



CONSULTING GROUP, INC.

RESOURCES • RESPECT • RESPONSIBILITY

FINAL REPORT

Zero Waste Implementation Plan Update



SUBMITTED TO:

City of Alameda

July 30, 2018

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July 30, 2018

Mr. Liam Garland
Director of Public Works
City of Alameda, Public Works
950 W. Mall Square #110
Alameda, CA 94501

Subject: Final Report for Zero Waste Implementation Plan Update

Dear Mr. Garland:

R3 Consulting Group, Inc. (R3) is pleased to submit the attached final draft of the Zero Waste Implementation Plan Update (ZWIP Update) report for the City of Alameda (City). As an Update, this report is not a new zero waste plan for Alameda; rather, it uses a data-driven approach to gauge progress towards Alameda's goal and prioritize strategies for further high diversion achievement. To assist the City in evaluating the attainment its 2020 zero waste goal, R3 has evaluated Alameda's solid waste policies and programs, as well as its records of disposal, and diversion from landfill.

Together, the City, community and Alameda County Industries (ACI) have made steady progress in implementing waste diversion recommendations from the ZWIP, which has helped Alameda achieve increasing levels of diversion in recent years. Alameda exceeded its 75% interim diversion target, and currently maintains a high diversion rate of 79%. This progress places Alameda in the forefront of cities in Alameda County working to reduce landfill disposal, and nationally is helping to blaze the trail towards zero waste.

However, despite its success, R3 projects that Alameda will fall short of its 2020 goal of achieving 89% waste diversion from landfill disposal. If historic trends in population growth and waste reduction continue, Alameda is forecasted to achieve 83% waste diversion by 2020. As such, a revised zero waste goal date is recommended for adoption: achieve 1.2 pounds per person per day of waste disposed in landfill by 2022. 1.2 pounds per person per day (PPD) is the equivalent, and basis, of Alameda's 2020 89% diversion goal. Setting 2022 as the revised target date is both ambitious and achievable if the community can increase and maintain very high participation in diversion programs and all recommended strategies are fully implemented.

On July 10, 2018 the City Council was presented with these findings and recommendations from the Zero Waste Implementation Plan Update. After due consideration of R3's projections, the City Council decided to keep the 2020 goal date.

R3 performed a detailed analysis of Alameda's diversion and disposal since implementation of the ZWIP starting in 2011, and found that multi-family and commercial waste generators have the greatest opportunity to reduce waste sent to landfill. Industrial waste generators and debris box waste also provide

important opportunities for diversion. As such, helping these waste generators achieve higher levels of source reduction and diversion from landfill disposal is a focus for this ZWIP Update in addition to supporting the continued spread of zero waste culture in Alameda.

The original ZWIP contains many strategies to help guide the Alameda community in reaching its zero waste goal, and its implementation should be continued. As described in the ZWIP, zero waste is a philosophy and design framework that promotes not only reuse, recycling, and conservation programs, but also, and more importantly, emphasizes sustainability by considering the entire life-cycle of products, processes, and systems. Accordingly, the ZWIP was intended as the start of a long-term systematic effort to 1) reduce the overall solid waste generated within the city, 2) reduce the quantity of solid waste generated per person within the city, 3) increase the quantity of recyclable and compostable materials diverted from landfills, and 4) support state and federal efforts to build the environmental and social costs in the price of products and packaging and require manufacturers to take back products at the end of their useful life.

To assist the City in reaching higher levels of diversion, R3 has developed a recommended set of zero waste strategies with high potential to divert waste from landfill via maximization of source-separation diversion programs through 2022, and beyond. Strategies were selected to maximize diversion within a short timeframe, and in response to community feedback emphasizing the importance of zero waste culture and source separation. These priority zero waste strategies are as follows:

- 1) Support Zero Waste Culture in Alameda: This strategy enhances and celebrates Alameda's growing zero waste culture through several actions that recognize the shared responsibility for each individual to reduce and divert waste from landfill disposal.
- 2) Conduct Targeted Technical Assistance with Commercial and Multi-Family Sectors: Alameda's commercial and multi-family waste generators have the greatest opportunity to reduce waste sent to landfill and helping them to achieve higher levels of waste diversion could significantly reduce Alameda's landfill disposal.
- 3) Create a Food Recovery Program and Enhance Organics Management: food waste and other organic materials represent over 20% of waste sent to landfill and increasingly strict state requirements regarding its disposal make this strategy important for Alameda's zero waste achievement.
- 4) Update Alameda's Construction and Demolition Debris Recycling Ordinance and Conduct Outreach: building projects produce large amounts of waste that often ends up in a landfill despite its potential to be reused or recycled, underscoring the need to increase materials recovery.
- 5) Expand High Diversion Franchise Agreement: ACI is a great asset and partner in working with Alameda to achieve its zero waste goal, and as such updating the franchise agreement to support zero waste initiatives and build on that partnership will be important moving forward.

The ZWIP Update seeks to help the community reach zero waste through an enhanced set of policies and programs that support Alameda's growing zero waste culture. Contractor time, ACI's partnership, and Community Action for a Sustainable Alameda (CASA)'s community engagement will be necessary to lead or support these zero waste strategy efforts. If the City were to fund Strategies 1-5 through the rate base, Alameda's solid waste rates would need to increase by approximately 4% in order to cover the average annual cost of implementation—not including robust and sustained volunteer and community action. For single-family customers with a 20-gallon garbage cart, which is a common cart size for Alameda residents, this would be an additional \$0.92 per month.

Full implementation of recommended strategies and continued ZWIP implementation is estimated to result in approximately 15,600 tons of additional diversion per year, which is the amount Alameda needs to reduce its landfill disposal by in order to meet its goal (down from approximately 33,600 tons disposed in 2016). Using 2016 population and disposal figures as a baseline, R3 estimates full implementation would result in a change of 2.3 PPD to 1.2 PPD. Furthermore, the impact on ACI's franchised diversion is an estimated increase from 49% to over 80%, excluding C&D and mixed waste processing recovery. Additional waste reduction efforts would further reduce Alameda's PPD and landfill disposal.

Implementation of recommended zero waste strategies is projected over a 5-year timeline to help focus efforts in the near-term and divert the most tons from landfill disposal leading up to 2022. The ZWIP also includes discussion of mixed waste processing, a strategy in the ZWIP which could also be further reviewed during this planning period for potential implementation after 2022 if the City determines it is needed to further progress towards the community's goal of zero waste. The City's franchise agreement terminates in 2022, and this pivotal year should be used to evaluate and measure goal achievement, as well as reassess conditions and strategies as needed.

* * * * *

We appreciate the opportunity to submit our ZWIP Update revised draft report. Should you have any questions, or need any additional information, please contact me by phone at (510) 292-0853 or by email at gschultz@r3cgi.com.

Sincerely,

R3 CONSULTING GROUP

A handwritten signature in blue ink, reading "Garth Schultz".

Garth Schultz | Principal

R3 CONSULTING GROUP

A handwritten signature in blue ink, reading "Emily Ginsburg".

Emily Ginsburg | Senior Project Analyst

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B	Recommended Strategy Additional Diversion Potential
C	Implementation Timeline and Estimated Costs
D	Community Planning Process Input Received

SECTION 1 EXECUTIVE SUMMARY

A leader in sustainability, the City of Alameda (City) adopted its Zero Waste Implementation Plan (ZWIP) in October 2010. The ZWIP provided a set of recommendations and guidance for the City to achieve its goal of zero waste: 89% diversion by 2020. It also established an interim diversion target of 75%.

The ZWIP was intended as the start of a long-term systematic effort to 1) reduce the overall solid waste generated within the city, 2) reduce the quantity of solid waste generated per person within the city, 3) increase the quantity of recyclable and compostable materials diverted from landfills, and 4) support state and federal efforts to build the environmental and social costs in the price of products and packaging and require manufacturers to take back products at the end of their useful lives. These goals remain in effect to help guide Alameda on its path to zero waste, and implementation of the policies and programs detailed in the ZWIP should be continued to help the community achieve them.

The Alameda community exceeded its 75% interim diversion target, and currently maintains a high diversion rate of 79%. This progress places Alameda in the forefront of cities in Alameda County working to reduce landfill disposal, and nationally is helping to blaze the trail towards zero waste. To help the community reach its goal, the City will focus on providing targeted technical assistance to the largest waste generators, enhancing construction and demolition debris recycling requirements, and supporting Alameda's growing zero waste culture. Exploring the collection of edible food for redistribution to those in need, negotiating a high diversion franchise agreement, and greater processing of Alameda's waste stream, are also under consideration to help Alameda reduce its landfilled waste.



Figure 1-1: Zero Waste Alameda Logo



Figure 1-2: Volunteer "Trash Talkers"

Alameda's zero waste goal is based on Alameda's per capita disposal rate to reflect the measurement of the amount of waste disposed in pounds (lbs.) into the landfill by each person per day (PPD). PPD as calculated by CalRecycle can be translated into a diversion rate equivalent: if Alameda were to reach 1.2 PPD, then the community will have achieved 89% per capita diversion. This is the primary means of measuring zero waste progress.

Section 1

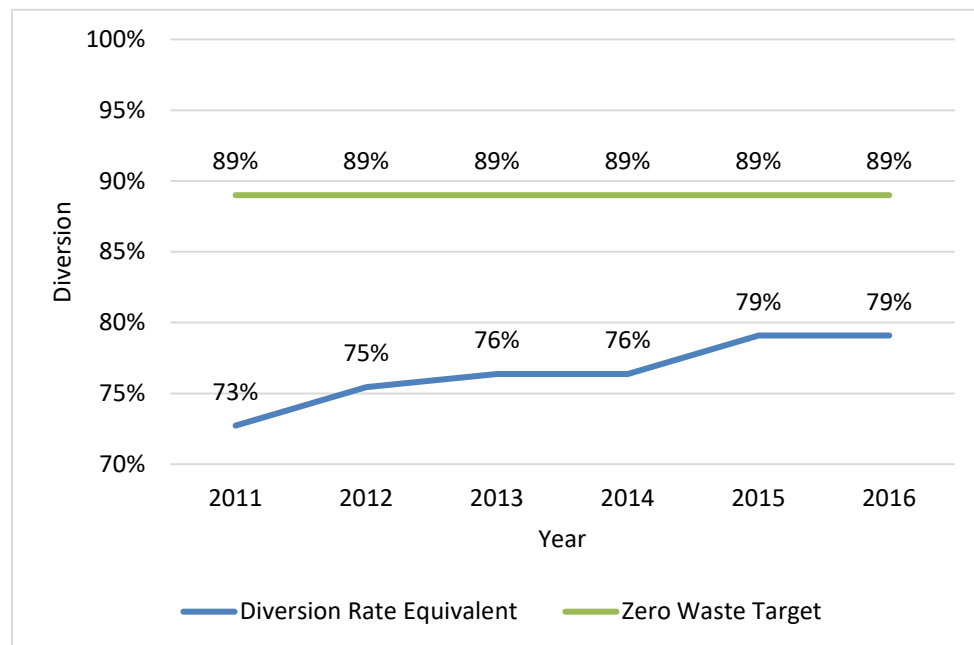
Executive
Summary

Background

The ZWIP's development was precipitated by the City's Local Action Plan for Climate Protection, which was accepted by the City Council in February 2008. The Local Action Plan included zero waste initiatives, including the development of a zero waste plan, as key strategies for reaching the City's goal to reduce the Citywide greenhouse gas emissions to 25 percent below 2005 levels by the year 2020.

The City has made significant progress towards reaching its zero waste goals, demonstrating a downward trend in pounds per person per day of waste disposed in landfills since the ZWIP's adoption, and the proud achievement of a high diversion rate (79%) as measured by CalRecycle in 2016. However, in recognition that the diversion of additional tons of solid waste from landfill disposal becomes more difficult as the City achieves higher diversion, it is prudent that the City update its ZWIP and assess progress towards its target of 89% per capita diversion by 2020.

Figure 1-3: Alameda PPD Diversion Rate Equivalent 2011 - 2016



Based on historic trends in disposal reduction and population growth, R3 forecasts Alameda's 2020 goal achievement and diversion of waste from landfill disposal falls short of the target by 6%. Therefore, R3 recommends setting a revised zero waste goal date: achieve 1.2 pounds per person per day of waste disposed in landfill by 2022. This will enable the community to increase its waste diversion and reach zero waste through an enhanced set of policies and programs, and allow time for greater culture change to occur. Zero waste represents a shift in mindset that reinforces waste reduction practices on an individual level, which propagate to become behavioral patterns that are reflected within the community.

Using the results of its analysis, R3 also recommends zero waste strategies to assist the City in achieving this revised zero waste goal and benchmarks, along with estimates of potential diversion, implementation costs and timeline, and other planning considerations.

