinated effort to remove items such as abandoned mattresses, furniture and trash from streets and waterways. There is also a broad public education campaign, partnerships with neighborhood associations, [CommUniverCity](#) (a partnership between the city of San Jose, San Jose State University and downtown neighborhoods) and the Behavioral Insights Team through [Bloomberg Philanthropies' What Works Cities initiative](#).

As part of the BeautifySJ initiative, the illegal dumping program is designed to link community and government efforts. During the fiscal year 2014-2015, when the city charged residents for every trash pickup, only 844 tons were collected. Beginning July 2017,

³⁶ <https://www.sanjoseca.gov/DocumentCenter/View/47994> (Retrieved April 22, 2018)

³⁷

https://library.municode.com/ca/san_jose/codes/code_of_ordinances?nodetd=TIT9HESA_CH9.10SOWAMA_P T3GERE_9.10.545ILDUSOWAHAMAPR (Retrieved April 22, 2018)

³⁸ <https://www.mercurynews.com/2018/01/21/is-san-jose-winning-its-war-on-illegal-dumping/> (Retrieved April 22, 2018)

³⁹ <http://www.recyclingtoday.com/article/san-jose-california-illegal-dumping-cleanup-efforts-recognized/> (Retrieved April 22, 2018)

residents were entitled to as many free pickups as they need, and 892 tons of “junk” collected in just the first three months.

Free collections of bulky items, as well as “swap” events, are also offered to students in neighborhoods around San Jose State in an annual spring “Move Out Event.”

To discourage dumping, banners read “Don’t Trash San Jose” at the city’s known 160 “hot spots.” Cameras are used to detect license plates and so far, 18 citations have been written.

There is a streamlined reporting mechanism for those who spot garbage. Residents can call the city’s Environmental Services Department or snap a picture of the dump site on the new [MySanJose mobile app](#). MySanJose gets an average 56 service requests per business day and increase of 30 more per day than the department previously received.

Once a site is identified, a RAPID Team is deployed. The team has doubled in size since its inception in 2016. The number of sites cleaned up in the city over the past two years has jumped 73 percent, from 2,537 in 2016 to 4,395 in 2017. In 2016, it took 11.2 days to respond to a complaint, now it takes, on average, 4.1 days for the team to respond.

The new services are being publicized by the city at neighborhood association meetings, online via Facebook and Nextdoor, and through educational materials in English, Spanish and Vietnamese.

The previous “visual trash assessment” in areas where the garbage could eventually end up in waterways was completed in the fiscal year that ended last June 2017, before unlimited free trash pickups were offered and the MySanJose mobile app was launched. It found that trash was down 8.2 percent over previous years, but the next assessment might show increased results.

A.1.3 City of Los Angeles

The City has an online reporting mechanism with the ability for individuals to be eligible for a reward according to City of Los Angeles Ordinance 174798 & 174789.⁴⁰ However, if the individual chooses the option to remain anonymous, he/she is ineligible for the reward. The City’s Bureau of Sanitation (LASAN) provides free pick up of “abandoned waste” as it is referred to and requests can be made through the City website or by calling in the request.⁴¹

⁴⁰ <http://bss.lacity.org/investigationandenforcement/reward.pdf> (Retrieved April 22,2018)

⁴¹ https://www.lacitysan.org/san/faces/home/portal/s-lsh-wwd/s-lsh-wwd-s/s-lsh-wwd-s-c/s-lsh-wwd-s-c-aw?_adf.ctrl-state=1ca2zez3vh_5&_afLoop=1446846865507983#! (Retrieved April 21, 2018)

Additionally residents can request a bulky item pick up through the same portals and there are opportunities for multifamily residences to participate at no charge.⁴²

The Los Angeles Board of Public Works (BPW) has approved the purchase of eighteen surveillance cameras and equipment at the cost of \$300,000 to combat illegal dumping throughout the City. [Clean Streets LA](#), is an initiative developed and managed by LASAN which is committed to keeping Los Angeles' streets, alleys and sidewalks free of trash and accessible to all. Surveillance cameras will support the effectiveness and enforcement of the program. Illegal dumping surveillance is one of many efforts to support Clean Streets LA, along with the quarterly street-by-street assessments through the [CleanStat data monitoring system](#), neighborhood cleanups, and the addition of 5,000 trash bins throughout the City. This data has been aggregated into operational grids which helps the Bureau of Sanitation strategically deploy resources, such as a new dedicated Clean Streets clean-up crew. The most recent quarterly assessment for 2017 can be accessed on the website. As part of the program Los Angeles residents may now report illegal dumping through the MyLA311 mobile app as well as calling 3-1-1 and can participate in community cleanups being organized in every neighborhood.

The Clean Street LA program has been awarded the 2017 Livability Award from the US Conference of Mayors.⁴³ According to the award press release, the CleanStat monitoring system has improved the quality and livability of life for residents by focusing on the cleanliness of neighborhoods. Each street is scored based on four factors: litter, weeds, bulky items and illegal dumping. This information is used to coordinate resources including hundreds of alley cleanups, thousands of bulky-item pickups, and placement of new trash bins. The data has been used to refocus the daily operations of the Bureau of Sanitation, which handles on average 35,000 bulky items and illegal dumping requests each month. The program has improved the delivery of cleanup and neighborhood services to communities across Los Angeles. Overall results of the program include an 82% reduction in areas rated "Not Clean" and the addition of 2,500 new public trash bins deployed across Los Angeles.

