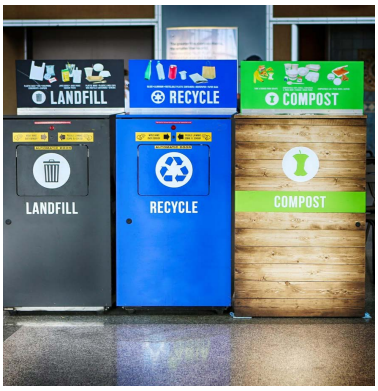
# SB 1383

# Local Service Rates Analysis

## October 7, 2020





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# DEPARTMENT OF RESOURCES RECYCLING AND RECOVERY

**Ken DaRosa**
Acting Director, CalRecycle

Department of Resources Recycling and Recovery
Public Affairs Office
1001 I Street (MS 22-B)
P.O. Box 4025
Sacramento, CA 95812-4025
www.calrecycle.ca.gov/Publications/
1-800-RECYCLE (California only) or (916) 341-6300

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# Acknowledgments

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### *CalRecycle Materials Management and Local Assistance Staff*

Howard Levenson, Deputy Director

Cara Morgan, Branch Chief

Hank Brady, SB 1383 Implementation Manager

Timothy Hall, Senior Environmental Scientist

Brian Stalker, Senior Environmental Scientist

### *Funding Organics Infrastructure Needs Review*

Brandon Moffatt, P.Eng, MBA, Vice president, StormFisher LTD

### *Case Study Review*

Alexa Davis, City of Rolling Hills Estates, Assistant City Manager

Carlyle Johnson, Santa Barbara County Public Works Resource Recovery and Waste Management Division

Greg Stanton, Director, Environmental Management Department, El Dorado County

Jennifer Chong, City of Half Moon Bay, Management Analyst

Kerry Parker, City of Alameda, Public Works Department

Kristine Day, City of Beaumont, Assistant City Manager

Lily Quiroa, Waste Management, Public Sector Regional Manager

Mike Silva, Project Engineer, CR&R Incorporated

Nathan Garza, Natural Resource Conservation Technician, City of Visalia

Olivia Sanchez, Administrative Analyst, City of Riverside

Patrick Carter, Former Executive Director, Zero Waste Sonoma

Peter Cron, Utilities Services Technician, City of San Luis Obispo

Thomas F. Gratz, Sales Manager, Hitachi Zosen Inova U.S.A., LLC

### *Model Waste Enclosure Guidelines Review*

Kerry Baxter, Senior Project Designer, TSD Engineering, Inc.

# Executive Summary

## *Purpose*

SB 1383 (Lara, Chapter 395, Statutes of 2016), established methane emissions reduction targets in a statewide effort to reduce emissions of short-lived climate pollutants (SLCP) in various sectors of California's economy. The law codifies the California Air Resources Board's (CARB) Short-Lived Climate Pollutant Reduction Strategy, established pursuant to SB 605 (Lara, Chapter 523, Statutes of 2014), to achieve reductions in the statewide emissions of short-lived climate pollutants. Actions to reduce short-lived climate pollutants are essential to address the many impacts of climate change on human health, especially in California's most at-risk communities, and on the environment.

Methane emissions resulting from the decomposition of organic waste in landfills are a significant source of GHG emissions contributing to global climate change. Organic materials—including waste that can be readily prevented, recycled, or composted—account for a significant portion of California's overall waste stream. Food waste alone accounts for approximately 17-18 percent of total landfill disposal. Reducing food waste, encouraging edible food rescue, and expanding the composting and in-vessel digestion of organic waste throughout the state will help reduce methane emissions from organic waste disposed in California's landfills. In addition, compost has numerous benefits including water conservation, improved soil health, and carbon sequestration. Anaerobic digestion (AD) produces biogas that can be used to create electricity or renewable transportation fuels. Furthermore, in California one out of eight people, including one out of five children, are food insecure. Edible food recovery has the added benefit of assisting Californians who are unable to secure adequate, healthy food by diverting edible food to food recovery organization like food banks and pantries.

SB 1383 establishes a target of 50 percent reduction in the level of statewide organic waste disposal from the 2014 level by 2020 and increases this reduction requirement to 75 percent of the 2014 level for 2025. The law grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that not less than 20 percent of the edible food that is estimated to be disposed is recovered for human consumption by 2025.

In terms of total tonnage, the established 2014 baseline of approximately 23 million tons of organic waste allows for statewide landfill disposal of no more than 11.5 million tons of organics in 2020 and no more than 5.75 million tons of organics in 2025. These ambitious targets may be increasingly difficult to attain as population and waste generation trends indicate consistent projected growth in total waste generated throughout California. By 2025, for instance, the total amount of organic waste produced is expected to rise to 26 million tons per year[1], requiring the state to reduce, reuse, or recover approximately 20 million additional ton of organics to meet the bill's targets.

To meet SB 1383 goals, the law mandates that all organic waste generators – residents and businesses – must receive and actively participate in organic material collection

programs. While most of the state's jurisdictions already require mandatory residential organics collection service, that is not the case with respect to commercial collection services. This shortfall of compulsory organics collection programs, particularly for the commercial sector, underlines the need to enforce SB 1383's mandatory service requirement.

Jurisdictions will be required to adopt enforceable ordinances or other mechanisms to ensure that all covered residential and commercial generators are compliant with SB 1383 regulations. Such mechanisms will enable jurisdictions to enforce the regulations and assess noncompliance penalties on generators and haulers, beginning in 2024.

In addition to mandating that jurisdictions provide and enforce organics collection service to all generators, SB 1383 regulations include the following additional program requirements: three acceptable options for solid waste container systems with defined allowable number of containers, container colors, and labeling; contamination monitoring; record-keeping; and education and outreach.

## *Purpose of This Report*

The purpose of this report is to provide information regarding the cost impacts of SB 1383 to local jurisdictions, which are tasked with enforcing most of the provisions of the law. While the regulations do not specify the means through which a jurisdiction must fund the costs of complying with the law, they do require that the mandated program be adequately resourced. Additionally, though SB 1383 provides no reimbursements to local agencies for the cost of program implementation, the legislation specifically authorizes them to charge and collect fees to recover costs incurred by complying with the regulations. This report addresses options and recommendations for funding mechanisms that can be used by jurisdictions to implement the collection requirements and support the development of organics recycling infrastructure. As fees for service, otherwise known as "customer rates," are the most common funding mechanism that pays for solid waste collection, this report discusses how rates can be structured to address necessary cost increases.

The legislature acknowledges that achieving these targets will require significant investment in developing capacity to recycle organics and that more robust state and local funding mechanisms are needed to support this expansion. While the state provides some funding, e.g., grants and loans for organics recycling and edible food infrastructure, local jurisdictions must also plan for and secure capacity. This report also identifies other funding mechanisms that can be used to pay for organics processing and pre-processing infrastructure.

This report is being provided to the public well before the regulations take effect in 2022. Jurisdictions need time to plan for and implement the programmatic and budgetary changes that will be necessary. The timing of these changes is critical because SB 1383 provides CalRecycle with the authority to impose penalties on regulated entities, beginning on January 1, 2022.

This report identifies the different cost elements associated with implementing the mandated programs and provide recommendations regarding how jurisdictions can organize their resources to cover the cost of effectively meeting the requirements. This report focuses on the collection and processing components of the regulations, which set forth obligations that may incur costs for the jurisdictions and their businesses and residents.

This report is the culmination of the results of the Local Services Rates Analysis Survey for Jurisdictions (survey), a market analysis of jurisdictions, combined with interviews of haulers and site visits of facilities throughout the state, commissioned by CalRecycle (California Department of Resources Recycling and Recovery), that sought to:

- Understand the potential cost impacts of SB 1383;
- Help inform CalRecycle's drafting of SB 1383 requirements; and
- Develop resources to help jurisdictions achieve and cover the associated costs of legislative compliance with SB 1383.

The survey investigated the prevalence, status, cost, and funding of organics collection programs and processing infrastructure required to meet SB 1383, as well as solid waste rates and policies throughout California. The results of the Survey revealed that jurisdictional staff, haulers, and facilities expressed several common challenges and barriers to complying with SB 1383 requirements:

- Current rate structures are inadequate to cover costs and ensure mandatory collection; rate-setting options may need to be considered
- Necessary updates to contracting and enforcement options require additional staff resources and time
- Lack of infrastructure for processing
- Absence of finalized regulations

This report incorporates the survey's findings, along with industry data and analysis, to provide a summary of best-practice recommendations for addressing the changes to organics collection and processing infrastructure throughout California, which are being driven by SB 1383. In addition, the report provides tools that can be used by local jurisdictions to facilitate their compliance with the law and encourage residents and businesses to participate in the mandated organics recycling services.

## *Major Findings*

- Currently, many California jurisdictions do not have adequate services to achieve compliance with SB 1383—most jurisdictions offer organics collection service to their customers, but few require subscription (see Section 2.01.2).

- Without appropriate, potentially significant adjustments to customer rates, jurisdictions may be unable to fund the organics collection services required under SB 1383 (see Section 2.02).
    - Detailed rate reviews capture the increased operating and infrastructure costs associated with SB 1383 more accurately than Consumer Price Index (CPI), CPI-Water, Sewer, and Trash Collection Services (CPI-WST), or Refuse Rate Index (RRI) indexed rate-setting methodologies (see Section 2.02.5).
    - In most jurisdictions, elected officials approve rate increases, which are often unpopular with rate-payers. Elected officials and rate-payers may not understand the health, environmental, and economic benefits of diverting organics from landfills to recovery activities like composting and anaerobic digestion (see Section 2.01.3.viii).
- Bundled rates provide the greatest financial incentive for residential and commercial customers to participate in available diversion programs. Bundled rates are most effective when organics service is mandatory, which allows for accurate forecasting of required services and associated increased costs, and thus enables appropriate rate structuring (see Section 2.02.2).
- The increased organics collection customer base that will result from mandatory organics collection will lead to economies of scale for haulers and lower per-unit costs when compared to a non-mandatory system (see Section 2.04.1).
- California does not have the organics processing infrastructure necessary to fully support SB 1383 compliance by the time regulations go into effect—additional collection routes and as many as 100 new composting or anaerobic digestion (AD) facilities will be needed to satisfy the state's capacity demands (see Section 2.04.2).
- The additional organics processing infrastructure will require significant planning and capital investment (see Section 2.04.3).

## *Major Recommendations*

- Don't wait! Jurisdictions should begin planning for and implementing the required services associated with SB 1383 regulations within SB 1383's mandated timeline (see Section 3.01).
- Jurisdictions should also immediately begin assessing, planning for, and securing adequate organics processing capacity, either on their own or in conjunction with counties and regional agencies, as this process can take up to five years to complete (see Section 3.03).

- The shortfall of compulsory organics collection programs, particularly for the commercial sector, underlines the need to enforce SB 1383's mandatory service requirement (see Section 3.01).
- Jurisdictions should determine how best to provide the required SB 1383 services and negotiate any necessary changes to existing collection contracts or franchise agreements (see Section 3.03).
- Jurisdictions should implement organics collection enforcement mechanisms through ordinances and/or franchise agreement/contract/permit language, well in advance of the SB 1383 deadline (see Section 3.01).
- Jurisdictions should conduct detailed or special rate reviews to assess the appropriateness of rates proposed by collection haulers and facilities for SB 1383 compliance programs (see Section 3.02).
- Jurisdictions should consider adjusting rates and/or establishing other sustainable funding mechanisms, such as an SB 1383 fee, to cover the costs of implementation, infrastructure, and ongoing operations, and be prepared to defend the necessity of any rate increases (see Section 3.02).
- Jurisdictions should consider establishing bundled garbage/organics/recycling customer rates, which provide the greatest financial incentive for customers to participate in organics collection programs, thereby helping to maximize diversion of organics from landfill (see Section 3.02).
- Jurisdictions should educate elected officials and organic waste generators—–during the early stages of program development and rate adoption—of the environmental benefits, state-mandated necessity, and consequent cost of diverting organics from landfill. This will increase the likelihood of their acceptance of the rate increases and facilitate a smooth transition to new services (see Section 3.01).
- Jurisdictions should carefully consider the advantages and disadvantages of owning, operating, or contracting for the operation of an organics processing facility and recognize that a regionalized approach to acquiring organics infrastructure may help keep costs and rate impacts as low as possible (see Section 3.03).
- Jurisdictions that own organics processing infrastructure should be prepared to invest significant capital in their facilities and equipment through any combination of cash, loans, private investment, bonds, grants, and tax credits (see Section 3.04).

## *Structure of Report*

The SB 1383 Local Services Rates Analysis report contains the following sections, which provide expanded discussion of the findings and recommendations listed above:

**Section 1: Introduction**

Includes an overview of SB 1383's organic waste reduction targets and requirements; the survey methodology and data analysis; and the purpose, components, and limitations of the report.

**Section 2: Key Findings**

Provides findings, extensive discussion, and analysis on the following topics: SB 1383 Organics Recovery, Current Rates and Services, SB 1383 Impacts on Rates and Services, Costs of Organics Infrastructure, and Funding Organics Infrastructure Needs.

**Section 3: Recommendations**

Summarizes the discussion topics covered in Section 2 and provides best practices and knowledge-based recommendations for addressing each issue.

**Appendix A: Infrastructure Case Studies**

Features the successes, challenges, and lessons learned by California jurisdictions that have already developed, or are actively implementing, new or updated organics recycling processing infrastructure. These case studies demonstrate system options and approaches for other municipalities to consider applying to their own infrastructure development needs, as driven by SB 1383 regulations.

**Appendix B: Organics Collection Case Studies**

Spotlights multiple California jurisdictions' varying approaches to, and levels of success at, addressing SB 1383 requirements. Designed to serve as illustrations of how local governments can implement and pay for the changes required by the new law.

**Appendix C: Questionnaire**

Contains a copy of the questionnaire that was distributed to all California jurisdictions and member agencies.

**Appendix D: Survey Results**

Summarizes, through narrative and graphs, data obtained from jurisdictions, regional agencies, and haulers on the following topics through an online questionnaire, internet research, and phone and email correspondence: solid waste rate structure, rate-setting methodologies, funding for organics collection service, current ordinances or policies that encourage organic recycling infrastructure development, and services provided and included in customer rates. The survey results also comprise information previously collected by R3 on statewide solid waste rates and policies.

**Appendix E: Model Waste Enclosure Guidelines**

Contains sample waste enclosure guidelines to assess the sufficiency of service and egress space at generator sites for garbage, recycling, and organics service.

**Appendix F: Sample Waste Assessment Form**

Includes a template to help municipalities assess their commercial customers' compliance with local and state recycling requirements. This form is provided as a general guideline and should be modified to each jurisdiction's specific requirements and approved by the appropriate municipal staff before use.

**Appendix G: Supporting Education and Outreach Examples**

Contains examples of supporting education and outreach materials used by solid waste haulers and jurisdictions that have already implemented residential and/or commercial organic waste programs.

**Appendix H: Survey Chart Data**

Provides the data for the charts in Appendix E in an accessible format.

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# Section 1. Introduction

## *1.01. SB 1383 Regulations*

Within the draft regulations, three approved solid waste collection systems are identified, along with respective conditions that jurisdictions can employ to meet the new requirements. Under these provisions, there are container color and labeling requirements that must be observed.

If source-separated solid waste collection service (three-container or two-container systems) is provided in a jurisdiction, the jurisdiction will be responsible for monitoring the containers to minimize contamination. When contamination is discovered through monitoring, the jurisdiction must take specified actions. Jurisdictions will also be required to conduct education and outreach, inspections, and enforcement. Jurisdictions will need local ordinances that include participation enforcement mechanisms in order to meet the requirements of the regulations and to successfully implement effective and sustainable recyclables and organics management systems.

To ensure that the requirements discussed above are applied when a jurisdiction contracts with a private waste hauler to provide solid waste collection services, the regulations oblige jurisdictions to include fulfillment of these standards as a condition of contract approval and authorization to collect waste. Jurisdictions must require haulers to identify the facilities to which they will transport the waste collected. Jurisdictions will need to enforce these requirements and thus will need to include these requirements in their franchise agreement, permits, or contracts with organic waste haulers.

The provision to secure adequate capacity for organic waste recycling and edible food recovery introduces requirements that will significantly transform solid waste systems throughout the state. It includes a component designed to measure the volume of generated organic material and the current organic processing and edible food recovery capacity, as well as an implementation plan and schedule that addresses how capacity can be increased, if necessary, to meet the regulatory requirement.

## *1.02. Collection and Processing Cost Elements*

The regulations currently proposed by CalRecycle for the implementation of SB 1383 apply to all jurisdictions, hauling companies, pre-processing and processing facilities, and individual commercial and residential waste generators. Unless officially approved through a formal waiver or exemption process, jurisdictions must provide organics material collection service to all waste generators and, unless likewise approved for waiver or exemption, all waste generators must either subscribe to that service or self-haul organic waste to an approved organics processing facility.

As jurisdictions implement and expand programs to meet the regulations introduced with SB 1383 and prior legislation, new challenges are emerging. These include how to pay for the required organics collection program and the enforcement to ensure participation in the necessary organic waste collection services. Some jurisdictions are ahead of the curve and have progressively pushed towards diverting more organic

materials from their waste stream. On the other hand, some jurisdictions are just now beginning to realize the ramifications of electing to delay implementation of organic diversion programs.

The collection and processing systems outlined in the draft regulations will come at a cost to most jurisdictions, as the majority of local governments have not yet implemented solid waste systems that meet all of the regulation's requirements. This report addresses cost elements related to implementation of the regulations including:

- Containers and labeling
- Contamination monitoring
- Outreach and education
- Enforcement
- Routing/collection services
- Processing costs (i.e., organic waste processing)

Program changes in organics collection service, such as providing organics collection to every customer, have real costs to haulers, including:

- Potentially increased hauling distance for available organics processing capacity
- Potentially increased organics processing costs as compared to disposal costs
- Increased contamination, (e.g., by single-use food ware) as food scraps collection is increased
- Additional education and outreach to customers to reduce contamination
- Right-sizing collection containers as well as ensuring/maintaining the right fit for enclosures

Charging appropriate customer rates that cover the associated organics management expenses can help provide stability in the revenue generated through collection.

## *1.03. Methodology*

### 1.03.1 Survey to Collect Rate Structure, Funding, and Policy Data

In 2018, CalRecycle engaged R3 Consulting Group, Inc. (R3) to conduct the survey on the costs associated with implementing SB 1383. The primary objectives were: provide a comprehensive understanding of California's solid waste rates, policies, and programs that support organic waste infrastructure development, and develop resources for local jurisdictions to help address SB 1383 requirements.

To achieve the aforementioned goals, R3 first created an inventory of statewide solid waste rate and policy information from existing company data. Then a questionnaire was developed and distributed to sample jurisdictions from each of the four state regions (Region 1: Northern California; Region 2: Bay Area; Region 3: Central California; and Region 4: Southern California) to test its reliability and ease of use and to collect initial data.

Once R3's company data were aggregated, the sample data collection was complete, and the questionnaire content was finalized, R3 began the next phase, which included two components:

1. Contacting waste haulers and facility operators in person and/or via email and/or telephone to obtain information related to rates, anticipated capital investment, and facility capacity.
2. Conducting online research about the jurisdictions and distributing the online questionnaire (see sample in Appendix C) to all jurisdiction contacts and regional agencies throughout California, using the Local Assistance and Market Development's Electronic Annual Report (EAR) contact list. The first email was sent on May 31, 2018, and reminder emails were sent on June 13, 2018, and July 11, 2018. Telephone and/or email interviews of jurisdictions and regional agencies throughout the state were also conducted.

The questionnaire was intended to focus on jurisdictions with current organic processing infrastructure in order to establish service and rate benchmarks. R3 identified and surveyed 567 jurisdictions (including 58 counties, 482 cities, and 27 active regional agencies). Prior to distributing the questionnaire, R3 divided the target jurisdictions into three groups:

- **Primary List**: Jurisdictions Identified as Having Organics Infrastructure (all received emailed questionnaires plus phone and email contact to develop case studies)
- **Secondary List**: All Jurisdictions in California (all received emailed questionnaires)
- **Tertiary List**: Specific Targeted Priority List of Questionnaire Participants (all jurisdictions that did not respond to the questionnaire and had a population of 25,000 or greater received two follow-up phone contacts)

The questionnaire collected customer rate structure, funding, and policy data and then the data was aggregated at a regional level to provide jurisdictions, haulers, and facility operators with a level of confidentiality. The results revealed that jurisdictions, haulers, and facilities expressed several common challenges and barriers to complying with SB 1383 requirements:

- Current rate structures are inadequate to cover costs and ensure mandatory organics collection; rate-setting options may need to be considered.

- Necessary updates to contracting and enforcement options require additional staff resources and time.
- There is a lack of infrastructure for processing.
- Finalized regulations will not be available until early 2020.

An analysis of the questionnaire data enabled R3 to provide key findings, conclusions, and recommendations to overcome the identified concerns, all of which have been integrated into this report.

All data have been aggregated at a regional level to protect the confidentiality of jurisdictions, haulers, and facility operators.

## *1.04. Resources Toolkit*

The Resources Toolkit contained in this report includes model waste enclosure guidelines, supporting educational outreach examples, and case studies. These resources are designed for use by jurisdictions in their efforts to implement the requirements of SB 1383.

### 1.04.1 Case Studies

During the course of conducting the survey, R3 participated in discussions with jurisdictions, haulers, and facilities about implementing new programs related to organic material collection, tracking, and infrastructure development. These deliberations revealed a great variety of methods and degree of success with organic diversion program implementation from one jurisdiction to another. Given that the variations were generally driven by the existing conditions in each local agency, it was determined that other jurisdictions could avail themselves of the lessons learned and approaches taken by others, especially if their jurisdictions faced similar situations and challenges.

As such, included in this report are infrastructure and organics collection case studies of California jurisdictions and facilities that have implemented successful organics programs and have differing levels of compliance with SB 1383 program requirements. They illustrate various perspectives, experiences, and system options, driven by the featured jurisdictions' diverse circumstances (e.g., urban vs. rural, high vs. low population, small vs. large geographic area, etc.). The case studies are intended to serve as examples of proven approaches to creating the necessary infrastructure and providing the organics recycling services required under SB 1383, and to serve as inspiration to local agencies as they develop their own customized programs.

Highlighted in each organics collection case study is a gap analysis—a comparison between actual performance and desired outcome—to demonstrate each featured jurisdiction's progress toward achieving SB 1383 compliance. To illustrate SB 1383 compliance trends on a broader scale, this report incorporates survey data showing which mandated organics management components have typically already been addressed throughout the state, which ones still require implementation or improvement, and the impact of implementation on finances and customer rates.

## *1.05. Limitations*

- The survey did not address edible food recovery infrastructure and therefore discussion is not included in the report.
- The survey did not include participation from every jurisdiction, hauler, and facility in the state; not every entity was contacted and some that were contacted elected not to participate.
- Some questionnaire participants did not respond to every question.

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# Section 2. Key Findings

## *2.01. SB 1383 and Organics Recovery*

California has been a national leader in solid waste management and the diversion of recyclable and organic materials from landfilling. In 2016, SB 1383 moved the state in an even more progressive direction when the Legislature declared that:

- The organic disposal reduction targets are essential to achieving the 75 percent statewide recycling goal identified in Public Resources Code Section 41780.01.
- Achieving organic waste disposal reduction targets requires significant investment to develop organics recycling and recovery capacity.
- More robust state and local funding mechanisms are needed to support the expansion of organics recycling capacity.

In this section, we examine SB 1383 targets, the effect of the law's requirements on jurisdictions' services and costs, and the timeline for implementation of those requirements. This will help establish a foundational understanding of the challenges jurisdictions will face and the changes they may need to undertake to address the impacts of SB 1383 on their existing solid waste programs.

Please see Section 2.01.4 for a summary of findings related to SB 1383 and Organics Recovery.

### 2.01.1 SB 1383 Targets

SB 1383's statewide organics recovery targets cannot be imposed on individual jurisdictions. Unlike the good faith effort that is statutorily prescribed in the California Integrated Waste Management Act (IWMA, AB 939, Sher, Chapter 1095, Statutes of 1989) to monitor a jurisdiction's compliance, SB 1383 does not require jurisdictions to implement programs to achieve their own recycling target; the statute specifically states that the organics recovery target is statewide. SB 1383 is similar to other environmental quality regulations where regulated entities are required to implement specific actions rather than achieve set targets. For example, the California Global Warming Solutions Act (AB 32, Núñez, Chapter 488, Statutes of 2006) established GHG reduction targets for the state and implemented Cap-and-Trade regulations requiring businesses to take specific prescribed actions—as opposed to achieving a specific target—prior to the enforcement date.

Since SB 1383's regulations are designed to affect the degree of change required for California to reach its statewide targets, CalRecycle will have the authority to compel jurisdictions to comply with the regulations starting in 2022. Specifically, all California jurisdictions (unless exempted because they are rural and/or low-population areas) will be required to provide organics material collection service to every waste generator—millions of businesses and households—within their geographic boundaries.

Jurisdictions will be required to adopt enforceable ordinances or other mechanisms to ensure that generators are compliant with SB 1383 regulations, and to enable enforcement and penalty assessment for noncompliance to begin in 2024.

All waste generators are required to either subscribe to organics material collection services or self-haul their source-separated organics to approved organic processing facilities, unless they are managing the material on site, using a community composting site, or are among the groups that qualify for a short-term waiver (e.g., commercial businesses that are located in a jurisdiction that has been granted a low population waiver, are low-volume generators, or have physical space constraints for organic waste containers. For more information on physical space requirements for containers, please see Model Waste Enclosure Guidelines in Appendix E).

***What is "Organic Waste"?***

In SB 1383 the state defines "organic waste" as solid wastes containing material originated from living organisms and their metabolic waste products including, but not limited to:

- Food
- Green material, landscape and pruning waste
- Organic textiles and carpets
- Wood
- Paper products, printing and writing paper
- Manure, biosolids, sludge, digestates

### 2.01.2 Organics Collection Service – Offered vs. Required

The difference between offering and requiring organics collection service is more than semantics, because simply offering it to waste generators as an optional service does not adequately encourage them to subscribe. For that to happen, subscription must be mandatory, preferably provided via one bundled rate for garbage, recycling, and organics (see additional discussion below under "Rate Structure Options"), and effectively enforced with penalties on haulers and waste generators.

Currently, there remains a daunting gap between the number of California jurisdictions that report to offer organics collection service and those that actually require generators to subscribe to mandatory service. Almost 100 percent of questionnaire respondents indicated that their jurisdictions already offer residential and commercial organics (usually green waste only) collection service (95 percent offer to multi-family and 99 percent offer to both single-family residential and commercial).

*Nearly 100 percent of questionnaire respondents currently offer organics collection service.*

*Only 36 non-rural jurisdictions reported to CalRecycle that they require commercial generators to subscribe to organics collection service.*

While AB 1826, which requires businesses to recycle their organic waste depending on the amount of waste they generate per week, went into effect in California in 2016, the

state has not seen 100 percent compliance rates, primarily due to the lack of mandatory service. According to CalRecycle's 2017 Mandatory Commercial Organics Recycling (MORe) data, only 36 of California's 359 non-rural jurisdictions currently require commercial generators to subscribe to organics collection. Of those, only 15 (42 percent) of the jurisdictions are enforcing the mandate.

This shortfall of compulsory organics collection programs represents one of the chief challenges of achieving compliance with SB 1383 requirements and subsequently meeting the statewide organics recovery targets. It further underlines the need for jurisdictions to implement mechanisms to enforce the requirements of SB 1383 in order to close that gap.

According to CalRecycle's MORe data, the cities of Baldwin Park and Hawthorne (in L.A. County), Monterey, Napa, and Sacramento are among the 15 jurisdictions enforcing their mandatory commercial organics collection services. Although the City of Los Altos isn't enforcing mandatory organics, they have implemented a successful program that requires its exclusive hauler, Mission Trails Waste Systems, to reach a 78 percent diversion requirement, which in turn incentivizes the hauler to provide (not just offer) organics collection service. Built into their franchise agreement is a financial penalty (the current disposal cost/ton for each ton under the diversion guarantee) that could be enforced for failure to meet the minimum annual diversion guarantee.

### 2.01.3 SB 1383 Requirements and Potential Costs

To better understand the costs that jurisdictions will face when implementing program changes that facilitate compliance with SB 1383 requirements, it is helpful to examine the mandated components. For an up-to-date, detailed description of all of the requirements, please visit CalRecycle's website at: www.calrecycle.ca.gov/Climate/SLCP.

#### 2.01.3.i Containers and Labeling

Jurisdictions must adopt a 1-container, 2-container, or 3-container system* that complies with container/lid color and labeling requirements, by specified dates. In some cases, physical space constraints may impact generators' ability to comply with the new container requirements, possibly resulting in a short-term waiver or exemption. (Please see "Model Waste Enclosure Guidelines" in Appendix E for additional information.)

The following is a description of the container systems, including examples of jurisdictions that are meeting the requirements (to the extent that elements of compliance are known, certain elements such as the recovery efficiency of the receiving

* Jurisdictions may choose to require additional segregation of source separated organic waste by providing multiple additional source separated organic waste containers or additional sections of split containers.

facility are not currently measured and therefore whether the service meets the requirements cannot be verified):

- **1-Container System**
  Jurisdictions may comply with regulations by providing a single gray container/lid that allows for intentional commingling of all collected wastes, including organics, as long as the contents are transported to a high-diversion organic waste processing facility. Jurisdictions may allow organic waste to be placed in bags for collection. The City of Irwindale currently provides all residents with collection services in one container through their franchised hauler, Athens Services.

- **2-Container System**
  This option allows jurisdictions to provide either of two options, where containers are clearly labeled for allowable/unallowable contents: a green container/lid for organic waste plus a gray for waste and those organics not designated for the green container; or a blue container/lid for non-organic recyclables and a gray for all waste and organics. Split container(s) are allowed, as is organic waste collected in plastic bags and placed in containers. The contents of the containers for organics must be transported to facilities that process and/or recover the contents in accordance with CalRecycle's requirements (for specifics, please visit CalRecycle's website at: www.calrecycle.ca.gov/Climate/SLCP). The City of Escalon's franchised hauler, Gilton Solid Waste, provides residents with a 2-container system that features a gray container for garbage, including plastic, bottles, and cans, and a green container for yard, paper, and food waste. The City of Irwindale is currently in negotiations to amend their residential system from a 1-container to a 2-container system.

- **3-Container System**
  While there are several variations allowed under this system, the simplest way for jurisdictions to comply is by providing a green container/lid for organics (including food waste) for all customers, blue for non-organic and specified organic recyclables, and gray for non-organic and non-recyclable waste. The requirements regarding labeling, split container(s), and organic waste collected in plastic bags are identical to those under the 2-container system, but additional containers for source-separated organic waste (e.g., brown for food waste) are also allowed. The contents of the containers must be transported to facilities that process and/or recover the contents in accordance with CalRecycle's requirements (for specifics, please visit CalRecycle's website at: www.calrecycle.ca.gov/organics/slcp). The City of Rolling Hills Estates (featured as in Appendix B: Organics Collection Case Studies) provides a 3-container system through its franchised hauler to their residents and businesses. The City of Santa Clara is currently negotiating with their solid waste hauler to provide a split green container (one side for

food and the other for yard waste) and will address the necessary labeling once SB 1383 regulations are finalized.

- Regardless of the container system employed, jurisdictions should be assessing if their current collection programs meet SB 1383 requirements. If they currently fall short of the requirements, they must begin planning for all necessary expansion, change, and associated costs.

2.01.3.ii Monitoring for Container Contamination

To minimize prohibited contaminants, jurisdictions are required to monitor their customers' 2- and 3-container systems by conducting either of the following reviews:

- Random, annual route reviews on all collection routes; or
- Waste composition studies of all container types, twice per year (in distinct seasons), in sampled collection routes in different areas of the jurisdiction.

Some jurisdictions may become exempt from these monitoring requirements by demonstrating high compliance levels. (For more details, please visit CalRecycle's website at: www.calrecycle.ca.gov/organics/slcp.)

Many cities, including Beaumont, Galt, and Rolling Hills Estates, have recently negotiated contracts with their solid waste haulers that include a specific protocol for monitoring recycling and organics contamination levels. Under their agreements, contamination of recyclables and organic materials is defined, and the hauler is required to provide the correct combination of containers and collection frequency to match the needs of each generator. For additional information on Beaumont's and Rolling Hills Estates' enforcement mechanisms, please see Appendix B: Organics Collection Case Studies.

2.01.3.iii Record-Keeping

Jurisdictions are required to keep records documenting their compliance with SB 1383's contamination minimization requirements. Jurisdictions will also be required to submit an annual report and provide specified information.

As jurisdictions are allowed to comply with the contamination monitoring and record-keeping/reporting requirements (and other sections of SB 1383) through a designee, this may be an ideal responsibility to assign to the waste hauler. Handling of waiver requests should reside with the jurisdiction.

The franchise agreement is an efficient vehicle for providing the hauler and jurisdiction with an adequate plan to audit for contamination. Whether jurisdictions conduct the monitoring requirements themselves using municipal employees or designate their haulers to handle them, there will be additional costs that must be planned for and covered. These costs will vary from one jurisdiction to another; those already in compliance with AB 1826 will likely see smaller cost impacts.

2.01.3.iv Outreach and Education

To increase customer participation and reduce contamination, it is crucial to teach generators how to properly manage their organic material. As such, jurisdictions must annually educate all organic waste generators, commercial edible food generators, and self-haulers about the relevant SB 1383 requirements. Prior to February 1, 2022, jurisdictions must begin providing information to all organic waste generators, through print or electronic media or direct contact (e.g., workshops, meetings, or on-site visits). Although not required, using a waste assessment form during direct contact has been proven to be a useful tool in educating waste generators. Please see Appendix F for a sample "Waste Assessment" form that was recently used by the City of Rancho Cordova. Appropriate educational material must be provided to linguistically isolated households.

Jurisdictions have the option of complying with SB 1383's education and outreach requirements through their haulers. To maximize success, it will be necessary to establish specific hauler outreach and education requirements that may exceed the requirements of SB 1383, as well as detailed reporting of activities.

If unable to attain full hauler participation in outreach and education efforts, local agencies must be prepared to either provide these services, procure separately for such services, or do a combination of both. In either case, jurisdictions must expect to incur costs to cover the provision of this mandated outreach and education. As with the record-keeping requirement, there may be a larger cost impact on jurisdictions that haven't already implemented the outreach and education requirements of AB 1826.

*Rates not passed by jurisdictions or their elected officials ≠ an extenuating circumstance.*

For additional resources on this subject, visit CalRecycle's website at www.calrecycle.ca.gov/Climate/SLCP. Please also see Supporting Education and Outreach Examples in Appendix G, which include materials that the City of Corte Madera used to launch its organics program. This program was funded by a county grant.

### 2.01.3.v Enforcement of Compliance with SB 1383 Regulations

SB 1383 includes enforcement components to ensure that its regulations are followed, but the law was designed to enable jurisdictions to implement the requirements in phases, in order to maximize their generator's potential for compliance. See Table 1 below for a timeline of the phases of SB 1383 enforcement.

Since jurisdictions will be responsible for enforcing the regulations that affect the generators and haulers within their local boundaries, and documenting compliance, this aspect of the law has the potential to significantly burden them with time and cost impacts. As such, jurisdictions may choose to have a designee conduct inspections and enforce other SB 1383 requirements, which may alleviate their time demand but potentially cost more than managing this requirement with in-house staff. However, enforcement may be challenging for non-jurisdictional entities to conduct.

Given the time and cost implications, jurisdictions need to plan for implementing the SB 1383 enforcement requirement. Even those jurisdictions that are already fully implementing the AB 1826 enforcement requirements through their franchise agreements and ordinances may need to rewrite that language to address the specific stipulations of SB 1383. For example, in preparation for SB 1383 requirements, the City of Beaumont (see Appendix B: Organics Collection Case Studies) added staff to handle monitoring and enforcement duties. Other jurisdictions have addressed the costs of enforcement via franchise agreements that require their haulers to pay for municipal staff or staff their own enforcement position(s).

#### 2.01.3.vi Local Ordinances or Similarly Enforceable Mechanisms

By January 1, 2022, jurisdictions need to adopt an ordinance or similarly enforceable mechanism, such as a franchise agreement, that mandates SB 1383's regulatory requirements (see "Solid Waste Collection Service Methods" for more information on this subject). Based upon case study information and R3's experience, it can take a year or more to implement an enforceable mechanism, such as a franchise agreement amendment.

According to the results of the questionnaire, 43 of 116 respondents (or 37 percent of respondents) said they are considering developing a local ordinance or policy to encourage organics recycling infrastructure development. Some respondents further indicated that their plans included: developing local enforcement mechanisms, hiring a third-party to conduct organics planning services, or waiting for final legislation before making any policy decisions.

#### 2.01.3.vii CalRecycle Enforcement of Jurisdictions' Compliance

CalRecycle's adopted regulations impose requirements that are necessary to achieve the statewide target. As such, on January 1, 2022, CalRecycle will begin enforcing jurisdictional compliance with SB 1383 standards.

Under SB 1383 regulations, if CalRecycle determines that a jurisdiction is out of compliance, the regulations allow CalRecycle to issue a Corrective Action Plan (CAP) rather than an immediate fine. The CAP is modeled from the Notice and Order Process that is used for noncompliance with solid waste facilities and offers jurisdictions an opportunity to avoid penalties if they demonstrate that they have made substantial progress toward achieving the prescribed milestones. A CAP can only be issued when there are mitigating factors and extenuating circumstances that are beyond the legal authority of the jurisdiction. Failure to adopt an ordinance or adequately fund a program is not a mitigating factor or extenuating circumstance and will not allow a violation to be subject to a CAP.

#### 2.01.3.viii Educating Elected Officials

To maximize the likelihood of successfully implementing SB 1383's requirements, jurisdictions should include early efforts to educate their city council, board members, and mayors of the details and ramifications of the regulation. Building an early alliance with elected officials is a best practice for increasing their support of enforcement mechanisms like franchise agreement changes and new ordinances.

The City of Temple City educated their elected officials and the general public at the early stages of negotiations with their franchised hauler. Similarly, the Marin Franchisor's Group, made up of the cities of San Rafael, Larkspur, and Ross, the County of Marin, and the Las Gallinas Valley Sanitary District, educated their elected officials via a series of committee meetings and inter-agency study sessions. These sessions addressed the root causes of needed rate increases, which included ramp up of existing organics programs, reduced recyclables revenues, and increasing labor costs. Study sessions were conducted informally, and held outside of regularly scheduled meetings to afford elected officials time to ask detailed questions, discuss the impact of needed rate increases, and provide feedback regarding key points necessary for formal approval. Overall, these sessions spanned the roughly one year that it took to negotiate needed service changes and costs, which meant that elected officials were thoroughly briefed and comfortable unanimously adopting needed rate increases. As a result, there was only one protest to the rate increase over the five agencies involved.

*It is important to educate elected officials and organic waste generators during the rate adoption process.*

**Table 1. Timeline of SB 1383 Requirements**

**January 1, 2022: REGULATION IMPLEMENTATION PHASE**

SB 1383 regulations take effect

- State enforcement of jurisdictions begins
- Jurisdictions must have the following components in place:
    - Prescribed organics collection service for all residents and businesses
    - Edible food recovery program
    - Education and outreach program for generators
    - Procurement of recycled and recovered organic products
    - Plan for adequate capacity for recycling organic waste and edible food recovery
    - An enforcement mechanism (e.g., ordinance, franchise agreement, policy, or permit).