This ZWIP Update report evaluates ZWIP implementation status to-date, and measures Alameda's diversion and disposal using multiple metrics to analyze trends in community

recycling and composting efforts, and overall changes in the City's waste stream. As an Update, this report is not a new zero waste plan for Alameda; rather, it uses a data-driven approach to gauge progress towards Alameda's goal and prioritize strategies for further high diversion achievement.

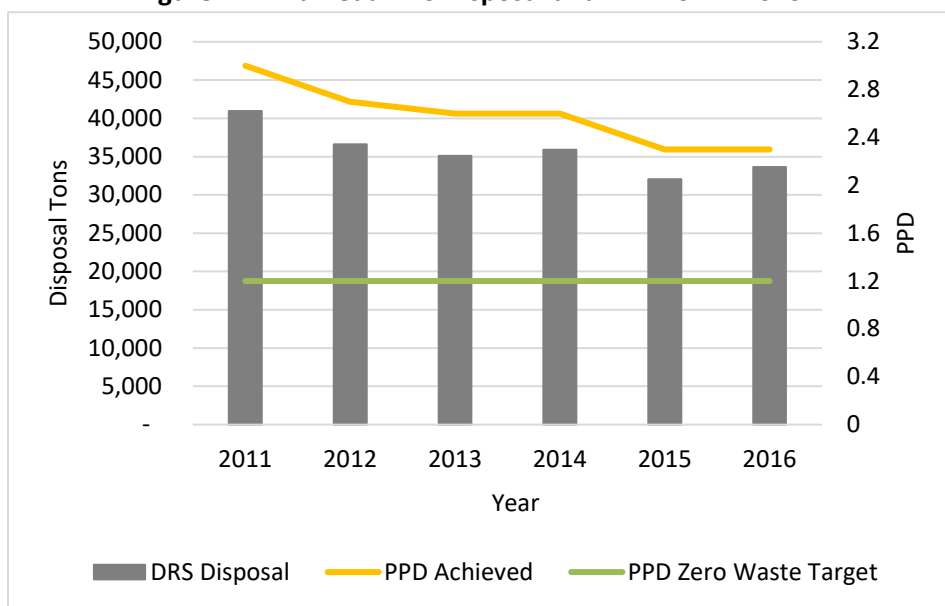
Zero Waste Implementation Plan Status

The City has made steady progress in implementing the 49 recommended actions described in the ZWIP. To-date, approximately 31 initiatives have been completed and several more are in progress. This represents approximately 75% of the ZWIP's completion to-date, and ongoing implementation efforts should be continued. Implementation status is summarized and discussed in Section 2 of this report. Please see Appendix A for a complete list of ZWIP recommended actions.

Alameda's diversion rate is comparable to other Bay Area jurisdictions, and the City has one of the highest single-family sector diversion rates in the region. However, it is important to note that there are no true comparisons, as each jurisdiction is unique and has a particular set of conditions that influence diversion of waste from landfill.

Based on annual reports the City provides to the state, CalRecycle tracks the City's progress in reducing landfill disposal, and the amount of garbage generated per person per day (PPD) in Alameda, to benchmark the success of City diversion programs. Encouragingly, Alameda's PPD has shown a downward trend from 3 PPD in 2011 to 2.3 PPD in 2016, a diversion rate equivalent change from 73% to 79%. Total landfill disposal has also decreased over time, from approximately 41,000 tons in 2011 to about 33,600 tons in 2016. Alameda's ZWIP target for achieving zero waste is 1.2 PPD.

Figure 1-4: Alameda DRS Disposal and PPD 2011 - 2016

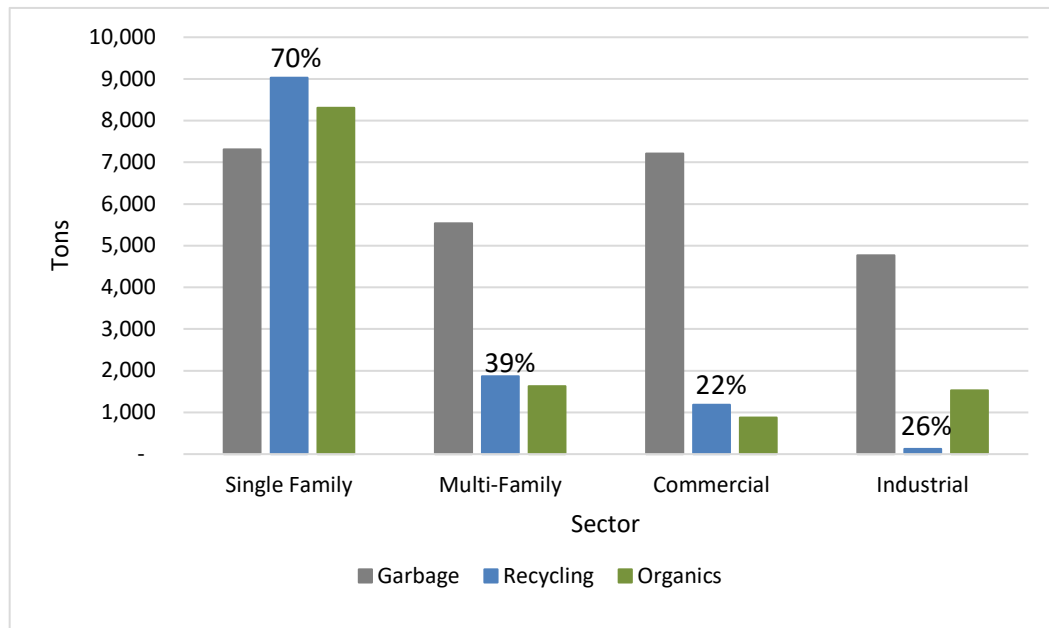


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Disposal and diversion success varies between Alameda's different waste generation sectors: single-family, multi-family, commercial and industrial. The following figure displays collected tonnages of each waste stream, allocated among these waste generation sectors.

Figure 1-5: 2016 Collected Waste Diversion Across Sectors



The single-family sector has the highest collected waste diversion rate of all waste generation sectors in Alameda, which speaks to residents' strong level of engagement and participation in recycling and composting programs. Successfully engaging multi-family residents, businesses, and industrial waste generators can be a challenge in any community. However, these sectors also represent the most potential to reduce waste sent to landfill, and focusing efforts to increase diversion in these sectors will help the City reach zero waste.

From 2010 to 2015, Alameda saw growth in the total number of jobs, businesses, and residents. This is reflected in the waste stream's total growth, and while waste reduction is preferred, it is very positive to see an increase in recycling and composting activity as disposal decreases in a growing community.

Revised Zero Waste Goal Achievement Date



Figure 1-6: Two-Stream Waste Collection Containers for Parks and Public Spaces

To help evaluate whether Alameda is on track to meet its zero waste goal of 89% per capita diversion by 2020, R3 forecast the City's future disposal and diversion based on historic trends in population growth and disposal reduction. In 2020, R3 estimates that Alameda will reach 83% diversion, a shortfall of 6% from its zero waste goal.

These PPD and diversion forecasts assume that the City will maintain the same average reductions in disposal over time. However, Alameda may not be able to sustain these

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Summary

trends should large shifts in the economy and broader consumption patterns occur which are outside of local jurisdiction control. For context, Alameda has one the of the lowest PPD metrics in the County: in 2016, Alamedans produced just 2.3 pounds per person per day of landfilled waste, which is less than 11 other Alameda County jurisdictions.

R3 recommends that the City adopt a revised zero waste goal: achieve 1.2 pounds per person per day of waste disposed in landfill by 2022. While the target PPD for zero waste is the same as in the ZWIP, the achievement date has been extended. Reaching zero waste by 2020 is unlikely due the difficulty of maximizing high participation in waste diversion programs in so short a time; new policies and programs take time to achieve their full additional diversion potential as implementation is refined and more people join the effort. Furthermore, PPD is a metric that can be understood and practiced on an individual level, connecting personal actions to Alameda's waste generation and creating awareness for zero waste culture change.

Table 1-1: Forecast 2020 Alameda Diversion and Disposal

Metric	CalRecycle Disposal Reporting System						Est.	Forecast			ZWIP Goal
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2020
Disposal	40,967	36,624	5,119	35,880	32,036	33,626	32,281	30,990	29,751	28,560	28,355
PPD	3	2.7	2.6	2.6	2.3	2.3	2.2	2.1	2.0	1.9	1.2
Diversion Eq.	73%	75%	76%	76%	79%	79%	80%	81%	82%	83%	89%

This revised goal is both ambitious and achievable, based on Alameda's waste stream composition, diversion performance, and recognizing that as the City approaches zero waste, each additional ton diverted from landfill becomes increasingly difficult to achieve. The revised goal and accompanying set of benchmarks are possible if the community increases and maintains its high participation in diversion programs, and strategies are fully implemented. Milestones and benchmarks leading up to 2022 are summarized below, and anticipate building on the City, ACI and the community's strong partnership each step of the way.

Table 1-2: Revised Zero Waste Goal Benchmarks and Milestones

Landfill Disposal and PPD	
▪	1.8 PPD and no more than 30,000 tons disposed by 2019
▪	1.4 PPD and no more than 25,000 tons disposed by 2020
▪	1.2 PPD and no more than 20,000 tons disposed by 2022
Franchised Hauler Collected Waste Diversion	
▪	60% diversion of waste collected by the franchised hauler by 2019
▪	65% diversion of waste collected by the franchised hauler by 2020
▪	70% diversion of waste collected by the franchised hauler by 2022

On July 10, 2018 the City Council was presented with these findings and recommendations from the Zero Waste Implementation Plan Update. After due consideration of R3's projections, the City Council decided to keep the 2020 goal date.

R3

Section 1

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Summary

Community Engagement

The City and Community Action for a Sustainable Alameda (CASA) sponsored a workshop on Thursday, October 5, 2017 to brainstorm next steps for updating the City's Local Action Plan for Climate Protection. This workshop featured a breakout session to invite community input on potential zero waste strategies for inclusion in the ZWIP Update, which will assist Alameda in reducing its greenhouse gas emissions by reducing the amount of waste sent to landfill disposal.

Community members expressed interest in anaerobic digestion, environmentally preferable purchasing practices and reuse, extended producer responsibility, exploring the potential for siting a recycling center in Alameda modeled after the El Cerrito Recycling and Environmental Resource Center, and utilizing mixed waste processing as a last resort.

A second public workshop was held on November 2, 2017 to present community zero waste achievement progress to-date and invite further public participation. Community discussion and comments included benchmarking City waste diversion, interest in waste diversion programs in Alameda schools, technical assistance for businesses, potential culture change initiatives and individual actions to drive change, and support for greater outreach.



**Figure 1-7: ZWIP Update
Community Workshop**

Alameda's diversion rate is comparable to other Bay Area jurisdictions, and the City has one of the highest single-family sector diversion rates in the region. However, it is important to note that there are no true comparisons, as each jurisdiction is unique and has a particular set of conditions that influence diversion of waste from landfill.

An additional workshop was held on March 1, 2018 to invite greater community input on the ZWIP Update. City staff, ACI and CASA also contributed to the development of this ZWIP Update through interviews and meetings held throughout the planning process.

Recommended Zero Waste Strategies

The ZWIP contains many strategies to help guide the Alameda community in reaching its zero waste goal. Further implementation of the ZWIP holds greater diversion potential yet to be gained, primarily from greater community participation as programs mature, and should be continued.

However, the City's prioritization and enhancement of select ZWIP strategies, and adoption of new recommended zero waste strategies, will assist the community in making greater progress towards zero waste in the years leading up to 2020, and beyond. Recommended zero waste strategies, and annual additional potential diversion, are summarized in the following table, and are further detailed Appendix B and in Section 5 of this report. These strategies address disposal reduction both for franchised garbage collected by ACI (75% of disposal), and non-franchised garbage (25% of disposal) self-hauled to landfills by Alameda residents and businesses.

Table 1-3: Annual Additional Diversion Potential

Zero Waste Strategy Recommendation	Annual Additional Potential Diversion Tons					
	Single-Family	Multi-Family	Commercial	Industrial	C&D Debris	Total (All Sectors)
1) Support Zero Waste Culture in Alameda	1,080	490	840	570	1,060	4,040
2) Conduct Targeted Technical Assistance with Commercial and Multi-Family		1,800	2,640	1,880		6,320
3) Create a Food Recovery Program and Enhance Organics Management	390	200	280	190		1,060
4) Update C&D Ordinance and Conduct Outreach					3,060	3,060
5) Expand High Diversion Franchise Agreement	350	230	340	230		1,150
TOTAL	1,820	2,720	4,100	2,870	4,120	15,630

Full implementation of all strategies in Table 1-3 is estimated to result in over 15,000 tons of additional diversion per year. To estimate and isolate the potential impacts this would have on Alameda's PPD, using 2016 population and disposal figures, R3 estimates full implementation could result in a change of 2.3 PPD to 1.2 PPD. Furthermore, the estimated impact on collected waste franchised diversion is a change from 49% to over 80%, excluding construction and demolition debris (C&D), and mixed waste processing recovery. Additional waste reduction efforts would further reduce Alameda's PPD and landfill disposal.