One of the partners in the effort is the City of Los Angeles Office of Beautification and Keep Los Angeles Beautiful.⁴⁴ The City also hosted a community [Clean Street Challenge](#) in the Fall of 2017. It is a way to provide small community grants to support cleanups ranging in size from \$500 to \$5,000. The program began in 2016 as a reward for neighborhood councils and other community groups for innovative strategies for keeping streets clean and clear. A total

⁴² https://www.lacitysan.org/san/faces/home/portal/s-lsh-wwd/s-lsh-wwd-s/s-lsh-wwd-s-c/s-lsh-wwd-s-c-bic?_adf.ctrl-state=1ca2zez3vh_5&_afLoop=1447040434847456#! (Retrieved April 21, 2018)

⁴³ <http://dpw.lacity.org/blog/city-board-public-works-celebrates-us-conference-mayor-s-2017-city-livability-award-clean> (Retrieved April 22, 2018)

⁴⁴ <http://cleanstreetsla.com/upcoming-events/> (Retrieved April 22, 2018)

of \$25,000 in grants for proposals that show creativity and efficiency in their plans to prevent illegal dumping and keep neighborhoods clean is available annually.⁴⁵

A.1.4 County of Los Angeles

The County of Los Angeles has an ordinance⁴⁶ that allows for the seizure and potential forfeiture of vehicles used in illegal dumping activities. It also promotes both a phone system and online system for reporting illegal dumping and can be anonymous. The County is using the [CLEAN LA](#) platform to share information about their waste reduction, recycling and illegal dumping program information. Additionally, the County has developed an application for mobile devices. In January 2018, they have started the “Keep It Classy Not Trashy” outreach campaign utilizing professional athletes to spread the message. Regionally, the Antelope Valley area has a higher incidence of illegal dumping and has been using a framework for a regional Illegal Dumping Task Force to coordinate activities since 1996 pursuant to the Board of Supervisors instruction.⁴⁷

A.1.5 Butte County

Butte County’s Illegal Dumping Ordinance, adopted in January 2005, initially supported a 78 percent reduction in the number of illegal dumping sites in the county in 2006.⁴⁸ In the first eight months 117 cases were reported with evidence, out of which 83 were single family rental units and 87 of the 90 responsible parties contacted abated the site, with the three remaining sites abated by public works and the responsible party billed for the cost. In 2006 there were 46 cases with evidence reported with 22 of the cases being single family rental units. All 46 responsible parties were contacted, and all 46 sites were abated by the responsible party. Subsequently between 2007 through 2009, 45 illegal dumping cases reported where all responsible parties were contacted and all 45 sites were abated by the responsible party. Twenty-nine of the cases were single family rental units. The number of cases with evidence reported each year declined from 117 in 2005 to 6 in 2009.⁴⁹ Cases with evidence declined to three cases in 2011 and there was an overall decline in cases without

⁴⁵ <https://www.lamayor.org/ideas-wanted-new-grant-challenge-seeks-creative-strategies-keeping-la-streets-clean> (Retrieved April 22, 2018)

⁴⁶ http://dpw.lacounty.gov/epd/illdump/pdf/ill_dumping_ordinance.pdf (Retrieved April 15, 2018)

⁴⁷ <http://dpw.lacounty.gov/epd/illdump/tf.cfm> (Retrieved April 15, 2018)

⁴⁸ <https://www.buttecounty.net/publicworks/Services/IllegalDumping.aspx> (Retrieved April 15, 2018)

⁴⁹

https://www.buttecounty.net/Portals/22/downloads/IllegalDumping/Illegal%20dumpingupdate2009_optim.pdf (Retrieved April 15, 2018)

evidence from 1,206 in 2006 to 82 in 2010 with only 38 cases as of April 2011. Butte County staff indicated that the program continues to be successful.⁵⁰ With the success of the program staffing resources have been shifted to support other programs.

The initial ordinance broadens the definition of illegal dumping to include a “Cradle to Grave” concept for solid waste with a message: “It’s your trash and you’re responsible to see that it is disposed of legally.” Chapter 49 of the Butte County Code provides administrative abatement, settlement and citation authority to program staff.⁵¹ It characterizes illegal dumping as a misdemeanor offense and established an administrative order/hearing process to minimize the impact on the courts. It established fines ranging from \$100-\$300 and second part of the ordinance provides for impoundment of vehicles used to in that act of illegal dumping. As part of dealing with a high percentage (71%) of Single Family Rentals involved in illegal dumping activities, changes were made in the Solid Waste Ordinance requiring all single-family rentals to have trash service provided by the property owner and it is now the responsibility of the property owner to abate the illegal dumpsite if the tenant does not comply with the Administrative Order⁵².