**Between January 2022 and December 2023: EDUCATION PHASE**

- Focus on educating generators before the enforcement and penalty phase begins:
    - Provide ample time for generators to understand the requirements and successfully implement compliance strategies.
- Jurisdictions must identify generator violations through the following mechanisms, and provide educational material to noncompliant generators:
    - Compliance reviews of garbage accounts to determine their compliance with organic waste generator requirements and self-haul requirements
    - Route reviews to assess compliance with organic waste generator requirements and container contamination requirements
    - Documentation of violations by entities that are out of compliance
    - Written reports for each inspection, route review, and compliance review

**After January 1, 2024: ENFORCEMENT & PENALTY PHASE**

- Jurisdictions begin enforcing regulations
- Jurisdictions take enforcement action against all noncompliant generators and haulers.

The regulations carry significant penalties for noncompliance based on the type, duration, and level (first, second, or subsequent) of violation.

### 2.01.4 SB 1383 and Organics Recovery – Findings

- Jurisdictions must begin assessing their current organics programs to determine what is needed to comply with SB 1383 regulations and begin planning for and implementing all required changes and costs within CalRecycle's mandated timeline.
- The difference between offering and requiring organics collection service is more than semantics, because simply offering it to waste generators as an optional service does not require them to subscribe. For that to happen, subscription must be mandatory and effectively enforced with penalties on haulers and waste generators.
- A CAP may be issued by CalRecycle to noncompliant jurisdictions, rather than immediately issuing a fine, when there are mitigating factors or extenuating circumstances. Failure to pass new customer rates to adequately fund SB 1383 requirements will not be viewed as an extenuating circumstance or qualify for CAP consideration.
- It is important to educate elected officials and organic waste generators about the nature of organic waste, the environmental importance of diverting it from landfills, and how to properly manage it in order to comply with SB 1383 regulations. Equally important is ensuring, during the rate adoption process, that both groups understand the state-mandated necessity and consequent cost of organics collection, and the reality that generators will likely need to pay more to cover the cost of those new services. This will maximize the chances of successfully passing any necessary rate increases to cover the costs of collecting and processing organic material.

## *2.02. Current Rates and Services in California*

Much attention has been focused on how jurisdictions will implement the expanded services and requirements—and cover the associated costs—necessary to comply with SB 1383, which authorized local jurisdictions to charge and collect fees to recover the costs necessary to comply with SB 1383 regulations. Doing so will, by extension, impact customer rates.

In the following sections, we explore the various methods by which California jurisdictions currently provide solid waste collection services, structure customer rates, and adjust those rates to address changes in legislation, commodity prices, services, and costs. This information is intended to assist jurisdictions in their efforts to plan for and comply with the requirements of SB 1383.

In all likelihood, jurisdictions will need to increase rates and amend their franchise agreements, where

*Jurisdictions may not have adequate services or rates to provide for necessary changes in collection programs. In all likelihood, jurisdictions will need to increase rates and amend their franchise agreements to support SB 1383 compliance.*

applicable, to provide for the necessary changes in collection programs mandated through SB 1383.

The majority of California jurisdictions have an exclusive franchise for solid waste collection service. This method could be advantageous compared to multiple-hauler systems when it comes to contract negotiations regarding implementation of SB 1383 components. Jurisdictions with municipal operations benefit from having no contracts to manage and more control over their services and rates, but their jurisdictional staff handles all compliance with regulations and requirements, which may prove burdensome during SB 1383 implementation, monitoring, reporting, and enforcement.

Please see Section 2.02.7 for a summary of findings related to current rates and services in California.

### 2.02.1 Solid Waste Collection Service Methods

California jurisdictions provide solid waste collection services to their customers through the following three (3) major methods:

- Exclusive Franchise Service
- Non-Exclusive Franchise Service
- Municipal Service

A comparison of the advantages and disadvantages of each collection service method is provided in Tables 2 and 3 below. The relative ease or difficulty of implementing changes to rates and services through each of the methods will impact jurisdictions as they plan for and enact the requirements of SB 1383.

2.02.1.i Private Sector Franchise Service

- **Exclusive Franchise Service**
  Under this system, a franchise agreement grants exclusive rights to an individual hauler to provide designated solid waste collection services for some or all waste streams (e.g., refuse, recycling, organics, bulky items) and generating sectors (e.g., residential or commercial), within a defined geographic area (typically an entire city or town). In this arrangement, the franchisee is the only authorized service provider for the designated services, generators, and location. This is the most common type of service agreement in the state of California, as supported by questionnaire results: 84 percent of the 378 respondents stated they have an exclusive franchise agreement for commercial and single-family residential service and 89 percent reported they have an exclusive franchise agreement for multi-family service. As illustrated in Table 2, exclusive franchise agreements provide a number of significant benefits, particularly with regard to consistency and ease of coordinating and monitoring programs and services. The City of Half Moon Bay is one of several jurisdictions featured in Appendix B: Organics Collection Case

Studies that has an exclusive franchise service agreement with its solid waste hauler.

  - **Districted Franchise Service**
    Under this type of exclusive franchise system, jurisdictions issue multiple exclusive franchise agreements to various haulers, each for a defined service area and/or specific waste stream and/or generating sector (e.g. commercial or residential). The cities of Chico, Fresno, Oakland, Santa Clara, San Jose, and Los Angeles, and the County of Los Angeles have districted franchise service systems, but only two percent of questionnaire respondents reported that they use this service arrangement.

- **Non-Exclusive Franchise Service**
  In a non-exclusive franchise or permit system, multiple solid waste franchisees (haulers) are authorized to compete within a designated service territory. The main characteristic of this system is its free market structure, which provides individual accounts with the ability to select among multiple service providers based on service, cost, and/or other considerations. This service model is most typically used for commercial solid waste collection services. Four percent of the jurisdictions that responded to the questionnaire utilize this system. The Sacramento Regional Solid Waste Authority (SWA), which includes the City and County of Sacramento, currently has 19 permitted franchised haulers that are allowed to operate within the SWA service region.

2.02.1.ii Public Sector Service

- **Municipal Service**
  In this system, a jurisdiction provides solid waste collection services with municipal staff and equipment rather than contracting with a private sector service provider. Six percent of questionnaire respondents use this approach. The cities of Roseville and Merced provide municipal service to all residential and commercial customers, while other jurisdictions provide municipal service to residential customers but compete with haulers for the commercial and multi-family sectors (e.g., City of Glendale), or allow the private sector to provide all commercial services (e.g., City of Sacramento).

**Table 2. Advantages of Solid Waste Collection Service Methods**

| | Private / Franchised Exclusive | Private / Franchised Districted | Private / Franchised Non-Exclusive | Public Municipal |
|---|---|---|---|---|
| One Hauler to Monitor and Handle SB 1383 Requirements | Yes | No | No | No |
| One Agreement to Manage and Update | Yes | No | No | No |
| Consistency of Outreach and Education Programs | Yes | No | No | Yes |
| Operational Efficiencies | Yes | Yes | No | Yes |
| Reduced Environmental Impacts—Fewer Haulers per Area | Yes | Yes | No | Yes |
| Relative Ease Implementing New Programs and Services | Yes | No | No | Yes |
| Individualized Agreements | No | Yes | No | No |
| Services Customized to Each Franchise Area's Needs | No | Yes | No | No |
| Customers Can Select Among Multiple Service Providers | No | No | Yes | No |
| Competitive Market Pressure—Low Rates and High-Quality Service | No | No | Yes | No |
| Direct Control over Costs, Rates, and Services | No | No | No | Yes |
| No Contract(s) to Manage or Amend | No | No | No | Yes |
| Ability to Implement Rate Structure with Financial Incentives for Customers and Full (Public or Private) Cost Coverage | Yes | Yes | Yes † | Yes |

† Contracting municipalities can, but do not need to, regulate rates. Even if a municipality does not regulate rates it can require a bundled rate structure and mandatory SB 1383 service, with the private haulers setting their bundled rates.

**Table 3. Disadvantages of Solid Waste Collection Service Methods**

| | Private / Franchised Exclusive | Private / Franchised Districted | Private / Franchised Non-Exclusive | Public Municipal |
|---|---|---|---|---|
| Customers Can't Select Service Provider | Yes | Yes | No | Yes |
| No Market Competition to Keep Prices Low and Service Quality High | Yes | Yes | No | Yes |
| Potential Differences in Rates in Franchise Areas for Similar Services | No | Yes | No | No |
| Multiple Agreements to Manage and Update | No | Yes | Yes | No |
| Requires Coordination of Outreach and Education Programs | No | Yes | Yes | No |
| Multiple Haulers to Monitor and Handle SB 1383 Requirements | No | Yes | Yes | No |
| Increased Jurisdictional Responsibility—Manage and Hire and Fire Staff, Regulation Compliance, Monitoring, Reporting, Equipment Maintenance | No | No | No | Yes |
| Lack of Corporate Backing and Resources, Including Training | No | No | No | Yes |
| Less Control Over Fleet Maintenance and Risk and Safety Management | No | No | No | Yes |
| Need to Regulate Rates | Yes | Yes | Yes ‡ | Yes |

### 2.02.2 Maximizing Organic Material Diversion

Since the passing of the IWMA, residential and commercial rates in California have generally been structured to provide financial incentives to accounts to maximize their diversion of materials through available diversion programs. This has largely been effective in the residential sector where diversion rates of 50 percent or more have been

‡ Jurisdictions can, but do not need to, regulate non-exclusive hauler rates.

achieved with well-designed and well-operated diversion programs (e.g., in Napa County, the South Bayside Waste Management Authority, and RethinkWaste, a Joint Powers Authority that includes 12 agencies).

Within the commercial sector, however, overall diversion rates have been significantly lower. This is due in part to the fact that, even with Mandatory Commercial Recycling (AB 341, Chesbro, Chapter 476, Statutes of 2006) (MCR), many commercial accounts still do not subscribe to the available commercial recycling services. While covered generator subscription rates of 60-80 percent are not uncommon, that still leaves approximately 20-40 percent of commercial accounts that are not recycling.

Mandatory Commercial Organics Recycling (AB 1826, Chesbro, Chapter 727, Statutes of 2014) (MORe) covered generator subscription rates are significantly lower than those for MCR, which are 10 percent or less in certain jurisdictions. In addition to the lack of available processing capacity in certain regions, this is largely due to the lack of mandatory service and penalty assessment for noncompliance. As documented earlier in this report, only 15 of the 36 non-rural California jurisdictions that require mandatory commercial organics collection service are actually enforcing that requirement. Some businesses are diverting organic material because it is the environmentally responsible option, but many base their decision solely on the bottom line.

The implementation of enforceable mandatory organics collection service through SB 1383 should have a significant and positive impact on diversion rates. The more that commercial customers can be financially incentivized through the rate structure to maximize diversion of the organic materials that they generate, the less effort jurisdictions will have to expend to encourage or enforce their compliance.

#### 2.02.2.i Optimizing Collection Efficiency—Minimizing Unit Costs

SB 1383 establishes mandatory organics collection service, where every account receives and pays for organics collection services. Mandatory service optimizes collection efficiencies and distributes fixed costs across all accounts, in turn reducing the cost per unit as compared to non-mandatory service. A mandatory service system, which SB 1383 establishes for organic materials, is the most cost-effective and efficient materials management system.

#### 2.02.2.ii Components Necessary to Maximize Organic Material Recovery

Maximizing the recovery of organic materials from California's waste stream requires two conditions:

1. **Maximize Subscription Levels**: All customers that generate organic material must be provided with (mandatory) organic collection services. SB 1383 establishes the mandatory service required for California to maximize its organics diversion.
2. **Maximize Target Material Capture Rates**: All customers must maximize diversion of the organic material that they generate. Jurisdictions can provide

rate (financial) incentives for customers to fully participate in available diversion programs by maximizing target material capture rates.

*California jurisdictions have historically provided mandatory residential solid waste collection services through a bundled solid waste rate.*

To envision an optimal commercial organics diversion system, one needs to look no further than the hundreds of residential collection systems in California that have historically provided mandatory garbage, recycling, and yard waste collection services within a bundled rate structure. With limited exceptions, residents are not given a choice to subscribe to each service – all services are mandatory. The revenues to cover those costs are typically collected through a single "bundled" solid waste rate that is based on the solid waste service level. Such a bundled rate structure provides a significant financial incentive for customers to maximize their diversion of recyclables and yard waste, and minimize their garbage service levels. More information on bundled rates is included in the Bundled Rate Structure section, starting on page 24.

While SB 1383 mandates participation, incentivizing customers to comply is certainly preferable to, more efficient, and likely more effective in terms of maximizing the recovery of organics than enforcement efforts alone. One would expect that a customer that wants to divert its organic materials will divert more than one that is forced to divert. As such, creating financial incentives for customers to fully utilize available organics collection services should be an objective of every organic rate structure in California (see Rate Structure Options below).

### 2.02.3 Customer Rates

Customer rates for garbage, recycling, and organic materials management are typically comprised of the following general cost categories:

- Collection
- Recyclable materials processing costs
- Organic materials processing costs
- Solid waste disposal costs
- Public agency fees

While some rate structures may differentiate various cost categories and adjust those individual cost categories by an associated adjustment factor (see discussion in "Rate-Adjustment Methods" below), rates are most commonly presented in a customer invoice as a single solid waste rate. To some extent this has supported the misconception that recycling and organics collection services are free.

#### 2.02.3.i Rate Variations Between Jurisdictions and Services

Solid waste rates can vary considerably among jurisdictions depending on such factors as the services offered, level of service, contractual requirements, rate structures,

subsidies among lines of business, and the distribution of customers among each subscription level.

Likewise, rates for different collection services (e.g., garbage vs. organics) vary throughout the state. In fact, the questionnaire found that commercial organics rates ranged from approximately 65 percent less to more than double the garbage collection rate. Some jurisdictions provide organics collection for free. The City of Santa Monica (a municipal collection operation), for example, furnishes food waste recycling containers at no additional charge to restaurants in their commercial customer base.

It costs more to collect, process, and market organics than it does to landfill them. As such, one may expect to pay a higher tipping fee for organics that are to be processed (e.g., composted, anaerobically digested) rather than landfilled. In fact, organic waste recovery tipping fees are higher than solid waste disposal tipping fees in certain areas, as seen below in Table 4.

**Table 4. Sample Tipping Fees Per Ton—Higher Organics Fees[§]**

| Facility | Location | Landfill/Garbage Disposal | Food Waste Processing |
|---|---|---|---|
| Athens Sun Valley Material Recovery Facility (MRF) | Sun Valley | $78.00 | $94.00 |
| Regional Organics Anaerobic Recovery (ROAR)—Perris MRF and AD Facility and Orange County Landfill System | Perris/Orange County | $35.00 | $125.00 |
| WM CORe[**] | Orange County | $35.00 | $99.00 |
| Puente Hills MRF | Whittier | $67.60 | $70.00 |
| West Valley MRF | Fontana | $49.90 | $84.24 |
| Stanton Recycling and Transfer Facility | Stanton | $75.00 | $80.00 |

The majority of questionnaire respondents reported that their mixed organic material processing fees are below $100/ton, green materials are below $50/ton, and food waste is between $50-100/ton. Compare those fees with the garbage disposal tipping fees of

[§] Data compiled by R3 Consulting Group, 2019.

[**] Waste Management's CORe facility in southern California converts food waste into a renewable energy.

$35-80/ton reported to R3 by facilities in Southern California (see Table 4), and keep in mind that the tipping fees for disposal tonnages include myriad costs specific only to disposal, thereby making a strict dollar comparison of organics versus garbage tipping fees a bit misleading. While organic waste recovery tipping fees are higher than solid waste disposal tipping fees in certain areas, that is not always the case. Certain facilities offer a lower tipping fee for food waste than they do for garbage, as displayed in Table 5. That lower organic tipping fee may be due to a variety of factors, including: the impact of fees specifically assigned only to disposal tonnages; facility pricing strategies; and other factors.

**Table 5. Sample Tipping Fees Per Ton—Higher Garbage Fees ††**

| Facility | Location | Landfill/Garbage Disposal | Food Waste Processing |
|---|---|---|---|
| Berkeley Transfer Station | Berkeley | $126.00 | $67.00 |
| Marin Resource Recovery Center | San Rafael | $110.85 | $57.70 |
| Monterey Peninsula Landfill | Marina | $62.00 | $54.00 |
| Redwood Landfill | Novato | $56.01 | $44.80 |

2.02.3.ii Public Agency Fees

Public agency fees, such as franchise fees, IWMA fees (also referred to as AB 939 fees), potential SB 1383 fees, or host fees, are a common means of generating revenue. In fact, according to the questionnaire, 77 percent of respondents already include franchise fees in their solid waste collection rates, 57 percent include landfill tipping fees, 49 percent include recycling processing fees, and 45 percent include organic processing fees.

In the case of the IWMA, for example, for which 43 percent of questionnaire respondents already include a fee in their rates, CalRecycle authorized local jurisdictions to impose fees on their generated solid waste to cover their actual costs to prepare, adopt, and implement integrated waste management plans, and to set and collect the local fees.

†† Data compiled by R3 Consulting Group, 2019.

### 2.02.4 Rate Structure Options

Jurisdictions commonly use one of the three following rate structures to set customer rates for garbage, recycling, and organics collection services:

- Cost-of-Service
- Bundled
- Subsidized or Discounted

The advantages and disadvantages of each option should be carefully considered when planning for organic collection services that meet SB 1383 requirements.

*SB 1383's mandatory commercial organics service requirement provides the framework necessary to maximize organics diversion.*

*With that mandatory system in place, organics collection rates can be structured to incentivize businesses to maximize their diversion of the organic materials that they generate.*

2.02.4.i Cost-of-Service Rate Structure

As the name implies, cost-of-service rates reflect the full cost of providing the associated service, without any subsidy or surplus. This rate structure ensures that even if customers shift from one level of service to another, they will pay rates that are proportional to the true cost of that particular service, and haulers will receive sufficient revenues to cover the associated costs. Given that the cost of organics collection and processing is generally higher than the cost of solid waste service, there is a financial disincentive for customers to divert organics if organics rates are directly set based on the actual cost rather than accounted for within a bundled rate or some form of subsidized rate structure, as discussed below.

In the case of solid waste collection, the costs for providing garbage, recycling, and organics collection services are largely fixed and generally comparable. Additionally, the actual cost to provide service is typically only minimally impacted by the container size and primarily driven by the cost of collection. It requires the exact same truck and driver resources—the bulk of the collection expense—to collect garbage, recycling, or organics regardless of the size of the container. As a result, cost-of-service rates produce a much flatter rate structure than other methods, with less difference between the lowest and highest cost service levels. In the case of variable can rate structures in which there is a significant difference in the cost between container sizes, switching to a cost-of-service rate structure will result in an increase in the cost of the lower service levels and a decrease in the cost of the higher service levels, assuming all other factors are the same (see below *"*Rate-Adjustment Option with no Impact on Revenue—Cost-of-Service Rate Adjustment*"* for additional information on cost-of-service rate adjustments and *"*Imposition of Fees on Parcels*"* for related information on Proposition 218).

**Table 6. Cost-of-Service Rate Structure**

**PROS**

- Rates are directly proportional to costs and easy for customers to understand.
- No financial disincentives to haulers to increase diversion subscription levels.
- Larger volume generator rates will likely decrease, with all other factors the same.

**CONS**

- No financial incentives for generators to increase diversion.
- Potentially significant rate increases for smaller volume generators.

2.02.4.ii Bundled Rate Structure

Under a bundled rate structure, the costs for solid waste, recycling, and organics collection service are included in a single solid waste rate tied to the weekly solid waste service level (e.g., 30-, 60-, 90-gallon containers). Since there is no additional cost to customers for recycling or organics services, this rate structure provides a powerful financial incentive for customers to maximize their diversion of recyclable and organic materials, minimize their solid waste service levels, and reduce their associated cost. Bundled rates provide the maximum financial incentive to actively divert materials, short of paying customers to divert those materials.

A significant issue with bundled rates specific to non-mandatory commercial recycling and organic collection systems, however, is that they can provide a financial disincentive for haulers to increase recycling and organic subscription rates. There is a significant cost to haulers to provide separate recycling and organics collection services because they require running additional collection operations. Under a bundled rate structure there is no direct revenue associated with the recycling and organic collection systems, since haulers are only compensated through the solid waste rates. As customers increase their diversion and reduce their solid waste service level, haulers' solid waste rate revenues decrease. In short, the more customers use the private haulers' diversion programs the more it costs the private haulers to operate those programs and the less revenue they receive. This problem may be heightened within non-exclusive collection systems where there are market pressures to keep rates competitive.

Some examples of successful garbage/recycling/organics bundled rate structures include programs in the cities of Half Moon Bay and Rolling Hills Estates. Each of these jurisdictions has successfully implemented mandatory residential and commercial

recyclable and organic material diversion programs within a bundled rate structure. Additional information is included on each of these jurisdictions in Appendix B: Organics Collection Case Studies.

**Table 7. Bundled Collection Rate Structure**

**PROS**

- Financial incentive for customers to divert organics and recyclables.
- Simplified billing.

**CONS**

- Financial disincentive for haulers to divert organics and increase recycling and organic collection subscription levels if rates not adjusted to account for increased costs.

***Note**: This limitation does not exist within a mandatory system with a well-designed bundled rate structure and rate-adjustment methodology*.

2.02.4.iii Subsidized and Discounted Rate Structure

Under this rate structure recycling and organics rates are discounted to encourage higher levels of customer participation and, ultimately, diversion. Subsidized rates present the same pros and cons as bundled rates related to customer incentives and hauler disincentives, although both the financial incentives to customers and the financial disincentives to haulers to increase diversion are less pronounced than with bundled rates. This is due to the fact that with a subsidized rate structure customers pay some additional cost and haulers receive some additional rate revenue for those services. Under a bundled rate structure, customers do not pay any additional costs to participate in recycling and organics services and haulers do not receive any additional rate revenue for providing them, since they are compensated based on a single rate for all three services.

**Table 8. Subsidized or Discounted Rate Structure**

**PROS**

- Financial incentive for customers to divert organics and recyclables, although less so than with bundled rates.

**CONS**

- Potential for increased organics and recyclable material contamination.
- Financial disincentive for haulers to increase recycling and organic collection subscription levels if rates not adjusted to account for increased costs, although less so than with bundled rates.

### 2.02.5 Rate-Adjustment Methods

2.02.5.i Rate-Adjustment Options that Impact Revenue

With the exception of municipal collection systems, customer rates are often set through a competitive procurement process, where haulers respond to a request for proposals from a jurisdiction and propose rates for the requested services. Alternatively, a jurisdiction may extend a franchise agreement with an existing service provider and negotiate changes to the rates as part of that sole source negotiation process. In the case of municipal collection systems, the jurisdiction will typically set rates based on the actual costs of those municipal collection operations.

Once such base rates have been set, common methods for adjusting those rates include the following:

- Detailed Rate Reviews
- Special Rate Adjustments
- Consumer Price Index (CPI)-related adjustments:
    - All Urban Consumers (CPI)
    - Water, Sewer, and Trash Collection Services (CPI-WST)
- Refuse Rate Index (RRI)

According to the questionnaire results, 85 percent of respondents adjust their customer rates annually and 65 percent allow detailed or special rate adjustments on a less frequent basis. Rate adjustments that are calculated using the CPI and RRI indices may be applied to either the entire solid waste rate or to specific portions of the rate, in cases where the rates are divided into multiple components. For example, certain rate components can be adjusted based on the calculated CPI or RRI while others, such as disposal and processing costs, can be adjusted based on the actual change in those costs, or the relative change in the associated tipping fees (i.e., “pass-through costs”).

**Detailed Rate Review**

Detailed rate reviews involve an assessment of actual and projected costs and actual and projected revenues for purposes of calculating an associated rate adjustment. Many jurisdictions authorize detailed rate reviews in their franchise agreements. While the requirements and specifications for such reviews vary from one contract to another, generally they are based on the hauler's rate application and associated financial statements, and account for forecasts of maximum service rates and revenue, annual cost of operations (e.g., labor- and vehicle-related costs, processing costs, tipping fees, maintenance expenses, lease expenses, and potentially, diversion expenses), corporate costs, pass-through costs, and profit margins.

It is not uncommon for a jurisdiction to adjust rates annually based on some form of indexed rate adjustment and also conduct periodic detailed rate reviews (e.g., every 3 to 5 years) to adjust rates based on actual expenses. This combination rate adjustment approach would allow for full capture of the actual and projected increased operating and infrastructure costs associated with SB 1383. After implementing a new organics program, the jurisdiction may need to adjust customer rates again—to reflect the effects of account migration and right-sizing of carts and containers—to ensure that the rates generate the appropriate level of revenue.

Marin County and the City and County of San Francisco both recently undertook detailed rate reviews Many franchise agreements allow the city to request a detailed rate review, in place of a scheduled CPI rate adjustment, in accordance with the specifications outlined in the contract. (See additional information in the featured Half Moon Bay case study in Appendix B: Organics Collection Case Studies.)

*Given that SB 1383 regulations will require many jurisdictions to implement new or expanded organic services, we may see requests for special rate adjustments to cover those costs, or hauler proposals for new organic rates that will need to be reviewed by jurisdictions.*

**Special Rate Adjustment:** Many franchise agreements allow for a special rate adjustment, often for specifically defined factors that are outside a franchise operator's control and constitute extraordinary changes in costs or revenues related to providing the services under their contract. These can include material changes in disposal or fuel costs; a material fluctuation in the market price for recyclables; increases in the cost of collection, handling, processing, storing, transporting, marketing, sale, or other disposition of organics or recyclables; the need for increased education and outreach; and changes in law. The organics collection regulations mandated under SB 1383, for example, are expected to require additional spending by many haulers and jurisdictions. This could result in the need for a special rate adjustment if rates are not otherwise adjusted (e.g., detailed rate review or competitive procurement).

Typically, a hauler must petition the jurisdiction in writing, either separately or in conjunction with the annual rate adjustment application, to request a special rate adjustment. Special rate adjustments often involve a review that is more detailed than an indexed adjustment but less involved than a detailed rate review.

The City of Pleasant Hill recently conducted a review of the special rate adjustment request from its franchised solid waste provider. Rolling Hills Estates, included in Appendix B: Organics Collection Case Studies, allows for detailed rate reviews when extraordinary changes in costs or revenues are experienced.

**CPI—All Urban Consumers**
The use of the CPI, CPI-WST, or RRI for adjusting rates, which are commonly referred to as indexed rate adjustments, do not consider actual costs. Historically, many jurisdictions have tied their annual rate adjustment to some portion of the change in the Consumer Price Index (CPI) (e.g., 80–100 percent). This index is published by the Bureau of Labor Statistics and has increased 33 percent since January 2000, which equates to an average annual increase of 2.1 percent. While the CPI has been and continues to be used to adjust rates, it has generally not kept pace with actual increases in solid waste management costs over the past 10 plus years; labor, fuel, insurance, health care, and other expenses have experienced significantly higher cost increases.

Where base rates have been adjusted to cover current costs and reflect current conditions (e.g., recyclable materials commodity markets) the CPI may serve as a reasonable means for adjusting rates. The City of Half Moon Bay, which is featured in Appendix B: Organics Collection Case Studies, uses this index to adjust customer rates along with an annual 1 to 4 percent floor and cap to limit the total increase.

**CPI—Water, Sewer, Trash Collection Services (CPI-WST)**
Also published by the Bureau of Labor Statistics, this index has increased 75.6 percent since January 2000, equating to an average annual increase of 4.7 percent. Rolling Hills Estates, which is featured in Appendix B: Organics Collection Case Studies, utilizes this index to adjust customer rates along with a floor and cap to limit the total increase to customer rates on an annual basis.

**Refuse Rate Index (RRI)**
The RRI uses a weighted adjustment based on the annual change in various national indices that are directly tied to the percentage of a hauler's operating costs for each established index. Indices may be established for labor, fuel, vehicle replacement, vehicle maintenance, disposal tipping fee, processing tipping fee, and all other costs. Unlike the CPI or CPI-WST, which are not directly tied to costs related to solid waste management, the RRI is intended to model the change in costs specific to solid waste management through the applied indices. This index is used by the Town of Windsor and the City of Beaumont to adjust their customer rates. (See City of Beaumont in Appendix B: Organics Collection Case.)

2.02.5.ii Rate Adjustment Option with no Impact on Revenue

**Cost-of-Service Rate Adjustment**
In conjunction with any of the rate-adjustment processes mentioned earlier, which all have the potential to change the total rate revenue that is generated, a jurisdiction may also conduct a cost-of-service study. Such a study determines cost-of-service relationships between residential and commercial services, and between individual

services (e.g., garbage vs. recycling vs. organics) and service levels (e.g., 30-, 60-, 90-gallon containers). Cost-of-service studies provide for determining and setting rates that represent the actual cost of service, and are often done to establish rates that are consistent with Proposition 218 requirements (see "Imposition of Fees on Parcels" below for additional information). While cost-of-service studies can result in changes to specific rates, their effect is revenue neutral. In other words, while these studies may lead to increasing some rates and decreasing others, those individual rate changes do not modify the total generated revenue, as do CPI, CPI-WST, RRI, and the other rate-adjustment options listed above. The cities of Roseville, Folsom, and Merced, which all have municipal solid waste operations, have recently conducted cost-of-service studies, as has Plumas County, which has a franchised collection system.

### 2.02.6 Planning For Organic Rate Increases

Going forward, jurisdictions need to carefully assess and plan for the costs associated with providing organics collection and ensure that their customer rates generate the rate revenue needed to provide those services. Having been initially set, rates may need to be adjusted to reflect the impact of account migration and right-sizing of carts and containers, to ensure that adequate but not excessive rate revenue is generated. Jurisdictions should also be prepared to explain to their staff and customers that while rate increases are understandably unpopular, they are an unavoidable consequence of the state-mandated organics collection program. For additional resources on educating elected officials on this subject, visit CalRecycle's website at www.calrecycle.ca.gov/Climate/SLCP.

The City of Half Moon Bay (see Appendix B: Organics Collection Case Studies) proactively educated the public and elected officials of the necessity for raising rates to pay for state-mandated organic collection services. As a result, the city received no public protests and council approved the new services and rates. Likewise, the City of Temple City and the Marin Franchisor's Group effectively educated their elected officials and the general public on the need for new services and rates, resulting in the successful adoption of both (see "Educating Elected Officials," above, and "Imposition of Fees on Parcels," below, for additional details).

### 2.02.7 Current Rates and Services in California—Findings

- SB 1383 is a game changer when it comes to increasing the diversion of commercial and residential organic materials. It satisfies one of the two required components necessary to maximize diversion—that every account must be provided with organic collection service. The second requirement—that all customers maximize the diversion of their organic material—can be best supported by structuring customer rates to financially incentivize accounts to actively divert their organic materials.
- Per the questionnaire results, exclusive franchise service is the most common method employed by California jurisdictions to provide solid waste collection. Among its many advantages are the relative ease of managing and updating

one franchise agreement (as opposed to multiple), implementing new programs and services through one provider, and less responsibility managing staff and complying with regulations.

- Jurisdictions with municipal solid waste operations enjoy more control over services and rates than those that employ private haulers because they are not encumbered by contracts. This may enable them to implement SB 1383 requirements and adjust rates more nimbly than jurisdictions that need to negotiate those changes through contract amendments. On the other hand, municipalities that provide their own operations bear the full burden of complying with state regulations, including monitoring and reporting requirements.
- Without appropriate, potentially significant adjustments to customer rates, jurisdictions may be unable to fund the organics collection services required under SB 1383. Jurisdictions must be prepared to explain that rate increases are unavoidable as a consequence of the state-mandated organics collection requirements.
- Jurisdictions need to consider how best to set rates to comply with SB 1383 requirements. They can implement either incentivized or discounted, bundled, or cost-of-service rate structures.
- SB 1383 requires generators to divert organic materials and jurisdictions to monitor generators' compliance; both face hefty fines for noncompliance. The more that customers can be financially incentivized through the rate structure to maximize diversion of their generated organic materials, the less effort jurisdictions will have to expend to encourage and enforce compliance. Additionally, the more that jurisdictions fully implement their MORe (AB 1826) program and ensure all regulated businesses are subscribed to service, the less effort jurisdictions will have to expend to implement the SB 1383 requirements.
- Bundled rates provide the greatest financial incentive for residential and commercial customers to participate in available diversion programs—short of paying them to divert materials. Bundled rates are most effective when organics service is mandatory, which allows for accurate forecasting of required services and associated increased costs, and thus enables appropriate rate structuring.
- California jurisdictions have historically provided mandatory residential solid waste collection services through a bundled solid waste rate. This structure has been rare for the commercial sector.

## *2.03. SB 1383 Impacts on Rates and Services*

Please see Section 2.03.3 for a summary of findings related to SB 1383 Impacts on Rates and Services.

### 2.03.1 Current Rates May Not Cover Services Necessary to Comply with SB 1383

The collection and processing services outlined in the SB 1383 draft regulations will come at a cost to most jurisdictions, as the majority have not yet implemented solid waste systems that meet all of the minimum standards for SB 1383 organic waste collection services. In order to achieve California's ambitious targets for expansion of diversion and reduction of GHG emissions, it is expected that jurisdictions will rely on customer rates as the primary revenue source to support the required residential and commercial organics collection programs.

SB 1383 compliance activities may have less rate impacts on residential customers than on commercial customers, as many jurisdictions already provide residential yard waste collection service. Those organic collection services can be expanded to incorporate food waste without the significant additional cost of implementing an entirely new collection system. The impact of SB 1383 compliance on commercial rates is expected to be more considerable, as it will require potentially significant expansion of any existing commercial organics collection systems to provide the required services to all commercial covered generators.

### 2.03.2 Imposition of Fees on Parcels

If a California jurisdiction increases rates to generate sufficient funds to cover the costs of implementing SB 1383's requirements, it is important to note that the California Constitution requires certain procedures to be followed. Where solid waste services, which include recycling services, are imposed as an "incident of property ownership" (for example, included on the utility bill), they would need to meet the requirements of California Proposition 218—the "Right to Vote on Taxes Act"—approved in 1996.

*Per the questionnaire, 40 percent of respondents claim that they set collection rates via Proposition 218 Public Hearing.*

Proposition 218 sets the following restrictions on property-related fees:

- The revenues generated may not exceed the cost of the service for which the fee is charged (implementation of a cost-of-service rate structure is often a response to this consideration; see discussion above in "Rate-Adjustment Option with no Impact on Revenue—Cost-of-Service Rate Adjustment").
- Local governments may not use revenues from a property-related fee to pay for any other governmental program or service.
- Local governments may not impose a property-related fee for a service unless it is immediately available to the property owner.

Local governments must apply the following procedures to establish new or increased property-related fees or charges:

- Identify each parcel upon which the property-related fees or charges are proposed.

- Calculate the amount of any proposed property-related fees or charges.
- Provide written notice by mail of any proposed property-related fees or charges and the date of the public hearing.
- Mail the notice to all affected property owners at least forty-five (45) calendar days prior to the public hearing date.
- Conduct the public hearing for the city council to hear and consider all public testimony regarding the proposed property-related fees or charges.
- Accept written protests either via a protest vote or ballot proceeding.
- If there is not a majority of written protests (50 percent of property owners), the legislative body may then adopt the fee.

The City of Davis is a good example of the Proposition 218 process (see "Planning for Organic Rate Increases," earlier, for additional examples). Their city council unanimously passed a 41 percent solid waste rate increase after only 227 property owners submitted written protests. It would have taken a protest by 7,909 Davis property owners—a majority—to defeat the proposed rate hike. The new rates became effective on March 1, 2019. Davis property owners were notified of the rate increase by a mailed notice in early December 2018. It included an explanation for the necessity of a rate increase along with instructions on how to submit a written protest on or before the February 5, 2019 public hearing. The city council received an informational memorandum and presentation from the Davis Utility Rate Advisory Commission, which recommended their approval of the rate increase. Prior to advising the council, the commission met four times with the consultant and city staff to assess the rate increase issue.

- The time frame for a typical Proposition 218 process—which includes reviewing the rates, informing the subcommittee for the council, developing the notice, mailing the notice, conducting the public hearing, and approving the rates—is typically six months. Likewise, the cost of conducting a Proposition 218 process should not be underestimated. While the cost varies depending on the number of households in the jurisdiction and the format of the notice, expenses include development, design, printing, and postage (postage alone is typically .50 to $1.00+ per piece).

### 2.03.3 SB 1383 Impacts on Rates and Services – Findings

- Most jurisdictions do not currently provide the required SB 1383 residential and commercial organics collection services. As such, it can be expected that both residential and commercial rates will need to be increased to support those required expanded services and to comply with all of the requirements. Commercial rates will likely be more significantly impacted, given that commercial organics collection is less advanced than residential and,

therefore, requires more costly expansion to achieve compliance with SB 1383.

- Jurisdictions will need to determine how best to provide the required services, negotiate any necessary changes to existing collection contracts or franchise agreements, and set rates or establish other sustainable funding mechanisms to cover the costs of implementation and ongoing operations.
- If jurisdictions rely on rate increases to cover the costs of SB 1383 implementation California Proposition 218 may apply, depending on legal interpretation. This can be a time-consuming (typically six months) and costly (easily tens of thousands of dollars, even for a small city) process, which must be planned and budgeted.

## *2.04. Costs of Organics Infrastructure*

This section discusses the additional collection system and processing capacity infrastructure and associated costs that will be necessary to manage the increased volume of organic material triggered by SB 1383 requirements. It also discusses financing options for the needed infrastructure.

Please see Section 2.04.4 for a summary of findings related to Costs of Organics Infrastructure.

### 2.04.1 Routing and Collection Services

As mentioned earlier in this report, nearly 100 percent of questionnaire respondents indicated that they currently offer some type of organics (either one or a combination of: food scraps, green materials, mixed organics, or mixed waste) collection service to their single-family, multi-family, and commercial customers. Additionally, jurisdictions should already be providing organics collection to those commercial generators who meet the MORe threshold. These facts are encouraging, in that they indicate that some infrastructure already exists in certain jurisdictions to support compliance with SB 1383 collection requirements.

On the other hand, the expansion of organics services resulting from SB 1383's mandatory service requirements will require additional collection routes and associated costs. Most businesses (not just those that meet the MORe threshold), multi-family complexes, and residences will need collection service. The increased organics collection customer base spurred by SB 1383 should lead to economies of scale for haulers. Collection operations under a mandatory service system are more efficient and productive, with lower associated unit costs.

### 2.04.2 Processing Organic Material

Achieving SB 1383's goal of drastically reducing the volume of organics in California landfills—by 50 percent and 75 percent of 2014 state levels by 2022 and 2025, respectively—will require most customers to properly sort and segregate organic

material at the source. It also requires a major shift in how those materials are processed.

The type of container system utilized by a jurisdiction dictates how organic and non-organic materials must be processed to meet regulations. If organic and non-organic materials are commingled in the same container (i.e., mixed waste), jurisdictions are required to enforce the transportation of those contents to a high-diversion organic waste processing facility that can process that mixed waste stream. In short, the method of organics material collection employed by each jurisdiction directly influences the type of infrastructure required to process that material.

*Jurisdictions, groups of jurisdictions, or regional agencies without current access to permitted organics processing facility capacity will need to invest in or secure access to required infrastructure.*

### 2.04.2.i Organic Capacity Planning

For jurisdictions to comply with SB 1383's requirements, they must have access to the necessary processing capacity. Unfortunately, California does not currently have sufficient organic waste recycling facilities to accommodate the roughly 26 million tons of organic waste that are expected to require processing annually by 2025 under the new regulations. CalRecycle estimates the state will need 50 to 100 new or expanded composting and AD facilities.[2] The availability and cost of developing this infrastructure, which may face potentially more stringent permitting and operating requirements, represents a serious challenge to the state, facility developers, haulers, jurisdictions, and regional agencies. Additionally, all other factors the same, it costs more to process organic material than it does to landfill that material, and jurisdictions will need to fund that additional expense.