It is important to note that these estimates assume that the Alameda community increases and maintains higher levels of participation in waste diversion programs, and that the City begins implementation of these strategies as soon as possible to allow time for each to achieve its additional diversion potential. Estimates also assume that Alamedans take personal accountability for the community's achievement of zero waste, and high levels of community engagement create momentum to reach zero waste by 2022.

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Planning for Zero Waste



**Figure 1-8: Multi-family
Recycling Tote Bag**

In planning for recommended strategy implementation and supporting the community's achievement in zero waste, the City should consider the cost, timeline, and potential impacts on its related planning documents. The City's estimated costs for each recommended zero waste strategy and projected implementation over a 5-year planning horizon are detailed in Section 6 and Appendix C.

If the City were to fund Strategies 1-5 through the rate base, Alameda's solid waste rates would need to increase by approximately 4% in order to cover the average annual cost of implementation. For single-family customers with a 20-gallon garbage cart, which is a common cart size for Alameda residents, this would be an additional \$0.92 per month. For commercial customers, the additional dollar amount added per month would be \$5.88 per cubic yard of service.

To help reduce a rate increase to fund zero waste policies and programs, the City could use funds from the Department of Public Works Budget. As an estimate and guideline, each 1% rate increase represents approximately \$200,000 in funds.

Timing for the implementation of enhanced or new zero waste strategies is subject to the City's budget process, contract extensions with ACI or new contracts with another service provider, further collaboration with ZWIP stakeholders, and negotiations for additional materials processing and other solid waste services.

A strategy in the current ZWIP, mixed waste processing is also a potential option the City could implement to aid Alameda in reducing waste sent to landfill if recommended policies and programs, and expected community participation, fall short. However, it should be noted that whether mixed waste processing could begin within the 5-year time frame is uncertain since regional capacity is limited and new infrastructure to expand that capacity is still under development.

SECTION 2 ZERO WASTE ACHIEVEMENT 2011 -2017

The community of Alameda has made progress towards reaching its goal 89% per capita diversion of waste from landfill by 2020: in 2016, Alameda attained 79% diversion as measured by CalRecycle.¹ An increasing trend in the amount of materials Alameda recycled and composted, and reduction in waste sent to landfill, can be attributed to efforts to implement the ZWIP and to support waste reduction by the City, the franchised hauler, and community groups.



Figure 2-1: Alameda Show of Support for #strawsSUCK Campaign

In partnership with the community, the City successfully implemented several policies and programs that support zero waste outside of those prescribed in the original ZWIP. These efforts were undertaken in response to community interest and changing conditions, demonstrating Alameda's collaborative and holistic approach to managing its waste stream. The table below highlights key policies and programs undertaken to promote diversion and waste reduction since adopting the ZWIP in late 2010.

Table 2-1: Summary of Policies and Programs Since ZWIP Adoption

City of Alameda Policies and Programs Implemented Since Adoption of the Zero Waste Implementation Plan	
2011	
	- Alameda Theatre 3-stream sorting bins and theatre trailer
	- Lunch Monitors Assemblies in Alameda Unified School District (AUSD)
2012	
	- ACWMA Mandatory Recycling Ordinance --Commercial and Multifamily <i>Alameda fully opted in to phased ordinance</i> <i>Commercial technical outreach team engaged</i>
2013	
	- Clear Stream Event bins <i>Purchased and engaged for use at City events</i>
	- Illegal Hauling program enhanced <i>Began working closely with hauler to find illegal boxes and send letters</i>

¹ As measured by CalRecycle, Alameda had a diversion rate of 73% in 2011.

Section 2

Zero Waste
Achievement
2011 - 2017

City of Alameda Policies and Programs Implemented Since Adoption of the Zero Waste Implementation Plan	
- Began Transforming City Departments into Green Businesses (2013-2017) <i>All but one City department has been certified</i>	
- Green Team re-engaged for Local Action Plan for Climate Protection <i>Council requested update</i>	
- ACWMA Reusable Bag Ordinance	
2014	
- CalRecycle Grant - 50 2-stream (Recycling/Organics) containers to be installed in busy areas of Alameda (2014-2016) <i>Installed in parks and business districts</i>	
- Phase 2 ACWMA Mandatory Recycling Ordinance, Organics -- Commercial and Multifamily	
- Illegal Dumping program enhanced <i>Established inter-departmental task force and collaborated with ACI to clean up, identify and map illegal dumping hot spots. Multi-family property outreach for bulky item pickup.</i>	
2015	
- Automated conditions placed on building permits valued at over \$100,000, inspectors will not close without C&D report	
- Green Halo fully engaged	
- Used Oil Outreach Campaign - Don't SpOIL Alameda	
2016	
- CalRecycle Recycling/Organics containers fully installed	
2017	
- Meetings with Alameda Kitchen/Food Shift regarding food rescue	
- Earth Day outreach regarding food rescue	
- CALGreen's 65% recycling requirement fully implemented on conditioned projects	
- 3rd Party Certification of C&D Mixed Recycling Processors Required	
- Rewrite of EPPP in final stages	
- ReThink Disposable: Unpackaging Alameda	
- Considering Big Belly compactors in popular parks	

Zero Waste Implementation Plan Status

Working together, the City, ACI and community have made steady progress in implementing the 49 recommended actions described in the ZWIP. To-date, 31 initiatives have been completed and several more are in progress. This represents approximately 75% of the ZWIP's

completion to-date, and ongoing implementation efforts should be continued. Please see Appendix A for details.

Recommendations include efforts to increase the types of materials allowed in recycling and composting carts, social marketing, commercial technical assistance, and residual waste processing. A summary is provided in the table below, and implementation status is discussed by initiative type in the following sections.

Table 2-2: ZWIP Implementation Status Summary

ZWIP Recommendation	Status
Add New Materials to Blue and Green Carts: Expand the collection and marketing of recoverable materials.	<u>Planned</u> – The City and Alameda County Industries (ACI, the City’s solid waste hauler) have discussed the addition of new materials; no new materials accepted in blue and green carts to-date. Implementation efforts should continue.
Social Marketing: Conduct social marketing to encourage behavior change and promote zero waste in Alameda.	<u>Implemented and Ongoing</u> – Outreach materials and public service announcements have been developed and distributed; opportunity to enhance efforts through social media. Implementation efforts should continue.
City Facility Zero Waste: Provide leadership in modeling zero waste practices at City facilities.	<u>Implemented and Ongoing</u> – In 2016, City facilities collectively achieved 61% diversion and almost all City Departments are Green Businesses. The City recently updated its Environmentally Preferable Purchasing Policy, which includes guidelines for purchasing compostable and reusable products in alignment with the new disposable food ware ordinance. Implementation efforts should continue.
Alameda Green Schools Challenge: Provide outreach and technical assistance to schools as requested, and attend quarterly meetings.	<u>Implemented and Ongoing</u> – Alameda Unified School District (AUSD) received a 3-year grant in to fund new recycling and composting programs; AUSD and Community Action for a Sustainable Alameda (CASA) led efforts to improve school diversion, and further opportunities exist to collaborate with schools to reduce waste. Opportunities to re-engage schools should be considered and acted upon by the City and CASA.

Section 2

Zero Waste Achievement 2011 - 2017

R3

Section 2

Zero Waste Achievement 2011 - 2017

ZWIP Recommendation	Status
Extended Producer Responsibility: Promote shared responsibility for managing waste and collaborate with product manufacturers.	<u>Implemented and Ongoing</u> – The City Council adopted a resolution to support product stewardship, continues to monitor and support CPSC and the League of California Cities on waste stream related issues. Recommended actions are being implemented and should be continued.
Commercial Technical Assistance: Engage the business community in zero waste achievement through education and targeted technical assistance.	<u>Implemented and Ongoing</u> – The City collaborates with StopWaste (a countywide public agency which handles solid waste matters), ACI, and CASA to identify specific businesses in need of technical assistance and has focused efforts on those without services. Greater levels of targeted technical assistance should be prioritized.
Ordinance Changes and Implementation: Develop and implement commercial and multi-family mandatory recycling ordinance.	<u>Implemented and Ongoing</u> – StopWaste developed a Mandatory Recycling Ordinance; the City has fully opted in and supports its implementation. The City also adopted StopWaste’s single-use bag ban, and recently updated its food ware ordinance. Implementation efforts should continue.
Residual Waste Processing: Process garbage with a high content of recyclables or compostables to divert these materials from landfill as a last resort.	<u>Planned</u> – The City and ACI have discussed processing garbage to divert more recoverable materials from landfill; this strategy has potential to divert large amounts of recyclable and compostable materials from landfill, in tandem with public outreach efforts that promote recycling and as a last resort. Implementation efforts should continue.

Add New Materials to Blue and Green Carts

This set of implementation items focuses on expanding the franchised hauler’s collection and marketing of materials not currently included in Alameda’s recycling and composting program. The City and ACI have discussed allowing more potentially recoverable materials (e.g., textiles) to be placed in the blue and green carts.

To-date, no additional materials have been added to the list of those accepted for recycling and composting; however, the



Figure 2-2 CalRecycle Grant for Two-Stream Containers in Parks

list of currently allowed materials is similar to local programs and sufficiently extensive to support high diversion overall. Efforts to re-evaluate marketable materials that can be collected through the curbside collection program or other means should be continued to capture more recoverable items. ACI reports it has plans to add a new bunker at its Materials Recovery Facility for diverting rigid plastics as part of a facility upgrade initiative.

Each additional material added to the green or blue cart will come at an additional cost to process and market. This is particularly true for recyclables: after China's National Sword, an international policy which bans the import of 22 waste materials, went into effect recycling facility operators have struggled to find alternative outlets for currently accepted recyclables.

Social Marketing

Several ZWIP social marketing initiatives were begun in 2011 through the combined efforts of the City, ACI, CASA, business groups, school groups, and contracted assistance support. These include the creation of a marketing plan, development of outreach materials for social marketing, and public service announcements such as the pre-movie messages at the Alameda Cineplex. In 2012 a green restaurant list was also developed, which was made available by the Miss Alameda Says Compost at the Earth Day Festival, and in 2013, a business recycling recognition awards event was held. However, these efforts have not been adequately sustained in recent years and should be revived and further enhanced through the use of social media (e.g., Facebook, Twitter, etc.) to connect with key waste generation groups.



Figure 2-3: Miss Alameda Says Compost!

City Facility Zero Waste

City leadership and modeling zero waste is an important motivator for the community to participate in waste diversion programs. ZWIP recommendations include increasing recycling and composting at City facilities, and reporting annually on their progress; strengthening the City's green purchasing policies; and considering adoption of the Precautionary Principle for City purchases.



Figure 2-4: Public Works Staff T-Shirt Totes

City facilities have recycling and composting collection services, and staff participate in diversion programs. In 2016, City facilities collectively achieved approximately 60% diversion, up from 40% diversion in 2010.² The Public Works department continues to provide technical assistance to City departments, providing waste assessments and help with implementing collection services, and managing battery collection at City facilities.

² City facility diversion estimated based on service level volumes for garbage, recycling, and organics.

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The City has also purchased Clear Stream event bins for use at City events, transformed almost all City Departments into Green Businesses,³ won a CalRecycle grant to install 50 two-stream (recycling and organics) containers in popular parks and business districts, and recently updated its environmentally preferable purchasing policy,⁴ which applies the Precautionary Principal to City purchases and includes guidelines for purchasing compostable and reusable products in alignment with the new disposable food ware ordinance. Efforts to improve, track and report City facility zero waste practices should be continued to provide leadership in sustainability, and inspire the Alameda community.

Alameda Green School Challenge

In 2009, the Alameda Unified School District (AUSD) received a three-year grant from the Altamont Education Advisory Board to implement new recycling and composting programs at all schools and district facilities. Schools piloting the program increased their diversion by 26% to 41%. New collection programs at AUSD schools were modeled on the City's residential collection program to provide continuity between recycling and composting practices at school and practices at home to reinforce both.

The City worked with ACI, Waste Management (the solid waste services provider for Alameda schools), and Miss Alameda to provide



Figure 2-5: Lunch Monitors Waste Sorting Game and Classroom Presentation



Figure 2-6: City Staff Teaching Students How to Reuse

outreach and education in schools. Together, these educators provided fun and informative learning opportunities for students through an interactive presentation and waste sorting game. As seen in Figure 2-5, “Lunch Monitors” Recycle (Waste Management), Compost (ACI), Landfill (Miss Alameda), led by MC Reuse (City staff), teach students which materials can be recycled and composted at school and at home, and how to minimize waste that goes to landfill. Students put what they learn into action by picking items out of a basket, and with encouragement from the MC and Lunch Monitors, practice proper sorting in a game to recycle and compost as much as they can. As the MC, City staff teach the importance of reuse and waste reduction as part of the presentation to help students remember “don’t fill the landfill!”