As part of the updated code there is language which requires the person named in an order by the enforcement officer appeal/object, within 7 days, of the administrative enforcement ordinance by the person named and in the absence of a timely filed objection, the findings of the Enforcement Officer contained in the administrative order shall be deemed true and correct. For purposes of conducting any administrative hearing, the presence of at least two (2) pieces of addressed mail or other identifying information in the dumped material is deemed to create a rebuttable presumption that the person so identified is responsible for the dumped material and is subject to the penalties and remedies provided for in Chapter 49 of the Butte County Code.

The County doesn’t use a camera system and based on anecdotal information indicating the City of Oroville’s camera system being vandalized, it didn’t seem cost effective.⁵³

⁵⁰ Data received via email, April 23, 2018 from Steve Rodowick, Butte County Recycling Coordinator

⁵¹ https://library.municode.com/ca/butte_county/codes/code_of_ordinances?nodeId=CH49UNDU (Retrieved April 15, 2018)

⁵²

https://www.buttecounty.net/Portals/22/downloads/IllegalDumping/Illegal%20dumpingupdate2009_optim.pdf (Retrieved April 15, 2018)

⁵³ Data received via email, April 23, 2018 from Steve Rodowick, Butte County Recycling Coordinator

A.1.6 Contra Costa County

To allow the staff to clean up and fence off private property/lots that are habitually dumped on and recover the costs, Contra Costa County has implemented a “Clean and Lien” program through an ordinance and updating Title 1, Section 14-6.343 of its municipal code⁵⁴. The assessment is applied as a special assessment to the property through the process and collected at the time of other property taxes are due.

A.1.7 Kern County

Kern County has an ordinance like Butte County. Title Eight, Section 8.28.080 of the code establishes that perpetrators of illegal dumping may be charged with a misdemeanor. The presence of at least two pieces of addressed mail or other identifying information in the dumped material shall be deemed to create a rebuttable presumption that the person so identified is responsible for the dumped material and is subject to the penalties and remedies provided for in this section.⁵⁵ The punishment of a misdemeanor may be by a fine of not exceeding one thousand dollars (\$1,000.00) or by imprisonment in the county jail for a period of time not exceeding six (6) months, or by both such fine and imprisonment. Kern County Waste Management works with the local non-profit organizations, businesses and residents to organize cleanup events through its outreach program “Keep Kern Clean” and illegal dumping areas have been cleared by volunteer groups ranging in size from 10 to several hundred. An offshoot of the program is Keep Kern Roads Clean which specifically targets roadside litter and residents and businesses can adopt two-mile sections of the county roads. These programs work in coordination with Keep Bakersfield Beautiful.

A.1.8 Shasta County

Shasta County has established an Environmental Crimes Unit whose task is to investigate and to address illegal dumping.⁵⁶ A District Attorney Investigator and Investigative

⁵⁴

https://library.municode.com/ca/contra_costa_county/codes/ordinance_code?nodeId=TIT1GEPR_DIV14EN_C14-6CIEN_14-6.434NOASABLI (Retrieved April 21, 2018)

⁵⁵

https://library.municode.com/CA/kern_county/codes/code_of_ordinances?nodeId=TIT8HESA_CH8.28SOWA_8.28.080UNUNDU (Retrieved April 18, 2018)

⁵⁶ https://www.co.shasta.ca.us/index/da_index/boi_index/environmental_crimes.aspx (Retrieved April 16, 2018)

Technician are assigned to the Environmental Crimes Unit. A combination of phone hotline and email reporting are used by the public to report illegal dumping. Rewards of up to \$500.00 are being offered for the arrest and conviction of illegal dumping offenders.

Shasta County is responsible for the cost to clean and remove material illegally dumped on County property, however the cleanup and removal of illegally dumped material on private property is the responsibility of the private landowner. When a suspect is convicted for illegally dumping on either County or privately-owned property, the District Attorney's Office will attempt to seek restitution for the costs of cleanup through the criminal prosecution process.

Early reporting on the program indicated that it was successful.⁵⁷ From 2007 through to July 2008 the hotline line received 885 calls with a total of 460 cases logged and 14 cases filed. Defendants cleaned up 89 of the sites and out of the 317 sites identified and only two had repeat dumping. They used a variety of vehicle exclusion techniques and video surveillance. An article from 2015 provides an estimate of 30 cases a month or 350 cases in a given year are being processed through the program and that people will generally choose to clean up the illegal dumped materials over being fined between \$400 and \$1,000.⁵⁸ Shasta County also partners with the City of Redding Police Department through a program called the Community Clean-Up Program which is manned by a Community Work Program Officer, who supervises a crew of Shasta County work release inmates. This team is responsible for cleaning up everything from blackberry bushes to vacated homeless camps. Many illegal dumping sites have been abated to reduce the likelihood the sites will become a public hazard due to the accumulation of more discarded material.⁵⁹

A.1.9 City of Austin

In the City of Austin an alternative revenue stream is the “Clean Community Fee” that residents pay (\$8.05) including single family homes and apartment and condo dwellers and a monthly fee (19.85) that commercial properties pay to help keep Austin clean. In 2016 \$2,100,000 from the Clean Community Fee was collected and distributed across program in the Austin Resource Recovery Department and the Austin Code Department to pay for street sweeping litter and illegal dumping abatement and cameras for illegal dumping

⁵⁷ <http://www.calrecycle.ca.gov/LEA/Training/IllegalDump/2009AprMay/Presentations/ShastaCounty.pdf> (Retrieved April 20, 2018)