SB 1383 requires that *"*counties, in coordination with cities and regional agencies located within the county*"* take the following steps to conduct organic waste recycling capacity planning. AB 1594 (Williams, Chapter 719, Statutes of 2014) requires that counties and regional agencies conduct similar planning.[3]

- Estimate the organic waste tonnage that will be disposed within the county.
- Identify the existing organic waste recycling infrastructure capacity, located both in the county and outside of the county, that is verifiably available to the county and its jurisdictions.
- Estimate the amount of new or expanded organic waste recycling facility capacity that will be needed to process the estimated organic waste.
- Determine the existing capacity and potential new or expanded capacity at compost facilities, in-vessel digestion facilities, publicly owned treatment works (POTW), and community composting opportunities.

- Determine if the existing and proposed capacity will provide sufficient organic processing capacity.
- Submit (by jurisdictions with a shortfall of organic waste recycling capacity) an implementation schedule to CalRecycle to demonstrate how they will ensure enough new or expanded capacity, and any necessary funding, to recover the organic waste currently disposed of by generators within their jurisdiction by the end of the SB 1383 report period.

2.04.2.ii Transporting Organics to Existing Processing Facilities

In the interim, until new or expanded organics processing capacity is in place, many haulers must contend with transporting organic materials to processing facilities that may be located a great distance from the jurisdictions and regional agencies that they service. Due to the limited existing infrastructure, it is reasonable to expect that in the short-term, organic material transportation costs could be higher for jurisdictions if the only processing capacity that is available is in a relatively distant location. For example, El Dorado County, featured as an infrastructure case study in Appendix A, currently must transport its organic food scraps over 100 miles to Napa Recycling for processing and diversion, due to lack of facilities within closer proximity. The consequent transportation expense, combined with the facility's processing fees, resulted in food scrap collection rates that are 12.5 percent higher than their commercial garbage rates.

Potential increases or reductions in transportation distances and costs will depend heavily on local priorities. SB 1383 will require local governments to manage and recycle organic waste, which will result in the establishment of new facilities. Ultimately, local governments, regional agencies, and haulers will need to balance many factors in deciding which new and expanded facilities they use. Environmental, political, and financial considerations will influence the ultimate location of new and expanded facilities. For example, a local government may opt to access more affordable land or avoid Not-In-My-Backyard ("NIMBY") issues by utilizing a new organic waste recycling facility that is 100 miles away rather than developing a facility that is closer to home. This trade-off may lower up-front capital expenditures associated with land acquisition and avoid uncomfortable political decisions in favor of increased transportation costs over time. Ultimately, whether transportation costs increase will largely depend on how local governments weigh the environmental and financial costs and benefits associated with where facilities are located.

2.04.2.iii Development of Organics Processing Infrastructure

The development of organics processing infrastructure in California is a complex and time-consuming process as well. These are the typical steps for planning additional or expanded organics processing capacity:

- Identify the volume of organics to be disposed and the jurisdiction's need for additional organics processing capacity.

- Negotiate with facility operators. Jurisdictions, groups of jurisdictions, and regional agencies should commit to guaranteed material flow and longer contract periods and include those terms in agreements and/or ordinances to hold all parties accountable. This will encourage collection and facility operators to invest in new infrastructure and likely result in lower short-term impacts on rates and more advantageous processing costs.
- Identify a viable site.
- Complete the following permitting requirements. Although permitting will vary depending on the site's jurisdiction as well as scale and feedstocks, most new organics processing facilities will require the following types of permits: local use, California Environmental Quality Act (CEQA), SWFP (solid waste facility permit via local enforcement agency and/or CalRecycle); land use approval and conditional use; regional water quality control board; and air quality management district. Given that SB 1383 has led to a substantial need for new and improved organics processing infrastructure, it is likely that multiple operators will seek permit approvals simultaneously, which may further delay the approval process.
- Build the facility: This step typically takes one year to complete.
- Commission AD facility (not applicable for composting facilities): This typically takes approximately four months to complete and includes structural integrity testing, initial feeding/seeding of the plant, initiation (stabilization and purging), and operation.

For additional information on the cost of implementing new or improved organics processing infrastructure, please see *SB 1383 Infrastructure and Market Analysis Report*, available at this CalRecycle link: https://www2.calrecycle.ca.gov/Publications/Details/1652.

### 2.04.3 Opportunities for Cost-Effective Infrastructure

The cost to process organics (and recyclables and other materials) is greatly impacted by the quantity of material that is processed and the associated economies of scale. While improving or increasing the capacity of existing infrastructure tends to be cheaper than developing new infrastructure, it can be potentially more expensive to operate in the long run. Agencies seeking the lowest cost solutions with the least ratepayer impacts should consider regionalized approaches to acquiring the necessary organics pre-processing and processing infrastructure. Longer term agreements with guaranteed flow control can also result in lower costs and improve the ability to finance facilities, as discussed below.

#### 2.04.3.i Flow Control Agreements

Facility operators are much more likely to invest in developing new organics processing infrastructure if they have a guaranteed flow of material. Regional agencies or groups of

jurisdictions located near an existing or proposed organics processing facility can make such material flow commitments to facility operators through some form of flow control agreement. Guaranteed material flow and long-term commitments provide assurances to the facility developers and their banks that the facility will have sufficient material to fund the required infrastructure and operations. They also provide jurisdictions, regional agencies, and haulers with assured access to required capacity.

Zero Waste Sonoma (formerly Sonoma County Waste Management Agency) is currently negotiating a joint-agency flow-controlled contract for an organic processing facility. This facility was proposed to be permitted, built, owned, and operated by a contractor in exchange for flow commitments and the profits associated with a set per-ton rate for composting organic materials. Please read more about Zero Waste Sonoma in the featured Infrastructure Case Study in Appendix A.

#### 2.04.3.ii Contract Term Length

Franchise agreements between jurisdictions and haulers are commonly written for terms ranging from 7 to 10 years to coincide with the typical life of collection vehicles, which are the most capital-intensive collection system investment. Contract terms (and tonnage commitments) for new or expanded processing facilities typically range from 10 to 20 years or more, which is more consistent with the associated life of the facility asset. The longer contract terms provide a longer time period to amortize facility capital costs, helping to reduce the associated rate impact. Combined with guaranteed flow control, longer-term facility contracts enable facility operators to expand existing facilities or develop new facilities with the assurances that are needed to finance those significant capital investments. Jurisdictions, groups of jurisdictions, regional agencies, and haulers can often negotiate better rates (i.e., tipping fees) when longer contract terms are in place. Alternatively, jurisdictions can seek capacity on the "spot market," paying market price for available capacity with no assurances of the long-term availability of that capacity and no required long-term tonnage commitments.

For example, the financing for the new AD facility in San Luis Obispo was partially secured due to 20-year extensions of franchise collection agreements and flow control language that required all source separated organic material to be directed to the facility. This is a featured infrastructure case study in Appendix A.

### 2.04.4 Costs of Organics Infrastructure—Findings

- The majority of California jurisdictions are already collecting and diverting certain source separated organic materials, with mandatory residential yard waste or organics collection already existing in many jurisdictions.
- While some jurisdictions have established organics collection routes for the commercial generators that meet the MORe threshold, it is expected that in most jurisdictions commercial organic collection systems will need to be expanded to meet SB 1383 mandatory service requirements, with associated increases in collection costs.

- California does not have the organic processing infrastructure that it needs to support SB 1383 compliance, with the need for as many as 100 new composting or AD facilities to satisfy the required capacity needs.
- Flow control agreements provide facility developers with material tonnage commitments that are often needed to secure financing, and jurisdictions and haulers with the assurance that they have access to required capacity.
- The increased organics collection customer base that will result from mandatory organics collection will lead to economies of scale for haulers and lower per-unit costs as compared to a non-mandatory system.
- Jurisdictions seeking the lowest cost solutions with the least ratepayer impacts should consider regionalized approaches to acquiring the necessary organics pre-processing and processing infrastructure. Combining the material flow commitments from jurisdictions, counties, and regional agencies provides greater assurance to facility operators, which can result in economies of scale and potentially lower processing costs for the jurisdictions.

## *2.05. Funding Organics Infrastructure Needs*

Implementation of SB 1383 will require significant changes in organics collection, pre-processing, and processing capital infrastructure throughout California. The associated improvements and development of new infrastructure will necessitate significant monetary investment by the owners of that infrastructure, unless adequate organics infrastructure already exists. There are other industries and technologies that may offer additional organics processing capacity in addition to composting and AD, which are the most familiar, traditional options for organics processing. These include: land application of green material, digestate, and biosolids; organic waste as soil amendment; POTWs; biomass conversion; co-digestion facilities; rendering; and animal feed production.[4]

Whether privately or publicly operated, those responsible for the collection, handling, transfer, transport, and processing of organics will need new or improved capital investments, including trucks, containers, pre-processing, and organics processing facilities. They will also need the infrastructure required to produce renewable energy (i.e. renewable electricity and renewable natural gas), compost, and fertilizers from the digestates that are processed.

Financing these infrastructure needs can be achieved in a variety of ways, including any combination of the following:

- Paying for new capital in cash, with existing funds or reserves
- Financing new capital via equity, loans, bonds, or other similar finance instruments
- Paying for infrastructure with grants and tax credits

- Paying for infrastructure with fees, such as an SB 1383 fee

Please see Section 2.05.5 for a summary of findings related to Funding Organics Infrastructure Needs.

### 2.05.1 Paying for Infrastructure with Cash Reserves

Paying for required organics infrastructure fully in cash is unlikely to be a primary means of financing those capital expenses unless funds have already been accrued and reserved for such purpose. Private and public operators do not generally keep large cash or fund reserve balances on hand for large capital investments. Paying in cash for infrastructure is more relevant to public operators, since private firms have low incentive to do so without the promise of a reasonable return on investment. Public operators that have cash reserves available for infrastructure investment, however, could benefit from paying a portion of the capital expenses in cash to avoid financing costs. However, paying in cash for improved or new infrastructure would potentially require future rate increases to replenish spent reserves, and would not preclude the need for additional increases related to higher operating costs.

The City of San Luis Obispo and the hauler and facility operator CR&R both invested some of their own cash in new organics infrastructure. See more on both in  in Appendix A: Infrastructure Case Studies.

### 2.05.2 Financing the Cost of Infrastructure

Financing organics infrastructure using equity, loans, bonds, or other similar finance instruments is far more likely than paying in cash for both public and private operations. Using these financing mechanisms, operators can secure principal amounts of funding for collection, pre-processing, and/or processing infrastructure via options such as the following:

- Public bonds
- Bank loans
- "Private venture and private placement" loans
- Tax-exempt bonds through public financiers such as the California Pollution Control Financing Authority (CPCFA)
- Low-interest-rate loans such as CalRecycle's Greenhouse Gas Reduction and Recycling Market Development Loan (RMDZ) Program
- Through private equity and infrastructure financing from firms that invest in the facilities as equity owners.

In the case of other funding sources, the amount of necessary financing is determined by the specific collection, pre-processing, and processing needs of the operation and can be reduced by offsets or advance cash down payments on the capital. Principal and

interest on any of these financing options can be paid back over time with revenues raised through such means as customer rates and end-product sales.

In the case of equity and other private developers that are involved in the various projects required under SB 1383, private equity financing and traditional bank financing may be an option, typically in the form of project finance.

Various types of funding are required through the development of a project, including:

- **Development capital**: or early stage permitting, engineering, and interconnections for energy offtake, which are typically higher-risk activities, due to the uncertainty of the project. The development capital required to get to financial close—the point at which all project and financing agreements have been signed, required conditions have been met, and funds can be released so that project implementation can begin—can amount to approximately $2-3 million over a 2-3 year period.
- **Private funding**: to lock up or option land for the organics processing infrastructure. It is clear that this is challenging to do in California, given the pressure to use industrial lands for other purposes (e.g., warehouses). An organics processing facility can take 2-3 years to permit, and this is a fragile time for the development of a project. Once the early development work and the land optioning are completed, then the developer has to utilize development capital to go through any other permitting work that is required to allow for the construction and operation of the organics processing infrastructure (e.g., CEQA/Conditional Use Permit [CUP], Regional Water Quality Control Board [RWQCB] permits, and CARB permits) as well as completion of the engineering design work to develop a solid capital cost estimate. During this time, the developer also has to sign letters of intent and agreements for long-term feedstock supply, energy offtake, and the sale or utilization of compost, digestate, and other outputs from the facilities, regardless of where the facility is located and who owns the property (e.g., co-located at a landfill or property owned by jurisdiction).
- **Private equity and traditional banks**: provide the project financing for the facility once the project reaches financial close to construct. In the case of private entities such as waste haulers, this process of development may be shortened due to access to suitable land and permits and approvals that only require minor amendments.
- **Construction financing**: after financial close, can support the completion of the design and construction of the facility over 12-24 months, depending on the type of infrastructure that is needed.

### 2.05.3 Paying for Infrastructure with Grants or Tax Credits

Grants and tax credits can also offset the amount of financing necessary for funding infrastructure. There are grants available from organizations such as the California

Energy Commission (CEC), CARB, and CalRecycle as well as potential tax credits, such as the Business Energy Investment Tax Credit (ITC), the Low-Carbon Fuel Standard (LCFS), and other tax incentives offered by California (see https://www.calrecycle.ca.gov/Business/Incentives/#TaxCredits for additional information). The application process for grants and tax credits can be protracted and time-consuming, and should be factored into the planning for infrastructure funding and development.

Santa Barbara County financed $130 million in construction costs through county-issued 20-year bonds and a $4 million CalRecycle grant. CR&R funded its new four-phase $55 million infrastructure project through loans plus $9 million in grants from CEC, CARB, and CalRecycle. The City of San Luis Obispo supplemented its cash investment in its $25 million facility through a combination of private financing, $8 million grants from CEC and CalRecycle, and an ITC tax credit that covered 30 percent of the total eligible cost. Please see Appendix A: Infrastructure Case Studies.

The end result of financing organics infrastructure will be a “debt service” on the borrowed amounts. Borrowers, whether public or private, need to demonstrate to lenders their ability to pay all debt service amounts by either of the following methods.

- **For collection, pre-processing, and processing infrastructure**: Solid waste rates or fees set by local agencies and paid by ratepayers and/or haulers or operators can be increased to cover all debt service.
- **For pre-processing and processing facility infrastructure**: A sufficient flow (tonnage) of organic waste can be directed to certain facilities, which may or may not result in direct rate increases to pay the tipping fee cost, depending on a comparison of new and previous processing costs.

## Free, Interest-Free, Low-Interest, & Tax-Free Infrastructure Funding

**Note:** This is not a complete list. Please visit CalRecycle's website for additional financial resources and economic incentives: https://www.calrecycle.ca.gov/Business/Incentives/

**CalRecycle Organics Grant Program**

Part of California Climate Investments, this statewide competitive grant program aims to lower GHG emissions by expanding capacity or establishing new facilities in California to reduce the amount of green and food materials plus ADC sent to landfills. For more information please visit https://www.calrecycle.ca.gov/climate/grantsloans/organics

**CEC Grants**

The CEC is committed to reducing energy costs and environmental impacts of energy use, and offers grants for research, development, and implementation of projects for such goals as reducing GHG emissions. For more information please visit https://ww2.energy.ca.gov/commission/diversity/apply.html

**CARB Grants**

Charged with protecting the public from the harmful effects of air pollution and developing programs and actions to fight climate change, this organization has adopted innovative solutions to reduce GHG emissions, and offers grants and other incentives for programs, technologies, and equipment that reduce emissions. For more information please visit https://ww2.arb.ca.gov/our-work/topics/incentives

**Investment Tax Credit**

The ITC is a federal corporate tax credit for commercial, industrial, utility, and agricultural sectors that encourages implementation of renewable energy programs through credits of 10-30 percent of qualified expenditures. For more information please visit programs.dsireusa.org/system/program/detail/658

**Low-Carbon Fuel Standard**

LCFS encourages the production and use of cleaner low-carbon fuels, in turn reducing GHG emissions. For more information please visit https://ww3.arb.ca.gov/fuels/lcfs/lcfs.htm

**CPCFA Tax-Exempt Bonds**

This financing program provides private tax-exempt bond financing to California businesses for the acquisition, construction, or installation of qualified pollution control, waste disposal, waste recovery facilities, and the acquisition and installation of new equipment. For more information please visit treasurer.ca.gov/cpcfa/bondfinancing.asp

**RMDZ and GHG Loans**

CalRecycle administers these programs, which finances businesses that prevent, reduce, or recycle recovered waste materials through value-added processing or manufacturing. For the Recycling Manufacturing Development Zone (RMDZ) loan, program facilities must be located within a CalRecycle-designated RMDZ. The loan programs require the use of postconsumer or secondary recovered waste feedstock generated in California. Non-profit, for-profit, and local government entities are all eligible. Provides funding of up to $2 million or 75 percent of total project cost at fixed 4 percent interest rate for a term of up to 15 years.

For more information please visit: https://www.calrecycle.ca.gov/rmdz/loans and https://www.calrecycle.ca.gov/climate/grantsloans/ghgloans/

### 2.05.4 Paying for Infrastructure with Fees

***What's in a Name?***

Rates vs. Fees

**Rate**: A fixed price paid or charged for goods or services, as in organics collection customer service rates.

**Fee**: A fixed sum charged for a privilege, as in an annual franchise fee paid by an exclusive hauler for the privilege of providing collection service to a jurisdiction, or AB 939 fees that are sometimes included in customer rates to offset the cost of complying with that legislation.

As mentioned in the introduction to this report, SB 1383 authorizes jurisdictions to "charge and collect fees to recover the local jurisdiction's costs incurred in complying with the [organic waste disposal reduction] regulations adopted pursuant to this section." Whether solid waste collection rates or fees are increased to cover the necessary amounts of debt service for organics infrastructure will largely be determined by:

- Whether the infrastructure is publicly or privately owned and operated; and
- The terms and conditions of any contractual relationships between public agencies and their private operators.

The Mt. Diablo Resource Recovery facility's operations are funded by gate or tipping fees charged to all haulers using their Pittsburg site for the City of Concord's recycling and green waste. Nevada County uses a property tax assessment to recoup the costs associated with maintaining the county's transfer station.

For additional information on financing options, please see the California Business Investment Guide, published in 2017 by the California Governor's Office of Business and Economic Development at this link: http://business.ca.gov/Portals/0/CalBIS/California%20Business% 20Investment%20Guide%20-%20Updated%207-31-2017.pdf? ver=2017-08-04-034428-643.

### 2.05.5 Funding Organics Infrastructure Needs—Findings

- The additional organics infrastructure required to handle the increased organics processing capacity that will result from mandatory organics collection will require significant capital investment.
- There is a range of available options to fund organics infrastructure, including:
    - Government-subsidized financing through free grants
    - Interest-free and tax-free programs
    - Traditional financing

    - Private equity and infrastructure financing
    - Paying with cash reserves.
- Revenue can be generated from fees, such as an SB 1383 fee, to pay for the cost of the infrastructure or to fund debt service. Under SB 1383, jurisdictions are authorized to charge and collect fees to cover their costs of complying with the organics collection and disposal regulations

# Section 3. Recommendations

## *3.01. SB 1383 and Organics Recovery*

The objective of SB 1383 is to significantly increase the recovery of organic materials in California in order to reduce GHG emissions from landfills. To meet those goals, SB 1383 mandates that all organic waste generators—residents and businesses—must receive and actively participate in organic material collection programs. While most of the state's jurisdictions already require some form of mandatory residential organics collection service, that is not the case with respect to commercial collection services. Almost all questionnaire respondents offer residential and commercial organics collection service, but only 10 percent of the state's non-rural jurisdictions provide mandatory commercial organics collection, and less than half of those jurisdictions enforce the requirement. This shortfall of compulsory organics collection programs, particularly for the commercial sector, underlines the need to enforce SB 1383's mandatory service requirement.

### 3.01.1 Planning

To comply with SB 1383 requirements and implementation timeline, most jurisdictions will need to develop or expand their existing organic collection systems in all sectors and plan for adequate organic processing capacity by January 1, 2022. By this same date, jurisdictions will also have to implement all other requirements, such as contamination monitoring, record keeping, and reporting. Although a jurisdiction may assign these responsibilities to a designee, that may require time to revise a franchise agreement or permit. (See Table 1 "Timeline of SB 1383 Requirements" for more details.)

To assist with SB 1383 implementation and compliance, CalRecycle is developing educational tools for jurisdictions to use with their elected officials and generators, such as PowerPoint presentations, model ordinance language, and franchise agreement models (to view available tools go to www.calrecycle.ca.gov/Organics/slcp). In addition, CalRecycle staff will be available to help local jurisdictions conduct community engagement and address community concerns. For assistance, contact CalRecycle's Local Assistance and Market Development staff (https://www.calrecycle.ca.gov/LGCentral/Contacts/).

### 3.01.2 Recommendations

1. Jurisdictions should determine the organics infrastructure required to address their specific needs, and forecast the logistics and additional costs associated with implementing mandatory organics collection for all generators, per SB 1383's specifications. With that information in hand, they should enact a plan that includes reviewing and structuring appropriate customer rates in advance of January 1, 2022. Based upon case study information and R3's experience, it can take a year or more to develop a program and approve customer rates

to comply with SB 1383. This timeframe could take much longer when the program involves establishing new or expanded infrastructure.

2. In advance of January 1, 2022, when the SB 1383 regulations take effect, jurisdictions should implement enforcement mechanisms—e.g. specific ordinances, franchise agreements, contracts, or permits language, depending on the solid waste collection service method—– that stipulate the following SB 1383 requirements:
    - Mandatory organics collection service for all generators
    - Container contamination minimization protocol
    - Education and outreach
    - Reporting requirements
    - Document retention timelines
    - Identification and securing of adequate capacity to transport and deliver all organic materials to permitted organics processing facilities

    Based upon case study information and R3's experience, it can take a year or more to implement an enforceable mechanism, such as implementing an enforcement ordinance and/or amending a hauler franchise agreement.
3. Jurisdictions need to educate their city council, board members, and mayors, as soon as possible, about the scope and impact of SB 1383. Building an early alliance with elected officials is considered a best practice for increasing their support of new services, franchise agreement and ordinance changes, and rate increases.
4. Jurisdictions should educate generators about the reasons for and benefits of mandatory organics collection as well as SB 1383 requirements and noncompliance penalties. Their programs and any associated increases in customer rates stand a much higher probability of being accepted by the community if participants understand the short- and long-term benefits of diverting yard and food waste from landfills and into recycling and recovery facilities. Additional information is included in Appendix B: Organics Collection Case Studies on educating the elected officials and the generators of the details of SB 1383.
5. Jurisdictions could consider assigning their waste hauler(s) as the designee to comply with SB 1383's contamination monitoring, record-keeping/reporting, and education and outreach requirements. This may be a valuable time- and cost-saving measure in the long-term, but will require revising franchise agreements, for which time should be allocated.

## *3.02. SB 1383 Impacts on Rates and Services*

SB 1383 is a game changer when it comes to increasing the diversion of commercial and residential organic materials by requiring that every account be provided with organic waste collection service. To address the increase in customer rates necessary to cover the cost of complying with SB 1383 requirements, jurisdictions can choose to employ either the CPI, CPI-WST, or RRI rate-setting methodology, although detailed rate reviews capture the increased operating and infrastructure costs associated with SB 1383 more accurately than indexed rate-setting methodologies. All other factors the same, it costs more to collect, process, and market organics than it does to landfill them, which should be reflected in the rates. The majority of jurisdictions with franchised solid waste service already adjust their customer rates annually and many also conduct special or detailed rate adjustments on a less frequent basis.

SB 1383's mandatory organics service requirement provides the framework necessary to maximize organics diversion, including penalties designed to deter noncompliance. While enforcement may be required to facilitate participation in some cases, e.g., ensuring generators are placing materials in the appropriate container, financially incentivizing customers to comply may yield better results than enforcement efforts alone. The more generators are incentivized through the rate structure, the less effort jurisdictions may have to expend to encourage and enforce compliance.

Jurisdictions have a range of options for structuring rates to provide the sustainable funding needed to support SB 1383 compliance, but bundled rates provide the greatest financial incentive to customers to maximize their diversion of organics and other targeted recyclable materials, by including the costs for garbage, recycling, and organics collection services in a single solid waste customer rate. Bundled rates have been the standard structure for residential service throughout California for many years.

The fact that most jurisdictions currently require mandatory residential organics collection services, and charge customers for those services within a bundled rate structure, demonstrates that the two components necessary to support maximized diversion of residential organics are already in place in many California jurisdictions.

Jurisdictions will likely rely on customer rates as the primary revenue source to support the residential and commercial organics collection programs mandated by SB 1383. Commercial rates will be more substantially impacted than those for the residential sector, given that many residential programs in California already include yard waste collection service and could be expanded to include food waste collection without significant additional cost.

### 3.02.1 Recommendations

1. Jurisdictions should carefully assess and plan for the costs associated with providing organics collection under SB 1383 and ensure that their customer rates generate the revenue needed to provide those services. Detailed rate reviews, either on their own or in conjunction with indexed rate-setting methodologies, should be employed to fully capture the actual and projected

increased operating and infrastructure costs associated with SB 1383. Based upon case study information and R3's experience, it can take a year or more to develop a program, conduct a detailed rate review, and approve customer rates to comply with SB 1383.

2. A bundled rate structure's financial incentives, in combination with SB 1383 enforcement penalties, offer the best means of encouraging maximum organics diversion, particularly in the commercial sector, and should be the model for every organic rate structure in California.
3. Rates may need to be re-adjusted, after programs are introduced, to reflect the impact of account migration and right-sizing of carts and containers, and to ensure that an appropriate volume—neither too high nor low—of rate revenue is being generated.
4. Jurisdictions must be prepared to explain to customers, staff, and elected officials that rate increases are an unavoidable part of the state-mandated organics collection requirements. Jurisdictions should reach out to CalRecycle staff, who will be available to assist them with community engagement and to help address community concerns.
5. Jurisdictions should consider implementing rate increases to provide required SB 1383 services or establish other sustainable funding mechanisms, such as an SB 1383 fee, similar to the existing IWMA fee (also referred to as the AB 939 fee), to cover the costs of implementation and ongoing operations. The most appropriate and successful rate increases will result from the realistic cost and revenue forecasting of a detailed or special rate review, the bundling of new rates, and built-in future adjustment of rates to accommodate changes.
6. If jurisdictions rely on rate increases to cover the costs of SB 1383 implementation, they need to confirm with their local counsel if they are required to abide by California Proposition 218 requirements.

## *3.03. Costs of Organics Infrastructure*

Most California jurisdictions already have established residential organics collection routes and processing capacity for yard waste, and some also for food waste. Select commercial organics collection routes are in place for generators that meet the MORe threshold. Both residential and commercial organics collection routes will need to be expanded to fully comply with SB 1383 mandatory service requirements.

The state's ability to meet SB 1383's organic diversion requirements and goals is directly tied to, and dependent upon, the development of sufficient organic material processing capacity throughout California to process an anticipated 26 million additional annual tons by 2025 of organic material volume that will be diverted from landfills as a result of the law.[5]

CalRecycle estimates that the state will need to build at least 100 new or expanded composting and AD facilities between 2019-2024 to adequately process that additional organic waste tonnage. Facility operators and haulers are hesitant to invest in this essential infrastructure without guarantees from municipalities or regions that they will have adequate business to support their investments.

Commitments to haulers, in the form of longer contract terms, and to facility developers, in the form of tonnage flow control agreements, provide assurances needed to secure the financing to build or expand processing facilities and to ensure that they have a longer time period to amortize facility capital costs. Likewise, these contract arrangements reassure jurisdictions that they will have the capacity necessary to process the increased volume of organic material that will be diverted in their communities as a result of SB 1383.

Once mandatory organics collection programs and sufficient infrastructure are in place, they should result in routing efficiencies, economies of scale for haulers, and a lower unit cost. This may, in turn, lead to a subsequent reduction of customer rates that may have been initially increased to cover the additional costs of complying with SB 1383.

### 3.03.1 Recommendations

1. Jurisdictions, either on their own or in conjunction with counties and regional agencies, should assess, plan for, and secure adequate capacity for processing and recycling the volume of organic materials projected to be generated within their geographic boundaries once SB 1383 takes effect. If it is determined that sufficient capacity cannot be guaranteed in accordance with the SB 1383 timeline, the regulations will require jurisdictions to submit an implementation schedule to CalRecycle.
2. Jurisdictions should be aware that developing organics processing infrastructure in California is complex and time-consuming. The process can take five years to complete.
3. Jurisdictions should consider the following questions:
    - Does the jurisdiction wish to own or operate, or contract for the operation of, an organics processing facility?
    - Does the jurisdiction prefer a particular type of processing, such as AD, biomass conversion, co-digestion, rendering, or animal feed production[‡‡]?
    - Is the jurisdiction interested in separately contracting with a processing facility, thereby “locking in” pricing via a publicly-held flow control

‡‡ For additional information, see Articles 2 and 11 here: https://www.calrecycle.ca.gov/docs/cr/laws/rulemaking/slcp/isorjune2019.pdf

contract and potentially reducing the hauler's costs during the procurement of solid waste collection services?

- Is the jurisdiction interested in incentivizing organics diversion directly through solid waste rates, and to what extent does the jurisdiction wish to be involved in such incentivization?

4. Jurisdictions seeking the lowest cost solutions with the least ratepayer impacts should consider regionalized approaches to acquiring the necessary organics pre-processing and processing infrastructure. Closer facilities may translate to lower transfer and transportation expenses.

## *3.04. Funding Organics Infrastructure Needs*

New and improved organics processing infrastructure will be costly to the owners of those facilities and equipment and will require significant capital investment and cost recovery.

### 3.04.1 Recommendations

1. In addition to raising customer rates, jurisdictions that own or plan to own new or enhanced organics processing facilities should consider a variety of additional funding mechanisms to pay for that infrastructure, such as:

    - Implementing higher franchise or administrative fees or new public agency fees, such as an SB 1383 fee, similar to the IWMA fee (also referred to as AB 939 fee), as allowed in SB 1383 regulations; and
    - Using any combination of cash, existing funds, reserves, traditional or low-interest or interest-free loans, bonds, grants, tax credits, or private equity and infrastructure financing.

# Abbreviations and Acronyms

| | |
|---|---|
| AB | Assembly Bill |
| AD | Anaerobic Digestion |
| ADC | Alternative Daily Cover |
| CAP | Corrective Action Plan |
| CARB | California Air Resources Board |
| CEC | California Energy Commission |
| CEQA | California Environmental Quality Act |
| CPCFA | California Pollution Control Financing Authority |
| CPI | Consumer Price Index |
| CUP | Conditional Use Permit |
| EAR | Electronic Annual Report |
| GHG | Greenhouse Gas |
| ITC | Business Energy Investment Tax Credit |
| IWMA | The Integrated Waste Management Act (AB 939, Sher, 1989) |
| JPA | Joint Powers Authority |
| LCFS | Low-Carbon Fuel Standard |
| MCR | Mandatory Commercial Recycling |
| MORe | Mandatory Commercial Organics Recycling |
| POTW | Publicly-Owned Treatment Works |
| RMDZ | CalRecycle's Recycling Market Development Zone |
| RRI | Refuse Rate Index |
| RWQCB | Regional Water Quality Control Board |
| SB | Senate Bill |
| Survey | Statewide Survey |
| SLCP | Short-Lived Climate Pollutants |
| SWFP | Solid Waste Facility Permit |
| WST | Consumer Price Index—Water, Sewer, Trash |

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# Glossary of Terms

**Air Quality Management Districts:** As part of CARB's (see definition below) approach to cleaning up air pollution, these 35 agencies are county or regional governing authorities that have primary responsibility for regulating emissions from businesses and stationery facilities.

**Alternative Daily Cover:** Cover material, other than earthen material, placed on the surface of the active face of a municipal solid waste landfill at the end of each operating day to control vectors, fires, odors, blowing litter, and scavenging. Federal regulations require landfill operators to use six inches of earth material or other allowable alternatives as daily cover, which generally must be processed to prevent gaps in the exposed landfill face.

Currently, jurisdictions and regional agencies receive diversion credit for ADC use, as it is not reported as disposal. Beginning January 1, 2020, the use of green material as ADC will not constitute diversion through recycling and will be considered disposal.

**Anaerobic Digestion:** A series of biological processes in which microorganisms break down biodegradable material in the absence of oxygen. One of the end products is biogas.

**Biogas:** A byproduct of anaerobic digestion that is combusted to generate electricity and heat or can be processed into renewable natural gas and transportation fuels.

**Biomass:** Organic matter used as fuel, especially for the generation of electricity.

**Biosolids**: The nutrient rich by-product of wastewater treatment generated by the treatment of sewage.

**CARB:** The California Air Resources Board is charged with protecting the public from the harmful effects of air pollution and developing programs and actions to fight climate change.

**CEQA:** The California Environmental Quality Act is a statute that requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible.

**Conditional Use Permit:** A land use that is permitted, subject to certain conditions, and can be revoked if the conditions are violated. It allows the jurisdiction flexibility to determine if a proposed land use on a specific site will be compatible with the environment and the local government's General Plan. Most composting and anaerobic digestion facilities are subject to this approval process.

**Consumer Price Index:** Published by the U.S. Bureau of Labor Statistics on a monthly basis, this index measures the average change in prices over time that consumers pay for a variety of consumer goods and services, such as transportation, food, and medical care. CPI is widely used as an economic indicator and measure of inflation.

**Corrective Action Plan:** Can be issued by CalRecycle if the agency determines that any regulated entity is out of compliance with SB 1383 regulations. It offers jurisdictions the opportunity to avoid fines by demonstrating substantial progress toward required milestones.

**Compost:** The product resulting from the controlled biological decomposition of organic solid wastes that are source separated from the municipal solid waste stream, or which are separated at a centralized facility..

**Covered Generator:** Any waste generator (see definition below) subject to regulation, such as SB 1383.

**CPCFA:** The California Pollution Control Financing Authority provides low-cost financing to California businesses with an objective of making California more economically prosperous and environmentally clean.

**Diversion:** Direction of organic materials away from landfills and toward the production of compost, fertilizers, and biofuels.

**Electronic Annual Report:** CalRecycle's online tool that enables jurisdictions to submit their legally required annual evaluation of their solid waste diversion performance. Due on August 1, the report is each jurisdiction's self-assessment of its progress in implementing the requirements of the IWMA.

**Feedstock:** The raw material used for chemical or biological processes, such as decomposition. Feedstock used for making compost, fertilizers, and biofuels includes landscape trimmings, agricultural crop residues, paper pulp, food scrap, wood chips, manure, and biosolids.

**Flow Control:** A legal provision that allows a jurisdiction to designate when, where, and how the solid waste generated within its boundaries is to be managed. This includes designating the exact quantities of garbage, recycling, and organics to be hauled to specific solid waste disposal and processing facilities.

**Food Scraps:** All excess food, including surplus, spoiled, or unsold food such as vegetables and culls (lower quality vegetables or trimmings such as onion peels or carrot tops), as well as plate scrapings. Food scraps also are commonly called food remnants, food residuals, or food waste.

**Franchise:** The grant of exclusive or non-exclusive rights to a solid waste hauler to provide designated solid waste collection services for some or all waste streams (e.g., refuse, recycling, organics, bulky items) and generating sectors (e.g., residential or commercial) within a defined geographic area.

**Green Waste**: Urban landscape waste generally consisting of leaves, grass clippings, weeds, yard trimmings, wood waste, branches and stumps, home garden residues, and other miscellaneous organic materials.

**Greenhouse Gas:** A heat-trapping gas, such as carbon dioxide, methane, or hydrofluorocarbon, that is contributing to a warming of Earth's surface and the air above it. This process is commonly known as the greenhouse effect.

**Jurisdiction:** A city, county, or state in which a particular court and system of laws has authority. This can include Joint Powers Authorities (JPAs) utilized to fulfill regulatory requirements, though ultimate responsibility for compliance falls upon the individual member agencies.

**Joint Powers Authority:** A legally created entity that allows two or more public agencies to jointly exercise common powers.

**Municipal:** Associated with or belonging to a city or town that has its own local government.

**Notice and Order Process:** A process utilized by CalRecycle to enforce regulation compliance by solid waste facilities. It begins when an enforcement agency notifies a solid waste facility operator that it has failed to comply, orders it to take corrective action, and notifies CalRecycle of the situation. Following any request to CalRecycle for hearing or appeal, the order becomes final and action is taken to enforce the order. CalRecycle must be informed of any corrective action taken within 30 days of the final compliance deadline or expiration of the order.

**Ordinance:** A piece of legislation enacted by a municipal authority.

**Organics:** Material that comes from organisms that were once alive or is derived from or produced through the biological activity of a living thing.

**Pre-Processing:** Includes, but is not limited to organized, manual, automated, or mechanical sorting, separating, contamination removal, screening, chipping and grinding, slurrying, mixing, or any other activity that prepares waste materials for additional processing.

**Processing:** The volume reduction, separation, recovery, conversion, or recycling of solid waste.

**POTW:** A sewage treatment plant that is owned, and usually operated, by a government agency.

**Recovery:** Separating and processing waste products from the waste stream to reclaim as usable material.

**RWQCB:** The State Water Resources Control Board, which protects water quality throughout California, consists of nine Regional Water Quality Control Boards that exercise rulemaking and regulatory activities.

**Short-Lived Climate Pollutants:** Gases and particles that contribute to warming Earth, including the greenhouse gases methane, hydrofluorocarbon, and black carbon. These pollutants have a shorter atmospheric lifetime than carbon dioxide but they warm earth faster.

**Tipping Fee:** Also known as a gate fee, this is the charge levied on waste tonnage received at a waste processing facility or landfill to offset the site's management costs.

**Waste Generator:** Any individual or business entity whose act or process produces waste.

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# Appendix A
# Infrastructure Case Studies

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# Case Study: Sonoma County

## Program Location:

Sonoma County

## Program Information:

Zero Waste Sonoma (formerly Sonoma County Waste Management Agency) is a Joint Powers Authority formed, in part, to provide cost-effective transport and processing of organic waste for its ten member agencies. In 2016, approximately 66,000 tons of curbside organic materials (yard, green, and residential food scraps) were collected by franchise haulers in the county and hauled to county transfer stations.[§§]

## Program Elements:

Flow control, In-county composting system, landfill ban

## Effective Date:

If Zero Waste Sonoma member agencies agree to commit flow of organic materials to the facility, the new facility is anticipated to be built and operational by 2023, and will be able initially to manage 120,000 TPY of organic waste, including green waste, food waste, and manure. Eventually, the facility will be able to manage up to 150,000 TPY.

## Case Study Selected Because…

An organic processing facility located in Sonoma County managed all organic material collected by franchised haulers but closed in 2015 due to environmental concerns. After conducting EIRs and reviewing 3 potential sites, Zero Waste Sonoma chose to conduct a competitive bid process to procure organic waste processing services at a regional level with a short-term option to manage the current material flow and a long-term option to encourage new infrastructure.

## Funding Sources and Local Incentives

Zero Waste Sonoma is funded through a disposal surcharge collected at all Sonoma County refuse disposal sites. New organics processing infrastructure, including a new municipal organics anaerobic digestion and composting facility in the county, to be built by Renewable Sonoma, was proposed to be funded through tax-exempt bonds from the California Pollution Control Financing Authority (CPCFA) program. Repayment will be funded through processing rates set through a contract between Zero Waste Sonoma and Renewable Sonoma. These rates are passed through to customers based on franchise agreements between each member agency and the franchised haulers.

## Performance Goals

In 2017, Zero Waste Sonoma released a request for proposals (RFP) for organic materials processing services with the following goals:

- Process and divert organic materials and guarantee diversion credit from landfill through use of innovative techniques
- Provide consumers a source of high-quality soil amendments and mulches
- Provide access to the processing facility during reasonable times for the delivery of material from collection routes and/or transfer stations
- Be responsive to the needs of Zero Waste Sonoma and its member agencies
- Maintain full compliance with all regulations and permitting requirements;
- Provide insurance and indemnification, including CEQA indemnification

[§§] Not including the City of Petaluma, whose franchised solid waste hauler direct-hauled organic materials, totaling 11,130 tons in 2016, to Redwood Landfill's compost facility.