³ All but one City department has been certified to-date.

⁴ City staff are dedicated to modeling green practices, including the small daily actions that can contribute to waste generation. For example, Public Works staff forgo using disposable Keurig coffee K-Cups in favor of compostable options for making coffee.

In support the Alameda Green Schools Challenge, ZWIP recommendations include providing outreach and technical assistance to schools as requested, and City participation in quarterly meetings coordinated by CASA with AUSD facilities staff and other private and parochial schools. These efforts were led by AUSD staff and CASA, with support from the Public Works Department. Grant funds for this program have since been depleted, and new opportunities exist to re-engage schools in increasing waste diversion through increased coordination and technical assistance.



Figure 2-7: Community Action for a Sustainable Alameda

Extended Producer Responsibility

The responsibility for managing waste must be shared by the manufacturers who produce consumer products, and Alameda has taken action to support extended producer responsibility to reduce its landfill disposal. In 2013, the City Council adopted a resolution to support product stewardship and became a member of the California Product Stewardship Council (CPSC). The City continues to monitor and support CPSC and the League of California Cities on issues pertaining to integrated waste streams, and has initiated efforts to continue voluntary take-back with local retailers.

Commercial Technical Assistance

The ZWIP prescribes 12 actions for engaging commercial waste generators in zero waste achievement through education and outreach, stakeholder collaboration, and benchmarking progress. Working with StopWaste,⁵ ACI, and CASA, the City has participated in quarterly meetings to identify specific generators for technical assistance, shared information on priority generators, focused efforts on businesses without recycling and composting collection services, and implemented new commercial technical assistance tasks as they were developed. StopWaste's Mandatory Recycling Ordinance also applies to commercial technical assistance, and is discussed in the next section of this report.

⁵ StopWaste helps Alameda County's businesses, residents and schools waste less, recycle more and use water, energy and other resources efficiently. StopWaste is a public agency governed by the Alameda County Waste Management Authority, the Alameda County Source Reduction and Recycling Board, and the Energy Council.

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A goal of 75% diversion for the commercial sector has not been set, as is recommended in the ZWIP; however, progress in commercial waste diversion is monitored. Efforts to evaluate participation rates and continue recognition for businesses committed to recycling and composting should be revitalized, and greater levels of targeted technical assistance must be prioritized to increase commercial sector diversion.

Ordinance Changes and Implementation

The ZWIP recommended Alameda take steps to develop and implement its own commercial and multi-family mandatory recycling ordinance, in addition to working with StopWaste to implement new disposal bans and additional product bans. However, shortly thereafter, new state and local legislation brought about a change in course: in 2012, California's Mandatory Commercial Recycling Law, Assembly Bill 341, went into effect, and StopWaste developed its



Figure 2-9: Disposable Food Ware Ordinance Adoption

provision of straws to on-request. In addition to continued implementation of the StopWaste ordinance, the City should continue to research and develop product and disposal bans, or place limits to restrict product usage, as appropriate.

It should be noted that StopWaste conducts its own MRO enforcement, and has staff to conduct outreach, monitoring, and generate reports detailing non-compliant waste generators to share with participating cities and their franchised haulers. However, StopWaste's resources to conduct outreach and enforcement in Alameda are limited: of approximately 800 covered accounts identified by StopWaste half received inspections in FY 16/17, and only 11 site visits were conducted to provide technical assistance. Small commercial generators (<1 cubic yard/week garbage service) are not currently being inspected, and multi-family accounts are only inspected upon receipt of an official complaint from a tenant. Enforcement consists of a notification letter, a notice of violation, and citations (\$100 to \$150 for the first violation; citation amounts are increased for each subsequent violation received within 12 months).

Greater enforcement of MRO requirements may yield higher rates of compliance, and could potentially be conducted to further enhance and support the work of StopWaste. R3 estimates additional StopWaste MRO enforcement would cost \$120,000 per year (0.5 FTE).



Figure 2-8: StopWaste MRO Outreach

Mandatory Recycling Ordinance (MRO). As part of the City's AB 341 outreach, the Public Works department held three public meetings and sent educational materials to affected businesses and property owners. The City also chose to opt in to StopWaste's MRO and support its implementation, which is more stringent than state requirements for commercial and multi-family recycling (AB 341) and composting (AB 1826).

The City has also opted in to StopWaste's single-use bag ban, and has considered the implementation of new disposal bans. The City Council recently approved changes to the City's food ware ordinance, which requires that food vendors use compostable food ware and limit the

Residual Waste Processing

The City and ACI have discussed processing garbage to divert more recoverable materials from landfill. However, formal negotiations must take place to secure capacity at a local facility that conducts this type of waste processing. In 2015, Davis Street Transfer Station began to process dry waste from select Oakland commercial and multi-family accounts to divert recyclable materials, and is currently building an Organics Material Recycling Facility (OMRF) to recover organic materials from garbage loads with a high percentage of compostable materials. Other facilities in the region may also offer opportunities for Alameda to recover greater amounts of recyclable and compostable materials from garbage. To reach the ambitious goal of zero waste, residual or “mixed waste” processing will be an important strategy for increasing recovery of divertible materials.

Alameda Diversion and Disposal

To evaluate Alameda’s progress in reducing waste sent to landfill since adopting the ZWIP, R3 analyzed hauler reports of waste collected and diverted or disposed, subscription levels to solid waste services, and the State’s Disposal Reporting System data. Each method of measurement offers metrics for measuring Alameda’s progress towards achieving zero waste, and together create a holistic picture of the waste stream to inform the creation of new strategies that promote greater waste reduction, reuse, recycling, and composting. For community diversion performance benchmarking information and discussion, please see Table 2-4.

Collected Waste Diversion

Of all the waste collected in Alameda by ACI and permitted haulers, 54% is separated from garbage for recycling, composting, or C&D recycling by the City’s waste generators. Each source separated waste stream is weighed prior to being processed or disposed, and constitutes the “inbound” tonnage in Figure 2-10, and detailed in Table 2-3. Measuring diversion with inbound collected waste is a useful indicator of how well recycling, composting, and C&D recycling programs are being utilized, and how that usage changes over time. Since 2011, collected waste diversion has increased from 38% to 54% (16%) as of 2016. ACI reported 51% diversion for the tons it collected in 2016.

From 2010 to 2015, Alameda saw growth in the total number of jobs (from 19,872 to 23,876) and businesses (from 7,860 to 9,723). During that time Alameda’s population also increased by approximately 6,000 residents. This is reflected in the waste stream’s total growth, as shown in Table 2-3. While waste stream reduction is preferred, it is positive to see an increase in recycling and composting activity as disposal decreases in a growing community.

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Figure 2-10: Collected Waste Diversion and Disposal, 2011 – 2016

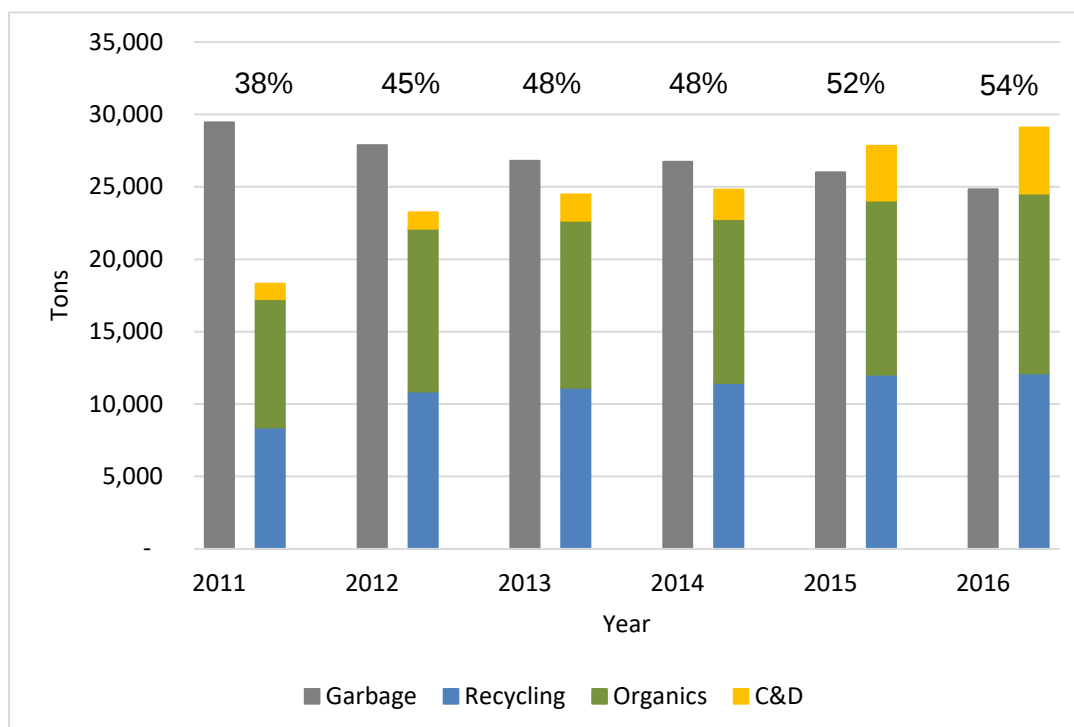


Table 2-3: Collected Waste Tonnage, 2011-2016

Waste Stream	2011	2012	2013	2014	2015	2016
Garbage	29,453	27,887	26,791	26,743	26,009	24,832
Recycling	8,386	10,857	11,126	11,460	12,030	12,133
Organics	8,861	11,266	11,535	11,305	12,039	12,406
C&D	1,073	1,107	1,812	2,037	3,779	4,549
Total Waste	47,773	51,117	51,263	51,546	53,857	53,919

- There has been a steady decline in the amount of garbage collected in Alameda over the last 5 years (3% per year). As of 2016, 46% of Alameda's collected waste stream was sent to landfill—down from 62% in 2011.
- Recycling has increased 45% from 2011-2016, and remains an important program for waste diversion. 23% of Alameda's collected waste was recycling in 2016.
- The collection of organic materials has increase 40% from 2011-2016. In 2012, organics and recycling collections increased 28%, the same year State law AB 341 Mandatory Commercial Recycling and StopWaste's MRO went into effect.
- C&D material collection amounts show the greatest waste stream volatility, and have increased substantially from 2011-2016 (an average of 37% per year).

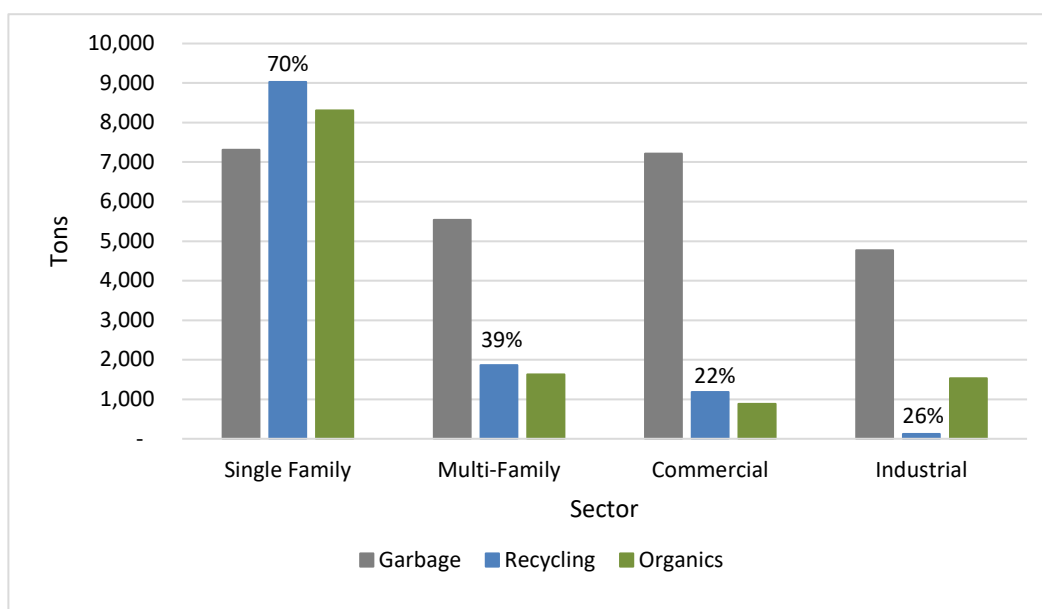
- Overall, the amount of waste the Alameda community has diverted from landfill has improved from 38% in 2011 to 54% in 2016. During that time total waste generated in Alameda has also grown by over 6,000 tons since 2011.