⁵⁸ <https://anewscafe.com/2015/08/11/redding/from-country-road-to-wrecking-yard-illegal-dumpers-trash-shasta-county/> (Retrieved April 18, 2018)

⁵⁹ <https://www.cityofredding.org/departments/police-department/about-the-police-department/field-operations-division> (Retrieved April 18, 2018)

enforcement. The Code Department has two “Code Officers” and has installed over 30 cameras in known illegal dumping areas to document the illegal activities and relies on 311 calls. If offenders are caught they are required to clean up the site and pay a fine of up to \$2,000. Citations are issued, and cases are sent to administrative panel appointed by the City Council. Austin also partners heavily with Keep Austin Beautiful, which provides multiple volunteer cleanups, creek cleanups, Adopt-A-Creek and Adopt-A-Street Programs throughout the City.

A.1.10 Fort Worth

The City of Fort Worth has two sources of alternative funds to support activities including a special assessment rate that property owners in downtown property improvement district (PID) and the storm water utility fee based on impermeable cover charged to residential and commercial properties as well as a monthly environmental fund fee which is scaled for apartment customers and industrial customers. Prevention program being utilized is to provide three free and convenient drop off stations across the city for residents that accept such items as tires, yard trimmings, old furniture, appliances, electronics, extra household garbage, which are items that are commonly illegally dumped. The program’s success has led to a fourth location being opened and the underused swap shop sections of the drop off stations being repurposed to accept other types of illegally dumped items at a cost of about \$1.36 million annually. Keep Fort Worth Beautiful partners with the City to provide multiple volunteer community improvement projects and even though the costs are not included in the study were estimated at over \$323,200 for direct costs incurred, value of volunteer labor, and in-kind contributions for 2015.

A.1.11 Houston

Houston has numerous waterways and because of its size there must be collaboration amongst the City and multiple entities to address litter and illegal dumping. The focus has been on abatement and enforcement. To offset costs of illegal dumping, the Harris County District Attorney requests that illegal dumpers pay a \$300 restitution fee or the use and maintenance of the cameras and a cleanup fee based on the cost incurred for the cleanup. This amount is in addition to any fines, jail time or community service. The district attorney has found that the use of surveillance cameras is an effective tool in prosecuting cases of illegal dumping. The Harris County District Attorney with two staff spearhead the criminal enforcement cases brought forth with many cases focused on illegal dumping. The cost is about \$468,000 per year for the salaries and administrative costs. To aid in prevention, the City operates six neighborhood depositories which accept a wide range of materials that residents may use at no charge up to four times a month to provide a convenient and no cost alternative to illegal dumping. This program costs the City about \$2.2 million annually.

To help offset costs, Keep Houston Beautiful organizes more than 68,000 volunteer hours for litter and illegal dumping cleanup activities and partners with the City of Houston which covers the disposal costs.

A.2.0 Solutions Long List

A 1 Recommendation Long List

Cause	Solution	Considerations	Schedule	Cost	Funding Source	Pros and Cons	Partners	Obstacles	Priority	PACE
Multi-Family Properties unable to access services	Amend Franchise Agreement	Liaison with franchisees on mechanism; Draft change in agreement (including franchisee fee; Board approval	18 months	Dependent on level of service requested 1 free collection/set resource per week/	Reduction in franchise fee/recharge to SWA	Pro-Great for underserved population and flexible for service provider to set up event or program site by site; Con-Unknown how it would look like being implemented and potential push back from haulers and property owners	CA Apartment Association; Property Management Association Residential Housing Inspection Units; Tenant Advocacy Groups	Political will may be lacking. This should be seen as cost of doing business.	Green	P

<p>MFP unable to access services</p>	<p>Use franchisee fee to cover cost of City/County providing services per unit</p>	<p>Agree with franchisees; Mechanisms; New agreement between SWA City and County; Board approval</p>	<p>18 months</p>	<p>Cap</p>	<p>SWA through franchisee fee</p>	<p>Pro - 75% of the housing stock has service already so this is just an extension of service; it wouldn't require an additional fee as franchise fee would cover it; allow service as needed (up to once per month per unit) at convenience of tenant; addresses short term rentals Con - Stretches city and county resources; costs should be borne by multi- family properties; potentially using public sector resources to address a more general problem</p>	<p>CA Apartment Association; Property Management Association Residential Housing Inspection Units; Tenant Advocacy Groups</p>	<p>Residential Customers may question the costs. Prior solution is preferred.</p>	<p>Green</p>	<p>p</p>
--	--	--	----------------------	------------	---	--	---	---	--------------	----------