- Implement environmentally progressive diversion programs that meet AB 939, AB 1826, SB 1383, and AB 1594 requirements and address achievement of the state's 75 percent diversion goal and Zero Waste Sonoma's 70 percent diversion goal.

## Section I. System Overview

### *Collection System*

Each member agency within Zero Waste Sonoma has a franchise agreement for the collection, processing, and disposal of collected materials.

Zero Waste Sonoma manages contracts with Recology Sonoma Marin (Recology) to transport material from transfer stations to the organic processing facilities (Redwood Landfill Compost Facility and Cold Creek Compost). Zero Waste Sonoma also manages contracts with the organic processing facilities to guarantee capacity for the materials collected through the franchised systems.

### *System Facilities*

In 2005, the county ceased operations at Central Landfill due to state agency concerns about possible pollution. After many working group meetings, a Master Operating Agreement was developed between the county and Republic Services (Republic). Republic and Zero Waste Sonoma member agencies (except Petaluma) signed Waste Delivery Agreements (WDAs) committing waste flow to Republic for a 25-year term as operator of Central Landfill. Republic began operating the landfill in mid-2015. The WDAs also protect the committed member agencies from closure and post-closure maintenance, and unforeseen costs at the landfill.

In 2015, Sonoma Compost, the only in-county compost facility that accepted franchise materials, closed. This material was then hauled to one of three out-of-county compost facilities under contract with Zero Waste Sonoma. After conducting EIRs and reviewing 3 potential sites, Zero Waste Sonoma chose to conduct a competitive bid process to procure organic waste processing services at a regional level with a short-term option to manage the current material flow and a long-term option to encourage new infrastructure.

In June 2018, Zero Waste Sonoma entered into short-term processing agreements with Waste Management/Redwood and Cold Creek Compost for three-year terms. These agreements took effect July 1, 2018.

As a long-term solution, Zero Waste Sonoma is negotiating a 20-year contract with Renewable Sonoma to permit, construct, own, and operate an in-county organics processing facility. This will be achieved through a land lease option that co-locates the new facility at the Laguna Treatment Plant, the City of Santa Rosa's wastewater treatment plant. As proposed, the new facility will be built and operational 2023, and will eventually be able to manage 150,000 TPY of organic material including yard debris, food waste, and manure.

**Table 1. System Stakeholder Roles and Relationships**

| Stakeholder | Role and Responsibility |
|---|---|
| **Regional Agency** | Zero Waste Sonoma selects the facility operator, monitors reporting, maintains collection and processing data, and implements new programs. |
| **Land Owner** | The City of Santa Rosa is the land owner where the proposed facility will be sited, built, and operated. |
| **Jurisdictions** | Each member agency commits flow of organic material collected by its franchised hauler to facilities selected by Zero Waste Sonoma. Franchise agreements require diversion programs, outreach and education to service recipients, and reporting standards. |
| **Haulers** | Franchised haulers (Recology Sonoma Marin, Sonoma Garbage Company, and Sonoma County Resource Recovery) implement programs, educate service recipients, and |

| Stakeholder | Role and Responsibility |
|---|---|
| | provide diversion reports. |
| **Facility Operator** | Renewable Sonoma will build, own, and operate a fully compliant facility to process organic materials for all Zero Waste Sonoma Member Agencies. They will manage contamination levels, report incoming and outgoing tonnage, and provide county consumers with high-quality soil amendments and mulches. |

## Section II. Cost to Establish and Operate the System

Zero Waste Sonoma is funded through a disposal surcharge collected at all county refuse disposal sites. The organic collection, transfer, and processing is funded through customer rates based on the rates set at the processing facility. The rates proposed by Zero Waste Sonoma will be adjusted annually by the percent change in the annual average of the CPI.

The cost to establish the organics processing system, as proposed by Renewable Sonoma, included approximately $1,650,000. This included one (1) Zero Waste Sonoma staff at half time over a ten (10) year period, consultants for siting and environmental impact reviews of three (3) separate sites, as well as leading the procurement process, developing the request for proposals, and Zero Waste Sonoma's attorney. In addition, the proposed cost to permit, construct, and staff the proposed facility was approximately $50,000,000.

It is estimated that operating the system with 80,000 tons per year (TPY) of green waste, 20,000 TPY of commercial source separated food, including 50 percent of the material direct hauled to an in-county facility, will cost $7,283,600 annually. These costs are expected to increase residential customer rates an average of $0.43 monthly.

## Section III. Regulations

A master operating agreement between the county and Republic includes flow control requirements for food scraps to be delivered to an in-county composting facility. County municipal code prohibits yard debris and recyclable wood scraps from the garbage waste stream.

## Section IV.Incentive Programs

Renewable Sonoma will provide outreach and education to the Sonoma County region as part of its negotiated contract with Zero Waste Sonoma. In addition, Renewable Sonoma may be able to reduce the costs of developing this new infrastructure by applying for CalRecycle grants, including the Greenhouse Gas Reduction Grant and Loan programs.

## Section V. Successes, Challenges, and Lessons Learned

Zero Waste Sonoma has found that by pooling its resources and offering a commitment of flow, the overall costs of the program are reduced. Through the RFP process, rates were requested for various quantities of organic material. It was found that the only viable option was to contract with one company because the financial burden was lessened by committing more material to one facility.

It is important to have clear communication and trust with the members when developing a system at a regional level. Communicating the goals of the process from the beginning and throughout the process is key.

There is a potential for litigation throughout the process. Zero Waste Sonoma requested community input through public meetings, workshops, and SurveyMonkey. Interested parties, such as residents and business owners, voiced their opinions and concerns.

## Section IV.Additional Information

Websites: https://zerowastesonoma.gov/

http://www.renewablesonoma.com/

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# Case Study: CR&R

## Program Location:

Riverside, Los Angeles, and Orange Counties

## Program Information:

CR&R services jurisdictions throughout the counties of Riverside, Los Angeles, and Orange. CR&R has completed the second phase of an organic infrastructure project, comprised of eight anaerobic digesters (AD) to transform food waste into energy. CR&R is currently accepting 40 tons of food waste per digester. This equates to 320 tons processed per day, or 116,800 tons per year.

## Program Elements:

Organic services, mandatory programs, flow control, material bans, compost

## Effective Date:

Beginning of Organics Infrastructure Implementation: October 2016

## Case Study Selected Because…

CR&R currently has a four-phase organics infrastructure project in place throughout Southern California. This CR&R organics infrastructure project is a great example of a forward-thinking operator participating in the critical development of organics processing facilities.

## Funding Sources and Local Incentives

The new infrastructure was funded through tax-exempt bonds from the California Pollution Control Financing Authority (CPCFA) program.

- Facility cost: $55 million
- CR&R: $45 million
- CEC: $4.5 million
- AQMD: $1.5 million
- Cap-and-Trade funding from CalRecycle's Organics Grants Program: $3 million

## Performance Goals

CR&R's goals align with California's statewide goals of diverting organics from landfills and reducing GHG emissions. CR&R's infrastructure project is intended to assist its 15 serviced jurisdictions with meeting the organics compliance measures mandated by the state of California, including AB 341, AB 1826, AB 1594, and SB 1383.

## Section I. System Overview

### *Collection System*

CR&R has long-standing relationships with many jurisdictions throughout the counties of Riverside, Los Angeles, and Orange. Currently, CR&R holds franchise agreements with 15 jurisdictions that use the new facility to divert their organic waste, including the cities of Temecula, Canyon Lake, Perris, Lake Elsinore, Wildomar, Hemet, San Jacinto, Calimesa, San Clemente, Aliso Viejo, Costa Mesa, Stanton, Midway City, and Los Angeles; and unincorporated Riverside County.

### *System Facilities*

CR&R owns and operates six material recovery and transfer stations in Southern California, two of which are located in the counties of Riverside and Orange.

The second phase of the four-phase organics infrastructure project became operational in 2017. As each organic waste infrastructure phase is completed, it will allow the 15 jurisdictions serviced by CR&R to expand and enhance their organics programs. The second phase of this project alone added an additional 80,000 tons of capacity per year.

**Table 1. System Stakeholder Roles and Relationships**

| Stakeholder | Role and Responsibility |
|---|---|
| **Jurisdictions** | Temecula, Canyon Lake, Perris, Lake Elsinore, Wildomar, Hemet, San Jacinto, Calimesa, San Clemente, Aliso Viejo, Costa Mesa, Stanton, Midway City, Los Angeles, and unincorporated Riverside County |

| Stakeholder | Role and Responsibility |
|---|---|
| **Hauler** | CR&R provides collection for recycling, solid waste, green waste, and food waste. |
| **Facility Operator** | CR&R |

## Section II. Cost to Establish and Operate the System

The development of the anaerobic digestion facility cost $55 million. It was funded through CR&R, CEC, AQMD and CalRecycle Cap-and-Trade funding through an organic grant program. The facility permitting process and the construction phase each took two years.

## Section III. Regulations

The 15 jurisdictions that CR&R services are required to comply with California state regulations associated with AB 341, AB 1826, AB 1594 and SB 1383. Currently, CR&R is able to provide the organics diversion services required by the state.

## Section IV.Incentive Programs

CR&R's organics processing facility has hosted over 200 public tours for public officials and schools with a goal of engaging Californians to help reduce their contributions to the waste stream.

## Section V. Successes, Challenges, and Lessons Learned

CR&R's success is largely due to their vertical integration as the hauler and the owner and operator of the material recovery, compost, and AD facility. The AD facility has received high regard and public engagement since the beginning of its development. Public communication and education have remained an important factor in CR&R's success, as maintaining an efficient organic waste operation relies on low contamination levels in the feedstock and sufficient flow of appropriate material. In addition, the AD has enabled CR&R to produce a clean renewable natural gas, which is used to power its large fleet of refuse and recycling vehicles.

CR&R's four-phase organic infrastructure project will allow many jurisdictions throughout Riverside, Orange, and Los Angeles counties to make greater strides towards organics compliance and increased diversion, while simultaneously helping California achieve its statewide goals.

## Section IV.Contact Information

Website:
http://crrwasteservices.com/sustainability/anaerobic-digestion/#

# Case Study: El Dorado County

## Program Location:

El Dorado County (county)

## Program Information:

El Dorado Disposal, (EDD, a Waste Connections Company), is the franchised hauler for the City of Placerville, unincorporated El Dorado County, and the Community Services Districts of Cameron Park and El Dorado Hills. In 2015, EDD began a pilot program to collect food waste, and they are currently transferring the collected material approximately 60 miles to the UC Davis anaerobic digester for processing and diversion.

South Tahoe Refuse (STR), the franchised hauler for the City of South Lake Tahoe, transports organic materials for processing from the East Slope of the county to Bently Ranch in Minden, Nevada.

## Program Elements:

Organic services and mandatory organics collection programs.

## Effective Date:

Food scraps collection program for commercial customers in 2015.

## Case Study Selected Because…

Not all programs are the same. Rural counties struggle with implementing and enforcing programs and siting facilities.

Because Placerville is more densely populated than the rest of the county, it has been able to achieve diversion goals more quickly.

## Funding Sources and Local Incentives

The food scraps collection program is funded through the customer food scraps rates, which are 12.5 percent higher than the commercial garbage rates. EDD recently began charging this rate in the unincorporated county.

## Performance Goals

In 2012, the County Board of Supervisors adopted the County Solid Waste Management Plan. Some of the plan's goals include:

- Minimizing waste generation by implementing and expanding source reduction and reuse policies and programs
- Increasing waste diversion by setting and working towards a 75 percent diversion goal
- Reducing illegal disposal by providing outreach, education, and convenient disposal alternatives
- Reducing GHG emissions by implementing mandatory commercial recycling, expanding alternatives to green waste burning, and potentially requiring the use of alternative fuels for collection vehicles
- Identifying, developing, and enhancing waste management programs, including food waste collection programs (both residential and commercial), and community composting programs
- Identifying and developing necessary in-county facilities
- Identifying performance metrics to track progress towards goals.

In addition, performance measures are set in the franchise agreements requiring haulers to meet state requirements.

## Section I. System Overview

### *Collection System*

The cities of Placerville and South Lake Tahoe, unincorporated El Dorado County, and two community service districts (Cameron Park and El Dorado Hills) each have separate franchise agreements in place for the collection, processing, and disposal of solid waste. Collection through the franchised hauler is mandatory in Placerville, Cameron Park Community Service District, and El Dorado Hills Community Service District. Residential collection is mandatory in both the city and county in South Lake Tahoe and optional in the North West area of the basin.

### *System Facilities*

The county is divided by the Sierra Nevada Mountains, resulting in West Slope and East Slope waste sheds.

The West Slope has a material transfer station operated by El Dorado Disposal, which includes a MRF, C&D debris processing, HHW facility, carpet recycling, mattress recycling, e-waste processing, green materials, and white goods collection area. There is another HHW collection facility operated by the county at the fire station on Bass Lake Road in El Dorado Hills, and a green materials processing facility operating under a notification permit in Placerville. Organic food scraps from the West Slope are transported to the UC Davis anaerobic digester for processing.

The East Slope has a large volume transfer processing facility located in South Lake Tahoe. This facility includes a MRF operated by STR that processes green materials and C&D debris. Organic materials from the East Slope are transported to Bently Ranch in Minden, Nevada.

**Table 1. System Stakeholder Roles and Relationships**

| Stakeholder | Role and Responsibility |
|---|---|
| **Jurisdictions** | The county maintains franchise agreements with EDD, STR, and Tahoe Truckee Sierra Disposal (TTSD). The City of Placerville maintains a franchise agreement with EDD. The City of South Lake Tahoe maintains a franchise agreement with STR. The cities of Placerville and South Lake Tahoe and the county each submit an annual report to CalRecycle. |
| **Community Service Districts (CSDs)** | There are two CSDs in the county, Cameron Park and El Dorado Hills, that maintain their own separate franchise agreements with EDD for collection services. |
| **South Lake Tahoe Basin Waste Management Authority Joint Powers Authority (JPA)** | This JPA consists of three jurisdictions: City of South Lake Tahoe; El Dorado County; and Douglas County, NV. The JPA was created to encourage construction of a MRF and other solid waste handling facilities in the Tahoe Basin. |
| **El Dorado Solid Waste Advisory Committee (EDSWAC)** | EDSWAC is an advisory group, established pursuant to AB 939, tasked with the following activities.<br>• Identifying solid, liquid, and hazardous waste issues of a countywide or regional concern<br>• Assisting with the coordination and continued development of source reduction and recycling programs<br>• Determining the need for solid waste collection systems, processing facilities, and marketing strategies that can serve more than one local jurisdiction within this region<br>• Preparing, maintaining and updating the El Dorado County Integrated Waste Management Plan |

| Stakeholder | Role and Responsibility |
|---|---|
| **Hauler** | El Dorado Disposal is the franchised hauler for unincorporated El Dorado County and Placerville on the West Slope. The county also oversees and reports diversion for Tahoe Truckee Sierra Disposal (TTSD) which services a small portion of customers in the northwest portion of the Tahoe Basin, a census designated place in Placer and El Dorado County. South Tahoe Refuse is the exclusive franchised hauler for South Lake Tahoe, both for the city and the county. All franchised haulers in the county implement programs, educate service recipients, and provide diversion reports. |
| **Facility Operator** | El Dorado Disposal transports food waste to the UC Davis anaerobic digester and green material to Lopez Agricultural Services in Sacramento County for processing. South Tahoe Refuse transports organic materials for processing from the East Slope to Bently Ranch in Minden, Nevada. |

## Section II. Cost to Establish and Operate the System

The food scraps pilot program that began in 2015-2016 was funded directly by El Dorado Disposal and South Tahoe Refuse. Currently, the commercial food scraps rates are 12.5 percent higher than the commercial garbage rates, which funds the costs of hauling and operation. The 12.5 percent increase was approved in 2017, but it was not charged to customers until mid-2018. South Tahoe Refuse currently does not have a differential rate.

The Solid Waste Management Plan adopted by the Board in January 2012 includes an objective to develop organics infrastructure. El Dorado County is currently in the data gathering phase for a potential future facility in or near El Dorado County.

## Section III. Regulations

There is mandatory collection service in Placerville, Cameron Park Community Service District, and El Dorado Hills Community Service District per county ordinance. There is mandatory residential collection service in South Lake Tahoe, both in the city and the unincorporated El Dorado County. Other regulations include monthly reporting of AB 341 and AB 1826 compliance and quarterly diversion reports to El Dorado County.

El Dorado County established requirements for proper storage of residential and commercial garbage in unincorporated portions of the county through Chapter 8.42 of the County's Solid Waste Ordinance, The Bear-Proof Garbage Can Requirements Ordinance. Ordinance 5083 applies to the Tahoe Basin for bear boxes. This ordinance requires bear-resistant solid waste enclosures for all new commercial, multi-family, residential and remodel projects, areas where it has been determined a bear or animal access program, and all new and existing vacation home rentals.

## Section IV.Incentive Programs

Franchised haulers may provide billing inserts for recycling education and updates, two annual newsletters (Summer & Winter), a voucher program for residential customers (for additional green waste to be dropped off at the MRF; and for curbside pickup of e-waste, oil, green waste, and bulky items), a voucher program for multi-family dwellings to alleviate illegal dumping, community clean up events, Christmas tree recycling, MRF tours, event attendance, and school presentations; however, offerings vary by hauler.

The county is currently revising its solid waste ordinance to include updates to incorporate enforcement mechanisms for SB 1383, AB 341, and AB 1826. El Dorado County staff anticipates the update to be approved by summer 2020.

## Section V. Successes, Challenges, and Lessons Learned

Based on the goals set forth in the El Dorado County Solid Waste Management Plan, franchised haulers began a pilot program for commercial customers in 2015.

El Dorado County has encountered many challenges in implementing the collection of food scraps in the organics program. Much of El Dorado County includes rural areas that struggle with foraging animals, such as bears. The smell of food scraps can attract bears from a long distance, so bear-resistant garbage can enclosures may be needed in certain parts of the county, mostly in the Tahoe Basin. There are currently no local ordinances in place within the county enforcing participation in organic collection programs, so the county relies on state legislation and franchisees to implement programs.

CleanWorld SATS BioDigestion facility (CleanWorld) in Sacramento closed in early 2017. CleanWorld received the food scraps collected by El Dorado Disposal. It has been challenging to locate or site other viable options to process food scraps collected in El Dorado County.

Currently, food scraps collected from the West Slope by El Dorado Disposal are direct-hauled approximately 60 miles to the UC Davis anaerobic digestion facility and green material to Lopez Agricultural Services in Sacramento County. Other challenges include the lack of enforcement mechanisms and the need for additional space in enclosures for extra bins.

The food waste pilot program in El Dorado County began in 2015 and continues to expand. Due to the closure of a nearby organics processing facility in Sacramento, organic materials from the West Slope of the county are currently being transferred approximately 60 miles to UC Davis for processing.

El Dorado County staff has recognized the need for increased regulations of food scraps collection and is currently amending the language in the county code. Through these amendments, the county plans to incorporate enforcement mechanisms to encourage behavior change to reduce contamination.

El Dorado County's most recent success story was receiving a Food Prevention and Rescue grant through CalRecycle's Cap-and-Trade Funding Program. The grant funds will be used to purchase materials to assist in the expansion of the food rescue program. The funds will also be used to air a short video clip promoting food rescue and recovery.

## Section IV.Contact Information

Website:
www.edcgov.us/government/EMD

# Case Study: City of San Luis Obispo

## Program Location:

San Luis Obispo, Arroyo Grande, Oceano, Morro Bay, Los Osos, and Pismo Beach

## Program Information:

The anaerobic digester being built by Hitachi Zosen will convert 36,500 tons of food waste and urban green waste per year into 6.8 million kilowatt-hours (kWh) of electricity, 13,000 tons of compost, and 1.6 million gallons of liquid fertilizer.

## Program Elements:

Rates and rate structure, organic services, mandatory programs, flow control, material bans, compost.

## Effective Date:

April 2018

## Case Study Selected Because…

The City of San Luis Obispo (city) has a long-standing and mature solid waste program. It has passed many landmark ordinances for plastics reduction and has invested in state-of-the-art facilities to meet its waste reduction goals.

## Funding Sources and Local Incentives

The city encourages their customers to maximize recycling to reduce their solid waste generation and garbage bill.

- Facility Cost: $25 million
- Hitachi Zosen: $16 million
- CEC: $4 million
- Cap-and-Trade funding from CalRecycle's Organics Grants Program: $4 million

The facility also qualified for the investment tax credit (ITC) for producing renewable electricity, which equates to 30 percent of the total eligible cost.

Hitachi Zosen is the sole owner of the facility, which they financed via 20 percent equity and 80 percent debt from its financing partners.

## Performance Goals

The overall goal of the program is to continue improving regulatory compliance and diversion of recyclable materials away from the landfill. Specifically, Hitachi Zosen aims to harvest as much methane as possible from the anaerobic digester and plans to power over 600 homes with it.

## Section I. System Overview

### *Collection System*

Cities of San Luis Obispo, Arroyo Grande, Oceano, Morro Bay, Los Osos, and Pismo Beach have an exclusive contract with Waste Connections to provide service for all garbage, recycling, and organics collection for both residential and commercial customers. There is an open market for C&D debris disposal and recycling services.

### *System Facilities*

Waste Connections transports its garbage to Cold Canyon Landfill, located in San Luis Obispo County, for processing and disposal of materials. Through franchise agreements, Waste Connections is required to deliver all materials to an approved MRF.

Hitachi Zosen built and operates an AD facility on land leased from Waste Connections, which has committed to providing feedstock to the facility through a 20-year agreement with Hitachi Zosen. The facility became operational in the end of 2018. It processes the residential and commercial organics collected by Waste Connections; it is designed to process 36,500 tons of source-separated organics and green waste from the county's collection program, which includes fats, oils, and grease.

**Table 1. System Stakeholder Roles and Relationships**

| Stakeholder | Role and Responsibility |
|---|---|
| **Regional Agency** | San Luis Obispo County Integrated Waste Management Authority (SLOIWMA) is a JPA that provides outreach and education services to the city. |

| Stakeholder | Role and Responsibility |
|---|---|
| **Jurisdictions** | Property for the AD facility is located in San Luis Obispo County. Multiple jurisdictions, including Arroyo Grande, Oceano, Morro Bay, Los Osos, Pismo Beach, San Luis Obispo hold franchise agreements with Waste Connections. |
| **Hauler** | Waste Connections (dba San Luis Garbage) |
| **Facility Operator** | Hitachi Zosen financed and will own and operate the plant in San Luis Obispo established through a 20-year operations and maintenance agreement. |

## Section II. Cost to Establish and Operate the System

The solid waste system in the city is funded through the customer rates paid to Waste Connections. Customer rate structure is set through the rate-setting process established in the franchise agreement methodology. Included in the hauler's fees to the city are AB 939 fees and franchise fees.

The costs to fund the development of the AD facility did not affect public funds or customer rates. The infrastructure was funded through Hitachi Zosen, a technology provider that owns the Kompogas High Solids Plug Flow technology, and grants from CalRecycle and the California Energy Commission.

## Section III. Regulations

The city has adopted several ordinances for regulating the sale of expanded polystyrene, requiring straws to be provided upon request, and regulating the sale of single-use plastic bottle beverages. The city has a mandatory recycling ordinance in place since 2009 and is required to comply with California state regulations associated with ABs 939, 341, 1826, and SB 1383.

## Section IV. Incentive Programs

Outreach and education services are provided by the city's hauler, Waste Connections, and SLOIWMA. The city encourages and incentivizes its customers to recycle as efficiently as possible in order to reduce their garbage rates. Through the franchise agreement, an additional recycling container and two additional green waste containers are provided to customers at no additional cost.

Residential organics collection is offered to customers The City and SLOIWMA have worked collaboratively to raise awareness about the organics recycling service and have provided residents with indoor countertop collection containers for easy transfer of organic materials to the outdoor cart. The funds for these containers were included in the city's rate-adjustment process.

## Section V. Successes, Challenges, and Lessons Learned

The AD facility was built in San Luis Obispo County to play a significant role in the county's current efforts towards landfill diversion and regulatory compliance. Current challenges that the jurisdictions face with the organics program include customer behavior change, participation, and contamination issues. With continued outreach and education, the jurisdictions within San Luis Obispo County hope to create permanent change and reach long-term goals.

SLOIWMA works with jurisdictions in the county to drive outreach and education efforts. SLOIWMA also partners with Science Discovery, an organization that sends its recycling specialists out to help local businesses set up recycling programs.

## Section IV. Contact Information

City website:
www.slocity.org/government/department-directory/garbage-recycling

San Luis Obispo Integrated Waste Management Agency Website:
www.iwma.com

Hitachi Zosen INOVA Website:
http://www.hz-inova.com/cms/en/home/

# Case Study: Santa Barbara County

## Program Location:

Santa Barbara County (county)

## Program Information:

The planned MRF is intended to capture organics for AD and recyclables from landfill-bound material. Tajiguas Landfill is currently accepting about 200,000 tons per year from surrounding communities, and this project is intended to reduce those tons by 60 percent or 120,000 tons per year.

## Program Elements:

Various state mandates, including AB 341, AB 1826, SB 1383, SB 32, and Santa Barbara County's Energy and Climate Action Plan (CAP), which aims to reduce dependence on landfilling, improve resource conservation, and protect the climate.

## Effective Date:

The MRF is anticipated to be fully operational in early 2021.

## Case Study Selected Because…

The county is constructing an AD and MRF on their existing landfill to capture recyclables and organics for energy recovery and composting from landfill-bound material.

## Funding Sources and Local Incentives

Construction costs were financed through county-issued 20-year bonds totaling $130 million. Incentives include state laws and CAP requirements. The county also received a $4 million grant from CalRecycle through the Cap-and-Trade Organics Grant Program.

## Performance Goals

Recover 60 percent—approximately 120,000 tons per year—from landfill-bound material for recycling, AD, and composting.

## Section I. System Overview

### *Collection System*

The county owns and operates Tajiguas Landfill, which serves the Cities of Buellton, Goleta, Santa Barbara, and Solvang as well as unincorporated areas of the South Coast, the Santa Ynez Valley, and Cuyama Valley. For the past twenty years, dozens of successful waste reduction programs have been implemented. Despite this success, approximately 200,000 tons per year are still being disposed at Tajiguas. After more than 150 presentations, the Tajiguas Resource Recovery Project was identified as a key means to meet the county's waste reduction and climate action goals. Since 2007, the county has been researching alternatives to landfilling, resulting in the construction of a $130 million MRF and AD facility called the ReSource Center.

The unincorporated county collection system is a franchised system with two haulers, MarBorg and Waste Management. The Cities of Lompoc and Santa Maria haul their own waste, while Carpinteria has an exclusive franchise agreement with EJ Harrison and Sons.

### *System Facilities*

Green waste is collected from residences and some commercial haulers and mulched at Tajiguas Landfill. Food-rich organics from high-volume producers is composted in Kern County. Source separated recyclables are processed at Gold Coast Recycling in Ventura. The county owns and operates the Tajiguas Landfill. Future facilities will include the MRF and AD facility, both located at the Tajiguas Landfill.

**Table 1. System Stakeholder Roles and Relationships**

| Stakeholder | Role and Responsibility |
|---|---|
| **Regional Agency** | Santa Barbara County staff oversee project and planning. |
| **Jurisdictions** | Cities of Buellton, Goleta, Santa Barbara, and Solvang, as well as unincorporated areas of the South Coast, the Santa Ynez Valley, and Cuyama Valley |

| Stakeholder | Role and Responsibility |
|---|---|
| **Haulers** | The unincorporated county has a franchised collection system with two haulers, Waste Management, and MarBorg. The Cities of Lompoc and Santa Maria haul their own waste, while Carpinteria has an exclusive franchise agreement with EJ Harrison and Sons. |
| **Facility Operator** | MarBorg was contracted to operate the MRF. Mustang Santa Barbara (MSB) will design and build the AD facility and will be responsible for subcontracting for operation of the facility. |

## Section II. Cost to Establish and Operate the System

Capital costs are estimated to be $130 million and a county bond will be issued in November for the full amount. The county determined that a bond was the best way to finance the project because of the county's good bond rating and low debt.

## Section III. Regulations

In order to reduce dependence on landfilling, conserve resources, protect the climate, and comply with various state mandates (AB 341, AB 1826, SB 1383, SB32) and Santa Barbara County's Energy and CAP, the county has been in the process of exploring alternatives to landfilling since 2002.

## Section IV.Incentive Programs

Intensive outreach was conducted to the affected communities. This included 150 presentations to local groups, during which the county sought input and consulted with the community at large.

## Section V. Successes, Challenges, and Lessons Learned

Unbeknownst to the ReSource Center planning officials, and even after many key groups reviewed and signed off on plans, the Coastal Commission had redrawn the lines of the coastal zone, placing the planned location of the AD within the new coastal zone area. This change delayed the project by two years, increased the capital costs and forced the project managers to change the location of the AD facility to a more distant part of the landfill. Despite this delay and change to the project, county officials still see this as one of the most important projects that will help achieve their CAP goals by reducing GHGs by an estimated 117,000 metric tons of CO2.

## Section IV.Contact Information

Website:
www.lessismore.org/ReSourceCenter

# Appendix B
# Organics Collection Case Studies

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# Case Study: City of Half Moon Bay

**Table 1. Fast Facts**

| | |
|---|---|
| ***Location***<br>Region 2: Bay Area—San Mateo County<br>***Land Area***<br>6.42 square miles<br>***Population and Density***<br>12,870; 2,005 per square mile<br>***Housing***<br>7,359 households<br>***Income and Poverty***<br>Median Household Income: ~ $111,000<br>Persons in poverty: 4.6%<br>***Business and Commercial***<br>1,157 firms<br>***Organics Participation Incentive***<br>*Subscribers:*<br>• Mandatory organics service through bundled rates.<br>*Haulers:*<br>• Receive full cost of service via bundled rates and programmatic requirements.<br>• Liquidated damages for commingling, collection, and disposal violations and failure to meet diversion requirements.<br>***Organics Implementation Date***<br>April 1, 2018 | ***Solid Waste Collection Program***<br>**Jurisdiction**: Municipal code requires all residential, commercial, and industrial property owners to contract with a city franchisee for removal and disposal of solid waste, recyclables, and green waste generated on the property.<br>**Provision**: Exclusive franchise<br>**Hauler**: Republic Services of San Mateo County (Republic)<br>**Hauler Contract Specifications:**<br>**Term**: New franchise agreement for 10-year term went into effect in 2018.<br>**Sectors Serviced**: Residential, commercial, C&D, and city.<br>**Services Provided**: Minimum weekly collection, transportation, recycling, processing, and disposal of all garbage, recyclables, food waste, green waste, and bulky waste in a 3-container system.<br>**Facilities**: Republic operates Ox Mountain Landfill & Transfer Station in Half Moon Bay. Recyclables and organics are transferred to and processed at Newby Island Resource Recovery Park in Milpitas |

## Section I. Customer Rates

The city's 2018 franchise agreement with Republic reflects the following:

- Rates include mandatory minimum garbage, recycling, and organics collection for all residential and commercial customers.
- Rates set for different container sizes and collection frequencies.
- Customer rates include a 14 percent franchise fee on gross revenues and an annually-adjustable monthly administrative fees (starting at $6,000 per month).
- Customer rates were increased, per the ***Solid Waste Rate Comparison*** table below, effective April 1, 2018, to account for new organics collection service.

**Table 2. Solid Waste Rate Comparison**
***Before and After Implementing Organics Collection Service***

| Service Sector & Level (1 container, 1x/week) | 2017-18 Monthly Rates*** | 2018-19 Monthly Rates††† | $ Change |
|---|---|---|---|
| **Residential Single-Family** | | | |
| 20-gallon | $13.01 | $23.01 | $10.00 |
| 32-gallon | $26.69 | $36.99 | $10.30 |
| 64-gallon | $53.39 | $67.34 | $13.95 |
| 96-gallon | $81.53 | N/A | N/A |
| **Commercial** | | | |
| 2 CY | $279.37 | $349.21 | $69.84 |
| 3 CY | $419.06 | $523.81 | $104.75 |
| 4 CY | $558.71 | $698.45 | $139.74 |
| 6 CY | $921.65 | $1,152.09 | $230.44 |

## Section II. Rate Structure and Adjustment Process

The city uses a bundled rate structure for residential and commercial garbage, recycling, and organics collection services. Republic may apply for annual adjustments to maximum service rates, effective April 1 of every year, subject to city approval, starting with the April 1, 2019 adjustment. Annual rate changes are computed using the CPI (San Francisco-Oakland-San Jose) index, and any increase is limited to a floor and cap of one to four percent. Adjustments due to material changes in law or changes in city fees or payments are allowed, as are detailed rate reviews (in place of annual CPI adjustment) and special detailed rate reviews. See the tables below for additional details.

**Table 3. Rate Structure**

| Cost of Service | Bundled Organics | Bundled Recycling | Subsidized‡‡‡ |
|---|---|---|---|
| No | Yes | Yes | No |

**Table 4. Rate Adjustment and Approval Process**

| Rate Adjustment Method | Rate Adjustment Frequency | City Manager/ Administrator | Board / City Council Vote | Prop. 218 Notice | Set by Hauler | Rate-Adjustment Limits |
|---|---|---|---|---|---|---|
| CPI | Annual | Yes | No | No | No | 1 - 4% increase per year |
| Detailed / Special | Periodic | No | Yes | No | No | No limit |

## Section III. Gap Analysis

In 2017, the City of Half Moon Bay awarded a new franchise agreement to Republic to begin new services, including organics collection, in 2018. The agreement set bundled rates based on mandatory minimum garbage, recycling, and organics collection for all

*** Residential and commercial rates included recycling and green waste containers based on volumetric need prior to implementing organics collection service.

††† Residential rates include base 96-gallon organics and 64-gallon recycling containers + 1.5-gallon kitchen food waste pails upon request; commercial rates include base 32-gallon organics and 96-gallon recycling containers.

‡‡‡ Organics rates subsidized by garbage rates.

customers, and it incorporated most of SB 1383's requirements, as shown in the Gap Analysis table. The city has not yet passed an ordinance that covers SB 1383/organics collection.

**Table 5. Gap Analysis**

| SB 1383 Requirements | Ordinance | Franchise Agreement |
|---|---|---|
| Mandatory Organics Service | No | Yes |
| Collection System<br>1-container<br>2-container<br>3-container | No | 3-container system |
| Containers<br>Colors<br>Labels | No | <br>Yes<br>Yes |
| Contamination Monitoring | No | Yes |
| Enforcement | No | Yes |
| Reporting | No | Yes |
| Outreach and Education | No | Yes |
| Edible Food Recovery | No | No |

***Enforcement Mechanisms***

Prior to 2022, jurisdictions must adopt an ordinance or similarly enforceable mechanism that mandates SB 1383's regulatory requirements. Even jurisdictions that fully implemented AB 1826 enforcement requirements through their franchise agreements and ordinances may need to rewrite that language to address the specific stipulations of SB 1383.

An ordinance is a rule or law passed by a municipal government that is generally enforced through civil penalties or fines. Jurisdictions will need local ordinances that include participation enforcement mechanisms to ensure generator and hauler compliance with SB 1383 and facilitate penalty assessment for noncompliance, beginning in 2024. Adopting an SB 1383 organics collection ordinance will allow jurisdictions with franchised service to continue to enforce the established requirements even if changes are made to the contracted hauler arrangement or franchise agreement. For jurisdictions with municipal operations, ordinances are their best available enforcement mechanism.

To ensure hauler compliance with SB 1383 regulations, jurisdictions with franchised service will need to include the requirements in their franchise agreements, permits, or contracts. A franchise agreement is an appropriate instrument for mandating the law's specific details, such as those related to container and labeling systems, record-keeping and monitoring, and outreach and education, as well as the hauler's responsibilities for achieving the jurisdiction's diversion goals through agreed-upon routing and collection methods and processing facilities. While franchise agreements cannot enforce generators' compliance, they can and should hold the contracted haulers accountable through specific enforceable mechanisms, typically in the form of noncompliance financial penalties.

## Section IV.Key Takeaways and Lessons Learned

The city successfully implemented diversion programs within a bundled rate structure through its 2018 franchise agreement, which requires Republic to provide organics and recycling collection to all city garbage customers. That early success was due, in part, to the city's proactive approach to educating the public and elected officials of the necessity for raising rates in order to pay for state-mandated services. Prior to conducting the procurement process for a franchised hauler, the city held a town hall

meeting to educate elected officials and concerned citizens about that process as well as the legislative requirements of SB 1383, AB 1826, and AB 341 that would be impacting services and rates. Once Republic was selected and the final franchise agreement was ready for presentation to city council for approval, city staff educated the council subcommittee on how the new contracted services would meet the legislative requirements. They also provided a detailed explanation of the costs involved in providing the mandated services and helped the elected officials prepare to address any objections that might arise from their constituents over the necessary rate increases. In addition, the franchise agreement included an implementation plan, which featured customer education by Republic and town hall meetings prior to rolling out the new customer programs. When the final franchise agreement was presented to city council in September 2017, the city received no public protests related to the change in services and rates. As a result, the new services and rates carried with a 4/1 council vote.

While the city's customer rates increased substantially across all service levels, customers received increased services, including new organics collection. Residential customers who previously subscribed to the 96-gallon garbage cart actually experienced a decrease in their rates, because that container size was eliminated, and they were shifted to a less expensive, smaller container.

Through the new franchise agreement, the city has established an aggressive schedule and targets for its diversion requirements, as follows: Republic is required to divert a minimum of forty percent of all materials collected from all services under the provisions of the franchise agreement during calendar year 2019; 45percent for 2020; 50percent for 2021; and 55percent for 2023 and beyond.

The city believes that the key to the success of their new programs and meeting their diversion and sustainability goals is customer knowledge, buy-in, and participation. As such, their new agreement required Republic to collaborate with the city to develop and implement a comprehensive public education and outreach plan for the start-up of the new services and through the term of the agreement. The city also has the option to request that Republic provide for a Recycling Specialist dedicated to supporting recycling and sustainability programs, including performing commercial waste audits and outreach and support to commercial and multi-family accounts.

In addition to providing outreach and education, Republic is required to implement the city's strict container contamination standards to support achievement of their diversion targets. Republic must notify and educate customers if a visual inspection confirms that their organic waste containers are contaminated with five percent or more by weight of garbage or recyclables.

The franchise agreement further mandates that Republic report AB 341 and AB 1826 commercial threshold data, including: total number of accounts vs. those that meet the threshold but aren't subscribed; number of containers and sizes; collection frequency; compliance; and outreach efforts. This reporting structure can feasibly be expanded to cover all customers, to comply with SB 1383 record-keeping and reporting requirements.

Republic is financially incentivized to support the city's outreach and diversion goals through a schedule of liquidated damages mandated by the agreement for commingling, collection, and disposal violations as well as failure to meet diversion requirements.

The city's program is too new to have generated publishable results, but this jurisdiction is on target for implementation of most components of SB 1383 by the mandated 2022 deadline, despite the fact that the franchise agreement was written prior to finalization of the law's requirements. The city is currently working on implementing an ordinance to enforce SB 1383 requirements.

## Section V. Additional Information

City website: www.half-moon-bay.ca.us/479/GarbageRecycling-Services
Republic website: local.republicservices.com/site/Half-moon-bay

# Case Study: City of Beaumont

**Table 1. Fast Fasts**

### *Location*

Region 4: Southern California—Riverside County

### *Land Area*

30.69 square miles

### *Population and Density*

49,241; 1,604 per square mile

### *Housing*

15,310 households

### *Income and Poverty*

Median Household Income: ~ $71,664
Persons in poverty: 11.8%

### *Business and Commercial*

2,703 firms

### *Organics Participation Incentive*

*Subscribers:*

- Mandatory commercial and residential organics service through bundled rates.
- No residential rate increase; organics collection began before new contract.
- New commercial base rate lower than under previous à la carte menu.