Diversion Across Waste Generation Sectors

Collected Waste Diversion

To better understand Alameda's disposal and diversion, and to recommend targeted strategies for the sectors identified as having greatest potential to divert more materials from landfill, R3 used hauler tonnage data to allocate waste among the City's waste generators. As seen in Figure 2-11, the amount of waste disposed, and diverted from landfill disposal, varies across the City's different waste generation sectors: single family, multi-family, commercial, and industrial.⁶

Figure 2-11: 2016 Collected Waste Diversion Across Sectors



Single-Family

Using the recycling and organics services provided by ACI, in 2016, residents of single-family homes diverted 17,337 tons of their total waste stream (24,648 tons) from landfill, representing 70% diversion before processing.⁷ This is the highest inbound diversion rate of all waste generation sectors in Alameda, and speaks to the strong participation and engagement of its single-family residents.

⁶ Commercial and multi-family tonnages are not tracked separately by waste haulers operating in Alameda. R3 allocated tonnages between these two sectors using subscription level volumes to estimate collected tons.

⁷ Some materials collected in recycling and compost carts cannot be diverted and go to landfill after processing.

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As measured in weekly subscription levels, residents of single-family homes also have the highest diversion service volumes: 85% of total collection container volume is either recycling or organics.⁸

Multi-Family

Successfully engaging multi-family residents in diversion programs can be a challenge in any community, and based on 2016 tonnage and subscription data, the same is true for Alameda. In 2016, approximately 3,498 tons of material was diverted from landfill by multi-family residents, which is 39% of the total waste generated by this sector (9,035 tons).

In terms of weekly subscription levels for garbage, recycling, and composting collection services, 63% of the collection container volume for multi-family residents is recycling or organics per ACI data.⁹ Greater utilization of existing recycling and composting programs by multi-family residents could meaningfully reduce the amount of waste sent to landfill by this sector, and help the City reach its zero waste goal.

Commercial

The commercial sector in Alameda has the greatest potential to increase its recycling and composting. The business community recycled and composted 2,061 tons (22%) of its total waste in 2016 (9,273 tons).

Weekly subscription to solid waste services by volume is 43% recycling and composting for the commercial sector, based on ACI data. Total subscription to recycling and composting is known to be slightly higher as other waste haulers do provide diversion services to commercial customers in Alameda. However, subscription data from City permitted waste haulers was not made available for this analysis. Greater participation in diversion programs from Alameda's businesses, potentially supported through targeted technical assistance to educate customers and right size containers, could assist the commercial sector in diverting substantially more materials from landfill.

Industrial

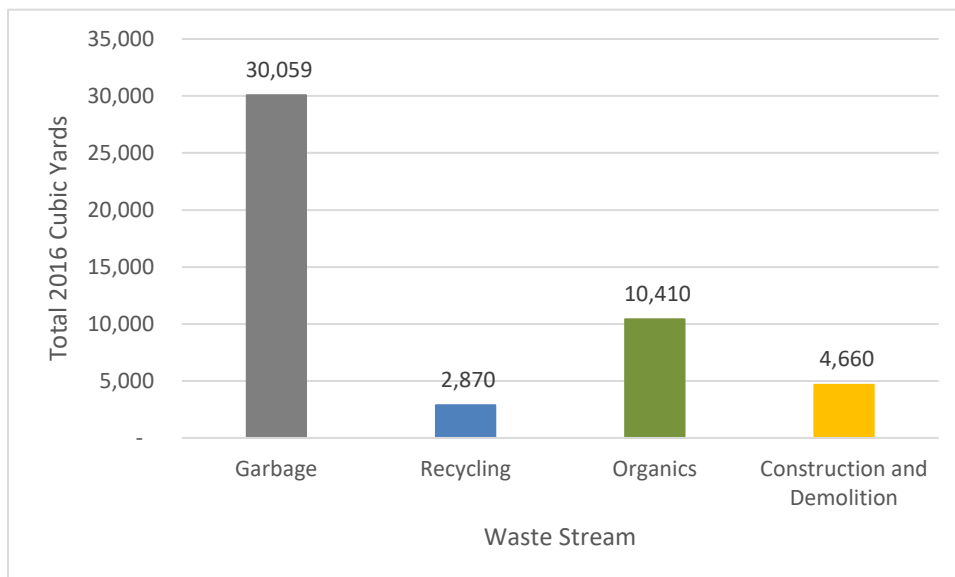
Measured in tons, debris box customers recycled and composted 1,657 tons, 26% of their total waste stream in 2016 (6,428 tons). Unlike carts and bins, debris boxes are serviced on an as-needed basis and waste haulers collect materials from these large containers (10 - 40 cubic yard capacity) upon request. In 2016, the industrial sector recycled or composted 37% of its waste volume.¹⁰ C&D materials are not included as industrial sector diversion; C&D diversion is discussed in the following section.

Based on Figure 2-12, the industrial sector appears undersubscribed to recycling and organics services. It should be noted that this figure shows cubic yards of waste materials collected per year, unlike subscription diversion for other sectors which is measured in cubic yards of waste materials collected per week.

⁸ Cart sizes utilized by single family residents for recycling and composting are not tracked in ACI's database. The most common size for recycling and composting carts is 96-gallons; for R3's subscription level analysis, 96-gallon recycling and composting carts were assumed for all single-family customers.

⁹ Multi-family accounts are billed for recycling and composting service by the number of rental units; cart sizes for multi-family residences are not tracked. For R3's subscription level analysis, 20-gallon carts for recycling and organics are assumed for each rental unit.

¹⁰ R3's analysis of industrial sector diversion includes City roll-off containers.

Figure 2-12: 2016 Debris Box Total Cubic Yards Collected

Construction and Demolition Debris

While C&D is a significant source of recoverable material and important for the City's zero waste achievement, as a material stream, it is not typically part of waste generated on a day-to-day basis through normal business operations, or residential waste generation, and strategies for diverting these materials differ from the other materials streams. As such, it is better evaluated as a separate waste stream.

Alameda waste haulers reported collecting 4,549 tons of C&D materials, including but not limited to dirt, concrete, and wood waste. C&D accounts for 11% of debris box volume collected by ACI in 2016; other haulers also offer C&D collection services in Alameda and generators of this waste may self-haul loads of C&D to nearby facilities.

The majority of C&D materials collected in Alameda are taken to the Davis Street Transfer Station for processing. According to Waste Management, the facility operator, Davis Street diverts $\geq 75\%$ of C&D materials from landfill through recycling and reuse.

Benchmarking Diversion Performance

Alameda's diversion rate is comparable to other Bay Area jurisdictions, and the City has one of the highest single-family sector diversion rates in the region. Information on five other jurisdictions is presented below for consideration. However, it is important to note that there are no true comparisons, as each jurisdiction is unique and has a particular set of conditions that influence its waste diversion (e.g., program offerings and contract provisions).

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Table 2-4: Jurisdiction Diversion Performance Benchmarking

Waste Hauler Reported Inbound Diversion							
2016	2016	2016	2015-16	2016	2016	2016	Average
	Newark	Fremont	Union City	Castro Valley	Gilroy	Alameda	
Single-family	53%	54%	n/a	66%	62%	70%	61%
Multi-family	9%	44%	n/a	36%	n/a	39%	32%
Commercial	8%	20%	26%	39%	13%	22%	21%
Roll off	0%	17%	16%	33%	39%	26%	22%
Overall Diversion	27%	32%	n/a	58%	40%	54%	42%

StopWaste also conducts an annual benchmarking study to measure the average weights, in pounds, of recyclables and food waste found in garbage set-outs for each member agency. For Alameda, in 2016 single family households that put recyclables in their garbage averaged approximately 3 pounds of recyclables per set-out, and households that put food waste in their garbage averaged approximately 5 pounds of food waste per set-out. Alameda's findings are consistent with other StopWaste jurisdictions: single-family residents that put recyclables in their trash tend to dispose of at least two pounds of recyclables, and most jurisdictions show a reduced average amount of organics placed in the garbage over time. This data shows that there is opportunity for Alameda's single-family residents to recycle and compost more materials through curbside waste collection programs to help the community reduce what is currently sent to landfill.

SECTION 3 ALAMEDA ZERO WASTE GOAL

Among other goals for waste reduction, the ZWIP establishes a numeric measurement of the community's zero waste goal: 89% per capita diversion by 2020, with an interim step of 75% diversion achievement. This goal is based on CalRecycle's methodology for measuring jurisdiction progress in landfill waste reduction: the calculated diversion rate equivalent of landfill disposal PPD.

Forecast of Zero Waste Goal Achievement

To help evaluate whether Alameda is on track to meet its zero waste goal of 89% per capita diversion by 2020, R3 forecast the City's future disposal and diversion based on historic trends in population growth and disposal reduction. On average, disposal has decreased 4% per year since 2011, and population has grown by 1.36% per year during that same time period. In 2020, R3 estimates that Alameda will reach 83% per capita diversion.

Table 3-1: Forecast 2020 Alameda Diversion and Disposal

Metric	CalRecycle Disposal Reporting System						Est.	Forecast			ZWIP Goal
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2020
Disposal	40,967	36,624	35,119	35,880	32,036	33,626	32,281	30,990	29,751	28,560	18,355
PPD	3	2.7	2.6	2.6	2.3	2.3	2.2	2.1	2.0	1.9	1.2
Diversion Eq.	73%	75%	76%	76%	79%	79%	80%	81%	82%	83%	89%

The variance between forecast 2020 disposal and the ZWIP's target disposal is 10,205 tons of landfilled material, representing a per capital diversion shortfall of 6% from the goal of reaching 89% per capita diversion by 2020.

Revised Zero Waste Goal Date

R3 recommends the City adopt a revised zero waste goal: achieve 1.2 pounds per person per day of waste disposed in landfill by 2022. This goal would have the following milestones to benchmark the City's progress in reaching zero waste:

- 1.8 PPD and no more than 30,000 tons disposed by 2019;
- 1.4 PPD and no more than 25,000 tons disposed by 2020; and
- 1.2 PPD and no more than 20,000 tons disposed by 2022.

This revised zero waste goal and benchmarks are based on CalRecycle's methodology for measuring waste reduction per capita and overall jurisdiction disposal tons. This methodology allows for ease in monitoring as city-specific information is provided by CalRecycle on a yearly basis, and allows for continuity in measuring zero waste progress to date.¹¹ It is also a metric that can be understood and practiced on an individual level, connecting personal actions to Alameda's waste generation and heightening awareness for zero waste culture change.

¹¹ The original ZWIP utilizes a PPD-based methodology for measuring the City's baseline diversion and setting Alameda's zero waste goal.

Section 3

Alameda Zero
Waste Goal

Additionally, other benchmarks and high diversion targets should also be employed to holistically monitor changes in Alameda's waste stream and progress towards zero waste. Franchised hauler diversion targets can be adjusted from the existing targets. Having diversion performance incentives such as those set in the agreement support the City and hauler in working collaboratively to reach the City's zero waste goal; however, ACI has not met the existing franchised diversion target of 62%. Resetting the franchised diversion goals may help engage the incentives already in place.

For example:

- 60% diversion of waste collected by the franchised hauler by 2019;
- 65% diversion of waste collected by the franchised hauler by 2020; and
- 70% diversion of waste collected by the franchised hauler by 2022.

While the PPD and disposal reductions forecast in the previous section assume the City will maintain the same average reductions in disposal over time, it should be noted that as the City approaches zero waste, each additional ton diverted from landfill becomes increasingly difficult to achieve. While ambitious, this revised goal and benchmarks are achievable if strategies are fully implemented, and the community continues to build on its growing zero waste culture to accomplish source reduction and high participation in diversion programs. However, the City will make a strong effort to assist the community in getting as close to Alameda's original zero waste goal as possible in the years between 2018 and 2020.¹²

On July 10, 2018 the City Council was presented with these findings and recommendations from the Zero Waste Implementation Plan Update. After due consideration of R3's projections, the City Council decided to keep the 2020 goal date.

Additional Diversion Potential

Full implementation of Recommended Strategies detailed in Section 5, and continued implementation of the ZWIP, is estimated to result in over 15,000 tons of additional diversion per year. To estimate and isolate the potential impacts this would have on Alameda's PPD, using 2016 population and disposal figures, R3 estimates full implementation would result in a change of 2.3 PPD to 1.2 PPD. Furthermore, the estimated impact on inbound franchised diversion is a change of 49% to over 80%, excluding C&D and mixed waste processing recovery. Additional waste reduction efforts would further reduce Alameda's PPD and landfill disposal.

¹² Recommended zero waste strategies to implement starting 2018 to make the highest impact include targeted technical assistance for commercial and multi-family.