<p>SFP (Inc. rented properties) - Lack of understanding of existing free/fee services</p>	<p>Awareness campaign</p>	<p>Design campaign; Develop material; Ensure sufficient resources in place to respond to requests</p>	<p>6 – 8 months</p>	<p>Dependent on level of service requested</p>	<p>SWA initial (ongoing Rate Base)</p>	<p>Pro - Can only help; cost effective as message can be piggybacked on with other messaging through the year to leverage funds; make sure it is produced in multiple languages; Con - Not enough resources to handle up-tick in program use</p>	<p>Sacramento Regional Conservation Corps; Office of Communications-PIO; Rental Housing/Property Management Professionals; Immigrant Population Outreach Experts (Code Enforcement); Breath CA; College Interns</p>		<p>Green</p>	<p>p</p>
<p>Insufficient free collections for SFP in County</p>	<p>Increase or align with City (bulky and e-waste?)</p>	<p>Ascertain impact of increase collections on resource; County agree additional costs</p>	<p>12-18 months</p>	<p>Dependent on level of service requests</p>	<p>SWA? General Fund rates haven't been increased in 5 years Possibility to reimburse the county - SWA enterprise fund (not general fund)</p>	<p>Pro: Solution is to allow extended scheduling and decrease wait time by increasing staffing and equipment; Con: More work and staffing required</p>	<p>Outreach should be coordinated with Education Campaign and Partners</p>		<p>Green</p>	<p>p</p>

ABNCU Service level	Agree 2-week service standard	Determine resource requirements to meet standard (CUBS/Operations); Advertise service standard	12 –18 months	Dependent on additional take up	Rate Base;	Pro: Compliments and overlaps with previous solution; there shouldn't be an increased cost to customer service; promote 311/automated or online forms for scheduling	CUBS	Green	p
Convenient Local Low-Cost Disposal	Drop off points at agreed locations (Temporary Locations)	Agree locations; Assess resources, equipment, H&S; Advertise service standard	12 months	Dependent on scale	SWA/Rate base	Pro - Could be accomplished with contractors; Proactive prevention approach that is available to all residents and is regularly scheduled at least monthly Con - Finding Locations; NIMBY; May lead to dumping; cost of personnel, tipping fees	Haulers, Sacramento Area Conservation Corps; Neighborhood Councils, NGOs; Volunteer Programs; E-Waste Collectors; Probation Department; PBIDS; Retailers (Parking Lots); County/City (Parking Lots)	Green	p

No pride of place	Clean Street Challenge - Grant	Determine what grants would be for; how they grant would be provided and to who; what types of organization would be entitled; cash or services e.g. environmental service	12 months	\$25k	SWA	Pro - Grass roots at neighborhood level; Con - Very hard to track results	Community Groups/Neighborhood Associations; NGOs; PBIDS; Outreach Partners PIOs and Next Door	Yellow	P
No pride of place	Education campaign/communicate all activities – Clean Streets Sacramento	Ongoing education and awareness program of all service offered; Use of third parties for clean ups; Coordinator	6 months	\$50-\$80k	SWA	Pro - Similar to Previous Solutions but longer commitment; Uses Volunteers instead of gov staff/contractors for most labor; Provides Pride of Place; Oversight could be contracted to 3rd party Con - Staffing and Organization Support Required	Promise Zone; PBIDS	Yellow	P

House clearance individuals/companies dumping waste	Increase reporting requirement on Licensed Small Business Haulers	Determine what should be reported – jobs completed, tonnage tipped, record vehicles used in the delivery of the services determine if licensed and if it should be revoked for no compliance or if found illegal dumping	12-18 months	Dependent on cost of administration of the system	SWA	Pro - Alternative is do complete sting operation targeting offenders (landscapers in City) Con - Could increase reporting bureaucracy at additional costs with little benefit; there are two lists i.e. 1)franchise haulers and 2) businesses that haul	Enforcement for Sting Operation	Red	P	
Too expensive to tip	Offer free dump coupon (county) ensure coupons can be used at both City and County facilities OR allow any resident that can provide proof of residency to tip for free	Amend license	8 months	Dependent on additional take up and number of free tips offered	Rate Base	Pro - Shared Coupons are straight forward; cost is relatively low; can be modeled after HHW program; tipping fee is less at Kiefer and NRS	South Sacramento Transfer Station	Getting Agreement between City and County; County will need longer lead time	Green	P

<p>Property owners not clearing waste at the end of 30, 60 and 90-day leases and waste on vacant private land</p>	<p>Clean and Lien Program. Ability to apply a special assessment to a property which is collected with property taxes</p>	<p>Agree what would be covered; Agree process; Draft ordinance and amend Code</p>		<p>Legal \$1,000 per hearing and staffing</p>	<p>County/SWA</p>	<p>Con: Not needed; County Process is currently 3-4 months which is timeframe that officials are comfortable with; doesn't address the issue as this program is only allowed to address issues on public right of ways</p>			<p>Red</p>	<p>A</p>
<p>Inconsistent service standard across City and County</p>	<p>Set service standard and report quarterly to the SWA board</p>	<p>Agree to service standard and how it should be measured; City and County approvals</p>	<p>6 months</p>	<p>no direct costs however additional resources maybe required if service standard high</p>	<p>Small administrative cost</p>	<p>Pro - This recommendation should be implemented in conjunction with several previous ones that involved increases staffing and equipment to decrease wait time for service</p>			<p>Green</p>	<p>C</p>