*Haulers:*

- Liquidated damages for failure to follow organics/recycling contamination procedures, submit timely reports, and submit necessary corrective action plans for failure to meet diversion standards and public education/outreach requirements.

### *Organics Implementation Date*

Residents have been provided green waste collection, but food will be collected beginning in 2022; commercial food collection service began in 2016, and mandatory service with bundled rates began in 2019.

### *Solid Waste Collection Program*

**Jurisdiction**: The city's municipal code authorizes

- the city council to either provide or award franchises to provide refuse service, or
- the city to issue self-haul permits.

It mandates that all solid waste, recyclables, and organic waste must be removed from all city premises by the solid waste franchisee, landscapers, licensed contractors, or individuals with self-haul permits.

**Provision**: Exclusive Franchise

**Hauler**: USA Waste of California, Inc., dba Waste Management of the Inland Empire (Waste Management)

### *Hauler Contract Specifications:*

**Term**: New franchise agreement for a 20-year term, effective July 2019.

**Sectors Serviced**: Residential and Commercial

**Services Provided**: 3-container system for garbage, recycling, and organics collection and disposal/processing; C&D, bulky item, and city services. Commercial organics only include food waste. Residential organics only include green waste until January 1, 2022, when the city will begin including food waste and other organics to comply with SB 1383 requirements.

**Facilities**: Waste Management operates El Sobrante Landfill, located in Corona. The city's processing facilities are not specified in their franchise agreement; however, Waste Management is required by the franchise agreement to ensure that all organic waste collected pursuant to this contract is diverted from the landfill.

## Section I. Customer Rates

The following stipulations are included in the city's 2019 franchise agreement with Waste Management:

- Mandatory minimum recycling and organic collection service to every subscribed garbage collection customer, provided through bundled rates, effective July 1, 2019
- Maximum allowable customer rates and annual cap and floor rate adjustments
- Rates set for different container sizes and collection frequencies
- Customer rates include:
  - A $2.1 million annual franchise fee that will begin to adjust annually via the Refuse Rate Index (RRI) in 2024
  - An annual $125,000 AB 939 fee
  - An infrastructure impact mitigation fee that will commence on July 1, 2027.

Per Table 2: Solid Waste Rate Comparison, the commercial base rates for 2-, 3-, and 4-cubic yard (CY) container levels are lower than an equivalent combination of services under the previous à la carte rates, because of the new availability of a smaller recycling container (96-gallon vs. 2-CY). Organics collection was already provided to residential customers, through bundled rates, under the previous agreement.

**Table 2. Solid Waste Rate Comparison**
***Before and After Implementing Organics Bundled Rates***

| **Service Sector & Level** (1 container, 1x/week) | **2017-19 Monthly Rates§§§** | **2019-24 Monthly Rates****** | **$ Change** |
|---|---|---|---|
| **Residential Single-Family** | | **2019-24** | |
| 35-gallon | N/A | $22.49 | N/A |
| 64-gallon | $21.65 | $24.99 | $3.34 |
| 96-gallon | $21.65 | $24.99 | $3.34 |
| **Commercial** | **2017-19††††** | **2019-20‡‡‡‡** | |
| 2 CY | $221.64 | $204.79 | -$16.85 |
| 3 CY | $256.85 | $245.64 | -$11.21 |
| 4 CY | $317.21 | $315.65 | -$1.56 |
| 6 CY | $386.15 | $395.63 | +$9.48 |

**Section II. Collection Rate Structure and Adjustment Process**

Residential rates: Maximum bundled service rates are firm and fixed between July 1, 2019–June 30, 2021. From July 1, 2021–June 30, 2024 rates may see a small increase if Riverside County increases the landfill disposal per ton rate. Starting July 1, 2024, and annually thereafter, the hauler is eligible for a rate adjustment with a floor and cap of one to four percent, as indicated by the RRI.

Commercial rates: Starting July 1, 2020, and annually thereafter, hauler is eligible for a rate adjustment with a floor and cap of one to four percent, as indicated by the RRI rate-adjustment methodology in the franchise agreement.

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§§§ See Section II for detailed explanation. Residential base service includes 96-gallon recycle and organics (green waste only) containers.

**** Discounted senior rate.

†††† 2017-19 commercial rates were not bundled; these rates include cost for 2-CY recycle and 64-gallon organics containers.

‡‡‡‡ 2019-20 commercial bundled rates include 96-gallon recycle and 64-gallon organics (food waste only) containers

An extraordinary and special adjustment to maximum service rates (residential and commercial) is allowed once per year, with city Council approval, in the event of a change in laws that is reasonably expected to impact expenses or revenue. See the following tables for additional details.

**Table 3. Rate Structure**

| Cost of Service | Bundled Organics | Bundled Recycling | Subsidized §§§§ |
|---|---|---|---|
| No | Yes | Yes | No |

**Table 4. Rate Adjustment and Approval Process**

| Rate Adjustment Method | Rate Adjustment Frequency | City Manager/ Administrator | Board / City Council Vote | Prop. 218 Notice | Set by Hauler | Rate-Adjustment Limits |
|---|---|---|---|---|---|---|
| RRI | Annual | Yes | No | No | No | 14% increase per year |
| Detailed and Special | Periodic | No | Yes | No | No | No limit |

## Section III. Gap Analysis

In 2019, the city awarded a new franchise agreement to Waste Management to begin new services, including organics collection, on July 1, 2019. The agreement set bundled rates based on mandatory minimum garbage, recycling, and organics collection for all customers, and it incorporated most SB 1383 requirements, as shown in Table 5: Gap Analysis.

**Table 5. Gap Analysis**

| SB 1383 Requirements | Ordinance | Franchise Agreement |
|---|---|---|
| Mandatory Organics Service | Yes | Yes |
| Collection System<br>1-container<br>2-container<br>3-container | Yes | 3-container system |
| Containers<br>Colors<br>Labels | No | <br>Yes<br>Yes |
| Contamination Monitoring | No | Yes |
| Enforcement | Yes | Yes |
| Reporting | Yes | Yes |
| Outreach and Education | Yes | Yes |
| Edible Food Recovery | No | Yes |

### *Enforcement Mechanisms*

Prior to 2022, jurisdictions must adopt an ordinance or similarly enforceable mechanism that mandates SB 1383's regulatory requirements. Even jurisdictions that fully

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§§§§ Organics rates subsidized by garbage rates.

implemented AB 1826 enforcement requirements through their franchise agreements and ordinances may need to rewrite that language to address the specific stipulations of SB 1383.

An ordinance is a rule or law passed by a municipal government that is generally enforced through civil penalties or fines. Jurisdictions will need local ordinances that include participation enforcement mechanisms to ensure generator and hauler compliance with SB 1383 and facilitate penalty assessment for noncompliance, beginning in 2024. Adopting an SB 1383 organics collection ordinance will allow jurisdictions with franchised service to continue to enforce the established requirements even if changes are made to the contracted hauler arrangement or franchise agreement. For jurisdictions with municipal operations, ordinances are their best available enforcement mechanism.

To ensure hauler compliance with SB 1383 regulations, jurisdictions with franchised service will need to include the requirements in their franchise agreements, permits, or contracts. A franchise agreement is typically more detailed than an ordinance and is an appropriate instrument for mandating the law's specific details, such as those related to: container and labeling systems; record-keeping and monitoring; outreach and education; as well as the hauler's responsibilities for achieving the jurisdiction's diversion goals through agreed-upon routing and collection methods and processing facilities. While franchise agreements cannot enforce generators' compliance, they can and should hold the contracted haulers accountable through specific enforceable mechanisms, typically in the form of noncompliance financial penalties.

**Section IV. Key Takeaways and Lessons Learned**

- The city implemented a mandatory commercial organics collection program and a bundled rate structure through its 2019 franchise agreement. The agreement requires Waste Management to provide organics (green waste only to residential; food waste only to commercial) and recycling collection to all city garbage customers as of July 1, 2019, and will require residential food waste collection starting January 1, 2022. All source separated materials must be diverted from the landfill pursuant to the franchise agreement.
- With the new franchise agreement, the commercial base compliance rate (for 2-, 3-, and 4-CY containers) is lower than what customers paid for the same services through the previous à la carte menu, because of the smaller base recycling container. As a result, the rate increase caused minimal impact on compliant customers. Residential rates increased from 2017-18, but probably won't increase again for 5 years, because the city negotiated a long extension with Waste Management.
- The city has taken a proactive approach to reducing container contamination, which is an obvious concern with source separated systems. They added municipal staff and specific protocols to prevent contamination of organic waste and handle SB 1383 contamination monitoring and enforcement requirements, as follows:
    - Waste Management is required to offer customers the correct combination of container sizes and collection frequency to match their unique service needs and the hauler is only required to collect materials that have been source separated.
    - The hauler provides annual outreach and education programs to encourage all customers to comply with SB 1383 and other applicable laws and works with the city to monitor the programs' effectiveness and identify and develop new such programs as needed to meet diversion targets. One such example is the Residential Guideline kit that is delivered to each home as part of the new contract, explaining new programs, routing, proper cart usage (e.g., overage and contamination process and fees), and proper recycling services.
    - Routing personnel are required to report any observed potential contamination problems and/or insufficient collection capacity. If organic waste is commingled with 3 percent by volume of garbage,

then it is deemed contaminated. At that point the hauler can provide up to five educational opportunities to customers within the same year of their first reported contamination occurrence for the same container. This includes placing a contamination violation notice on the container that lists why items were not collected or will not be collected in the future, acceptable and unacceptable materials, Waste Management's customer service number, and explanation of contamination fees. If contamination continues beyond the third contamination incident, the hauler may require that the customer subscribe to a larger or additional container and charge a contamination fee (Recycle contamination fee [$66.51] and surcharge [$150] per occurrence).

The city's program is too new to have generated publishable results, but this jurisdiction is on target for implementation of most components of SB 1383 by the mandated 2022 deadline. Their outreach/education and contamination monitoring and enforcement components should help encourage proper source-separation, maximize generator compliance, and enable the city to reach their diversion targets.

**Section V. Additional Information**

City website: https://beaumontca.gov/index.aspx?NID=292 and http://beaumontca.gov/

Waste Management website: https://www.wm.com/us/local/ca/beaumont/residential/

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# Case Study: City of Rolling Hills Estates

**Table 1. Fast Fasts**

| | |
|---|---|
| ***Location***<br>Region 4: Southern California—Los Angeles County<br>***Land Area***<br>3.57 square miles<br>***Population and Density***<br>8,226; 2,304 per square mile<br>***Housing***<br>3,026 households<br>***Income and Poverty***<br>Median Household Income: ~ $131,471<br>Persons in poverty: 4.5percent<br>***Business and Commercial***<br>1,727 firms<br>***Organics Participation Incentive***<br>*Subscribers:*<br>• Mandatory commercial and residential organics service through bundled rates.<br>• Container contamination monitoring.<br>*Haulers:*<br>• Diversion requirements, performance reviews, corrective action plan if fail to reach minimum standards, and possible non-extension of franchise agreement for failure to perform.<br>• Liquidated damages for failure to properly dispose of organics and recyclables.<br>***Organics Implementation Date***<br>October 1, 2018 for commercial food and green waste and residential green waste; residential food waste (and kitchen food waste pails) may be added later. | ***Solid Waste Collection Program***<br>**Jurisdiction:** Municipal code requires the solid waste from all premises in the city be collected and removed by the city's permitted, exclusive franchised hauler or by other permitted individuals, including landscape or construction contractors.<br>**Provision**: Exclusive Franchise<br>**Hauler**: USA Waste of California, Inc. (Waste Management)<br>***Hauler Contract Specifications:***<br>**Term**: New franchise agreement with Waste Management for a 10-year, 9-month term, that went into effect in October 2018 and terminates on June 30, 2029.<br>**Sectors Serviced**: Residential and Commercial<br>**Services Provided**: Minimum weekly garbage, recyclables, and organic waste collection in 3-container system. Manure and C&D debris collection at additional cost and collection schedules.<br>**Facilities**: Waste Management operates El Sobrante Landfill, located in Corona. The city's processing facilities are not specified in their franchise agreement; however, Waste Management is required by the franchise agreement to ensure that all organic waste collected pursuant to this contract is diverted from the landfill. |

## Section I. Customer Rates

The following stipulations are included in the city's 2018 franchise agreement with Waste Management:

- Mandatory minimum weekly recycling and organic waste service to every subscribed garbage collection customer, as bundled rates. Residential organic waste collection includes green waste only; however, food waste may be added by mutual agreement between city and waste management.
- Rates set for different container sizes and collection frequencies.

- Customer rates include a 12 percent franchise fee on gross revenues and an annually adjustable $175,000 AB 939 fee.
- Customer rates had not been adjusted since July 1, 2015, so a phased-in rate adjustment was used over a three-year period (2018/19–2020/21).

Table 2: Solid Waste Rate Comparison table below shows the rate adjustment, effective November 1, 2018, which reflects the addition of new organics collection service.

**Table 2. Solid Waste Rate Comparison**[*****]
***Before and After Implementing Organics Bundled Rates***

| **Service Sector & Level** (1 container, 1x/week) | **2015-18 Monthly Rates** | **2018-19 Monthly Rates**[†††††] | **$ Change** |
|---|---|---|---|
| **Residential Single-Family** | | | |
| 32-gallon | $28.30 | $30.15 | $1.85 |
| 45-gallon | $32.26 | $34.31 | $2.05 |
| 64-gallon | $33.50 | $35.62 | $2.12 |
| 96-gallon | $41.17 | $43.71 | $2.54 |
| **Commercial** | | | |
| 2 CY | $87.68 | $100.35 | $12.67 |
| 3 CY | $104.45 | $119.54 | $15.09 |
| 4 CY | $118.75 | $135.91 | $17.16 |
| 6 CY | $151.75 | $173.67 | $21.92 |

**Section II. Collection Rate Structure and Adjustment Process**

Beginning on July 1, 2021, and annually thereafter, rates may be adjusted using the CPI-WST index, with a floor and cap of 2.5 to 7 percent from 2021-2023 and from 3.25-8 percent from 2024-28. Special rate adjustments may be requested in the event that Waste Management experiences extraordinary changes in costs or revenues related to providing solid waste collection services to the city but will only be effective after approval by city council and may not be applied retroactively.

See the tables below for additional details.

**Table 3. Rate Structure**

| **Cost of Service** | **Bundled Organics** | **Bundled Recycling** | **Subsidized** |
|---|---|---|---|
| No | Yes | Yes | No |

[*****] Residential rates include unlimited recycling and up to four 96-gallon organics containers, commercial rates include base 96-gallon recycling and 64-gallon organics containers.

[†††††] Residential rates include a $0.33/container HHW fee.

‡‡‡‡‡ Organics rates subsidized by garbage rates.

**Table 4. Rate Adjustment and Approval Process**

| Rate Adjustment Method | Rate Adjustment Frequency | City Manager/ Administrator | Board / City Council Vote | Prop. 218 Notice | Set by Hauler | Rate-Adjustment Limits |
|---|---|---|---|---|---|---|
| CPI-WST | Annual | Yes | No | No | No | 2021–2023<br>2.5–7% increase per year<br>2024–2028<br>3.25–8% increase per year |
| Detailed / Special | Periodic | No | Yes | No | No | No limit |

## Section III. Gap Analysis

In 2018, the city awarded a new exclusive franchise agreement to Waste Management for residential and commercial solid waste, recycling, organic, and C&D debris collection services. The agreement set bundled rates based on mandatory service, where all customers are required to be provided a minimum garbage, recycling, and organics collection service, and it incorporated most of SB 1383's requirements, as shown in Table 5: Gap Analysis. The city has not yet passed an ordinance that covers SB 1383 organics collection.

**Table 5. Gap Analysis**

| SB 1383 Requirements | Ordinance | Franchise Agreement |
|---|---|---|
| Mandatory Organics Service | No | Yes |
| Collection System<br>1-container<br>2-container<br>3-container | No | 3-container system |
| Containers<br>Colors<br>Labels | No | <br>Yes<br>Yes |
| Contamination Monitoring | No | Yes |
| Enforcement | No | Yes |
| Reporting | No | Yes |
| Outreach and Education | No | Yes |
| Edible Food Recovery | No | No |

### *Enforcement Mechanisms*

Prior to 2022, jurisdictions must adopt an ordinance or similarly enforceable mechanism that mandates SB 1383's regulatory requirements. Even jurisdictions that fully implemented AB 1826 enforcement requirements through their franchise agreements and ordinances may need to rewrite that language to address the specific stipulations of SB 1383.

An ordinance is a rule or law passed by a municipal government that is generally enforced through civil penalties or fines. Jurisdictions will need local ordinances that include participation enforcement mechanisms to ensure generator and hauler compliance with SB 1383 and facilitate penalty assessment for noncompliance,

beginning in 2024. Adopting an SB 1383 organics collection ordinance will allow jurisdictions with franchised service to continue to enforce the established requirements even if changes are made to the contracted hauler arrangement or franchise agreement. For jurisdictions with municipal operations, ordinances are their best available enforcement mechanism.

To ensure hauler compliance with SB 1383 regulations, jurisdictions with franchised service will need to include the requirements in their franchise agreements, permits, or contracts. A franchise agreement is typically more detailed than an ordinance and is an appropriate instrument for mandating the law's specific details, such as those related to: container and labeling systems; record-keeping and monitoring; outreach and education; as well as the hauler's responsibilities for achieving the jurisdiction's diversion goals through agreed-upon routing and collection methods and processing facilities. While franchise agreements cannot enforce generators' compliance, they can and should hold the contracted haulers accountable through specific enforceable mechanisms, typically in the form of noncompliance financial penalties.

**Section IV. Key Takeaways and Lessons Learned**

- The city implemented a mandatory organics collection program through its renewed franchise agreement in 2018, which required Waste Management to provide organics and recycling collection to all city garbage customers in the correct combination of container sizes and collection frequency that matches their unique needs to reduce contamination of recyclables and organics. All source separated materials must be diverted from the landfill pursuant to the franchise agreement.
- Effective November 1, 2018, rates were raised by 5.35 percent for residential and 14.45 percent for commercial service to cover increased organics collection costs.
- The city has landfill diversion goals of 50 percent for 2019-20; 55 percent for 2021-22; 60 percent for 2023-34; and 65 percent for 2025 and beyond.
- To support the city's diversion goals and the hauler's diversion requirements, customers are required to source separate garbage, recycling, and organics with a 3-container system, and Waste Management is required to monitor, enforce, and report container contamination issues.
- If an organics container is commingled with five percent by volume of garbage or recyclable materials then it is considered contaminated and Waste Management may take the following series of steps for the first through fifth/subsequent offenses within the same year:
    - Empty and leave the contaminated container for the customer. Affix a non-collection notice to the container that was contaminated with instructions on the proper procedures for sorting organic waste
    - Contact the customer to ensure that they have the appropriate level of service for the proper collection of garbage, recyclable materials, and organic waste
    - Notify the customer that a contamination fee may be charged for third and subsequent contamination incidents and that the hauler may remove the container and/or increase the container size and collection frequency for the fifth or subsequent contamination occurrence
    - Assess appropriate contamination fees and provide documentation of the ongoing contamination problems
    - Discontinue organics collection service for up to one year and/or increase container size and collection frequency

The city's program is too new to have generated publishable results, but this jurisdiction is on target for implementation of most components of SB 1383 by the mandated 2022 deadline. To be fully compliant, the city will need to add an edible food recovery

component and an ordinance that covers SB 1383 requirements, and it will need to modify its contamination monitoring to reflect the requirements of the regulations.

**Section V. Additional Information**

City website: https://www.rolling-hills.org/faq.aspx?TID=15

Waste Management Website: https://www.wm.com/us/local/ca/rolling-hills-estates/residential/

# Case Study: City of Visalia

### Program Location:

City of Visalia (city)

### Program Information:

The city's collection service is operated by Tulare County

### Program Elements:

Various state mandates, including AB 341, AB 1826, SB 1383, SB 32, and rates and rate structure, organic services, mandatory programs, local incentives

### Effective Date:

Residential Organics Program: 2008

## Case Study Selected Because…

The city has had a robust organics program including a residential green waste and food scraps program since 2008. Visalia motivates its residents to recycle and compost through a variety of innovative policies and programs.

## Funding Sources and Local Incentives

The program is funded purely through solid waste fees. Local incentives include recycling services at 50 percent the price of garbage and organics services at 75 percent the price of garbage. A Green Business Program was also established to promote waste reduction in the commercial sector.

## Performance Goals

The city aims to bring its commercial downtown area into full compliance with state laws AB 341 and AB 1826, and to have every resident and business recycling and composting.

## Section I. System Overview

### *Collection System*

The city collects residential, multi-family, and commercial solid waste. The city's Natural Resource Conservation Division is in charge of providing collection service, implementing all solid waste programs, and conducting outreach in the community.

### *System Facilities*

The city's garbage is sent to the Visalia Landfill located in unincorporated Tulare County and operated by the county. All recyclable material is sent to Peña's Disposal, a MRF in the City of Cutler, California. Organic material is sent to either Harvest Power in the City of Tulare or WC Wood Industries in the City of Visalia. The city and Tulare County also operate an HHW facility in Visalia.

**Table 1. System Stakeholder Roles and Relationships**

| Stakeholder | Role and Responsibility |
|---|---|
| **Regional Agency** | None. Dissolved in 2016. |
| **Jurisdiction** | City of Visalia |
| **Hauler** | Municipal |
| **Facility Operators** | Tulare County, Peña's Disposal, Harvest Power, and WC Wood Industries |

## Section II. Cost to Establish and Operate the System

Funding for all solid waste programs, including capital costs such as infrastructure, vehicles, and containers, comes from the city's solid waste fees. Customer rates for recycling is 50 percent of garbage service, and organics is 75 percent the cost of garbage service.

## Section III. Regulations

The city has adopted mandatory recycling into its municipal code (Chapter 8.28). This language, while it does not mention organics, has been interpreted to include recycling of recyclable materials, and recycling of organic materials as compost.

## Section IV. Incentive Programs

The Natural Resource Conservation Division holds outreach events for multi-family complexes so that residents can learn more about the city's programs. The Division is also responsible for waste assessments at commercial businesses including the initial assessment and follow-up presentations to staff. The division recommends businesses with highly successful recycling and organics

efforts for the Green Business Program. The city's other programs include a free pharmaceuticals and sharps takeback program, battery drop-off locations, and six annual "Dump on Us" days when residents can drop off unwanted waste, including HHW. Finally, when residents register for a solid waste account, they receive a welcome packet with helpful information regarding city solid waste services.

## Section V. Successes, Challenges, and Lessons Learned

The city has established a Green Business Program. They worked with the Visalia United Schools District to develop internal collection programs at all of the city's 32 schools that significantly reduced trash services and increased recycling and composting. They also created a district-wide cafeteria waste diversion program.

Still, challenges exist. Commercial downtown areas continue to have space constraints that limit the introduction of recycling and organics bins. As such, some businesses share bins for diversion services, which can make it difficult to monitor and enforce compliance and has prevented compliance from being universal.

## Section IV.Contact Information

Website: www.GoGreenVisalia.com

# Case Study: Alameda County and the City of Alameda

### Program Location:

Alameda County (county) and the City of Alameda (city)

### Program Information:

Alameda County agencies, including the Alameda County Waste Management Authority and StopWaste, work to adopt and enforce waste reduction laws (including their Mandatory Recycling Ordinance and Plant Debris Landfill Ban).

### Program Elements:

- Organic services, flow control, landfill ban, rates & rate structure, mandatory programs, local incentives, material ban.

- Organics collection service offered to all residents and businesses with cart-based service: 2003

- Plant Debris Landfill Ban: 2008

- Adoption of Local Action Climate and Zero Waste Implementation Plan: 2008

### Effective Date:

- Polystyrene foam food service ware ban: 2008

- Organics collection service made available to larger commercial businesses: 2010

- Mandatory Recycling Ordinance Implemented: 2012

- Updated and reaffirmed Zero Waste Implementation Plan: 2017

### Case Study Selected Because…

The city is an example of a municipality in the county that takes a proactive and innovative approach to reducing disposal of organics through policy, planning, financial incentives, and generator education. The city has achieved a 79 percent landfill diversion rate. The county has adopted laws to reduce disposal of organics, including their Plant Debris Landfill Ban and Mandatory Recycling Ordinance, which includes requirements for composting service for certain businesses, institutions, and multi-family buildings.

### Funding Sources and Local Incentives

The city's solid waste system is funded through customer rates paid directly to the hauler, Alameda County Industries (ACI), and a franchise fee that ACI pays to the city.

ACI's rates incentivize composting by providing one 96-gallon organics cart at no extra cost and additional containers at a 20percent discount from trash rates.

### Performance Goals

The city has set a 2020 goal to achieve 89 percent waste diversion from landfill. The 2017 Zero Waste Plan Update recommends revising the goal to be no more than 1.2 pounds per person per day disposed in landfill by 2022.

## Section I. System Overview

#### *Collection System*

In 2002, The city entered into a franchise agreement with ACI for the curbside collection of solid waste, the collection and processing of recyclable materials, and the collection of organic materials. In 2003, ACI deployed organics collection to all single-family residences and businesses, at no cost for the first 96-gallon cart, and at a cost discount of 20percent (compared to trash) for additional containers. In 2010, organics service was made available to larger commercial businesses at a discounted rate. Multi-family properties with 5 units or more are provided on-premise garbage and recycling cart service.

#### *System Facilities*

Under the city's disposal agreement, ACI hauls trash from the city to the Davis Street Transfer Station (operated by Waste Management), and Waste Management transfers that trash to the Altamont Landfill. While the city's current disposal agreement does not include use of the facility, Waste Management has recently permitted an organics material recovery facility (OMRF), an in-vessel composting facility, and an AD facility at Davis Street. The combined daily peak capacity of the composting and digester

facilities will be 1,000 tons per day with the majority of organic feedstock coming from the OMRF. This Davis Street facility will target separating and composting organics (and recyclables) that are commingled with garbage.

Recyclables are processed at ACI's Aladdin Avenue MRF and are shipped to third-party brokers for recycling.

Organics are collected and delivered to ACI's Aladdin Avenue Transfer Station, and then transferred by ACI to the Newby Island Organics Facility in Milpitas (operated by Republic Services).

**Table 1. System Stakeholder Roles and Relationships**

| Stakeholder | Role and Responsibility |
|---|---|
| **Joint Powers Authority** | Alameda County Waste Management Authority (StopWaste) |
| **Jurisdiction** | The City of Alameda, a Member Agency of StopWaste |
| **Hauler** | Alameda County Industries (ACI) |
| **Facility Operator** | ACI operates the Aladdin Avenue Transfer and Processing Station. Republic Services operates the Newby Island Organics Facility. |

## Section II. Cost to Establish and Operate the System

The city's waste, recycling, and organics collection services are funded through customer rates paid to ACI and a franchise fee ACI pays to the city. ACI is responsible for managing and paying all costs and fees associated with the collection, processing, and disposal of integrated waste. ACI is also responsible for directly billing all residential and commercial customers for these services. The city council sets ceiling rates for the collection and processing of all waste, and it reviews those ceilings every three years.

In 2010, the city began sharing in revenue received from the sale of recyclable material. The city receives 25percent of revenue exceeding $26 per ton and 75percent of revenue exceeding $80 per ton.

## Section III. Regulations

The city is subject to state mandates, including AB 341, AB 1826, and SB 1383.The city is also subject to the county's Mandatory Recycling Ordinance, Reusable Bag Ordinance, and Plant Debris Landfill Ban.

The county's mandatory recycling ordinance states:

> *Mandatory recycling in the City of Alameda has been in effect since July 1, 2012 for businesses and institutions with 4 or more cubic yards of garbage service as well as multi-family properties with 5 or more units. Phase 2 of the Mandatory Recycling Ordinance began July 1, 2014, which adds food scraps and compostable paper to the "covered materials" list. It also requires all businesses to participate (not just those with 4 or more cubic yards of weekly garbage service).* §§§§§

The city requires businesses, multi-family properties, and institutions that generate significant quantities of organics to provide sufficient containers, divert those organics, and provide information at least annually to employees, tenants, contractors, and tenant businesses. The city must provide information to tenant residents and businesses during move-in and move-out. Businesses and institutions must separate organics for diversion, to ensure material in organics containers is free from contamination. Multi-family properties must also place organics containers with the garbage containers or at an equally convenient location.

The city requires businesses, multi-family properties, and institutions that generate four or more cubic yards of trash to separate all plant debris for composting.

In 2008, the city council adopted a law that bans polystyrene foam food service ware.

§§§§§ http://www.recyclingrulesac.org/city/alameda/

In 2017, the city signed into law the Alameda Disposable Food Service Ware Reduction Law that encourages businesses to provide reusable food service ware or compostable food service ware to customers. Additionally, single-use plastic straws must be replaced with compostable paper straws, and allowable straws can be provided only upon request.

## Section IV.Incentive Programs

The city offers its residents organics collection at no cost for the first 96-gallon cart and any additional cart at rate 20percent lower than garbage rates thereafter.

StopWaste and city staff provide outreach related to food waste reduction and composting, including:

- Providing consumer awareness campaigns to change social norms around wasting food
- Supporting food waste prevention and donation by assisting commercial, institutional, and K-12 food service operations with food waste tracking technology, prevention tools and training, and recovery of surplus food for donation
- Encouraging businesses to switch to compostable food service ware
- Partnering with landscape professionals as well as with compost and mulch producers and vendors to leverage market opportunities and address industry challenges
- Involving public figures such as the crowned “Miss Alameda” to promote composting and recycling

## Section V. Successes, Challenges, and Lessons Learned

City staff have taken a very progressive and proactive role in meeting their goals. The city’s Zero Waste Implementation Plan, adopted in 2010 and updated in 2017, was an outgrowth of its 2008 Local Action Plan for Climate Protection. The Zero Waste Plan has helped guide the city’s progress toward achieving a 79 percent diversion rate.

The mandatory recycling and composting ordinance has established the expectation and enforcement mechanisms to ensure that businesses, institutions, and multi-family properties generating significant amounts of organic waste divert those materials from a landfill.

Other successes include ACI’s transition to using in-house outreach staff to deliver customized information to customers to help them achieve their zero waste goals and working with local organizations on edible food rescue.

The biggest challenge for both the city and the county is achieving the customer behavior change required to increase organics diversion, which requires a commitment of financial and human resources.

## Section IV.Contact Information

Website: https://alamedaca.gov/go-green-public-works/recycling

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# Appendix C
# Survey Questionnaire

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# SB 1383 Local Services Rates Analysis Survey for Jurisdictions

Thank you for participating in the SB 1383 Local Services Rates Analysis Survey.

You can exit the survey at any time. Be sure to click the "Done" button at the bottom of the screen before exiting. Your answers will be saved, and if you return to this page (https://www.surveymonkey.com/r/sb1383survey), you can continue the survey.

Most answers are not required. Please provide us as much information as you can. If you have questions or need assistance, please email us at SB1383Survey@r3cgi.com or call us at (916) 782-7821.

We will also be following up by phone and email with the Local Jurisdiction contacts listed on the CalRecycle website to answer any questions you might have, and assist in completing the survey.

Information requested in this survey includes:

- Collection service information
- Costs for disposal and processing
- Funding sources for solid waste programs
- Service census data (number of single family, multi-family, and commercial accounts)
- Information on organics planning

We are also requesting that jurisdictions provide the following documents in PDF format by uploading on this survey, or by emailing SB1383Survey@r3cgi.com (please include your jurisdiction's name in the subject line):

- Franchise agreements
- Current rates
- Organics planning documents

Please note, CalRecycle will **not** use the information provided against any jurisdiction for compliance issues.

1. Please provide contact information for the jurisdiction (County, City, Town, or Regional Agency) you are responding for.

| | |
|---|---|
| Contact Name | |
| Jurisdiction | |
| Address | |
| City/Town | |
| Email Address | |
| Phone Number | |

2. Does the jurisdiction have an exclusive or non-exclusive agreement, provide municipal service, require permits to provide service, or have an open market for the following?

| | Exclusive Service | Non-Exclusive Service | Municipal Service | Permit | Open Market |
|---|---|---|---|---|---|
| Single-Family Garbage | ◯ | ◯ | ◯ | ◯ | ◯ |
| Single-Family Recycling | ◯ | ◯ | ◯ | ◯ | ◯ |
| Single-Family Organics | ◯ | ◯ | ◯ | ◯ | ◯ |
| Multi-Family Garbage | ◯ | ◯ | ◯ | ◯ | ◯ |
| Multi-Family Recycling | ◯ | ◯ | ◯ | ◯ | ◯ |
| Multi-Family Organics | ◯ | ◯ | ◯ | ◯ | ◯ |
| Commercial Garbage | ◯ | ◯ | ◯ | ◯ | ◯ |
| Commercial Recycling | ◯ | ◯ | ◯ | ◯ | ◯ |
| Commercial Organics | ◯ | ◯ | ◯ | ◯ | ◯ |

Other (please specify)

3. Which company or companies (if any) are contracted as recycling and garbage haulers? If more than one, separate hauler names with commas.

| | |
|---|---|
| Single-Family Garbage | |
| Single-Family Recycling | |
| Single-Family Organics | |
| Multi-Family Garbage | |
| Multi-Family Recycling | |
| Multi-Family Organics | |
| Commercial Garbage | |
| Commercial Recycling | |
| Commercial Organics | |
| Other (please specify) | |

Definitions of material for use in the next section:
**Mixed Green Materials & Food Scraps** means a combination of green materials and food scraps.
**Food Scraps** means fruits, vegetables, grains, dairy products, meat, and acceptable food packaging items.
**Green Materials** means grass cuttings, wood, branches, brush and similar materials.
**Mixed Waste Collection & Processing** means organic materials are sorted after collection from the customer.

4. Please select how organic materials are collected for each sector. If there is more than one organic collection service for a sector, select all options that apply.

| | Single Family | Multi-Family | Commercial |
|---|---|---|---|
| All Mixed Green Materials & Food Scraps | ☐ | ☐ | ☐ |
| Food Scraps | ☐ | ☐ | ☐ |
| Green Materials | ☐ | ☐ | ☐ |
| Mixed Waste Collection & Processing | ☐ | ☐ | ☐ |
| Not Offered | ☐ | ☐ | ☐ |

Other (please specify)

5. List the facility used below. If multiple, separate with commas.

Mixed Green Materials & Food Scraps

Food Scraps

Green Materials

Mixed Waste Processing

Other (please specify)

Other (please specify)

6. Is the organic collection rate included in the customer's garbage rate, or is it charged as a separate rate? Please specify if the organic material collection is included by selecting "included", otherwise select each material type that is collected as a separate charge to the customer. If multiple rates are set for different materials, please select each item that applies.

| | Single Family | Multi-Family | Commercial |
|---|---|---|---|
| Included | ☐ | ☐ | ☐ |
| Separate Rate for Mixed Green Materials & Food Scraps | ☐ | ☐ | ☐ |
| Separate Rate for Food Scraps | ☐ | ☐ | ☐ |
| Separate Rate for Green Materials | ☐ | ☐ | ☐ |
| Mixed Waste Collection & Processing | ☐ | ☐ | ☐ |
| Organics Collection Not Offered | ☐ | ☐ | ☐ |

Other (please specify)

7. Do the approved collection rates include recycling in the commercial rates?

- ◯ Yes
- ◯ No, commercial recycling is a separate charge.
- ◯ Other (please specify)
- ◯ No, commercial collection is taken to a dirty material recovery facility.

4

8. What is the hauler's current organic material processing (tipping) fee? Please provide the **per ton** processing (tipping) fee by material type below.

Mixed Green Materials & Food Scraps

Food Scraps

Green Materials

Mixed Waste Processing

Other (please specify)

Other (please specify)

Other (please specify)

9. What added services are included **at no additional charge** via your contract with your hauler?

- [ ] Large/bulky item collection (curbside)
- [ ] Street sweeping service
- [ ] Collection of public litter cans
- [ ] Collection at City/County facilities and/or parks
- [ ] Collection of HHW (curbside, on-call, or drop-off) *
- [ ] Collection of motor oil & filters (curbside, on-call, or drop-off)
- [ ] Collection of dry cell batteries (curbside, on-call, or drop-off)
- [ ] Collection of electronic waste (curbside, on-call, or drop-off) **
- [ ] Collection of Sharps (curbside, on-call, or drop-off)
- [ ] Collection of Pharmaceuticals (curbside, on-call, or drop-off)
- [ ] Other (please specify)

* HHW includes cell phones and PDAs; used motor oil; used oil filters; cooking oil; compact fluorescent light bulbs contained in a sealed plastic bag; cleaning products, pesticides, herbicides, insecticides, painting supplies, automotive products, solvents, strippers, adhesives, auto batteries, Electronic Waste and Universal Waste.

**Electronic waste includes computers, monitors, televisions, VCRs, stereos, copiers, printers, fax machines, DVDs, cell phones, and cathode ray tubes.

10. How are the Residential, Multi-Family, and Commercial recycling and garbage collection rates set?

- [ ] Proposition 218 Public Hearing Notice
- [ ] City Manager or City Administrator Approval
- [ ] City Council Vote
- [ ] Automatically adjusted annually based on franchise agreement methodology
- [ ] Other (please specify)

11. What methodology is used to adjust the residential, multi-family, and commercial recycling and garbage collection rates normally (not as a detailed rate review, which is covered in Question 12)?

- ◯ Consumer Price Index
- ◯ Water Sewer Trash Index
- ◯ Refuse Rate Index (various indices weighted based on hauler's operating costs)

Other (please specify)

12. How frequently are rates adjusted?

- ◯ Annually
- ◯ Detailed review every three years, with indexed adjustments for interim years
- ◯ Every other year

Other (please specify)

13. Are special adjustments (i.e., detailed rate reviews, special rate reviews) allowed outside the methodology described above?

- ◯ Yes. (Please describe method in text box below)
- ◯ No.

Describe special rate adjustment method.

14. Please provide your community size and composition (based on total accounts per sector).

Single Family accounts

Multi-Family accounts

Commercial accounts

15. What fees are included in the customer rates?

- [ ] Franchise Fees
- [ ] Vehicle (Road) Impact Fees
- [ ] Organic Processing Fees
- [ ] Recycling Processing Fees
- [ ] Landfill Tipping Fees
- [ ] Street Sweeping Fees
- [ ] AB 939 Fees
- [ ] School Fees
- [ ] Administrative Fees
- [ ] Public Facility Fees
- [ ] Storm Water Fees
- [ ] Other (please specify)

16. What is the hauler's current recycling processing fee? Please provide the **per ton** processing fee below.

17. What is the hauler's current disposal tipping fee? Please provide the **per ton** disposal fee below.

18. What is the source of funding, besides customer collection rates, for Waste, Recycling, and Organics Collection programs?

- [ ] Franchise Fees
- [ ] Fees imposed on Recycling or Disposal Facilities (i.e., Facility Host Fees)
- [ ] General Fund
- [ ] Local Taxes and/or Fees
- [ ] Other (please specify)
- [ ] Public/Private Partnership
- [ ] Bonds
- [ ] Local Financial Incentives

19. If there is a local ordinance or policy to support or encourage organics recycling infrastructure development, is there a funding source for such policies or ordinances?

◯ Yes (Please describe how funding is handled in comment box below)  ◯ No.

Please describe funding source for ordinances or policies.

20. Are you considering developing a local ordinance or policy to encourage organics recycling infrastructure development?

◯ Yes  ◯ No

Please describe any ideas you have in mind for developing an ordinance or policy to encourage organics recycling infrastructure development.

**Document Upload**

Please provide the most recent copies of the requested documents, if available.

Only PDF, DOC, DOCX, PNG, JPG, JPEG, GIF files are supported. If you have multiple files, the file is too large or the file is in another format, you can email the file to SB1383Survey@r3cgi.com.

Please include your jurisdiction's name in the subject line.