SECTION 4 COMMUNITY ENGAGEMENT

The City and Community Action for a Sustainable Alameda (CASA) sponsored a workshop on Thursday, October 5, 2017 to brainstorm next steps for updating the City's Local Action Plan for Climate Protection. This workshop featured a breakout session to invite community input on potential zero waste strategies for inclusion in the ZWIP Update, which will assist Alameda in reducing its greenhouse gas emissions by reducing the amount of waste sent to landfill disposal.



Figure 4-1: Zero Waste Break-Out Group

Community members expressed interest in anaerobic digestion, environmentally preferable purchasing practices and reuse, extended producer responsibility, having recycling operations on the island to keep processing local, and utilizing mixed waste processing as a last resort to achieving higher diversion.

Additional public workshops were held on November 2, 2017 and March 1, 2018 to present Alameda's zero waste achievement to-date and invite greater public participation. Community discussion and comments included benchmarking City waste diversion, interest in waste diversion programs in Alameda schools, technical assistance for businesses, potential culture change initiatives and individual actions to drive change, and support for greater outreach. Community feedback received at the workshops, and via other avenues to-date, is included in Appendix D.

City staff, ACI and CASA also contributed to the development of this ZWIP Update through interviews and meetings held throughout the planning process. Additional actions Alameda could take to support greater waste diversion were discussed in detail, and include the following:

- Expanding community drop-off events for HHW to include more hard-to-recycle materials and reusable goods;
- Piloting the provision of food waste/garbage split carts similar to the program ACI's sister company runs in Sunnyvale to potentially increase food waste diversion;
- Conducting outreach and implementation of Alameda's updated food ware and straws on request ordinance;
- Leveraging social media to further engage the community through a Zero Waste Alameda account and using waste generator group-specific messaging;
- Exploring the potential for siting a recycling center in Alameda modeled after the El Cerrito Recycling and Environmental Resource Center; and
- City engagement with single-family residents on mandatory recycling and composting requirements as established in Alameda's municipal code (Chapter XXI Solid Waste and Recycling, 21-2.1 – Solid Waste, Recyclable Materials, and Organic Materials Collection Required).

Section 5

Recommended
Strategies

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SECTION 5 RECOMMENDED STRATEGIES

The ZWIP contains many strategies to help guide the Alameda community in reaching its zero waste goal. To-date, the City and zero waste stakeholders have initiated, completed or continue to implement several of these recommendations, which has helped reduce Alameda's disposal. Further implementation of the ZWIP holds greater diversion potential yet to be gained, and should be continued.

However, the City's prioritization and enhancement of select ZWIP strategies, and adoption of new recommended zero waste strategies, will assist the community in making greater progress towards zero waste in the years leading up to 2022 and beyond. Reaching zero waste by 2022 is possible if strategies are fully implemented and the Alameda community increases its participation in waste diversion programs. Recommended zero waste strategies are presented here and summarized in the following table.

Table 5-1: Summary of Recommended Zero Waste Strategies

Strategy	Target Sectors	Annual Diversion Tons	GHG Emissions Reduction (MTCO ₂ e)
1) Support Zero Waste Culture in Alameda	All Sectors	4,040	430
2) Conduct Targeted Technical Assistance with Commercial and Multi-Family	Commercial Multi-Family	6,320	670
3) Create Food Recovery Program and Enhance Organics Management	Commercial	1,060	110
4) Update C&D Ordinance and Conduct Outreach	C&D Waste	3,060	320
5) Expand High Diversion Franchise Agreement	All Sectors	1,150	120
Total Recommended Strategies		15,630	1,650

Section 5

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It is important to note that additional potential diversion estimates assume that the Alameda community increases and maintains higher levels of participation in waste diversion programs, and that the City begins implementation of these strategies as soon as possible to allow time for each to achieve its additional diversion potential. Estimates also assume that Alamedans take personal accountability for the community's achievement of zero waste, and high levels of community engagement create momentum to reach zero waste by 2022.

To support the community in reaching its zero waste goal, the City should prioritize providing targeted technical assistance to Alameda's commercial and multi-family waste generators, enhancing construction and demolition debris recycling program, and supporting Alameda's growing zero waste culture. Supporting the collection of edible food for redistribution to those in need, negotiating a high diversion franchise agreement, and greater processing of Alameda's waste stream, are also under consideration to help Alameda reduce its landfilled waste. The Alameda community has made good progress towards zero waste, and these strategies will help focus efforts over the next five years to achieve the 2022 goal.

Strategy 1. Support Zero Waste Culture in Alameda

Summary

This strategy enhances and celebrates Alameda's growing zero waste culture through actions that recognize the shared responsibility for each individual to reduce and divert waste from landfill disposal. This approach also has robust community support, which is expected to drive forward its implementation.

Objective

Continue implementation of the ZWIP and foster a growing zero waste cultural shift in Alameda to support the community in decreasing its disposal.



Figure 5-1: Earth Day in Alameda 2017

Description

Continued implementation of the ZWIP will help the Alameda community maintain its downward landfill disposal trend, both through sustaining the recommended actions City staff and other stakeholders have already integrated into their regular work flow, and by pursuing other recommendations that have yet to be completed. Particularly for social marketing, these efforts should be continued and further enhanced through the use of social media to encourage more residents and businesses to participate in diversion programs. This work will also build from local initiatives that promote zero waste culture through the banning of single-use disposable products, including the Alameda County Reusable Bag Ordinance and the City's Disposable Food Service Ware Ordinance.

To further support zero waste culture change, City staff will rebrand the solid waste program as Zero Waste Alameda. This includes design of a City webpage featuring green businesses, and potentially establishing a grant program for local nonprofit groups in recognition for their work in support of Alameda sustainability.

The City should conduct outreach regarding its solid waste ordinance, which makes participation in the City's recycling and composting programs mandatory for all waste generators (Section 21-2.1):

"It is mandatory that the customer ensure that recyclable and organic materials are placed in the proper collection containers in accordance with franchisee's instructions."

This requirement is reflective of zero waste culture in Alameda and is anticipated to motivate higher participation in these programs through a positive effort to inform residents that recycling and composting are mandatory.

Community members will also be encouraged to adopt zero waste practices through the Zero Waste Alameda program, and given tools to help others improve their waste diversion. For example, zero waste actions Alameda residents can take include the following:¹³

¹³ See www.goingzerowaste.com for more information and suggested actions in support of zero waste.

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- Learn more about the problem of excess waste generation, which is to say, we as a society create too much trash! There are several resources available online, and more will be posted on the City's website under Zero Waste Alameda. Zero waste education is a continuous process;
- Gradually phase out wasteful products. Start by using what you already have, and intentionally plan new purchases that help transition your household to less wasteful alternatives. Here are a few ways everyone can help:
 - Use your supply of single-use disposable items, such as paper towels and tissues, in preparation for replacing them with cloth and other reusable options;
 - When ready to purchase reusable items, make sure what you're buying will last a long time, you are confident it is something you will use, and will be satisfied with. Check the secondhand market first, and vote with your dollars;
 - Start small. Simple changes collectively make a big impact: bring a real mug or thermos with you to the coffee shop, take reusable bags with you to the grocery store, say no to plastic straws in your drink order, and leave behind plastic water bottles in favor of a reusable one; and
 - Plan meals to buy what you need and will eat, and pledge to make better purchases in the future.
- Measure your progress. Try weighing and recording your household's waste stream for a week, and see how it compares to the community's zero waste goal of 1.2 PPD;
- Appreciate that zero waste takes time. Have patience and enjoy the journey, making the significant change to a waste-nothing lifestyle can take years. And if in the process you find that there is a disposable product you truly can't live without, remember that 90%+ diversion of waste from landfill disposal is an incredible achievement.
- Connect with your local zero waste community. CASA hosts regular meetings to discuss zero waste initiatives, and there are many online zero waste groups to provide creative solutions and support. Engage in community action efforts to help educate others, such as outreach to restaurants and other businesses.

As ZWIP implemented policies and programs mature, and as Alameda's zero waste culture grows, the community is expected to achieve additional diversion.¹⁴ With 1.2 PPD as the goal, every member of the community has a clear personal accountability for aiding in its achievement. Alameda is an island, and its sustainability is supported by the individual actions

¹⁴ The ZWIP has many recommended actions to help guide Alameda's zero waste achievement, however, there are still other waste reduction and diversion opportunities the City should consider for potential future implementation. These include, but are not limited to, requiring building deconstruction to salvage materials for reuse prior to demolition, mandatory participation and enforcement for residential recycling and composting, and siting of a resource recovery park in Alameda. A Zero Waste Planning Checklist and Service Opportunity Analysis was provided by CASA in contribution to the ZWIP Update, with highlighting to indicate areas of community interest, which has been incorporated into Appendix D.

residents and businesses make every day as they use and discard resources, defining the waste stream.

Fostering a culture of zero waste is also supported by the allied efforts of the Public Works Department's Clean Water Program (CWP). One of the most important and pressing tasks of the City's CWP is the reduction and control of loose trash within Alameda, and the resultant discharges of that litter into the City's storm drainage system that ultimately goes into the San Francisco Bay.

City CWP staff perform more than 100 business inspections annually and can be viewed as outreach allies when it comes to the zero waste culture themes that intersect with lessening the use of disposable, single-use plastic items and the reduction of litter in the environment. City CWP staff also support and promote the polystyrene foam food ware and single-use plastic bag bans, including the two-wave expansion of the Reusable Bag Ordinance that went into effect in 2017.

Though the drivers for these efforts are water quality protection goals, the work of CWP staff helps to reinforce the community's goal of reducing disposal and efforts to promote a zero waste culture will also have positive ramifications for reducing the amount of litter dispersing into the environment.

Resources Needed

An estimated \$100,000 per year is recommended to put towards zero waste culture activities and initiatives, outreach and educational materials, including City website content and social media, potential community group grants, and other efforts that support zero waste.

Case Study

Castro Valley hosts an annual "Zero Waste Week" to teach its residents best practices for reducing waste through free workshops and activities. Events planned for 2018 include a home composting and edible gardening workshop, an organized community fruit tree gleaning to pick fresh fruit for the local food pantry, a recycled art and Science, Technology, Engineering, Arts, and Math (STEAM) toy-making event for kids, a personal care workshop that teaches residents how to make their own toothpaste, cleaning spray and more, and a Fixit Clinic and Swap-O-Rama. Castro Valley's annual recognition of zero waste, and engagement of the community through hands-on learning opportunities, directly supports the growth of zero waste culture.



Figure 5-2: CWP Logo

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Strategy 2. Conduct Targeted Technical Assistance with Commercial and Multi-Family Sectors

Summary

Alameda's commercial and multi-family waste generators have the greatest opportunity to reduce waste sent to landfill, and helping them to achieve higher levels of source reduction and waste diversion could significantly reduce Alameda's landfill disposal.

Objective

Proactively implement targeted technical assistance to provide businesses multi-family properties identified as having the most potential for greater diversion with the individualized help they need to start or expand recycling and waste reduction practices.

Description



Figure 5-3: Multi-family Recycling Tote Bag

ACI has 0.5 FTE staff dedicated to conducting outreach and education in the community, which is augmented by StopWaste's work with commercial and multi-family customers to achieve compliance with its Mandatory Recycling Ordinance. ACI and StopWaste efforts could be further enhanced by greater targeted commercial and multi-family technical assistance, potentially offered through a third party.

The commercial sector is one of the largest waste generation sectors in the City, and multi-family residents have substantial opportunity to achieve higher diversion. With increasing State mandates, especially around organics diversion, and the strong potential Alameda has for future growth and development, increased diversion in the commercial sector will require proportionally greater efforts to achieve. Providing commercial customers with more individualized attention and additional on-site assistance in overcoming barriers to source

reduction, recycling and composting could significantly improve diversion outcomes.

This program would provide individualized technical assistance to commercial and multi-family customers to help them start up or expand recycling and waste reduction practices. The City would publicize the program and encourage businesses to use this free service; since cost is often an important factor in getting business owners to right-size solid waste containers, advertising that the program could also help them lower their solid waste collection costs may encourage greater voluntary participation. Waste generators with the greatest additional diversion potential would also be identified and actively engaged through this program. Technical assistance would include:

- Conducting on-site waste assessments to identify target materials for recycling, composting, and waste reduction;
- Education regarding contamination in recycling and/or organics containers, if present;
- Providing information for securing recycling equipment and/or providing free indoor recycling and food scrap containers for businesses;

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- Training staff on site;
- Distributing appropriate outreach materials describing best practices for landfill diversion, overall waste reduction, and food donation; and
- Setting up or expanding diversion services for different types of businesses.¹⁵

Technical assistance staff could also provide education designed to help food vendors comply with Alameda's food ware and straws on request ordinance, provide guidance on reusable options, and assist commercial and multi-family generators in reducing litter and stormwater impacts.