Many different agencies providing services for Cleanups	One organization coordinate and manage all activities	Who will be the overarching organization; What will their role be; How will they be funded	24 - 36 months	Dependent on function	Land owners	Pro - City uses 311 for all services; Con - County doesn't use 311 for all services and there isn't an exclusive franchise/hauling agreement; not realistic			Red	C
High cost for Cleanup	Adopt a Street program/Partner with Keep California Beautiful (Form affiliate)	How will it be managed; What will be the requirement for adoption;	12 - 18 months	Low cost	None	Compliments previous recommendations; worth discussing			Green	C
Difficult to obtain sufficient evidence	Reduce requirement to only two forms of evidence	Pass ordinance	12-18 months			Con: City uses administrative law and county uses criminal citation. No need to implement, county can possibly change or add program through administrative law			Red	E
Can't identify the person only the vehicle	Change code to allow for vehicle owner to be charged	Pass ordinance	2-18 months			Con: Previously/Recently reviewed by City legal staff and rejected	Law Enforcement		Yellow	E

Can't catch perpetrators in the act of illegal dumping	Cameras	Program is already started	4-12 months			Pro - Camera program has been started Con- Cameras' need to be covert; don't yield a lot of actionable intel;			Yellow	E
Lack of understanding by judges on illegal dumping impacts	Environmental Court (full or part time)	This doesn't seem to be issue for Sacramento County							Red	E
No central administrative oversight or data capture	Appoint single administrative organization for which service providers report into	Appoint a project manager for set period (12-18 months) to coordinate implementation of agreed recommendations including putting in place adequate data management system			SWA?	Pro - County is already working on program; there is no barrier in the JPA Agreement; SWA can dictate the form that data is reported in order to receive payment Con - SWA is only technical advisor for City and County as well as source of funding;			Green	O

Transparen cy for Program Activities	Online mapping of reported dumpsites, cleanup activities, etc. that is viewable by public; Call to action for new community cleanup etc.	Cost, chain of command, coordination				Pro - Compliments previous solution			Yellow	0
---	--	--	--	--	--	--	--	--	--------	---

A.3.0 Environmental Courts

A.3.1 Purpose

Environmental courts (EC) and tribunals are a type of specialized court system that adjudicates cases that have to do with violation of environmental laws only and typically are used to adjudicate administrative rule violations. They are typically established in communities experiencing an escalation in environmental crimes/code enforcement violations. The courts focus on education, awareness, and remediation of such crimes.

A.3.2 How They Work

A court or division dedicated to environmental issues and operating full-time is considered to be an EC. An EC could be held in the same court building, but with a judge that specializes in environmental issues. Similarly, an EC could be held just one day per week, rather than being a full-time court. Some cover a broad spectrum of violations, while others have a more narrowly defined scope.

A.3.3 Implementing Legislation

The legislature must amend the appropriate laws currently in place to create an additional division to the general court of the jurisdiction to which the act would apply. The offices, powers, duties and responsibilities are outlined and the relevant court system is granted the power and authority to appoint a sufficient number of legal personnel to serve as needed. This legislation also specifies how compensation is determined.

A.3.4 Day-by-Day Management

An EC is managed similarly to state courts that do not specialize in environmental issues.

A.3.5 Evaluating Success

Success is measured by the number of cases heard and, more importantly, the percentage in which the violator pays the cost of any remediation or cleanup required, court costs and a penalty steep enough to deter repeat offenses. The action of the EC is typically followed if the judge has jurisdiction to issue a contempt charge and jail the violator for failure to comply to remediation or pay fines. Tracking the number of cases that go through the system by type also shows that the

community is serious about environmental issues. Ensuring that information about repeat offenders is publicized can further discourage environmental crimes.

A.3.6 Cases Processed per Day

An EC could process 10-20 cases per day, depending on the complexity of each case. This number would likely be similar to those handled by state courts in general. Some cases require parts of multiple days as when a party may need to report back to the court.

Benefits⁶⁰:

- The EC judge specializes in environmental issues and develops expertise in the relevant laws and penalties. This leads to more consistent outcomes, which in turn enhances public perception of the court.
- The EC judge becomes knowledgeable about locations, laws and individuals that are problematic.
- Hearing all environmental cases in the EC avoids delays that occur in general courts, leading to quicker resolution and lower costs to defendants and the courts.
- Establishing an EC frees criminal or general courts to concentrate on other offenses.
- An EC can result in more visible and transparent adjudication, providing more confidence to the public in the process and greater compliance with existing laws. ^[1]_{SEP}
- Having an EC demonstrates a community's commitment to the environment.
- An EC can hold environmental agencies accountable, as they can also be adjudicated against in this forum.
- Cases can be prioritized by importance rather than date filed as done in general courts.
- An EC provides leeway to develop creative solutions focusing on remediation rather than punishment.

Obstacles⁶¹:

- Marginalization – trying environmental cases separately could result in an inferior system if EC judges perceive that their career options will be limited by focusing strictly on environmental issues.

⁶⁰ Adapted from the Keep America Beautiful Enforcement and Prosecution Guide

⁶¹ Adapted from the Keep America Beautiful Enforcement and Prosecution Guide

- Fragmentation – a case may involve multiple infractions, including some that are non-environmental.
- Capture – special interests may be able to more easily influence a smaller court system than a larger one.
- Caseload Cost - maintaining a separate court system may be costlier if there is an insufficient caseload.
- Defining Scope - It may be challenging to decide what constitutes an “environmental” violation.
- Bias – prior experience or special interests of judges may bias decisions.