21. Rate sheets for collection services including residential, multi-family, and commercial collection rates.

Choose File  No file chosen

22. If commercial recycling is charged separately, please provide the approved rate sheet for commercial recycling services.

Choose File  No file chosen

23. If commercial organic material collection is charged separately, please provide the approved rate sheet for commercial organic material collection services.

Choose File No file chosen

24. If there any local ordinances or policies to support or encourage organics recycling infrastructure development, please attach a copy of the policy.

Choose File No file chosen

25. Please provide a copy of your current franchise agreement(s).

Choose File No file chosen

26. Please provide any additional comments you may have.

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# Appendix D
# Survey Results

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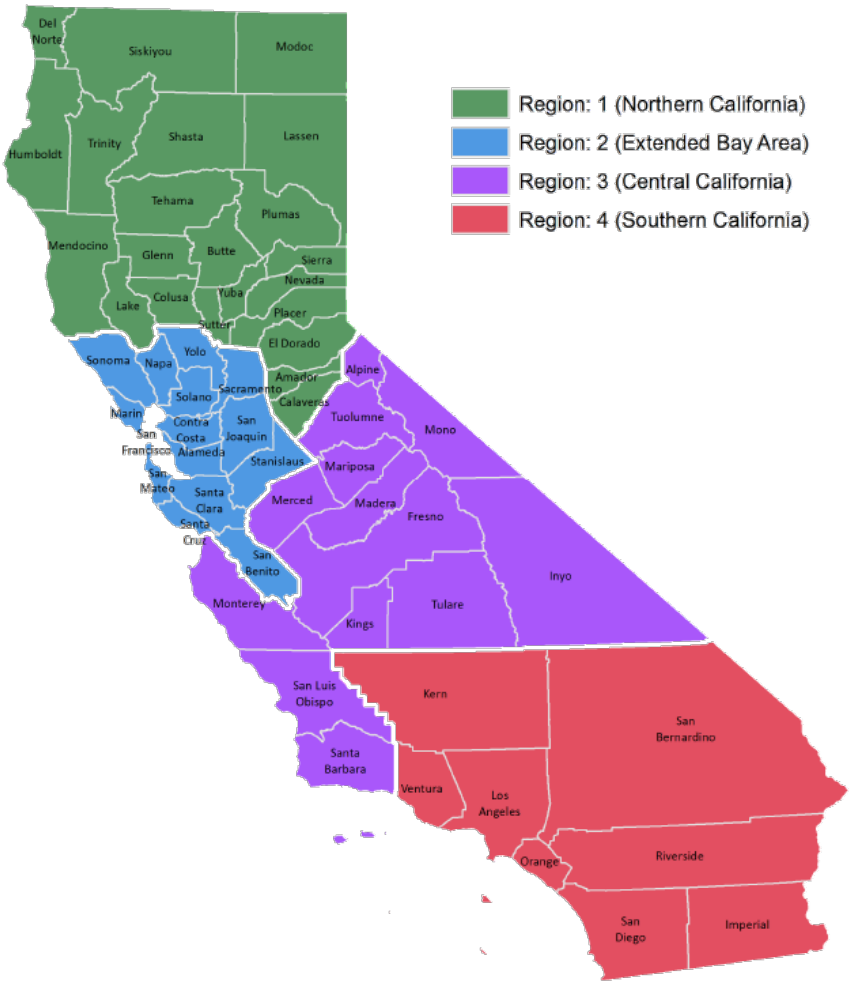
## *Background*

The survey results include solid waste rate structure, funding, and policy data obtained from jurisdictions, regional agencies, haulers, and facility operators through an online questionnaire, internet research, phone and email correspondence, and site visits. The survey results also comprise information previously collected by R3. The questionnaire was distributed, and responses were compiled between May 31, 2018, and August 31, 2018. A more detailed description of the survey methodology is included in the Introduction section in this report.

The collected data were aggregated into four California regions to protect the confidentiality of jurisdictions, haulers, and facility operators. Figure 1 depicts the four state regions and their counties. Throughout this report, Region 1 may also be referred to as Northern California, Region 2 as Bay Area, Region 3 as Central California, and Region 4 as Southern California.

**Figure 1: California Map Showing Survey Regions**



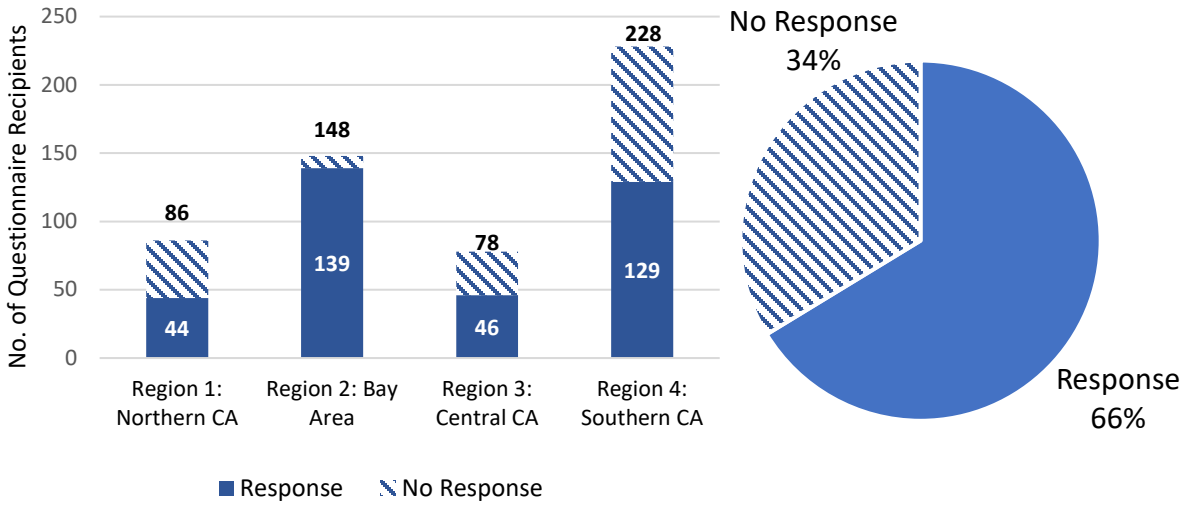
## *Participation in the Survey*

The questionnaire was distributed by CalRecycle's Local Assistance Division to the email address on file for each California jurisdiction's primary electronic annual report (EAR) contact. As such, the questionnaire was emailed to 459 individuals throughout 58 counties, 482 cities, and 27 active regional agencies in California. Participation was voluntary. The following definitions were provided to questionnaire recipients to facilitate consistent results:

- Mixed Green Materials and Food Scraps: A combination of green materials and food scraps
- Food Scraps: Fruits, vegetables, grains, dairy products, meat, and acceptable food packaging items
- Green Materials: Grass cuttings, wood, branches, brush and similar materials
- Mixed Waste Collection and Processing: Organic materials are sorted after collection from the customer

Figure 2 illustrates the percentage of questionnaire recipients (jurisdictions only; no regional agencies, haulers, or facilities) that responded to at least one question and provided data through previous industry research conducted by R3.

**Figure 2: Participation in the Statewide Survey**




## *Questionnaire Results*

### Rate-Approval and Rate-Adjustment Methodologies

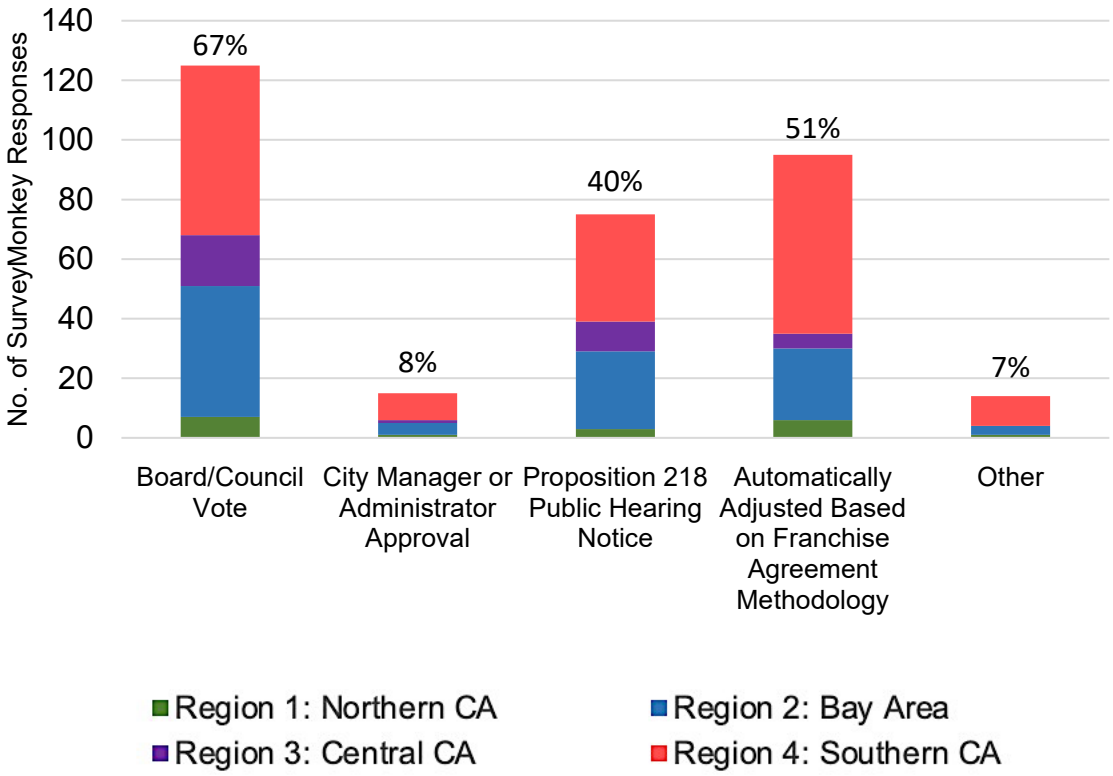
(See Key Findings section of the report for detailed information on methods and frequency of rate approval and rate setting for solid waste collection service.)

***Question (10)**: How are the residential, multi-family, and commercial recycling and garbage collection rates set?*

***Possible Responses:** Proposition 218 public hearing notice; city council vote; city manager or city administrator approval; automatically adjusted annually, based on franchise agreement methodology; other (please specify).*

Local policies differ from jurisdiction to jurisdiction, as do their rate-approval methods, which is demonstrated in Figure 3. Respondents were allowed to select one or more options when responding to this question. As shown, 67 percent of the 187 respondents to this question indicated that rate setting requires board or council approval, and over 50 percent indicated that they automatically adjust their rates based on a methodology prescribed by their franchise agreement.

**Figure 3: Rate-Approval Methods**

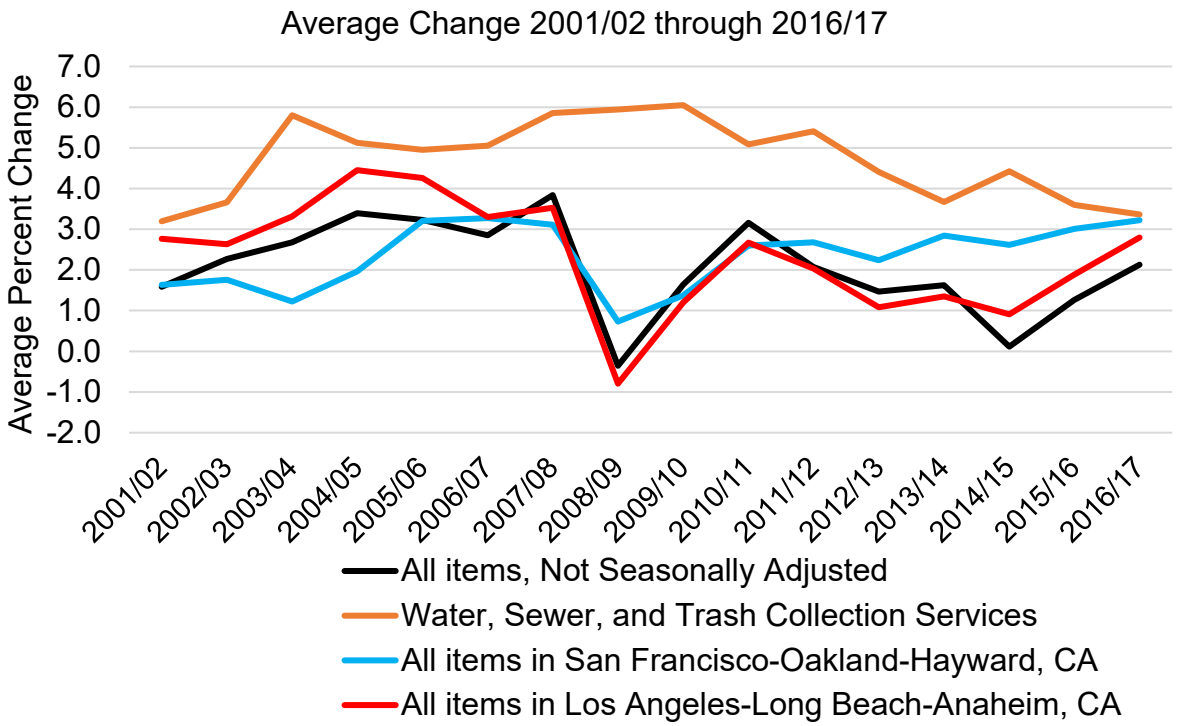


***Question (11)**: What methodology is used to adjust the residential, multi-family, and commercial recycling and garbage collection rates normally (not as a detailed rate review)?*

***Possible Responses:** Consumer price index; refuse rate index; water sewer trash index; other (please specify).*

Figure 4 illustrates the comparative annual change in the various Consumer Price Indices (CPI) from 2001-2017. The data demonstrate an average annual percent change between 2.1percent to 4.7percent, depending on the index.

**Figure 4: Annual Change in CPI – All Urban Consumers**

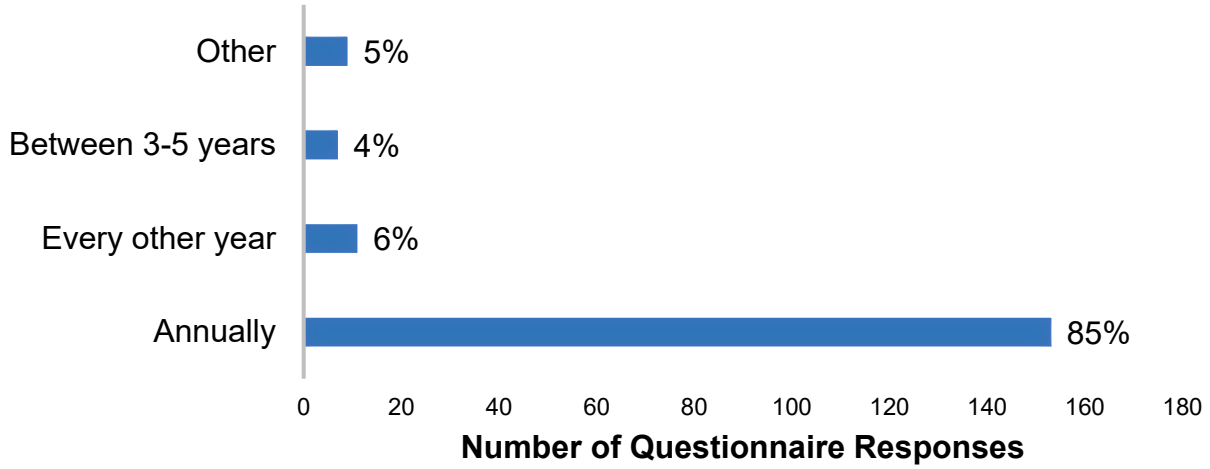



***Question (12):** How frequently are rates adjusted?*

***Possible Responses:** annually; every other year; detailed review every three years, with indexed adjustments for interim years; other (please specify).*

As shown in Figure 5, of the 180 jurisdictions who responded to this question, approximately 85 percent indicated that they adjust their customer rates annually. The remaining 15 percent indicated that they either adjust rates every other year, once every 3-5 years, or not on a set schedule.

**Figure 5: Frequency of Adjustment to Solid Waste Collection Customer Rates**




***Question (13)**: Are special adjustments (i.e., detailed rate reviews, special rate reviews) allowed outside the normal rate-adjustment methodology?*

***Possible Responses:** yes (please describe method); no.*

Detailed or special rate reviews investigate and verify all expenses and revenue reported by a hauler, project future expenses and revenue, and calculate the difference between current and adjusted rates and compensation.

Of the 93 jurisdictions who responded to this question, 65 percent indicated that they do allow special rate adjustments. Respondents stated that these reviews are allowed under various circumstances, as described in franchise agreements, including:

- Every three years
- When a new law requires changes in service
- When there are changes in the disposal or processing fees
- When added services are requested by the jurisdiction
- When conducting service and performance reviews

<u>Services and Fees Included in Solid Waste Customer Rates</u>

(See Key Findings section of this report for detailed information on customer services and rates.)

Many factors can impact solid waste customer rates in a given jurisdiction, particularly the additional services that are provided. Some jurisdictions bill for these services as separate line items, while others roll them into the customer rates.

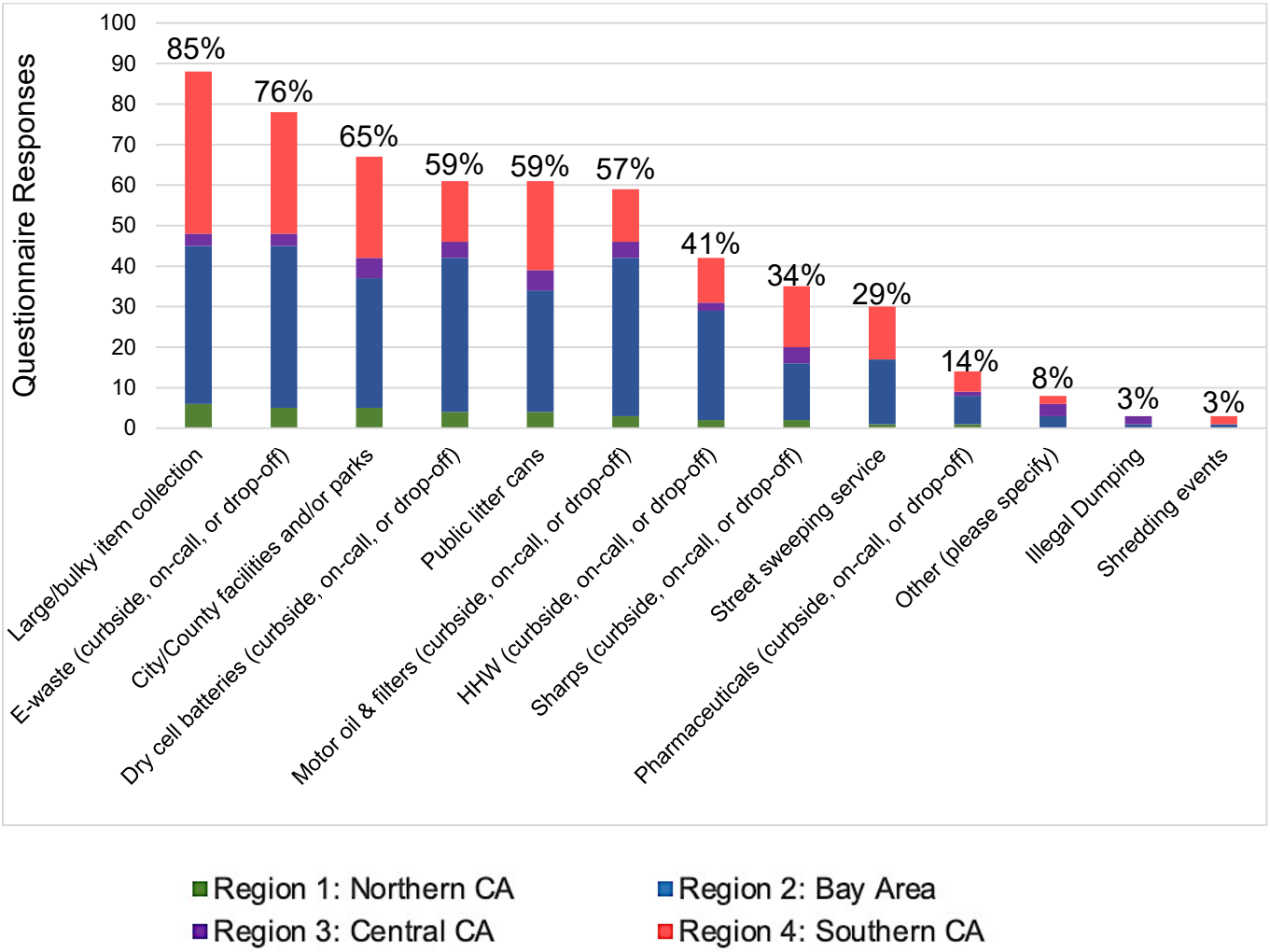
***Question (9)**: What added services are included at no additional charge via your contract with your hauler?*

***Possible Responses:** curbside bulky item collection; street sweeping service; collection of public litter cans; collection at city or county facilities and parks; collection of HHW; collection of motor oil and filters; collection of dry cell batteries; collection of electronic waste; collection of sharps; collection of pharmaceuticals; other (please specify).*

Figure 6 displays all data from this question, color coded by region. As shown, these are the most common services included in customer rates, as reported by respondents:

- Large and bulky item collection
- E-waste collection
- City and county facilities and parks
- Dry cell battery collection
- Public litter cans
- Motor oil and filter collection

**Figure 6: Added Services Included in Customer Rates**



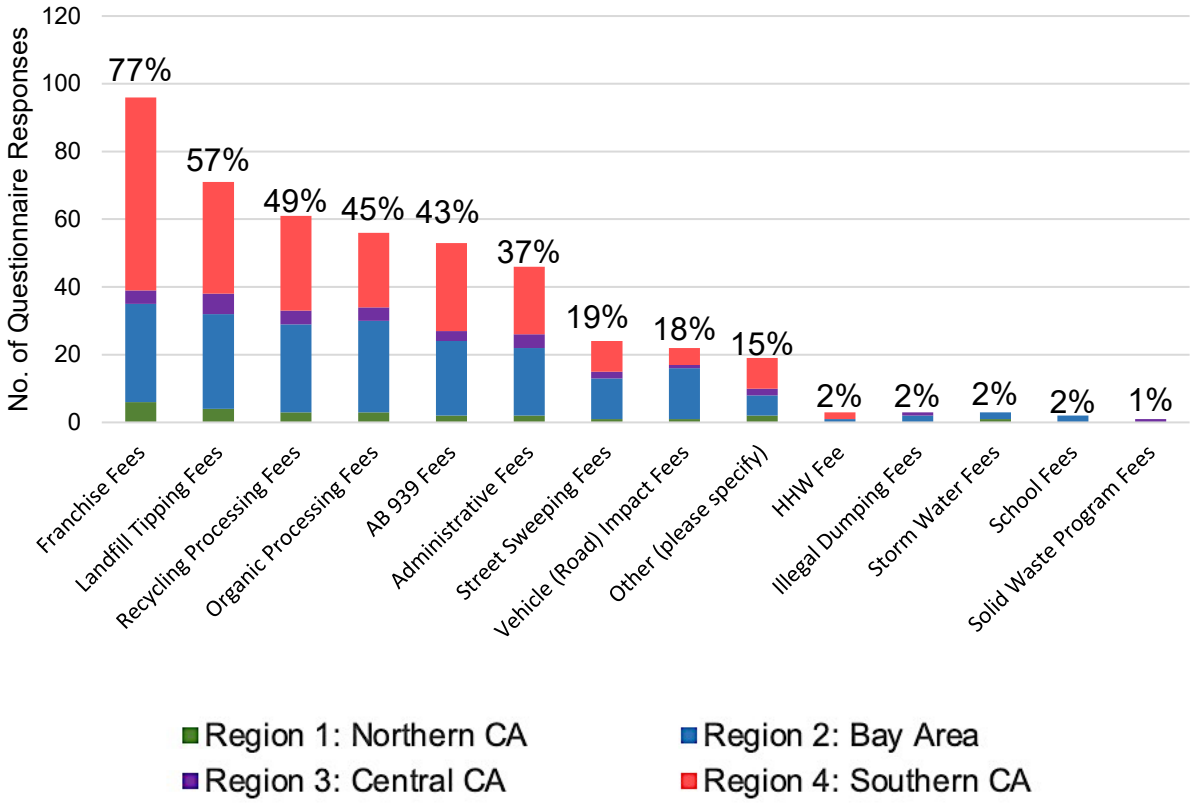

***Question (15)**: What fees are included in the customer rates?*

***Possible Responses:** franchise; vehicle (road) impact; organic processing; recycling processing; landfill tipping; street sweeping; AB 939; school; administrative; public facility; storm water; other (please specify).*

Of the 124 jurisdictions that responded to this question, the most common fees reported as being included in customer rates are (see Figure 7 for a depiction of all responses, color coded by region):

- Franchise fees
- Landfill tipping fees
- Recycling processing fees
- Organic processing fees

**Figure 7: Fees Included in Solid Waste Rates**




Solid Waste Collection Service Methods

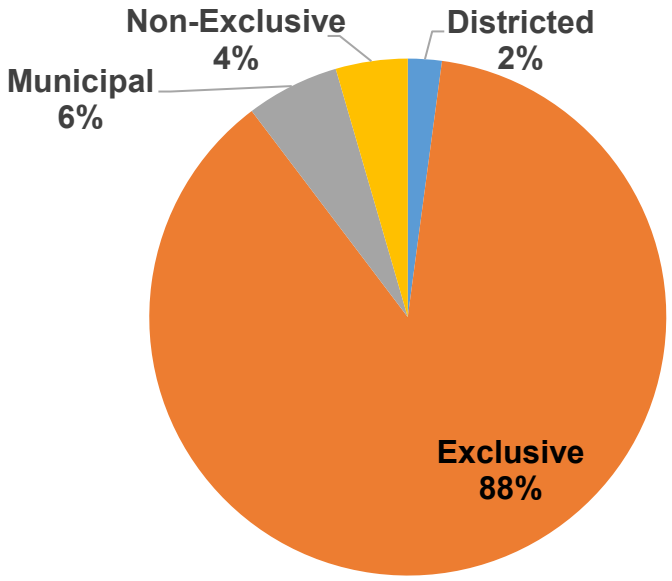
(See Key Findings section of this report for detailed information on solid waste collection services and methods.)

In California, garbage, recycling, and organics collection services are provided through various methods. Figure 8 illustrates a compilation of the questionnaire responses to the following question and R3's data on current collection agreements throughout California. As demonstrated in the chart below, 94percent of California jurisdictions have some type of franchised service collection agreement, 88percent of which are exclusive, and the remaining 6percent have municipal solid waste operations.

***Question (2)**: Does the jurisdiction have an exclusive or non-exclusive agreement, provide municipal service, require permits to provide service, or have an open market for garbage, recycling, and organics collection services?*

***Possible Responses:*** exclusive service; non-exclusive service; municipal service; districted.

**Figure 8: Solid Waste Collection Agreements in California**




Organic Material Collection

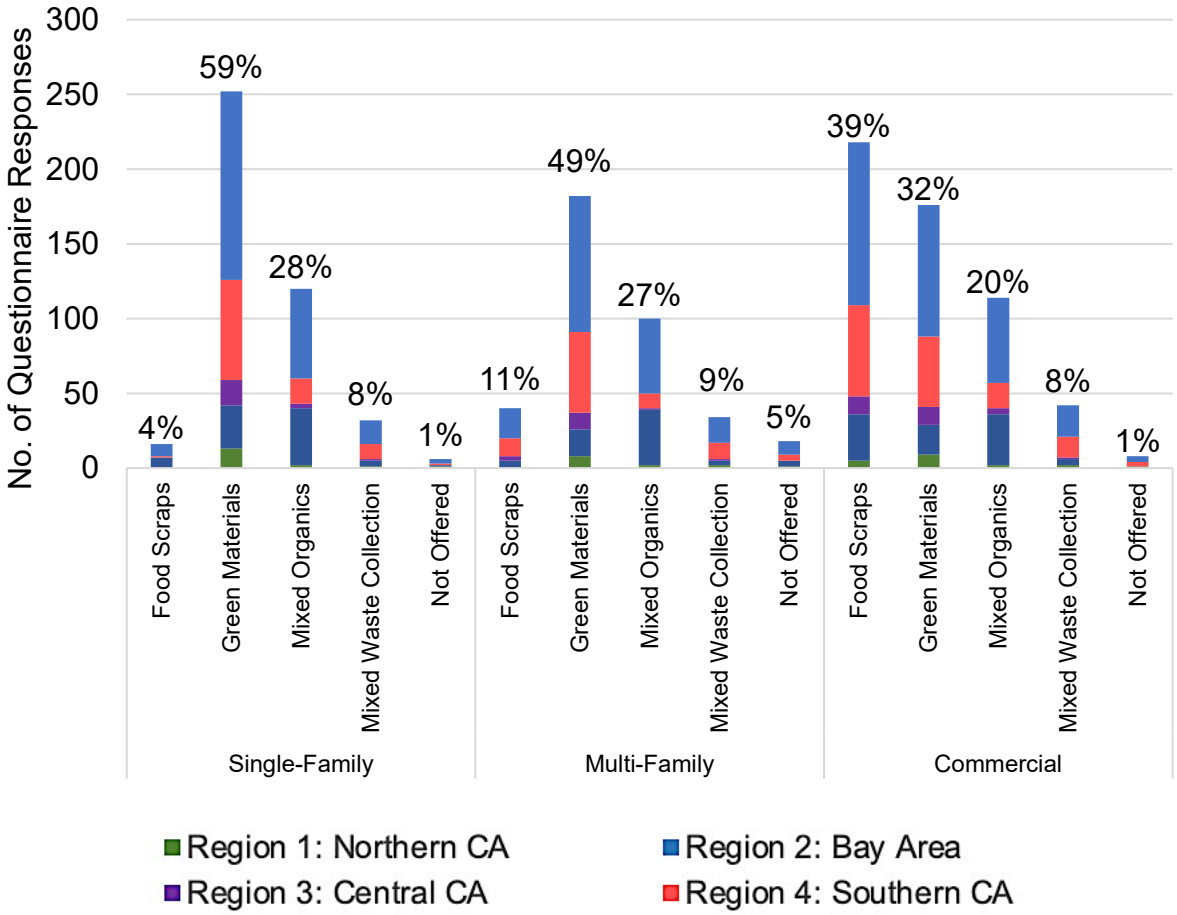
(See Key Findings section of this report for information on organic material collection.)

***Question (4)**: Please select how organic materials are collected for each sector. If there is more than one organic collection service for a sector, select all options that apply.*

***Possible Responses:** single-family, multi-family, and/or commercial for all mixed green materials and food scraps; food scraps; green materials; mixed waste collection and processing; not offered; ther (please specify).*

The most common method of collecting and diverting organic materials in California, particularly for residential customers, is through its own container, separate from garbage and recycling. As shown in Figure 9 and based on the 195 responses to this question, between 95 and 99 percent of service recipients are currently offered some type of organics collection service, and some jurisdictions offer multiple organics collection services (e.g., Food Scraps plus Mixed Organics). While organics collection is offered to the majority of customers, subscription levels are known to be much lower when service is not mandatory.

**Figure 9: Current Organic Collection Services Offered by Sector[******]**




***Question (8)**: What is the hauler's current organic material processing (tipping) fee? Please provide the <u>per ton</u> processing (tipping) fee by material type.*

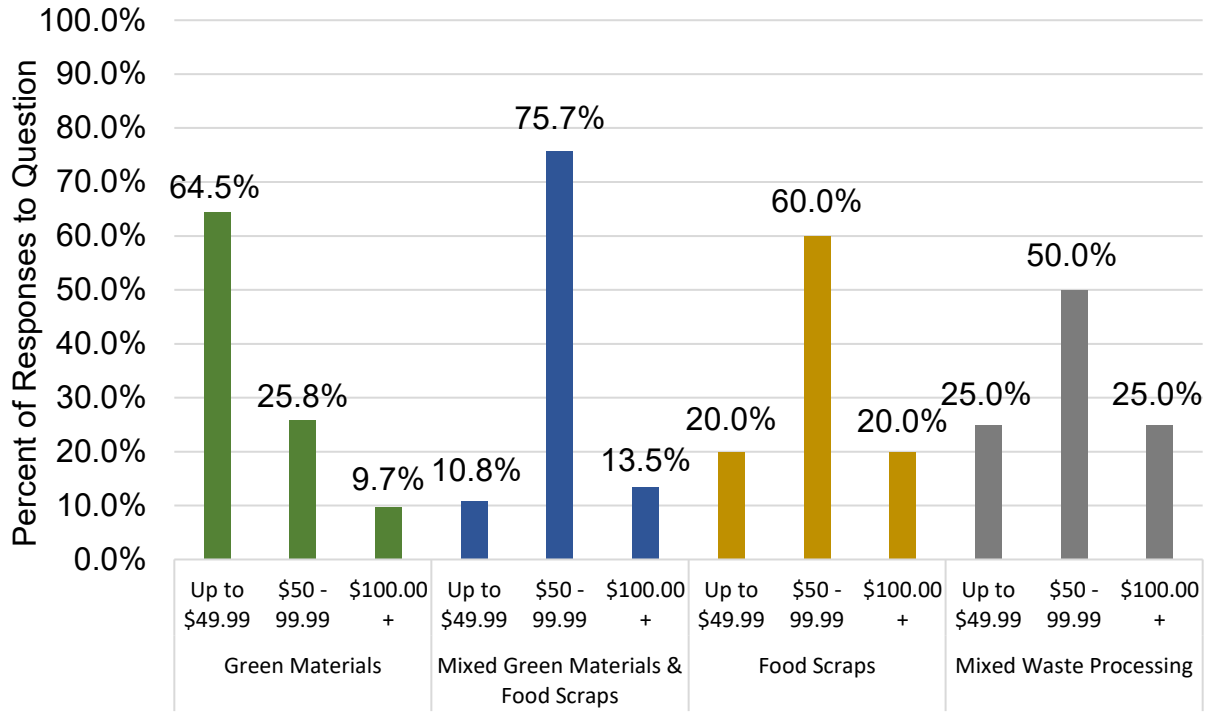
***Possible Responses:** mixed green materials and food scraps; food scraps; mixed waste processing; other (please specify).*

Sixty questionnaire recipients responded to this question. Of those, 31 reported tipping fees for green waste; 37 for mixed green materials and food scraps; 25 for food scraps; and 8 for mixed waste processing. As shown in Figure 10, most respondents reported organic material processing fees below $100 per ton. Green materials were reported to be processed at the lowest rate, with the majority of those tipping fees falling below $50 per ton. The majority of the reported tipping fees for mixed green materials and food

[******] The percentages depicted for multi-family respondents do not add to 100%, due to rounding.

scraps, food scraps, and mixed waste processing ranged between $50 and $100 per ton.

**Figure 10: Current Organic Material Processing Fees Per Ton**




Statewide Rate Analysis

**Methodology for Comparison:** Rate structures vary between jurisdictions, with some offering bundled rates (one price for garbage, recycling, and organics collection, or any combination thereof) and others charging separately for all or some collection services through unbundled rates. Some jurisdictions also offer additional recycling and mixed organics collection services in specific container sizes. Therefore, rates are not easily compared from one jurisdiction to the next.

**Single-Family Collection Rates:** For the purposes of "comparing apples with apples," the statewide rate analysis eliminated single-family collection "add-on" charges for recycling-only or organics-only collection. During the analysis, those jurisdictions that charge a bundled rate for garbage, recycling, and organics were identified and grouped separately from those jurisdictions that do not charge a bundled rate.

Figures 11 through 13 show single-family bundled, unbundled, and statewide average solid waste collection rates. As shown, when comparing one material (garbage) collection rate to a bundled (garbage, recycling, and organics) collection rate, the bundled rate typically is higher.

**Figure 11: Average Single-Family Solid Waste Rates by Region (Bundled)**

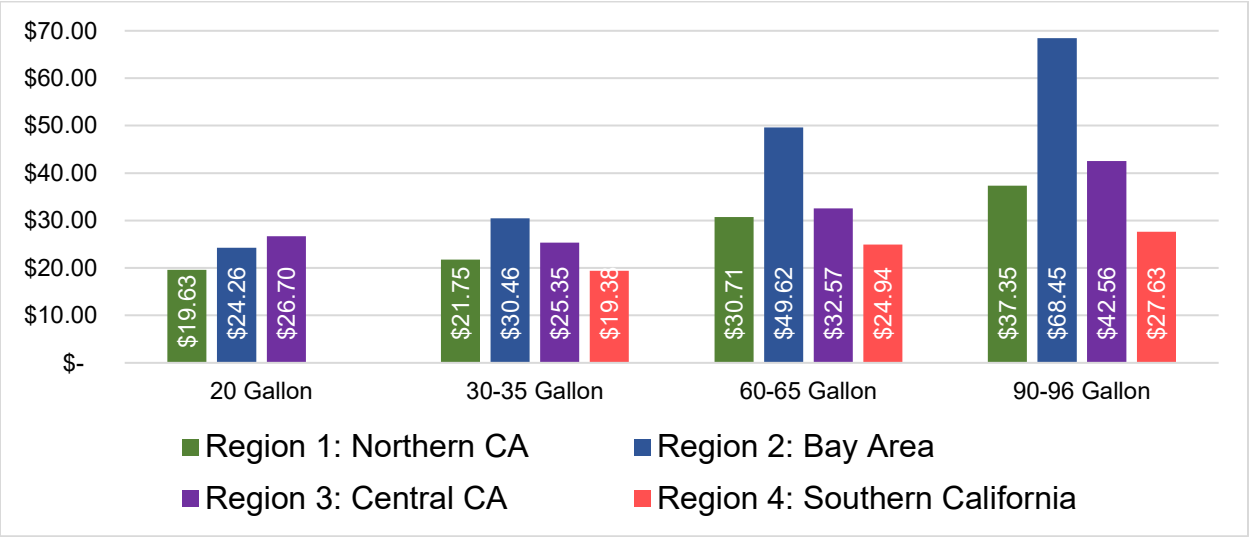



**Figure 12: Average Single-Family Garbage Rates by Region (Unbundled)**

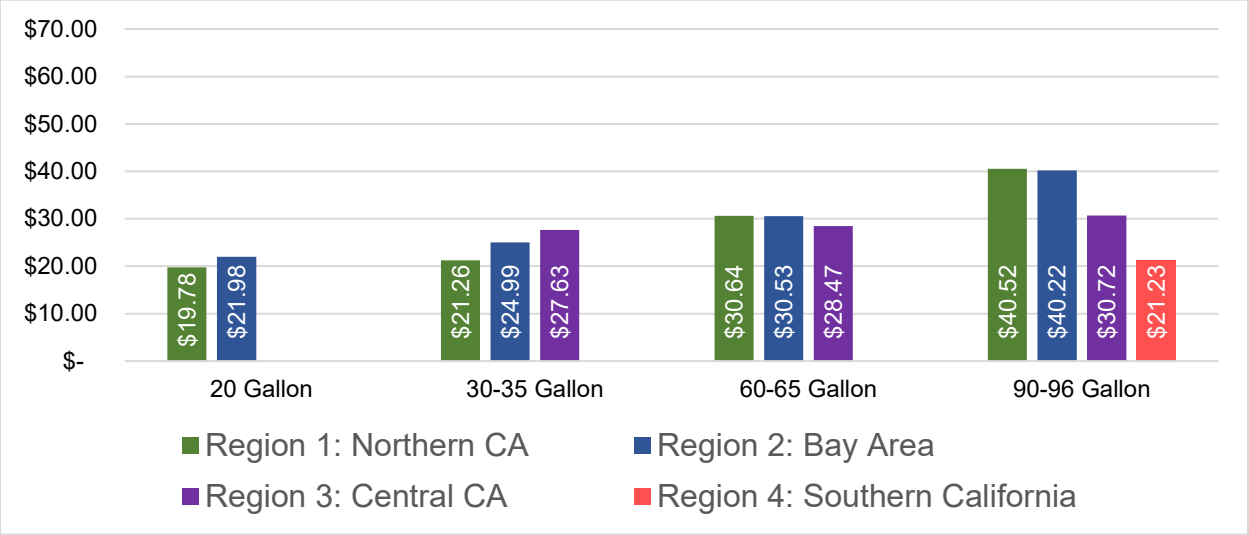
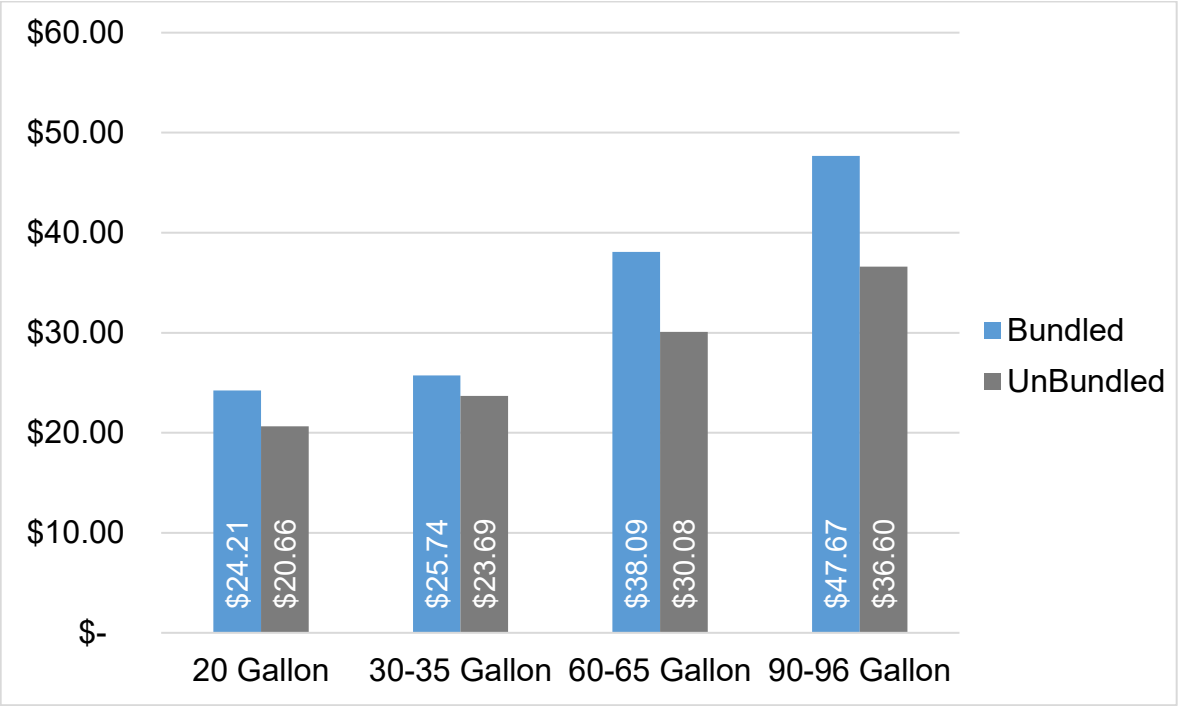



Figure 13 shows the statewide average bundled and unbundled solid waste rates, by container size.