Trained technical assistance staff would help to minimize or overcome various obstacles to source reduction, recycling, and composting faced by commercial and multi-family customers (e.g., space constraints, labor and sorting requirements, lack of information or training, etc.). This involves providing direct, face-to-face support on a regular basis at least once a year, if not more, after an initial assessment and implementing technical assistance staff recommendations. Additionally, enhanced technical assistance would encourage more commercial customers to set up an effective food donation system, and/or help more multi-family properties and businesses set up a recycling and composting program that is suited to their operations. This program targets the largest waste generators to seek diversion of the largest amount of divertible materials (e.g., large restaurants identified with high amounts of food waste), and complements the outreach and education services currently offered through ACI.

Resources Needed

This program has the potential to be very effective in increasing the diversion of commercial customers and targeting one of the City's largest waste generation sectors, in addition to helping multi-family residents achieve greater diversion. An estimated 3,000 hours per year would be needed to offer this program; outreach and educational materials would also need to be provided. Combined with implementation of a food rescue program, this strategy could also assist the City in SB 1383 compliance, which sets goals for reducing the amount of organic materials sent to landfill and the recovery of edible food for human consumption.

Case Study

The City of San Francisco and Recology, its solid waste hauler, partner in conducting active outreach and providing technical assistance to commercial and multi-family customers. Both the City and Recology identify customers that require assistance in complying with the City's mandatory recycling and composting ordinance, and need additional support to implement best practice to increase their diversion. Recology staff work with property managers and building owners to "right-size" service, and conduct visual waste audits to assess and monitor progress. San Francisco also has interns and contracted technical assistance staff to provide door-to-door outreach at multi-family buildings, and conduct tenant and custodial staff trainings in multiple languages.

¹⁵ Alameda has universal recycling and organics collection provided with garbage service (two 96-gallon carts, one for each diversion stream). However, increased effort to help businesses and multi-family properties right-size their containers remains an important area of opportunity for technical assistance.

Strategy 3. Create a Food Recovery Program and Enhance Organics Management

Summary

Food waste and other organic materials represent over 20% of waste sent to landfill. In addition, increasingly strict State requirements regarding organic material disposal in landfill and the potential to reduce greenhouse gas emissions make this strategy important for Alameda's zero waste achievement.

Objective

Collaborate with the local non-profits and other organizations to create a food rescue program that distributes edible food to those in need. This program will also promote food waste prevention and investigate additional options for improving organic materials recovery.

Description

Organic waste, particularly food waste, constitutes a large part of disposed waste sent to landfill, making strategies that address greater recovery of this resource essential for zero waste achievement. The following suggestions should be considered in developing a food rescue program:

- Facilitate regular meetings for at least one year to coordinate efforts between the City, the franchised waste hauler (or a third-party alternative), and local nonprofits working to reduce food waste and feed those in need (e.g., Alameda Kitchen). Collaboratively define the scope of the program, and potentially negotiate with the franchised hauler to provide an edible food collection service;
- Prioritize identification of current and potential new food donors using City knowledge of local businesses, franchised hauler observations of customer waste, and the nutritional and other requirements for donated food in place at participating nonprofits;
- Start an edible food collection route and refrigerated truck to be managed by the franchised hauler to collect extra food and deliver it to nonprofits for distribution to community members in need;
- Make a concerted effort to promote the program and generate interest among the business community through City channels, social media and marketing, stakeholder meetings, and other



Figure 5-4: ACI Be Food Wise Bookmark

R3

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avenues. Mobilize volunteers to conduct outreach through CASA, include food donation in commercial technical assistance, and franchised hauler education and outreach;

- Track how much edible food is collected through the program and make programmatic adjustments as needed to ensure its continued diversion and distribution to community members;¹⁶
- Identify additional organizations both locally and regionally to partner with as the program grows and expands to collect more food from a greater number of businesses;
- Concurrently, start a food waste prevention campaign to teach residents and businesses how to reduce food waste and educate them on understanding product expiration labels; and
- Promote local organizations such as Alameda Kitchen and opportunities for community members to volunteer in food rescue efforts.



Figure 5-5: ACI Staff

ACI has demonstrated a strong level of interest in food recovery and food waste prevention, and recently developed a helpful bookmark that explains “best by” and other similar labels on food, along with easy food waste prevention tips that residents. The opportunity for collaboration with the franchised hauler, or a third-party alternative, has several benefits: feeding vulnerable members of the community, diversion of food from landfill disposal for SB 1383 compliance and zero waste achievement, and greenhouse gas emission reduction from avoided landfilling of organic waste.

Other options the City could consider for reducing Alameda’s landfill disposal of organics include the following:

- Begin a food waste to animal feed program and negotiate with ACI to divert collected food waste to ACI’s sister company in Sunnyvale for processing into feed for animals. Under this program food waste is heated, sterilized, tested, dehydrated and pelletized into dry animal feed for pigs and fish;
- Pilot a split cart collection system for food waste and garbage to potentially increase the capture of food waste from residents. A similar program has been piloted in Sunnyvale;
- Anaerobic digestion of collected food waste to capture renewable energy, potentially through the Davis Street OMRF; and

¹⁶ Common needs for food rescue organizations include storage space, refrigeration, labor, and food distribution assistance. In addition, if over time some program participants are found to be donating food that regularly cannot be distributed for human consumption, then follow-up technical assistance will be needed and/or alternative means of diverting this material found (e.g. greater utilization of ACI’s organics collection service). Nonprofit organizations participating in the program should also receive regular technical assistance to ensure right-sizing of their organics containers as the program grows and changes over time.

- City purchase of finished compost made from organic materials collected in Alameda to support local markets for this material, and benefit from its use on public landscaping.

This strategy shares objectives with the commercial and multi-family technical assistance program (Strategy 2). These strategies are meant to overlap, and build on the other efforts to form a holistic approach to reducing organic materials in Alameda's disposal.

Resources Needed

This strategy requires negotiations ACI to begin edible food collection services, and collaborative efforts with ACI and Alameda Kitchen to develop the program. An estimated 200 hours would be needed initially for negotiations and program development, accompanied by an estimated 150 hours a year to maintain and grow the program over time. The cost estimate for this strategy includes collection trucks and labor, and the development of outreach materials along with a food-waste prevention campaign.

Case Study

R3 is unaware of any case studies of edible food collection services offered by the franchised hauler, or a third-party contractor, at this time. Implementation of this innovative strategy would make Alameda among the first to address the edible food diversion in this way; however, it is anticipated that more cities will soon consider and begin to adopt this and other similar strategies in response to SB 1383.

A summary of this new legislation is provided below for reference.

SB 1383: Short-Lived Climate Pollutants

New legislation heightens the need for all communities to reduce their disposal of organic waste, and work to recover currently disposed edible food to feed those in need. SB 1383 (Short Lived Climate Pollutants) sets a goal for the state to achieve a reduction from the 2014 level of statewide disposal of organic waste of 50% by 2020 and 75% by 2025. In addition, no less than 20% of currently disposed edible food must be recovered for human consumption.

This legislation is currently in its rulemaking phase, and as such its status and future requirements for Alameda remain ambiguous. R3 recommends the City continue to monitor its development, and anticipates that the directive to reduce landfilled organic materials will result in stricter requirements for Alameda's organic waste collection, processing, oversight, and reporting. This may include provisions for Alameda to institute an edible food collection and distribution program, demonstrate stronger organic waste diversion outreach and education efforts, and actively enforce waste generator compliance and participation in food waste and green waste diversion programs.

To date, Table 5-2 shows a timeline that describes how CalRecycle expects the SB 1383 process to progress.

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Table 5-2: SB 1383 Timeline

Dates	Event / Milestone
2017 – 2019	CalRecycle will: - Conduct informal workshops in 2017; - Initiate the formal rulemaking in late 2017 or early 2018; and - Adopt the regulations in late 2018 or early 2019. Although the regulations will not take effect until 2022, adopting them in 2019 allows regulated entities approximately three years to plan and implement necessary budgetary, contractual, and other programmatic changes. Jurisdictions, haulers, and generators should consider taking actions to implement programs to be in compliance with the regulations on January 1, 2022.
2019	To support efforts at the local level to meet the organic waste reduction targets and comply with the regulatory requirements, CalRecycle will be: - Networking; - Providing technical assistance; and - Developing tools, model ordinances, contracts, and case studies.
January 1, 2020	No later than this date, the state must achieve a 50% reduction in the level of the statewide disposal of organic waste from the 2014 level.
July 1, 2020	By this date, CalRecycle, in consultation with the Air Resources Board, must analyze the progress that the waste sector, state government, and local governments have made in meeting the organic waste reduction targets for 2020 and 2025. If the Department determines that significant progress has not been made in meeting the targets, CalRecycle may include incentives or additional requirements in the regulations to facilitate progress toward achieving the organic disposal reduction targets. The Department may also recommend revisions to the targets to the Legislature.
January 1, 2022	CalRecycle's regulations to meet the organic waste reduction targets for 2020 and 2025 take effect and are enforceable on this date.
January 1, 2024	Effective on this date, the regulations may require local jurisdictions to impose penalties for noncompliance on generators within their jurisdiction.
January 1, 2025	By this date, the state must achieve a 75% reduction in the level of the statewide disposal of organic waste from the 2014 level. In addition, not less than 20% of currently disposed edible food must be recovered for human consumption.

Source: <http://www.calrecycle.ca.gov/Climate/SLCP/>

Strategy 4. Update C&D Ordinance and Conduct Outreach

Summary

Building projects produce large amounts of waste that often ends up in a landfill, despite its potential to be reused or recycled. C&D materials recovery could be increased through updated local ordinance requirements and greater outreach.

Objective

Update the construction and demolition debris recycling ordinance to support higher diversion of recoverable materials, enhance C&D program processes, and conduct outreach and education for C&D waste generators.

Description

Reducing the disposal of C&D waste will be a priority for achieving zero waste: Alameda has big potential for growth in the coming years as a centrally-located Bay Area city with significant land available for potential development. Proactively making enhancements to the C&D ordinance, program processes, and C&D recycling education will help the City get ahead of future growth and associated increased disposal.

Alameda implements CALGreen requirements regarding the management, disposal, and diversion of C&D waste, which includes the diversion of at least 65% of C&D materials from landfill disposal. In addition, large projects valued at $\geq \$100,000$ are required to track C&D waste diversion through Green Halo. However, most projects that fall under the \$100,000 threshold and elect to self-haul debris to a landfill or processing facility are not held accountable for recycling under the current C&D ordinance; smaller projects are encouraged to voluntarily comply with recycling requirements.



Figure 5-6: Alameda.WasteTracking.com

The C&D ordinance could be improved to better align with CALGreen and support higher diversion of materials from landfill. In particular, the definition of covered projects that are subject to C&D recycling requirements and made to report via Green Halo should be expanded:

- **Building Permit Applicants Responsible for Compliance.** Each applicant, as defined in Section __, shall be responsible for ensuring and demonstrating its compliance with the requirements of this Chapter, for all projects that are required to recycle C&D materials per CALGreen.

Per CALGreen, newly constructed buildings and demolition projects, all non-residential projects, and residential projects that increase the structure's conditioned area, volume or size

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are required to meet the 65% minimum diversion requirement.¹⁷ Other changes for the City to consider in updating its C&D ordinance include, but are not limited to, the following:

- **C&D Materials Diversion Required.** Each applicant shall divert C&D materials through deconstruction, reuse, and/or recycling for each applicable project. Applicants can recycle C&D materials by using the services of the City's Franchised C&D Hauler, Permitted C&D Haulers for projects valued at \$100,000 or more, by self-hauling C&D materials to certified facilities, or by employing a City-approved deconstruction contractor.
- **Deconstruction and Reuse of Existing Materials.** Applicants are encouraged to deconstruct existing buildings on the project site and salvage materials for reuse. Reused materials or products must comply with the current building standards requirements or be an accepted alternate method or material. Salvaged materials may be reused onsite or for a different project. The City may require documentation confirming that salvageable materials have been reused.
- **Exemptions.** Diversion of C&D materials is not required for work for which a building permit is not required under Title __ Chapter __, or for projects that require a building permit but do not meet the thresholds for recycling C&D materials per CALGreen. It is unlawful to split or separate a project into small work projects for the purpose of evading the requirements of this Section.
- **Certification Standards for C&D facilities.** Certification of C&D facilities shall be by City resolution or at the determination of the City Manager or his or her designee. To achieve and retain certification, certified facilities must achieve a minimum level of 65% diversion every month, with supporting documentation of diversion of C&D materials for the prior 12 months. Facilities that achieve levels of diversion equal to or greater than the level of diversion achieved by the facilities used by the City's franchised hauler will receive preference for C&D certification by the City. Facility diversion must be verified through a third-party certification process.
- **Documentation of Diversion.** Except as otherwise specified in this Chapter, on or after the date this Ordinance is enacted, each applicant whose projects is required to recycle C&D materials per CALGreen shall provide the City with documentation of compliance with this Ordinance prior to final building inspection. Documentation of C&D materials diversion includes receipts from the franchised hauler, weight tickets from certified facilities for all loads delivered for recycling, or such additional information deemed necessary by the City to document accomplishment of the requirements of this Ordinance.
- **Enforcement.** Documentation of diversion for applicable projects must be submitted to and approved by the City prior to final inspection. Penalties per ton of C&D Materials not recycled will be assessed for a lower than 65% diversion rate on applicable projects.