Case Study Brief #1: Franklin County, Ohio

Franklin County’s EC has exclusive jurisdiction over criminal cases involving violations of the local housing, building, fire, zoning, health, waste collection, animal control, animal abuse, and pollution codes. It also hears civil cases involving nuisance properties, local appeals, and landlord/tenant disputes. The Environmental Division in Franklin County, unlike many other Municipal Courts, is authorized to hear an expansive docket of cases; including felony criminal charges; administrative appeals and an unlimited monetary cap for its civil cases. The court, technically as separate division of the Municipal Court, has been in operation for nearly 25 years. The court’s main goal is to protect and improve the community. In this court, if multiple violations (including non-environmental) are part of the charges, they are all heard in the environmental court.

Case Study Brief #2: Shelby County/Memphis, Tennessee

In 1983, the City of Memphis created the Shelby County Environmental Court, a new division of City Court to handle violations of its health, fire, building, and zoning codes. By centralizing ordinance violation cases before one judge, the Environmental Court gained the ability to readily and specifically respond to our community’s environmental needs. In 1991, the Tennessee Legislature created the Shelby County Environmental Court and gave it the authority to issue conjunctive orders in aid of its jurisdiction. See [Enabling Legislation](#). The Court could now order compliance with the law, both to remedy the problem at hand and to prevent future violations from arising. If defendants disobey the Court’s orders, they may be held in contempt of court, with the possibility of a 10-day jail sentence.

In 2000, the Environmental Court pioneered the use of community court to address problem properties at close range. Court is held in the Memphis neighborhoods of Frayser, Orange Mound, Whitehaven, and Hickory Hill. Since 2007, the Environmental Court has heard cases violating the [Neighborhood Preservation Act](#), which addresses substandard vacant buildings that have become public nuisances.

A.4.0 Budget Implications

A.4.1 Recommendation 1a: County 2 Week Customer

A 2 Number of Additional Routes

Item	Number
Number of Additional Collections	11,158
Working days	260
Collections per day	20
Number of additional routes	2.15

A 3 Cost of Additional Routes

Resource	Number	Cost per annum per unit	Total
Boom vehicle	2	\$ 60,839	\$ 121,678
Rear-loader	2	\$ 68,014	\$ 136,028
Equipment operators	4	\$ 48,875	\$ 195,500
Total			\$ 453,206

A.4.2 Recommendation 1b: Increase Number of Free Bulky Collections and Introduce E-Waste Collections in the County

A 4 Number of Additional Routes

Item	Number
Current Collections	27,963
20% additional	5,593
Collections per vehicle per year	5,200

Number of additional routes	1.08
-----------------------------	------

A 5 Cost of Additional Route

Resource	Number	Cost per annum per unit	Total
Boom vehicle	1	\$ 60,839	\$ 60,839
Rear loader	1	\$ 68,014	\$ 68,014
Equipment operators	2	\$ 48,875	\$ 97,750
Total			\$ 226,603

A 6 CUBS Cost for Managing Additional Calls

Item	Number
Additional Calls	5,868
Cost per call	8.86
Total Cost	\$ 52,013.60

A 7 E-Waste Collection Costs for County Service

Item	Number	Assumptions
Assumed Collections	1,000	
Average cost per ton	\$ 50.30	Taken from City Costs
Cost per collection	\$ 46.97	Taken from City Costs
Total per collection	\$ 97.27	
Cost for 1000 collections	\$ 97,270.79	

A.4.3 Recommendation 1C: Bulky Waste Education

A 8 Bulky Collections Education Costs

Item	Number	Assumptions
Stickers on Bins	\$ 60,000.00	
Leaflets	\$ 110,000.00	Based on costs for City \$55k for the City
Billboards and vehicles	\$ 66,000.00	
Community events	Existing staff resources	
Combined	\$ 236,000.00	

Individual	\$	118,000.00
-------------------	----	------------

A.4.4 Recommendation 2A: City Free Dump Coupon Redemption at NARS

A 9 City NARS Costs

Cost Item	Number	
Average lbs. per tip		500
Number of customers		2,000
Total lbs.		1,000,000
Total tons		500
Price per ton	\$	30.00
Cost	\$	15,000.00

A.4.5 Recommendation 2A: County Free Dump Coupon

A 10 County Free Dump Coupon Costs

Item	Number	
Average lbs. per tip		500
Number of customers		3,000
Total lbs.		1,500,000
Total tons		750
Price per ton County	\$	30.00
Price per ton SRT	\$	10.00
Cost County (50%)	\$	11,250.00
Cost SRT (50%)	\$	3,750.00
Total Operational Cost	\$	15,000.00
Leaflet Cost (\$0.31c per leaflet)	\$	47,522.07
Total Cost	\$	62,522.07

A.4.6 Recommendation 2A: Multi Family Property Free Dump Coupon

A 11 Multi-Family Property Dump Coupon

Item	Number
Number of City MFP's	43,431
Number of County MFP	39,761
Total MFP	83,192
% Take-up	2%
Number redeemed	1,664
Total lbs.	831,920
Total Tons	416
Cost SRT (75%)	\$ 22,571.03
Cost County (25%)	\$ 3,119.70
Total Operational Cost	\$ 25,690.73
Total cost leaflets	\$ 25,629
Total	\$ 51,319.96