**Figure 13: Statewide Average Single-Family Solid Waste Collection Rates**




**Commercial Collection Rates:** There is a broad range of organics collection services and rates in California because over the past few years new or amended franchise agreements have been enacted to include the commercial organics collection services required by such legislation as AB 1826 (Mandatory Commercial Organics Recycling) and to account for the actual cost to process organic materials. The survey results show that in most areas of the state, the cost to manage commercial organic materials is higher than the cost to dispose of that same material.

For additional data on the average commercial customer rates for different container sizes, sorted by material and region, as well as statewide averages, please see Figures 14-19 below.

**Figure 14: Average Commercial Collection Rates**
**96-Gallon Collected 1xWeek**

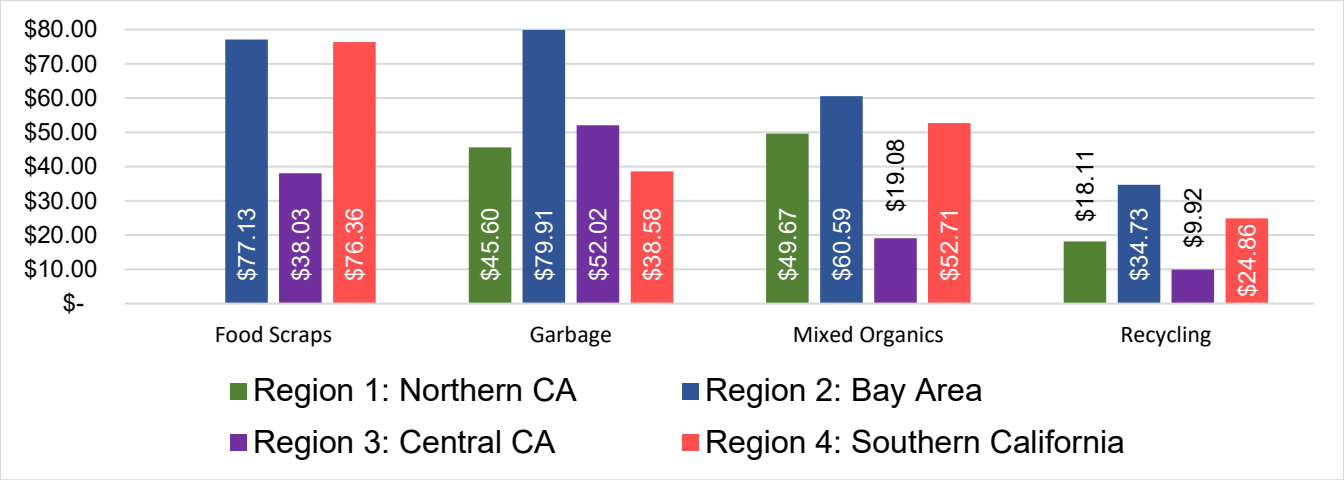



**Figure 15: Average Commercial Collection Rates**
**1-CY Collected 1xWeek**

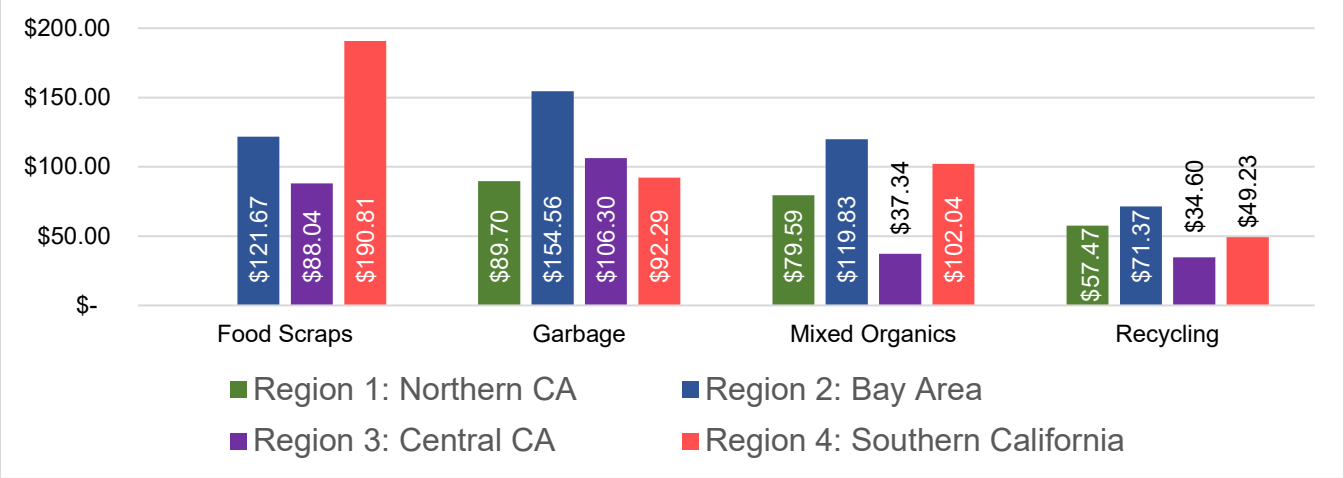


**Figure 16: Average Commercial Collection Rates**
**2-CY Collected 1x/Week**

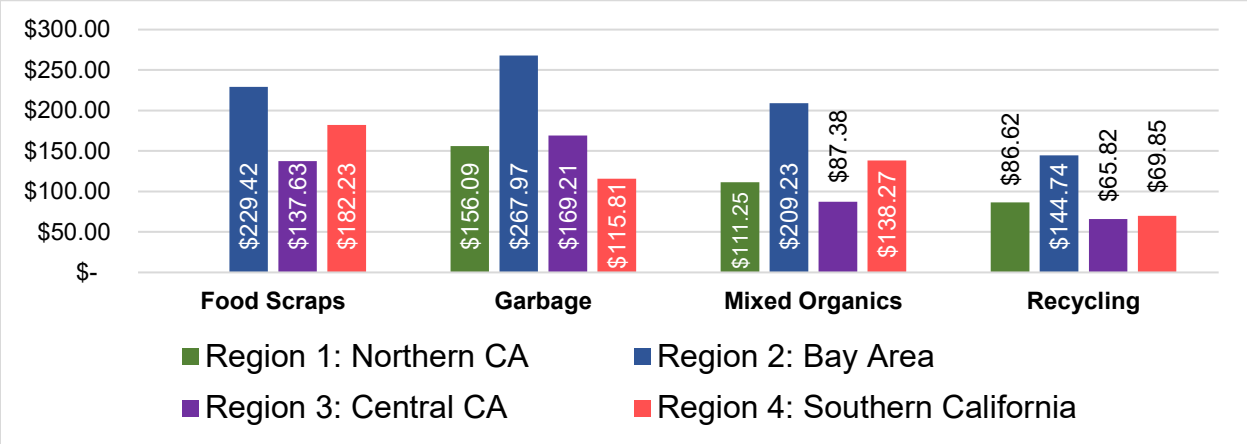



**Figure 17: Average Commercial Collection Rates**
**3-CY Collected 1x/Week**

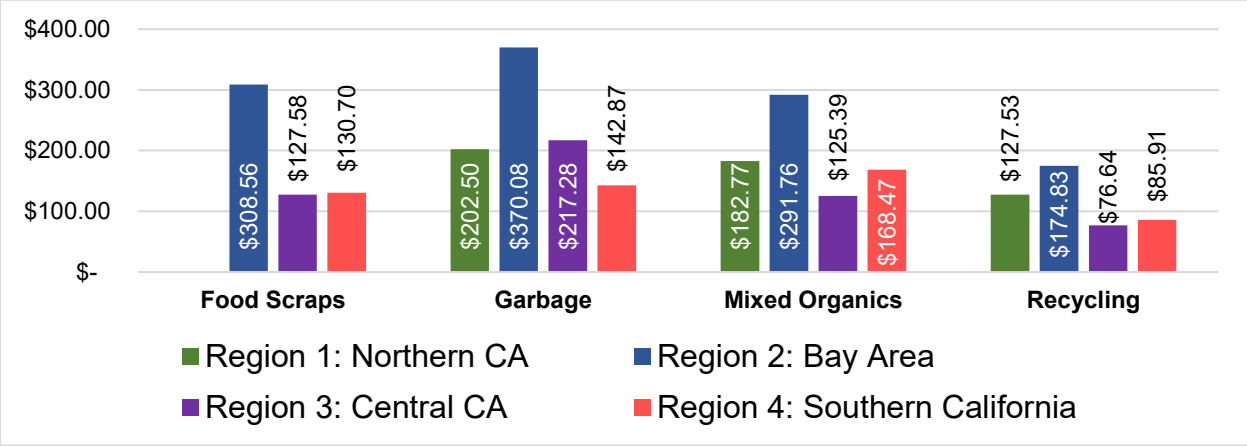
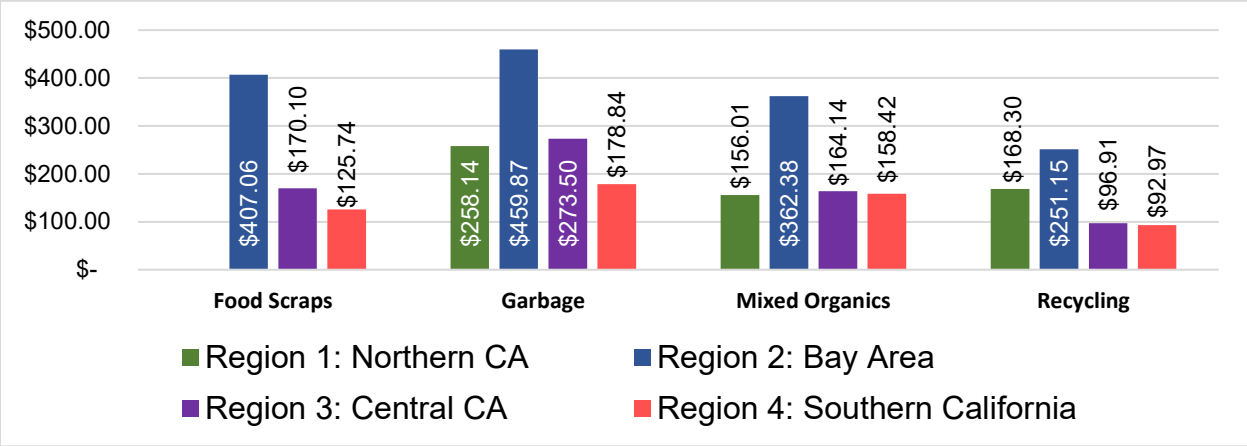
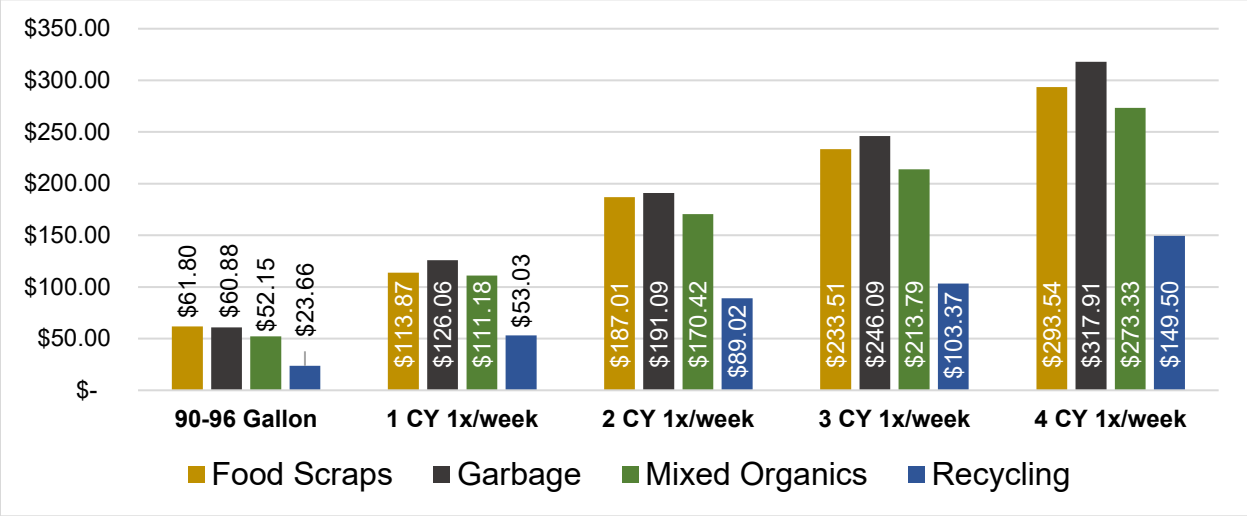



**Figure 18: Average Commercial Collection Rates**
**4-CY Collected 1x/Week**



The following chart shows a statewide comparison of the rates that were provided as separate rates for commercial customers.

**Figure 19: Statewide Average Commercial Collection Rates**




**Multi-Family Collection Rates:** The definition of what constitutes a multi-family customer may differ from one jurisdiction to the next, with some categorizing them as similar to either single-family or commercial customers. As a result, many jurisdictions do not provide separate rates for multi-family customers, but rather charge those services at either single-family or commercial rates.

Some questionnaire respondents provided separate multi-family collection rates, which are displayed in Figures 20-24. It is notable that Region 1 only reported mixed organics and recycling collection rates for multi-family customers at the 96-gallon service level and no food scraps, mixed organics, or recycling at any other service level.

**Figure 20: Average Multi-Family Collection Rates**
**96-Gallon Collected 1x/Week**

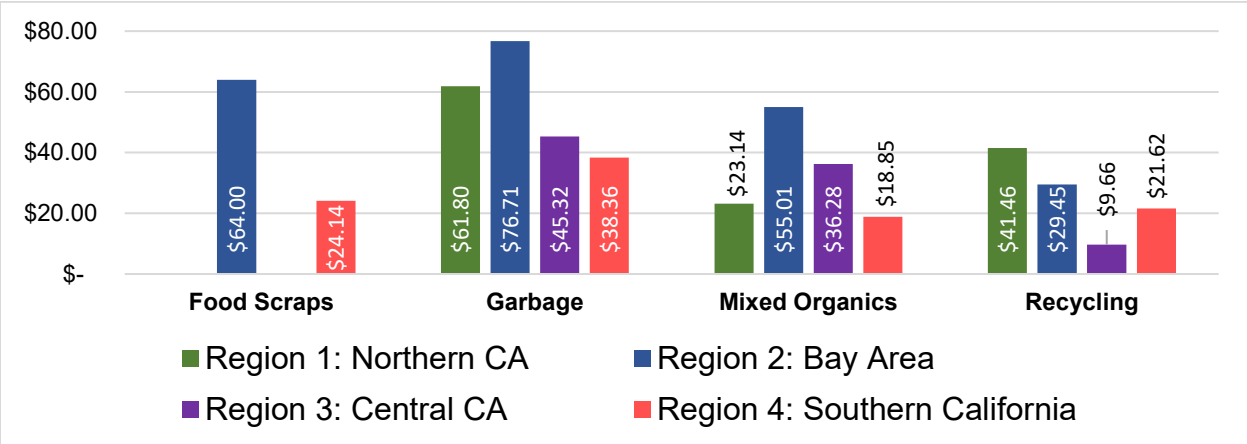


**Figure 21: Average Multi-Family Collection Rates**
**1-CY Collected 1x/Week**

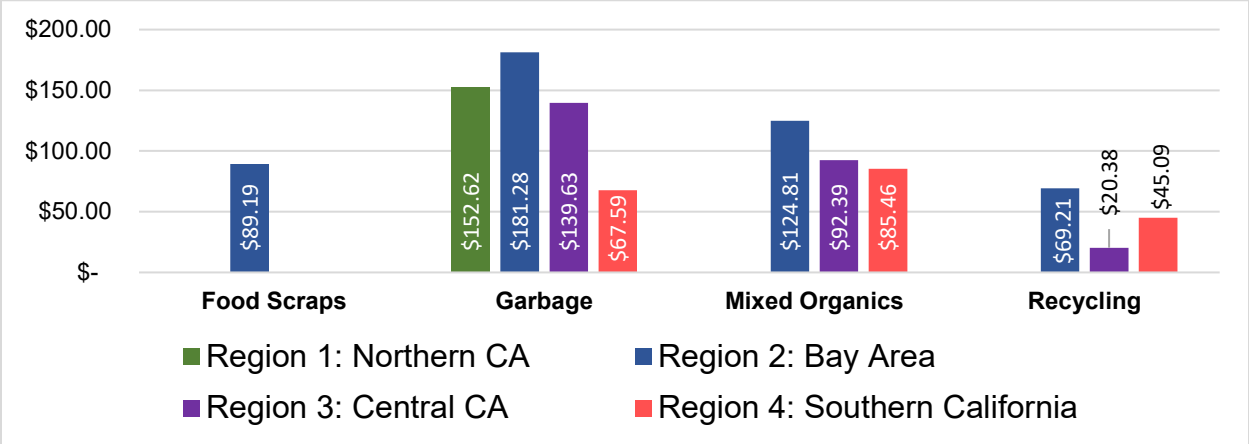



**Figure 22: Average Multi-Family Collection Rates**
**2-CY Collected 1x/Week**

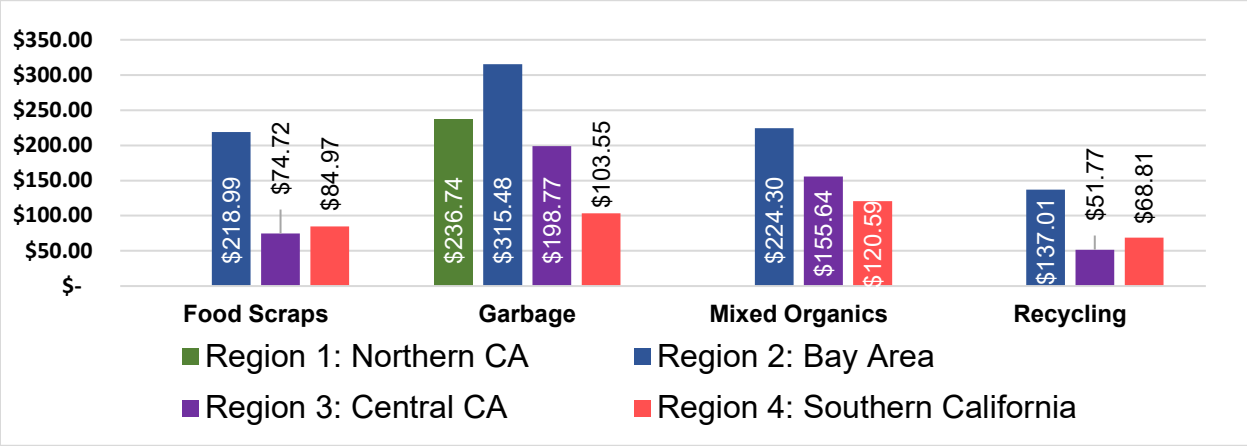



**Figure 23: Average Multi-Family Collection Rates**
**3-CY Collected 1x/Week**

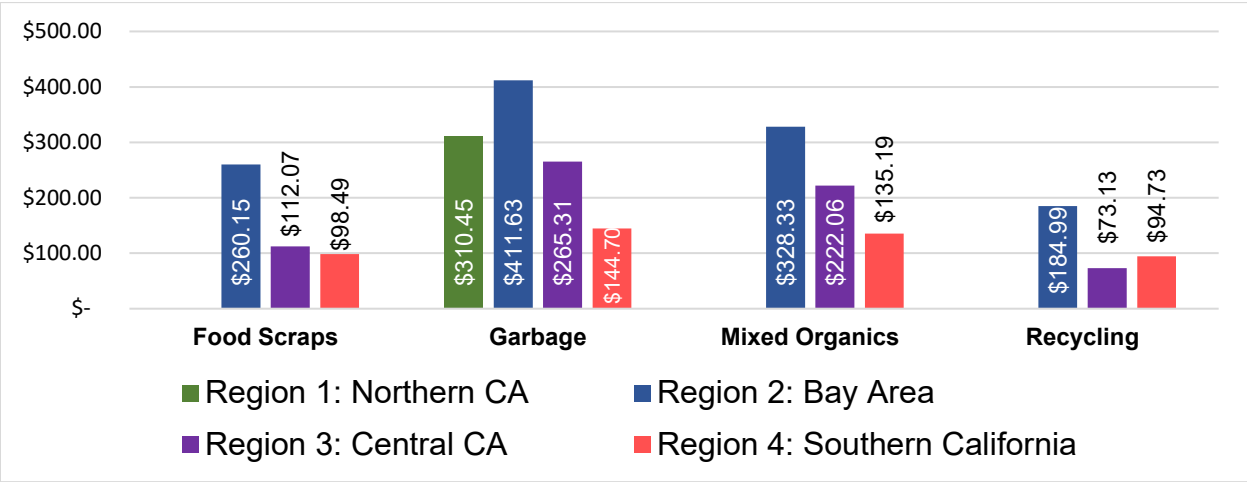
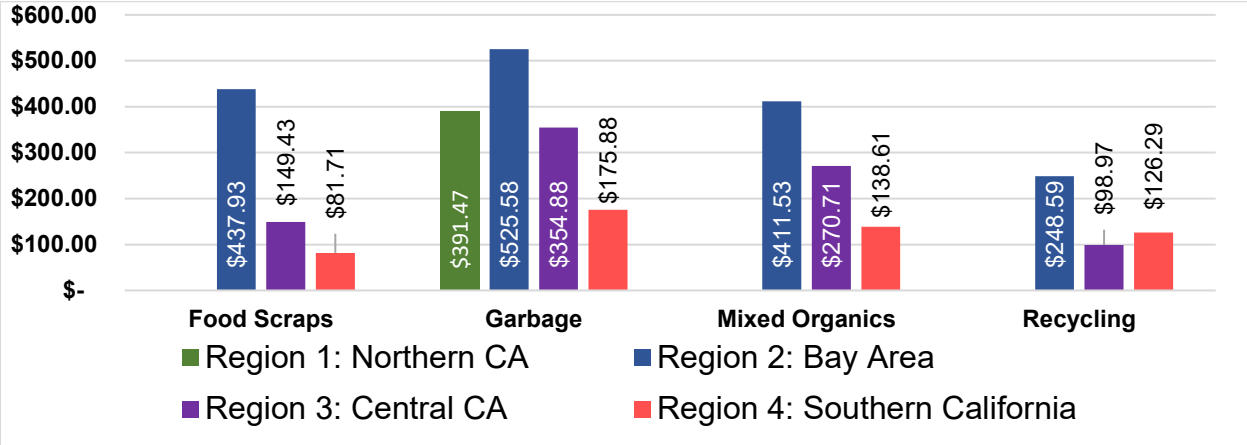
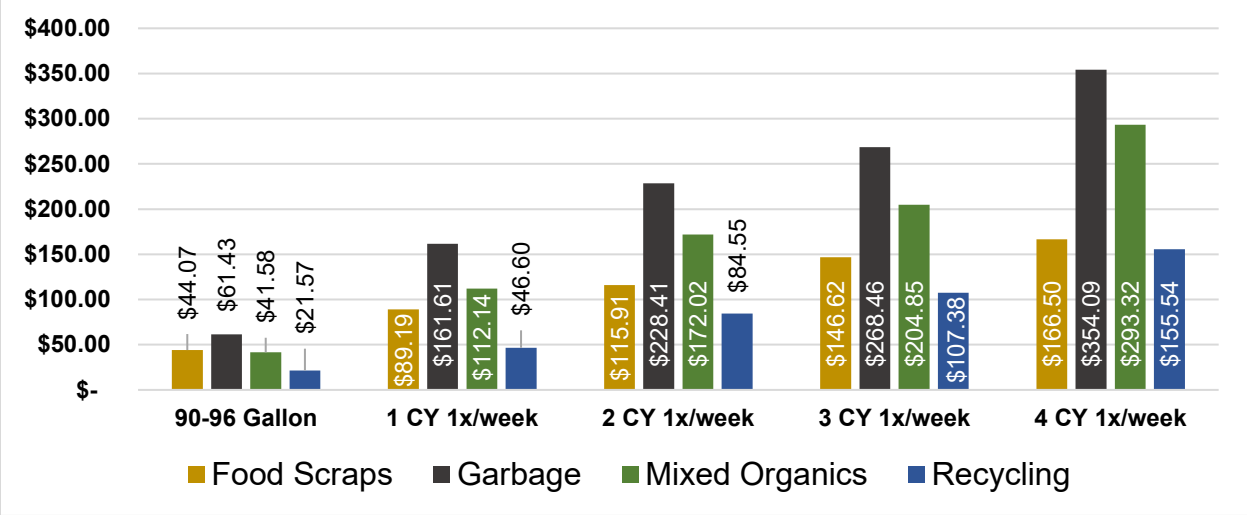


**Figure 24: Average Multi-Family Collection Rates**
**4-CY Collected 1x/Week**




The following chart shows a statewide comparison of the rates that were provided as separate rates for multi-family customers.

**Figure 25: Statewide Average for Multi-Family Customers**




## Local Ordinances or Policies Encouraging Organics Recycling Infrastructure Development

(See Key Findings section of this report for detailed information on local ordinances and enforcement mechanisms and the SB 1383 implementation timeline.)

Policies vary depending on each jurisdiction's geographic and regulatory background. SB 1383 requires that all jurisdictions implement a mandatory organics collection enforcement mechanism (ordinance, franchise agreement, policy, or permit) by January 1, 2022.

***Question (20)**: Are you considering developing a local ordinance or policy to encourage organics recycling infrastructure development? Please describe any ideas you have in mind for developing an ordinance or policy to encourage organics recycling infrastructure development.*

***Possible Responses:** yes; no.*

Of the 116 responses to this question, 37 percent answered that they are considering supporting organics infrastructure development. They further indicated the following thoughts and plans on developing an organics local ordinance or policy: hiring a third-party to conduct organics planning services; directly supporting California's mission and policies; and waiting for final legislation before making any policy decisions.

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# Appendix E
# Model Waste Enclosure Guidelines

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# Solid Waste Plan Guide and Enclosure Standards

**Please Note:** This document provides general, suggested guidelines for solid waste plan guides and enclosure standards. It is designed for distribution by jurisdictions to ***[commercial, industrial, and multi-family]*** site and solid waste enclosure land use permit applicants. Jurisdictions are encouraged to modify this document to meet their specific requirements and guidelines, and to refer applicants to applicable Code sections to verify their compliance. Suggested areas for customization are ***[set off by brackets and highlighted in grey]***.

If you have any questions regarding the Solid Waste Plan Guide & Enclosure Standards, please contact:

***[Insert Jurisdiction Contact Information.]***

Applicants for a land use permit for solid waste enclosures are required to read, review, and comply with all terms of this **[*solid waste plan guide and enclosure standards*]** in order to comply with California Green Building Code (CALGreen) and state regulations. This document includes the following sections:

***Solid Waste Plan Guide*** (Section 1) covers the pre-construction, construction, and operational phases of each project.

***Local and State Guidelines*** (Section 2) includes information on local guidelines and state legislation potentially affecting enclosure standards.

***Size of Enclosure*** (Section 3) provides detailed information on the standard bin sizes.

***Solid Waste Enclosure Standards*** (Section 4) offers direction on the dimensions, placement, and construction of a solid waste enclosure.

## *Section 1. Solid Waste Plan Guide*

### Pre-Construction and Construction Waste Management

Construction & demolition (C&D) debris accounts for a significant portion of the waste going to local landfills. State law requires all permitted project additions or alterations, new construction, demolition, and deconstruction projects to comply with CALGreen Construction Waste Management Requirements (Section 5.408.1).

All pre-construction and construction projects should:

1. Divert job-site waste from landfills by at least the minimum amount required by state law (65 percent in 2017).
2. Reuse dirt, concrete, asphalt, wood, green waste, metals, etc., on site whenever possible.
3. Divert unused dirt, concrete, asphalt, wood, green waste, metals, etc., to a recycling facility—do not landfill these reusable materials! Check with your jurisdiction's ***[planning department, public works department, solid waste division]*** for a list of local recycling facilities.
4. Have documentation ready for review prior to requesting final inspections (depending on jurisdiction's requirements), including a calculation that demonstrates compliance with the required diversion of 65 percent of generated C&D debris. Keep track of all receipts and weight tickets.
5. Incorporate adequate space for trash, compostable materials, and recycling containers inside the facilities where waste and recyclables will be generated. The state requires readily accessible storage for recycling. Refer to CALGreen Building Code Section 5.410.1 for details.
6. Ensure adequate storage space, out of public view, for a minimum of three collection carts or bins of identical size, depending upon solid waste generation amounts.

All applicants for commercial, industrial, and multi-family site and solid waste enclosure land use permits must comply with the building department requirements as provided in your jurisdiction's standard plans and specifications ***[Sample provided; enter jurisdiction's standards/available online/include link]*** and any other applicable documents. In addition to the above requirements, all applicants should do the following:

1. Design solid waste enclosures following the standards listed in this document (Section 4: Solid Waste Enclosure Guidelines and Standards). **DO NOT PLAN TO STORE ITEMS OTHER THAN SOLID WASTE CONTAINERS IN THIS ENCLOSURE!**
2. Submit detailed copies of your site and solid waste enclosure plans to the appropriate division in your jurisdiction for review and approval.

3. Check with your jurisdiction on how to submit your required waste management plan (WMP) prior to beginning a project. The WMP is your estimate of how much C&D debris will be generated by the project and your plan for where and how much material will be diverted.

   ***Note:*** *Green Halo Electronic Reporting is a web-based C&D disposal tracking system that enhances accurate recording of C&D debris disposal and diversion. It provides the contractor and property owner with a convenient and efficient way to create and submit a completed WMP that complies with all C&D Ordinance requirements.*

4. During the course of the project, retain the original receipts from the processing facility, proving the required diversion of generated C&D debris. Your jurisdiction's solid waste division and building department may require that your project meet a diversion requirement other than the state's, whichever is higher. Copies of receipts may be used as proof of diversion activities.

**Materials Management During Operations**

Applicants are advised to follow these materials management guidelines:

1. Include solid waste and recycling information in your employee orientations; policy manuals; lease agreements; and Covenants, Conditions, and Restrictions (CC&Rs).
2. If contracting with a landscaper, require that all yard waste be diverted for reuse, either through on-site mulching, grasscycling, use of a compost bin, or delivery to a permitted compost facility.
3. Color code indoor and outdoor containers and provide graphic signs that instruct your employees, customers, and residents on how to separate materials. Place receptacles for garbage, recycling, and compost next to each other to facilitate recycling.
4. Review your operations at least annually. Contact your jurisdiction's solid waste division for a free waste audit to reduce waste and keep your solid waste services cost effective and up to date.

## Section 2. Local and State Guidelines

CalRecycle strongly encourages designing garbage enclosures to accommodate garbage, mixed recycling, and organics carts or bins to facilitate compliance with SB 1383 and related state solid waste disposal laws. To determine the types of containers that will need to fit in an enclosure, please visit CalRecycle's webpage to search for the local jurisdiction contact: https://www2.calrecycle.ca.gov/LGCentral/Contacts/

Your local jurisdiction may have specific design guidelines for commercial or multi-family enclosures and development projects to reflect the community design vision***. It is recommended that you check with the zoning or building department in your jurisdiction for more specific planning and design criteria.***

**State Legislation**

The State of California has established targets and implemented regulations to reach statewide disposal goals.

SB 1383 sets specific targets for reducing methane emissions and organic waste in landfills by 2020 and 2025. More information is available on CalRecycle's web page: https://www.calrecycle.ca.gov/organics/slcp.

AB 341 requires mandatory commercial recycling as part of a statewide goal to divert 75 percent of California's solid waste from landfill by 2020. More information is available on CalRecycle's web page: http://www.calrecycle.ca.gov/recycle/commercial/.

Many commercial businesses are also required by the state to recycle organics. Visit CalRecycle's web page on AB 1826 for more information about mandatory commercial organics recycling: http://www.calrecycle.ca.gov/recycle/commercial/organics/.

Please refer to ***[Attachment 1]*** for a full list of materials accepted through the mixed recycling and compost programs and ***[Attachment 2]*** for service frequency options.

## *Section 3. Size of Enclosure*

**Size of Containers**

Enclosures must be designed with sufficient space for garbage, recycling, and organics service.

*Please see Table A for an overview of the dimensions that should be considered when building a solid waste enclosure.*

Commercial bins for refuse or recycling come in sizes ranging from ***[if bins are offered, include available sizes]*** (see Table A for actual dimensions). ***[Add details about wheeled or stationary bins…]*** (e.g., 1 CY – 4 CY containers are equipped with wheels for maneuvering; 5 CY – 8 CY containers are stationary).

***[Add requirements on accessibility to bins…]*** (e.g., the bin(s) MUST be directly accessible by collection trucks. See "Enclosure Access" below for more information about truck access.)

***[If carts are offered, include cart sizes.]*** Smaller ***[insert cart sizes]*** carts are available for greater flexibility, for limited-sized lots, or for low-volume generators of garbage or recycling (see the following table for actual dimensions).

***Note:*** *Be sure to indicate the number and size of container(s) in your plans. Remember that space for garbage, recycling, and organics is required in all new construction, per CALGreen Code Section 5.410.1.*

**Container Sizes**

***[Please enter your jurisdiction's specific bin sizes and dimensions in the table.]***

| Size | Height | Width | Depth | Footprint (Rounded) | Wheels? |
|---|---|---|---|---|---|
| 35-gallon cart | | | | | |
| 65-gallon cart | | | | | |
| 95-gallon cart | | | | | |
| 1-CY front-load bin | | | | | |
| 2-CY front-load bin | | | | | |
| 3-CY front-load bin | | | | | |
| 4-CY front-load bin | | | | | |
| 5-CY front-load bin | | | | | |
| 6-CY front-load bin | | | | | |
| 8-CY front-load bin | | | | | |

## *Section 4. Solid Waste Enclosure Standards*

An architect, civil engineer, or designer must draft site plans for proposed solid waste enclosures. Any such design should adhere to the following standards, stated clearly on the site plan.

***Note:***

- *The following enclosure standards are intended as a model. They should be updated to incorporate specific jurisdictional requirements and guidelines.*
- *Actual service level needs may vary. It is important to provide enough services to prevent material from overflowing from the bins or being stored on the ground. Any debris left outside containers will not be serviced. Plan for contingencies by sizing the enclosure for larger service levels than anticipated.*
- *The following link to CalRecycle's Business Group Waste Stream Calculator web page provides information regarding waste generation for your business:* https://www2.calrecycle.ca.gov/WasteCharacterization/BusinessGroupCalculator

**Inside Dimensions**

Per CALGreen Code Section 5.410.1, space for recycling, organic waste, and garbage will be required inside of the solid waste enclosure for all new development. Exceptions may be considered on a circumstantial basis. Please follow the link below to the CALGreen Code Guide.

https://www.documents.dgs.ca.gov/bsc/CALGreen/CALGreen-Guide-2016-FINAL.pdf

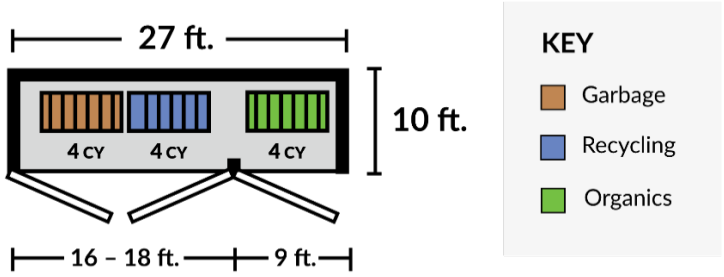
The enclosure must be large enough to provide at least a 2-foot clearance from the interior walls to each side of the bins.

Site plans for a solid waste enclosure should include the interior and exterior dimensions of the structure. See the diagram in Figure A (below), which provides a suggested garbage enclosure layout that includes space for garbage, recycling, and organics service.

***Note:*** *The following illustration is a possible configuration of containers within an enclosure, but it does not meet the requirements outlined in this document for an acceptable site plan. Actual interior dimensions may be greater or smaller than what are shown in the sample design, depending on the size and number of bins. Also note that three gates are likely needed in order for a truck to service all three bins with this sample design.*

**Sample Enclosure Configuration**

*(Sample only. Interior dimensions may increase or decrease depending on the size and number of bins.)*




## Gates / Doors

Gated opening for ingress and egress of bins must be constructed to your jurisdiction's standards ***[enter jurisdiction's standards],*** with no obstructions preventing truck access. A separate, additional entrance to the enclosure is strongly encouraged from the back or the side for easy access to the customer for disposal purposes. If a secondary enclosure opening is required, please discuss the specific standards with your jurisdiction's design professional.

Gates must be securely attached to poles or walls. Hung gates must meet the required clearance off the finished pad or apron and within ***[add detail about required radius]*** degrees of the surrounding curb. It is strongly encouraged that gates open to at least 135 degrees when secured open and do not infringe on the traffic aisles when in the open position.

Gates must be solid metal, have outside handles on each door, and have a slide latch to secure the doors. Doors need to be held in both the full open and full closed position (i.e., must provide means to secure gate doors both opened and closed by using such mechanisms as a cane bolt with a sleeve, slide latch between doors, and sleeve in pavement). Drivers (and anyone loading) need a way to secure the doors open while they work so the doors don't inadvertently close and injure people.

The bolts, sleeves, and bolt drop in the ground should meet your jurisdiction's ***[building or planning department]*** minimum requirements. A locked gate will discourage trespassing but should not reduce the required enclosure size footprint.

## Storage Inside the Enclosure

Solid waste enclosures are strictly for the storage of solid waste containers. Property owners must ensure that no other materials (e.g., hazardous wastes, grease bins, cleaning supplies, etc.) are stored in their enclosures.

Section 509.2 Equipment Access of California Fire Code states "Approved access shall be provided and maintained for all fire protection equipment to permit immediate safe operation and maintenance of such equipment. Storage, trash, and other materials or

objects shall not be placed or kept in such a manner that would prevent such equipment from being readily accessible." It is recommended that you check with your local fire department regarding any mandatory enclosure development and design requirements.

**Fats, Oils, and Grease (F.O.G.) Containment**

F.O.G. should not go down the drain as it builds up in pipes and causes clogs. For new developments and buildings where a food service establishment is anticipated as a tenant, it is recommended that you install an underground grease interceptor as part of your building plumbing and sewer system to prevent F.O.G. and food solids from entering the sanitary sewer or septic system. If an interceptor is not feasible, then an above-ground grease trap should be installed and housed outside the solid waste enclosure on a separate concrete pad/enclosed area. In-store grease containers, compliant with Health Department requirements, are also recommended.

**Bin Location / Building and Fire Code Requirements**

It is encouraged that the local fire department be contacted prior to development of bin location and that the local jurisdiction's requirements for building and fire code requirements be incorporated into those plans.

California Fire Code must also be considered when planning for bin placement inside of solid waste enclosures. Refer to excerpts below from California's 2016 Fire Code Sections 304.1 thru 304.3. and see the entire document here: https://www.citymb.info/Home/ShowDocument?id=28089.

*Section 304.3 of California Fire Code states the following:*

Capacity exceeding 5.33 cubic feet (40 gallons) (0.15 m3 ): Containers exceeding this volume shall be provided with lids. Containers and lids shall be constructed of noncombustible materials or of combustible materials with a peak rate of heat release not exceeding 300 kW/m2 where tested in accordance with ASTM E1354 at an incident heat flux of 50 kW/m2 in the horizontal orientation.

Exception:

1. Wastebaskets complying with Section 808.

Capacity exceeding 1.5 cubic yards. Dumpsters and containers with an individual capacity of 1.5 cubic yards [40.5 cubic feet (1.15 m3 )] or more shall not be stored in buildings or placed within 5 feet (1524 mm) of combustible walls, openings, or combustible roof eave lines.

Exceptions:

1. Dumpsters or containers in areas protected by an approved automatic sprinkler system installed throughout in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3.
2. Storage in a structure shall not be prohibited where the structure is of Type I or IIA construction, located not less than 10 feet (3048 mm) from other buildings, and used exclusively for dumpster or container storage.

Capacity of 1 cubic yard or more. Dumpsters with an individual capacity of 1.0 cubic yard [200 gallons (0.76 m3 )] or more shall not be stored in buildings or placed within 5 feet (1524 mm) of combustible walls, openings, or combustible roof eave lines unless the dumpsters are constructed of noncombustible materials or of combustible materials with a peak rate of heat release not exceeding 300 kW/m2, where tested in accordance with ASTM E1354 at an incident heat flux of 50 kW/m2 in the horizontal orientation.

Exceptions:

1. Dumpsters in areas protected by an approved automatic sprinkler system installed throughout in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3.
2. Storage in a structure shall not be prohibited where the structure is of Type I or IIA construction, located not less than 10 feet (3048 mm) from other buildings, and used exclusively for dumpster or container storage.

**Enclosure Access**

Garbage dumpsters are public and common use spaces for residential multi-family (4+ units) buildings and must be located on accessible pedestrian routes. If an enclosure with a door is built for the dumpster, both the door and the route through the door to the dumpster must meet Americans with Disabilities Act (ADA) requirements.

All bins and enclosures must have direct access for solid waste collection trucks. Direct access allows a collection truck to drive directly to the bin and insert the forks into the sides of the bin without the driver having to manually move the bin (See Figure B). A minimum straight approach of ***[enter your jurisdiction's requirements]*** is necessary to line up directly with the bin. Enclosures with poor or no accessibility or enclosures with atypical orientations are not recommended because they increase the likelihood of injury to the driver and property. Check with your jurisdiction regarding accessibility enforcement mechanisms.

Opening and closing gates or fences and locking and unlocking the bin lids may be the collection truck driver's responsibility. Check with your local hauler and jurisdiction for specific driver responsibilities.

Access to the bins cannot be obstructed by cars, parking stalls, or passenger loading zones, as shown in the following image.

**Obstruction of Enclosure Access**

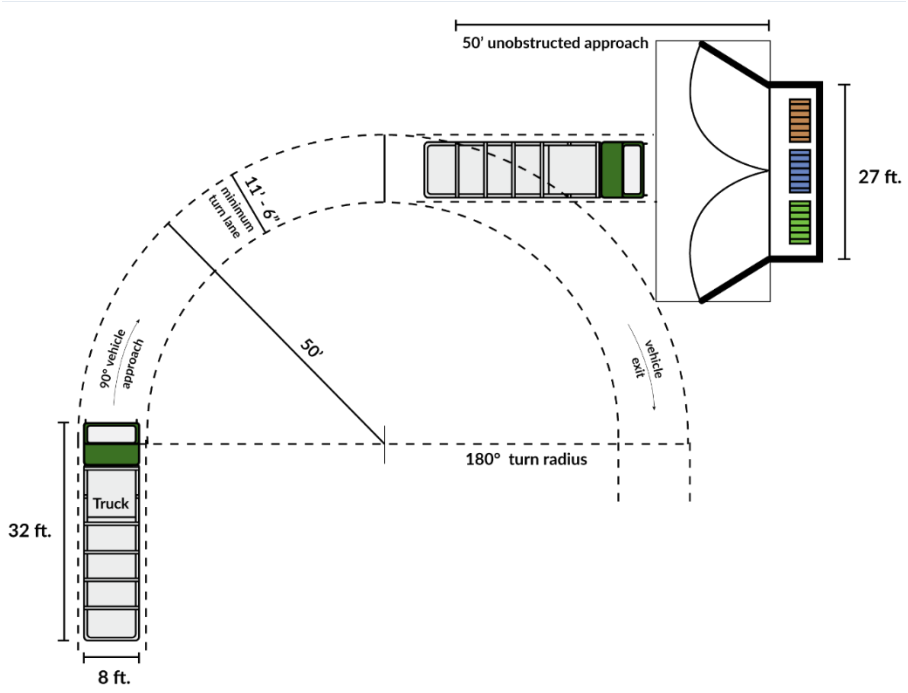

Enclosure Approach

An asphalt or concrete driveway with ***[enter your jurisdiction's standards]*** of straight, direct access between the enclosure and the bin is required. It should be built in accordance with the jurisdiction's standard plans and specifications and be able to withstand the collection truck's gross vehicle weight (GVW) ***[not to exceed: enter your jurisdiction's requirements].***

Turning Radius Required

It is difficult and dangerous for collection trucks to drive in reverse. You must provide either sufficient space to enable trucks to turn around or a separate exit that allows them to pull forward. A backup distance of ***[Enter your jurisdiction's standards]*** is required for any maneuver and must be in a straight line. The following is an example for the minimum turning radius needed.

**Example of Turning Path for Garbage Trucks**




**The space allotted for turning must accommodate a 3-axle truck.**

Height Clearance of Enclosure Approach

Collection trucks require at least ***[enter detail for your jurisdiction's clearance requirement]*** of vertical clearance for the entire approach between the enclosure and the bin ***[enter detail for your jurisdiction's clearance requirement]*** and above the enclosure itself (or wherever the bin will be serviced). ***Note:*** *In some instances, a roof may be required. Check with your jurisdiction's planning department.*

**Concrete Apron**

A concrete apron must be installed to cover the front of the enclosure and extend a minimum length of ***[enter your jurisdiction's standard requirements]*** from the enclosure opening. The apron must be engineered to withstand up to ***[enter jurisdiction's required weight]*** of direct force from a single truck axle. Concrete or a similar surface paving should be used to resist stationary turning forces from the truck wheels and provide adequate resistance to the continual forces experienced in the regular loading and maneuvering of the bins. Asphalt pavement and any type of paver surface should not be used within the apron. The installation of pervious concrete should be reviewed prior to specification or installation.

Apron surface must be the same elevation as the enclosure pad threshold and the surrounding surfaces, with a slope of ***[enter jurisdiction's required slope length]*** per foot away from the enclosure pad.

### Enclosure Concrete Pad

Enclosure pads must be engineered to withstand up to ***[enter jurisdiction's required weight]*** of direct force from a single truck axle.

An enclosure pad surface must be the same elevation as the apron threshold, with a minimum slope of ***[enter jurisdiction's minimum slope requirement]*** per foot for drainage.

### Material

Generally, the material used to construct a solid waste enclosure should match the exterior surface of the building, but reinforced masonry or concrete block is the standard. Refer to your jurisdiction's planning department guidelines.

### Height

The height of a solid waste enclosure should be a minimum of 6 feet, or at least 6 inches above the top of the bins if they are taller than 6 feet.

### Wheel Stops

Provide wheels stops or bumpers (e.g. 6-inch curbs) from each wall to prevent damage to the interior walls.

Angle and extend the wheel stops inward to the edge of the enclosure opening to protect the wall edge or posts at the gate opening.

### Lighting

It is recommended that the 1-foot candle or 11-lux requirement for an accessible (i.e., per ADA standards) path and enclosure area be maintained for new developments.

### "No Parking" Signage

It is recommended that the area directly in front of the solid waste enclosure doors have "NO PARKING" painted on the ground and on adequately lit door signs.

### Storm Water Collection

All properties must comply with the Federal Clean Water Act.

It is recommended that you contact your jurisdiction's engineer or your county water agency for specific storm water concerns related to solid waste planning.

### Storm Water Pollution Prevention

<u>Stormwater Runoff</u>

To prevent contaminants from entering the stormwater system your jurisdiction may have requirements prohibiting the discharge of any sewage, including industrial waste or polluted waters, from entering the jurisdiction's storm drains. Storm water should not be conveyed onto or through the internal area of any solid waste enclosure.

Plumbing

In your jurisdiction the enclosure area may be required to connect to the sanitary sewer so that if waste spills or leaks, the wastewater from bin washouts won't run out of the enclosure area and into the jurisdiction's storm drains.

## *Attachment 1: Materials Currently Accepted*

***[Jurisdiction to include a complete list of currently accepted curbside recyclable materials and organics materials.]***

## *Attachment 2: Collection Frequency Options*

***[Jurisdiction to include a list of service frequency options offered by waste hauler.]***

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# Appendix F
# Sample Waste Assessment Form

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## *Sample Waste Assessment Form*

All information stated on this form is subject to jurisdiction approval and should be considered general guidelines towards developing a waste assessment form. A jurisdiction should modify the document to meet its specific requirements and guidelines. Suggested areas to include specific requirements are formatted [with grey highlight and encompassed by brackets].

[Enter city logo]

**Waste Assessment**

[Enter city name]

| | | | |
|---|---|---|---|
| Business Name: | | Notes | |
| Location: | | | |
| Date: | | | |
| Time: | | | |
| Contact Name/Title | | | |
| Decision Makers Name/Title | | | |
| Decision Makers Phone and Email | | | |
| Day of Week: | | | |
| Type of Business | ☐ Supermarket | ☐ Restaurant | ☐ Retail |
| | ☐ Grocery Store | ☐ Hotel | ☐ Warehouse |
| | ☐ Food Service Contractor | ☐ Health Facility | ☐ Public Admin |
| | ☐ Food Service Distributor | ☐ Educational Facilities | ☐ Large Venues |
| | ☐ Wholesale Food Markets | ☐ State Entities | ☐ Large Events |

| External Recycling | | | | | | | |
|---|---|---|---|---|---|---|---|
| Assessment Type | ☐ Organics (Green)<br>☐ Organics (Food)<br>☐ Garbage | | | | ☐ Recycling<br>☐ All of the Above | | |
| Collection Frequency (Days per Week) | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 | ☐ 5 | ☐ 6 | ☐ 7 |
| Collection Days | Mon \| Tues \| Wed \| Thurs \| Fri \| Sat \| Sun | | | | | | |
| Types of Containers on Site? | ☐ Recycling | | | | Volume? | | |
| | ☐ Organics (Green) | | | | Adequate Capacity? | | |
| | ☐ Organics (Food) | | | | % of Container Full? | | |
| | ☐ Garbage | | | | | | |
| Containers Clearly Labeled? | ☐ Yes | | | | ☐ No | | |
| Are Containers Inside an Enclosure? | ☐ Yes | | | | ☐ No | | |
| Is there Room in Enclosure for Additional Bins? | ☐ Yes | | | | ☐ No | | |
| Shared Containers?<br>If so, with whom? | ☐ Yes | | | | ☐ No | | |
| Does Customer Back-Haul<br>(If so, where) | ☐ Yes<br>o Name<br>o Container Size<br>o Type of Material<br>o Estimated Amount | | | | ☐ No | | |

| External Recycling (continued) | | |
|---|---|---|
| Does Company Subscribe to Third Party Recycler? | ☐ Yes<br>o Name of Third Party<br>o Container Size/Type<br>o Type of Materials<br>o Amount | |
| Does Business Offer Private Parties or Events? | ☐ Yes, if so, describe: | ☐ No |
| Recyclables Observed in Container | | |

| Internal Recycling | | | |
|---|---|---|---|
| Front of House Products Used | ☐ Plastic Utensils/ Silverware<br>☐ Plastic Dishware<br>☐ Styrofoam Cups/Plates | | ☐ Plastic Wrap<br>☐ Other, describe |
| Are Indoor Recycling and Organic Bins Present? | ☐ Yes (Explain in notes) | | ☐ No |
| Are Indoor Bins Clearly Labeled? | ☐ Yes (Explain in notes) | | ☐ No |
| Indoor Signs for Recycling in Staff Area? | ☐ Yes | | ☐ No |
| Indoor Signs for Organics in Staff Area? | ☐ Yes | | ☐ No |
| How Many Employees? | ☐ 5-10 | ☐ 21-30 | ☐ 51+ |
| | ☐ 11-20 | ☐ 31-50 | |
| Do Staff Use Temporary or Permanent-ware? | | | |
| To-Go Containers Utilized? | ☐ Yes | | ☐ No |
| Does Company provide for any Reuse of Materials? | ☐ Yes (Explain in notes) | | ☐ No |

| Internal Recycling (continued) | | |
|---|---|---|
| Is Company using a food recovery program? | ☐ Yes<br>☐ No | Name of Food Recovery Program: |
| Interested in Implementing / Improving Diversion Programs? | (Indicate Decision Maker's level of interest in implementing / improving diversion programs)<br>☐ High<br>☐ Medium<br>☐ Low | |

| Compliance Assessment |
|---|
| **[Enter City requirements for compliance as applicable]** |
| **Other Items** |
| a. Is Customer Interested in Staff Training Opportunities? YES/NO |
| |
| b. Is Customer interested in learning more about product stewardship and exploring opportunities to create a more sustainable environment? YES/NO |
| |
| **Notes:** |

**Visual Audit**

| Material Stream | Number | size | Frequency | weekly (yd3) | Percent by Volume | | |
|---|---|---|---|---|---|---|---|
| | | | | | MSW | Recyclables | Organics |
| Solid Waste | | | | | | | |
| Recycling | | | | | | | |
| Organics | | | | | | | |

**List types of Recyclables and Organics observed in MSW container.**

**I am aware that my business or multi-family property Is required to implement a recycling program as follows.**

My business or multifamily residential property is (*List Name and Address)*: _____

_____

_____

a. *Separating designated recyclable materials from garbage.* *Initial* _____

b. *Displaying signs and labeled containers in appropriate areas or rental units for the collection of designated recyclable materials.* *Initial* _____

c. *A party to a written service agreement for recycling collection service or has completed a Self-Haul Form.*
*(Self-Haul Form must be on file at the place of business and available for inspection or request by the [enter jurisdiction name].)* *Initial* _____

d. *Receiving the following level of collection service for designated recyclable materials:*
*Container Size: [enter sizes offered by jurisdiction]*
*Frequency: [enter frequencies offered by jurisdiction - Weekly/Bi-Weekly/Other]:*

e. *OR, I decline to comply at this time, and I understand that I am in violation of [Enter jurisdiction ordinance language],*
*and could be subject to a fine.* *Initial*_____

*Comments:*

_____

_____

**SIGNATURES: I understand and confirm that this information is true and correct.**

Business Representative:

_____
Print Name

_____
Signature

_____
Date

Hauler District Manager:

_____
Print Name

_____
Signature

_____
Date

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# Appendix G
# Supporting Education and Outreach Examples

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***Sample Sorting Posters***

# ORGANICS

**(THINGS THAT BREAK DOWN INTO SOIL)**

## All Food

## Food-Soiled Paper

**What type of food can go here?**

ALL food

EXAMPLES: Leftovers, food scraps, meat, bones, dairy, coffee grounds, etc.

**What is food-soiled paper?**

Products that can be ripped are made of paper. Once dirty with food, paper can no longer be recycled but can be composted.

EXAMPLES: Paper towels, paper plates, to-go containers, pizza boxes, etc.

**Questions?**

To learn about composting and which bin to throw your waste away in, visit: [insert website]

Call the [jurisdiction] for help getting started at:

(###) ###-####

# RECYCLING

## (CLEAN MATERIAL THAT CAN BE RECYCLED)

### Paper

### Cardboard

### Plastics


### Metals

### Glass

NOTE: If food or liquid has stained paper or cardboard, toss it in the organics bin.

**Questions?**

To learn about recycling and which bin to throw your waste away in, visit: [insert website]

Call the [jurisdiction] for help getting started at:

(###) ###-####

# LANDFILL

## (ALL OTHER MATERIAL)

### Dirty Recyclables

### Stretchy Plastic

### Cups

**Landfill 101:**

Recyclable containers with 10%+ food or liquid are considered dirty.

Stretchy plastic is at the end of its usable life.

Cups usually have a wax lining.

All of these go in the landfill.

**Questions?**

To learn about landfilling and which bin to throw your waste away in, visit: [insert website]

Call the [jurisdiction] for help getting started at:

(###) ###-####

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# Appendix H

# Accessible Version of Survey Chart Data in Appendix D

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The following tables include the raw data used to create the figures in Appendix D.

**Table 1. California Map Showing Survey Regions**

| Region 1: Northern CA | Region 2: Bay Area | Region 3: Central CA | Region 4: Southern CA |
|---|---|---|---|
| Alpine | Alameda | Fresno | Imperial |
| Amador | Contra Costa | Inyo | Kern |
| Butte | Marin | Kings | Los Angeles |
| Calaveras | Napa | Madera | Orange |
| Colusa | Sacramento | Mariposa | Riverside |
| Del Norte | San Benito | Merced | San Bernardino |
| El Dorado | San Francisco | Mono | San Diego |
| Glenn | San Joaquin | Monterey | Ventura |
| Humboldt | San Mateo | San Luis Obispo | |
| Lake | Santa Clara | Santa Barbara | |
| Lassen | Santa Cruz | Tulare | |
| Mendocino | Solano | Tuolumne | |
| Modoc | Sonoma | | |
| Nevada | Stanislaus | | |
| Placer | Yolo | | |
| Plumas | | | |
| Shasta | | | |
| Sierra | | | |
| Siskiyou | | | |
| Sutter | | | |
| Tehama | | | |
| Trinity | | | |
| Yuba | | | |

**Table 2. Participation in the Statewide Survey**

| | Region 1: Northern CA | Region 2: Bay Area | Region 3: Central CA | Region 4: Southern CA | Total |
|---|---|---|---|---|---|
| Response | 44 | 139 | 46 | 129 | 358 |
| No Response | 42 | 9 | 32 | 99 | 182 |
| Total | 86 | 148 | 78 | 228 | 540 |

**Table 3. Rate-Approval Methods**

| | Region 1: Northern CA | Region 2: Bay Area | Region 3: Central CA | Region 4: Southern CA | Statewide | Percent of Jurisdictions Statewide |
|---|---|---|---|---|---|---|
| Board/Council Vote | 7 | 44 | 17 | 57 | 125 | 67% |
| City Manager or Administrator Approval | 1 | 4 | 1 | 9 | 15 | 8% |
| Proposition 218 Public Hearing Notice | 3 | 26 | 10 | 36 | 75 | 40% |
| Automatically Adjusted Based on Franchise Agreement Methodology | 6 | 24 | 5 | 60 | 95 | 51% |
| Other | 1 | 3 | 0 | 10 | 14 | 7% |

**Table 4. Annual Change in CPI**

| Year | All Items, Not Seasonally Adjusted | Water, Sewer, and Trash Collection Services | All Items in San Francisco-Oakland-Hayward, CA | All Items in Los Angeles-Long Beach-Anaheim, CA |
|---|---|---|---|---|
| 2001/02 | 1.6 | 3.2 | 1.6 | 2.8 |
| 2002/03 | 2.3 | 3.7 | 1.8 | 2.6 |
| 2003/04 | 2.7 | 5.8 | 1.2 | 3.3 |
| 2004/05 | 3.4 | 5.1 | 2.0 | 4.5 |
| 2005/06 | 3.2 | 4.9 | 3.2 | 4.3 |
| 2006/07 | 2.9 | 5.1 | 3.3 | 3.3 |
| 2007/08 | 3.8 | 5.9 | 3.1 | 3.5 |
| 2008/09 | -0.4 | 5.9 | 0.7 | -0.8 |
| 2009/10 | 1.6 | 6.0 | 1.4 | 1.2 |
| 2010/11 | 3.2 | 5.1 | 2.6 | 2.7 |
| 2011/12 | 2.1 | 5.4 | 2.7 | 2.0 |
| 2012/13 | 1.5 | 4.4 | 2.2 | 1.1 |
| 2013/14 | 1.6 | 3.7 | 2.8 | 1.3 |
| 2014/15 | 0.1 | 4.4 | 2.6 | 0.9 |
| 2015/16 | 1.3 | 3.6 | 3.0 | 1.9 |
| 2016/17 | 2.1 | 3.4 | 3.2 | 2.8 |
| Average (2001-2017) | 2.1 | 4.7 | 2.3 | 2.3 |

**Table 5. Frequency of Adjustment to Solid Waste Collection Customer Rates**

| Frequency | Number of Jurisdictions | Percentage of Jurisdictions |
|---|---|---|
| Annually | 153 | 85% |
| Every other year | 11 | 6% |
| Between 3-5 years | 7 | 4% |
| Other | 9 | 5% |

**Table 6. Collection Services Provided in Solid Waste Rates**

| | Region 1: Northern CA | Region 2: Bay Area | Region 3: Central CA | Region 4: Southern CA | Statewide | Percent of Jurisdictions Statewide |
|---|---|---|---|---|---|---|
| Large/bulky item collection | 6 | 39 | 3 | 40 | 88 | 85% |
| E-waste (curbside, on-call, or drop-off) | 5 | 40 | 3 | 30 | 78 | 76% |
| City/County facilities and/or parks | 5 | 32 | 5 | 25 | 67 | 65% |
| Dry cell batteries (curbside, on-call, or drop-off) | 4 | 38 | 4 | 15 | 61 | 59% |
| Public litter cans | 4 | 30 | 5 | 22 | 61 | 59% |
| Motor oil & filters (curbside, on-call, or drop-off) | 3 | 39 | 4 | 13 | 59 | 57% |
| HHW (curbside, on-call, or drop-off) | 2 | 27 | 2 | 11 | 42 | 41% |
| Sharps (curbside, on-call, or drop-off) | 2 | 14 | 4 | 15 | 35 | 34% |
| Street sweeping service | 1 | 16 | | 13 | 30 | 29% |
| Pharmaceuticals (curbside, on-call, or drop-off) | 1 | 7 | 1 | 5 | 14 | 14% |
| Other (please specify) | 0 | 3 | 3 | 2 | 8 | 8% |
| Illegal Dumping | 0 | 1 | 2 | | 3 | 3% |
| Shredding events | 0 | 1 | | 2 | 3 | 3% |

**Table 7. Fees Included in Solid Waste Rates**

| | Region 1: Northern CA | Region 2: Bay Area | Region 3: Central CA | Region 4: Southern CA | Statewide | Percent of Jurisdictions Statewide |
|---|---|---|---|---|---|---|
| Franchise Fees | 6 | 29 | 4 | 57 | 96 | 77% |
| Landfill Tipping Fees | 4 | 28 | 6 | 33 | 71 | 57% |
| Recycling Processing Fees | 3 | 26 | 4 | 28 | 61 | 49% |
| Organic Processing Fees | 3 | 27 | 4 | 22 | 56 | 45% |
| AB 939 Fees | 2 | 22 | 3 | 26 | 53 | 43% |
| Administrative Fees | 2 | 20 | 4 | 20 | 46 | 37% |
| Street Sweeping Fees | 1 | 12 | 2 | 9 | 24 | 19% |
| Vehicle (Road) Impact Fees | 1 | 15 | 1 | 5 | 22 | 18% |
| Other (please specify) | 2 | 6 | 2 | 9 | 19 | 15% |
| HHW Fee | 0 | 1 | 0 | 2 | 3 | 2% |
| Illegal Dumping Fees | 0 | 2 | 1 | 0 | 3 | 2% |
| Storm Water Fees | 1 | 2 | 0 | 0 | 3 | 2% |
| School Fees | 0 | 2 | 0 | 0 | 2 | 2% |
| Solid Waste Program Fees | 0 | 0 | 1 | 0 | 1 | 1% |

**Table 8. Solid Waste Collection Agreements in California**

| | Region 1: Northern CA | Region 2: Bay Area | Region 3: Central CA | Region 4: Southern CA | Statewide |
|---|---|---|---|---|---|
| Districted | 2 | 3 | 1 | 2 | 8 |
| Exclusive | 81 | 129 | 27 | 94 | 331 |
| Municipal | 3 | 6 | 8 | 5 | 22 |
| Non-Exclusive | 5 | 7 | 4 | 1 | 17 |

**Table 9. Current Organic Collection Services Offered by Sector**

Single-Family

| | Region 1: Northern CA | Region 2: Bay Area | Region 3: Central CA | Region 4: Southern CA | Statewide | Percent of Jurisdictions Statewide |
|---|---|---|---|---|---|---|
| Food Scraps | 0 | 7 | 0 | 1 | 8 | 4% |
| Green Materials | 13 | 29 | 17 | 67 | 126 | 59% |
| Mixed Organics | 2 | 38 | 3 | 17 | 60 | 28% |
| Mixed Waste Collection | 1 | 4 | 1 | 10 | 16 | 8% |
| Not Offered | 1 | 1 | 0 | 1 | 3 | 1% |

Multi-Family

| | Region 1: Northern CA | Region 2: Bay Area | Region 3: Central CA | Region 4: Southern CA | Statewide | Percent of Jurisdictions Statewide |
|---|---|---|---|---|---|---|
| Food Scraps | 0 | 5 | 3 | 12 | 20 | 11% |
| Green Materials | 8 | 18 | 11 | 54 | 91 | 49% |
| Mixed Organics | 2 | 37 | 1 | 10 | 50 | 27% |
| Mixed Waste Collection | 2 | 3 | 1 | 11 | 17 | 9% |
| Not Offered | 1 | 4 | 0 | 4 | 9 | 5% |

Commercial

| | Region 1: Northern CA | Region 2: Bay Area | Region 3: Central CA | Region 4: Southern CA | Statewide | Percent of Jurisdictions Statewide |
|---|---|---|---|---|---|---|
| Food Scraps | 5 | 31 | 12 | 61 | 109 | 39% |
| Green Materials | 9 | 20 | 12 | 47 | 88 | 32% |

| | | | | | | |
|---|---|---|---|---|---|---|
| Mixed Organics | 2 | 34 | 4 | 17 | 57 | 20% |
| Mixed Waste Collection | 2 | 4 | 1 | 14 | 21 | 8% |
| Not Offered | 1 | 0 | 0 | 3 | 4 | 1% |

**Table 10. Current Organic Material Processing Fees Per Ton**

| Material | Up to $49.99 | $50 - 99.99 | $100.00 + |
|---|---|---|---|
| Green Materials | 20 | 8 | 3 |
| Mixed Green Materials & Food Scraps | 4 | 28 | 5 |
| Food Scraps | 5 | 15 | 5 |
| Mixed Waste Processing | 2 | 4 | 2 |

**Table 11. Average Single-Family Solid Waste Rates by Region (Bundled)**

| Container Size | Region 1: Northern CA | Region 2: Bay Area | Region 3: Central CA | Region 4: Southern California | Statewide Average |
|---|---|---|---|---|---|
| 20 Gallon | $19.63 | $24.26 | $26.70 | | $24.21 |
| 30-35 Gallon | $21.75 | $30.46 | $25.35 | $19.38 | $25.74 |
| 60-65 Gallon | $30.71 | $49.62 | $32.57 | $24.94 | $38.09 |
| 90-96 Gallon | $37.35 | $68.45 | $42.56 | $27.63 | $47.67 |

**Table 12. Average Single-Family Garbage Rates by Region (Unbundled)**

| Container Size | Region 1: Northern CA | Region 2: Bay Area | Region 3: Central CA | Region 4: Southern California | Statewide Average |
|---|---|---|---|---|---|
| 20 Gallon | $19.78 | $21.98 | | | $20.66 |
| 30-35 Gallon | $21.26 | $24.99 | $27.63 | | $23.69 |
| 60-65 Gallon | $30.64 | $30.53 | $28.47 | | $30.08 |
| 90-96 Gallon | $40.52 | $40.22 | $30.72 | $21.23 | $36.60 |

**Table 13. Statewide Average Single-Family Solid Waste Collection Rates**

| Container Size | Bundled | Not Bundled |
|---|---|---|
| 20 Gallon | $24.21 | $20.66 |
| 30-35 Gallon | $25.74 | $23.69 |
| 60-65 Gallon | $38.09 | $30.08 |
| 90-96 Gallon | $47.67 | $36.60 |

**Table 14. Average Commercial Collection Rates – 96-Gallon Collected 1x/Week**

| 90-96 Gallon | Region 1: Northern CA | Region 2: Bay Area | Region 3: Central CA | Region 4: Southern CA | Statewide Average |
|---|---|---|---|---|---|
| Food Scraps | | $77.13 | $38.03 | $76.36 | $61.80 |
| Garbage | $45.60 | $79.91 | $52.02 | $38.58 | $60.88 |
| Mixed Organics | $49.67 | $60.59 | $19.08 | $52.71 | $52.15 |
| Recycling | $18.11 | $34.73 | $9.92 | $24.86 | $23.66 |

**Table 15. Average Commercial Collection Rates – 1-CY Collected 1x/Week**

| 1-CY 1x/week | Region 1: Northern CA | Region 2: Bay Area | Region 3: Central CA | Region 4: Southern CA | Statewide Average |
|---|---|---|---|---|---|
| Food Scraps | | $121.67 | $88.04 | $190.81 | $113.87 |
| Garbage | $89.70 | $154.56 | $106.30 | $92.29 | $126.06 |
| Mixed Organics | $79.59 | $119.83 | $37.34 | $102.04 | $111.18 |
| Recycling | $57.47 | $71.37 | $34.60 | $49.23 | $53.03 |

**Table 16. Average Commercial Collection Rates – 2-CY Collected 1x/Week**

| 2-CY 1x/week | Region 1: Northern CA | Region 2: Bay Area | Region 3: Central CA | Region 4: Southern CA | Statewide Average |
|---|---|---|---|---|---|
| Food Scraps | | $229.42 | $137.63 | $182.23 | $187.01 |
| Garbage | $156.09 | $267.97 | $169.21 | $115.81 | $191.09 |
| Mixed Organics | $111.25 | $209.23 | $87.38 | $138.27 | $170.42 |
| Recycling | $86.62 | $144.74 | $65.82 | $69.85 | $89.02 |

**Table 17. Average Commercial Collection Rates – 3-CY Collected 1x/Week**

| 3-CY 1x/week | Region 1: Northern CA | Region 2: Bay Area | Region 3: Central CA | Region 4: Southern CA | Statewide Average |
|---|---|---|---|---|---|
| Food Scraps | | $308.56 | $127.58 | $130.70 | $233.51 |
| Garbage | $202.50 | $370.08 | $217.28 | $142.87 | $246.09 |
| Mixed Organics | $182.77 | $291.76 | $125.39 | $168.47 | $213.79 |
| Recycling | $127.53 | $174.83 | $76.64 | $85.91 | $103.37 |

**Table 18. Average Commercial Collection Rates – 4-CY Collected 1x/Week**

| 4-CY 1x/week | Region 1: Northern CA | Region 2: Bay Area | Region 3: Central CA | Region 4: Southern CA | Statewide Average |
|---|---|---|---|---|---|
| Food Scraps | | $407.06 | $170.10 | $125.74 | $293.54 |
| Garbage | $258.14 | $459.87 | $273.50 | $178.84 | $317.91 |
| Mixed Organics | $156.01 | $362.38 | $164.14 | $158.42 | $273.33 |
| Recycling | $168.30 | $251.15 | $96.91 | $92.97 | $149.50 |

**Table 19. Statewide Average Commercial Collection Rates**

| Statewide Average Commercial | 90-96 Gallon | 1-CY 1x/week | 2-CY 1x/week | 3-CY 1x/week | 4-CY 1x/week |
|---|---|---|---|---|---|
| Food Scraps | $61.80 | $113.87 | $187.01 | $233.51 | $293.54 |
| Garbage | $60.88 | $126.06 | $191.09 | $246.09 | $317.91 |
| Mixed Organics | $52.15 | $111.18 | $170.42 | $213.79 | $273.33 |
| Recycling | $23.66 | $53.03 | $89.02 | $103.37 | $149.50 |

**Table 20. Average Multi-Family Collection Rates – 96-Gallon Collected 1x/Week**

| 90-96 Gallon | Region 1: Northern CA | Region 2: Bay Area | Region 3: Central CA | Region 4: Southern CA | Statewide Average |
|---|---|---|---|---|---|
| Food Scraps | | $64.00 | | $24.14 | $44.07 |
| Garbage | $61.80 | $76.71 | $45.32 | $38.36 | $61.43 |
| Mixed Organics | $23.14 | $55.01 | $36.28 | $18.85 | $41.58 |
| Recycling | $41.46 | $29.45 | $9.66 | $21.62 | $21.57 |

**Table 21. Average Multi-Family Collection Rates – 1-CY Collected 1x/Week**

| 1-CY 1x/week | Region 1: Northern CA | Region 2: Bay Area | Region 3: Central CA | Region 4: Southern CA | Statewide Average |
|---|---|---|---|---|---|
| Food Scraps | | $89.19 | | | $89.19 |
| Garbage | $152.62 | $181.28 | $139.63 | $67.59 | $161.61 |
| Mixed Organics | | $124.81 | $92.39 | $85.46 | $112.14 |
| Recycling | | $69.21 | $20.38 | $45.09 | $46.60 |

**Table 22. Average Multi-Family Collection Rates – 2-CY Collected 1x/Week**

| 2-CY 1x/week | Region 1: Northern CA | Region 2: Bay Area | Region 3: Central CA | Region 4: Southern CA | Statewide Average |
|---|---|---|---|---|---|
| Food Scraps | | $218.99 | $74.72 | $84.97 | $115.91 |
| Garbage | $236.74 | $315.48 | $198.77 | $103.55 | $228.41 |
| Mixed Organics | | $224.30 | $155.64 | $120.59 | $172.02 |
| Recycling | | $137.01 | $51.77 | $68.81 | $84.55 |

**Table 23. Average Multi-Family Collection Rates – 3-CY Collected 1x/Week**

| 3-CY 1x/week | Region 1: Northern CA | Region 2: Bay Area | Region 3: Central CA | Region 4: Southern CA | Statewide Average |
|---|---|---|---|---|---|
| Food Scraps | | $260.15 | $112.07 | $98.49 | $146.62 |
| Garbage | $310.45 | $411.63 | $265.31 | $144.70 | $268.46 |
| Mixed Organics | | $328.33 | $222.06 | $135.19 | $204.85 |
| Recycling | | $184.99 | $73.13 | $94.73 | $107.38 |

**Table 24. Average Multi-Family Collection Rates – 4-CY Collected 1x/Week**

| 4-CY 1x/week | Region 1: Northern CA | Region 2: Bay Area | Region 3: Central CA | Region 4: Southern CA | Statewide Average |
|---|---|---|---|---|---|
| Food Scraps | | $437.93 | $149.43 | $81.71 | $166.50 |
| Garbage | $391.47 | $525.58 | $354.88 | $175.88 | $354.09 |
| Mixed Organics | | $411.53 | $270.71 | $138.61 | $293.32 |
| Recycling | | $248.59 | $98.97 | $126.29 | $155.54 |

**Table 25. Statewide Average for Multi-Family Customers**

| Statewide Average Multi-Family | 90-96 Gallon | 1-CY 1x/week | 2-CY 1x/week | 3-CY 1x/week | 4-CY 1x/week |
|---|---|---|---|---|---|
| Food Scraps | $44.07 | $89.19 | $115.91 | $146.62 | $166.50 |
| Garbage | $61.43 | $161.61 | $228.41 | $268.46 | $354.09 |
| Mixed Organics | $41.58 | $112.14 | $172.02 | $204.85 | $293.32 |
| Recycling | $21.57 | $46.60 | $84.55 | $107.38 | $155.54 |

# Source Reference Notes

*1* Ascent Environmental, Inc., Integrated Waste Management Consulting, LLC, *Draft Environmental Impact Report: SB 1383 Regulations Short-Lived Climate Pollutants: Organic Waste Methane Emission Reduction,* California, CalRecycle, 2019, page 12*, at https://www.calrecycle.ca.gov/docs/cr/laws/rulemaking/slcp/sb1383eir.pdf*

*2* Ascent Environmental, Inc., Integrated Waste Management Consulting, LLC, *Draft Environmental Impact Report: SB 1383 Regulations Short-Lived Climate Pollutants: Organic Waste Methane Emission Reduction,* California, CalRecycle, 2019, page 12*, at https://www.calrecycle.ca.gov/docs/cr/laws/rulemaking/slcp/sb1383eir.pdf*

*3* CalRecycle, CA.gov, *Short-Lived Climate Pollutants (SLCP): Organic Waste Methane Emissions Reductions,* Oct. 2, 2019, *https://www.calrecycle.ca.gov/Laws/Rulemaking/SLCP/, (Oct. 3, 2019).*

*4* CalRecycle, CA.gov, *Short-Lived Climate Pollutants (SLCP): Organic Waste Methane Emissions Reductions,* Oct. 2, 2019, *https://www.calrecycle.ca.gov/Laws/Rulemaking/SLCP/, (Oct. 3, 2019).*

*5* Ascent Environmental, Inc., Integrated Waste Management Consulting, LLC, *Draft Environmental Impact Report: SB 1383 Regulations Short-Lived Climate Pollutants: Organic Waste Methane Emission Reduction,* California, CalRecycle, 2019, page 12*, at https://www.calrecycle.ca.gov/docs/cr/laws/rulemaking/slcp/sb1383eir.pdf*