A.4.7 Recommendation 2B: Neighborhood Junk Drop-Off

A 12 Neighborhood Junk Drop Off Costs

Item	Number
Containers Cost - Republic	\$ 3,000.00
Enforcement presence	388
Equipment operator (no cost for vehicle)	480
3 staff members to control crowd	960
Weight per container (tons)	8
Number of containers	6
Disposal costs	\$ 480.00
Total Operational Costs	\$ 5,322.16
Annual Cost per Site (12 occasions)	\$ 63,865.92
Leaflets (\$0.31)	\$ 3,100.00
Other advertising	\$ 1,000.00

Total per site	\$	67,965.92
3 sites	\$	203,897.76
2 university sites twice a year	\$	21,288.64
Total	\$	225,186.40
Per Authority	\$	112,593.20

A.4.8 Recommendation 3: Bulky waste collections from Multifamily Properties

A 13 Calculation of Route Numbers

Item	Number (Year 1)	Number (Year 2)	Number (Year 3)
City MFP	43,431	43,431	43,431
County MFP	39,761	39,761	39,761
Total	83,192	83,192	83,192
% take up (1 collection)	10%	15%	20%
Number of collections	8,319	12,479	16,638
Total lbs.	1,846,862	2,770,294	3,693,725
Total Tons	923	1,385	1,847
Number of routes (based on 30 collections per day)	1.07	1.92	2.56

A 14 MFP Bulky Collection Costs

Item	Number
Cost of Vehicle and staff	\$ 226,603.00
Cost off City 311	\$ 25,864.94
Cost of County CUBS	\$ 35,243.01
Total	\$ 61,107.96
Leaflets (\$0.31)	\$ 25,629.23
Total	\$ 374,448.14
Per Authority	\$ 187,224.07

A.4.9 Project Management

A 15 Project Management Costs

Item	Number
Cost Per Day	\$ 1,250
Total Cost	\$ 151,563
Total Cost 8 days per month for 16 months	\$ 140,000

A.4.10 Education and Outreach Campaign

A 16 Education and Outreach Campaign based on City of Oakland Budget

Item	Estimated Cost
Media Buy	\$110,00
Direct Mail	\$92,000
Radio and On-line Media	\$48,000
Development and Production	\$50,000
Total	\$300,000

A.5.0 Project Management Time

A 17 Project Management Time Allocation

Recommendation	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Monthly Project Management Meetings	8	8	4	4	4	4	4	4	4	4	4	4	4	4
1A - 2 Week Customer Service Standard	4	4	4	4	4	4	2	2	2	2				
1B - Increase Number of Bulky Collections and Introduce E-Waste Collections in the County			16	16	16	4	8	8	8					
1C - Awareness Campaign									8	8	8	8		
2A - Improve and Expand Free Dump Coupon System														
City Use of NARS	2	2	2	2										
County Free Single-Family Property (SFP) Dump Coupon Program	12	12	12	12	12	4	2	2	2	2				
Multi Family Property Free Dump Coupon Program			6	12	12	12	12	12	4	12	12	8	16	8
2B - Neighborhood Community Drop Offs														
University Campus			8	8	8	12	12	12	8	16	8			
Neighborhood Event						12	28	28	24	16	16	16	16	8

3 - Provide Free Bulky Waste to MFP			8	16	16	16	16	16	16	16	16	16	8	8
4 - Community Engagement Plan														
5 - Enforcement Re-Focus	8	8	8											
6 - Resident Input			8	8	8									
7 - Implementing reporting, goals and performance Monitoring	12	12	12	12	4	4	4	4	4	4	4	4	4	4
Total Hours Per Month	46	46	88	94	84	72	88	88	80	80	68	56	48	32
Total Days per Month	5.8	5.8	11.0	11.8	10.5	9.0	11.0	11.0	10.0	10.0	8.5	7.0	6.0	4.0

A.6.0 SWA 2017/18 Budget

A 18 SWA Fiscal Year 2017- 18 Proposed Final Budget

SWA Budget Components	
	\$ 1,800
	\$ 2,400
	-
	\$ 450,000
	\$ 645,000
	\$ 82,000
	\$ 150,000
	\$ 120,000
	\$ 10,000
	\$ 30,000
	\$ 80,000
	\$ 20,000
	\$ 100,000
	\$ 224,000
	\$ 13,843
	\$ 4,719
	\$ 15,000
	\$ 500
	\$ 2,438
	\$ 500
	\$ 60,000
	\$ 2,000
	\$ 5,000
	\$ 2,019,200
	\$ 2,142,104

County Franchise Fee Distribution	\$	2,196,773
Subtotal - Member Agency Distribution	\$	4,338,877
Working Capital Reserve Provision		-
Total Requirements	\$	6,358,077
Means of Funding		
Fund Balance Utilization	\$	1,323,077
Licenses/Permits (Franchisee Fees)	\$	5,000,000
Late Payment/Reporting Penalty Fees	\$	25,000
Interest Income	\$	10,000
Total Financing	\$	6,358,077