¹⁷ Going beyond CALGreen requirements, the C&D ordinance could be amended to further expand the definition of covered projects as each building project that will generate C&D materials and requires a building permit.

Implementation of the updated C&D ordinance would be intended to encourage building permit applicants, contractors, and other stakeholders to initiate effective deconstruction, recycling, and waste reduction practices during construction and demolition activities. Oversight of C&D diversion by project could be streamlined by requiring that all covered projects use Green Halo to track diversion and disposal. The City, or a qualified consultant, would conduct targeted education and outreach on how to reduce and reuse C&D materials by promoting activities such as salvage, deconstruction, and construction techniques that minimize waste.

Since C&D materials management processes at a construction or demolition site are often too involved for someone not closely involved in the workflow to make project-specific recommendations for waste diversion, the education and outreach provided through this program would focus on providing remote support. For example, this would include the development of an online C&D recycling guide and making support available over the phone to help guide C&D generators in complying with diversion requirements for their projects' waste materials. Providing benchmarking data for different types of projects, information on local recycling and reuse facilities, guidelines for hard-to-recycle and hazardous materials, updates on recycling markets, and publicizing local success stories are all helpful ways the City can assist C&D generators in diverting more from landfill.

In addition, the City can leverage one of the greatest opportunities it has to directly communicate with C&D generators: the building counter. Training building counter staff on CALGreen requirements and how projects can comply is an effective way to reach and assist a large number of people in improving C&D diversion. Processes for permit applicant compliance, and staff review of project documentation, could be streamlined by requiring all applicable projects to report project diversion through Green Halo, updating the building counter form, and requiring the use of third-party certified facilities verified to achieve high materials recovery. Staff can also remind applicants that they can get a roll-off box from the franchised hauler, which ensures that materials are taken to the Davis Street Transfer Station, a third-party certified C&D recycling operation, where they can be processed and diverted.

Resources Needed

The City's C&D ordinance would need to be updated and time invested to further develop the program, in addition to creating program materials and processes to track C&D diversion and educating building counter staff. Estimated time needed is 200 hours in start-up labor, and 500 hours in annual labor to implement, closely monitor and enforce diversion, and make improvements to the program over time. Several outreach and educational materials would also need to be developed, and are recommended to be provided in conjunction with a C&D recycling marketing campaign.

Case Study

Zero Waste Marin recently implemented a streamlined system for building permit applicants to achieve CALGreen compliance. This program features certified C&D facilities that applicants and franchised haulers can bring C&D materials to for recovery and receive documentation of

City of Alameda Public Works Department
Construction and Demolition Debris (C&D)
Requirements

PERMIT NO. _____ PROJECT ADDRESS _____
DATE _____

All permit applicants must submit both:

1. Waste Management Plan (WMP), a plan to recycle at least 65% of all construction and demolition debris (C&D) before project begins.
2. Summary Report, a report of final recycling results of C&D hauled from the project's, i.e., submission of all processing facility transfer receipts verifying the mandated 65% recycling rate has been achieved.

Penalties for non-compliance with the ordinance against new permits for a house are \$100. Call us at 947-2000.

WMPs and Summary Reports can be submitted to City in one of two ways:

- ☐ Online submission via a free Green Halo account at: GreenHaloSystems.com or AlamedaWasteTracking.com
- ☐ Paper submission via forms received from Public Works, and must also submit transfer receipts from waste processing facilities.

Permits must be filed prior to final inspection of project and Summary Report is submitted in and approved by Public Works.

Project permit applicant must use the City's Franchised Hauler, a Permitted Hauler or may Self-Haul.

Franchised C&D Hauler (per project):
Alameda County Industries (ACI), 1300-1400-1400
Permitted C&D Haulers (for projects valued at \$100,000 or more):
Alameda County Industries, 1300-1400-1400
Waste Management of Alameda County, 947-670-7200
Also check with the City of Alameda for any additional permitted haulers, 947-2000-7000.

Self-Haul:
Permit applicant or contractor may self-haul only when waste material is hauled to their own or project's transfer, transfer, transfer, etc., and this activity must be performed in a self-haul truck. Transfer of waste materials must be done in a self-haul truck and must be performed in a self-haul truck.

When material is moved, the WMP and C&D must be processed by an ACI Registered or Certified C&D processor to ensure a possible minimum of 65% recycling. To find permitted processors, go to www.alameda.ca.gov for the current list of registered processors.

Figure 5-7: C&D Requirements

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compliance, a simplified form with clear steps for meeting recycling requirements, and reduced administrative overhead to review projects. Certified facilities are periodically re-evaluated to verify they meet standards for materials recovery, and building counter staff are trained to assist permit applicants in CALGreen compliance.

Strategy 5. Expand High Diversion Franchise Agreement

Summary

ACI is a great asset and partner in working with Alameda to achieve its zero waste goal, and as such updating the franchise agreement to support zero waste initiatives and build on that partnership will be important moving forward.

Objective

Expand the exclusive franchise of recycling, organics and C&D waste and refine the franchise agreement to further support Alameda in reaching its zero waste goal.

Description

The City's franchised hauler is a great asset and partner in working with Alameda to achieve its goals for zero waste. As such, ensuring the franchise agreement supports high diversion through the provision of advanced solid waste services, establishing shared goals for diverting waste from landfill disposal, and setting rates that cover solid waste system costs, is an important strategy for creating the framework needed for zero waste. The City's current franchise agreement expires in 2022, which creates the opportunity to renew or procure for solid waste services and develop a new high diversion franchise agreement. The City may also increase partnership with its hauler in the near-term to ensure current terms are fully met in support of waste diversion, or build on them via an amendment to the franchise agreement.

A high diversion franchise agreement should include the following elements:

- The expansion of the exclusive franchise to recycling and organics, and C&D;¹⁸
- Mutually establish a franchised diversion goal for the franchised hauler to work with the City to achieve and maintain, and/or, set diversion requirements for franchised waste;
- Create a rate setting methodology that allows for cost recovery on recycling and composting services, thereby eliminating potential revenue loss from customer migration to smaller garbage containers and financial disincentive for the franchised hauler to promote these services;
- Require a higher level of education and outreach to engage the community (minimum of 1 FTE), particularly through offering a higher level of active technical assistance to commercial and multi-family customers;
- Develop a set of incentives and disincentives for the franchised hauler that encourage high diversion of franchised waste materials, to be reviewed by the City annually in conjunction with review of the rate application;
- Include new provisions and diversion programs that reflect zero waste strategies the City and franchised hauler will collaborate on going forward;

¹⁸ The City currently allows permitted waste haulers to collect these materials. If these waste streams are to be included in an exclusive franchise, the City should commence a 5-year phase out of the permitted hauler system.

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- Allow provision for change in law regarding landfill diversion, and allowance for new programs to be developed should the City request and approve a change in contract scope;
- Establish contamination fees for customers found to be placing garbage in recycling and/or organic materials collection containers and
- Develop reporting requirements that clearly and succinctly show tonnages collected and processed or disposed by waste generation sector (single-family, multi-family, commercial, industrial, and C&D) and waste stream (garbage, recycling, and organics).

The current franchise agreement includes monetary incentives for high diversion. Setting a new, mutual goal for franchised diversion could be based on the waste stream composition modeling detailed in Appendix B. Subject to negotiation, the franchised hauler could be allowed a set number of years to reach this goal working in collaboration with the City, and be eligible for a 5-year contract extension or other incentives if achieved. The City could also negotiate to set requirements, and liquidated damages, for the franchised hauler to meet for the diversion of waste it collects from landfill disposal.

The City should consider franchising commercial and multi-family recycling and organics collection services. This would allow for greater City oversight of Alameda's waste stream, and accuracy in tracking progress towards the zero waste goal. This recommendation is discussed in greater detail below.

Franchise Agreement with Alameda County Industries AR, Inc.

The City's franchise agreement with Alameda County Industries includes an explicit requirement that customers subscribe to garbage, recycling, and organics service (which for single-family and multi-family includes commingled food scraps), and an exclusive franchise over most collection services, except for commercial recycling and organics, and C&D debris hauling for building projects valued $\geq$ \$100,000. The contract includes some outreach and education services, including a 0.5 FTE education coordinator and a 0.5 FTE community relations manager. Moreover, contractor's compensation is set to recover expenses, meaning that the contractor is not strongly disincentivized from promoting recycling and organics even with a rate structure that does not provide as much revenue from those material streams.

While there is no diversion requirement, there is a diversion incentive of \$5.00 per ton if ACI exceeds its diversion goal (of material collected, or "inbound"). The diversion goal is 62%, which ACI has yet to achieve as detailed in Section 2.

Other zero-waste related services in the agreement include:

- Two clean-up collection events per year at no charge, with diversion requirements for the collected material; and
- Recycling service at up to 12 special events (ACI also provides organics service at special events).

The City may consider the following additional enhancements to the agreement to support diversion:

- Require certain levels of residual for recycling and organics processing, and/or explicitly require that residual count toward disposal for the purposes of calculating diversion;

- Institute contamination fees for customers found to be placing garbage in recycling and/or organic materials collection containers; and
- Consider expanding the exclusive franchise to simplify the solid waste system and improve the ability of the City to capture recyclable and compostable materials.

Rate Structure

The rate structure currently in place includes rates for single-family residential garbage sizes. Recycling and organics service is provided at no additional cost to the single-family residential customer. Multi-family customers are charged for garbage, recycling, and organics collection service on a per unit basis. Commercial customers are charged for garbage service at a set rate, and once weekly service of one 96-gallon container for recycling and organics provided at no cost; additional carts, bin service, and/or above once-weekly service for recycling and organics is charged at a slightly lower rate for garbage of the same size and frequency.

Because the cost for signing up for recycling and organics service above the mandatory minimum level is less than the cost of garbage service of the same service level, R3 has found that the current rate structure is diversion-friendly for multi-family and commercial customers.

Resources Needed

A new franchise agreement would need to be developed and negotiated with the franchised hauler, in addition to contract management to monitor new zero waste programs, contractor performance regarding high diversion contract terms, and overall franchised diversion performance thereafter. An estimated 250 hours would be needed to implement this strategy, and an estimated 300 hours per year would be needed to further develop the partnership. The solid waste franchise expires in 2022. City could potentially negotiate with the current franchised hauler if renewing its contract with ACI, or, as part of a solid waste services procurement process. Contract renewal negotiations should start no later than mid-year 2019, and if electing to do a procurement, the City should begin this process no later than mid-year 2020. Procurement would come at additional expense, and is not included in the cost estimate for this strategy. The cost of specific high diversion contract terms is dependent upon negotiations (e.g., increased operating expenses from the provision of new services), and would be carried on the rates; as such, this is not included in the cost estimate for this strategy.

Case Study

The City of Los Altos has a franchise agreement with Mission Trail Waste Systems (MTWS), a sister company to ACI, which requires MTWS to achieve 78% waste diversion of waste materials it handles under its contract. While MTWS has yet to achieve its diversion requirement, the company has maintained a high diversion rate of 70%+ and meets with the City regularly to discuss new programs and approaches. For example, the potential for Los Altos to start dry waste processing through MTWS' materials recovery facility is currently under consideration.

Section 5

Recommended Strategies

If after implementing the recommended zero waste strategies 1-5 above the City determines the need to further support the community in reaching its zero waste goal, R3 recommends consideration of mixed waste processing (discussed below). Mixed waste processing is suggested for implementation only after strong efforts to provide technical assistance and support culture change are made, and diversion rate improvements fall short. This strategy was also proposed in the original ZWIP, and has yet to be implemented.

The decision to increase waste steam processing is a function of the Department of Public Works, including all necessary preparations and contracting for a pilot program. If initiated, commercial and multi-family accounts would not be notified if their garbage is selected for processing, and would be prioritized to receive technical assistance to help them improve waste diversion practices.

R3

Mixed Waste Processing

Summary

Mixed waste processing is included in the ZWIP and could still be considered after implementing robust public education and support for source separation. Mixed waste processing targets the recovery of divertible materials from commercial and multi-family garbage. Selective routing would collect material for processing: dry waste (garbage with a high level of recyclable materials) and wet waste (garbage with a high level of organic materials).

Objective

If after implementing recommended strategies the City determines that greater waste diversion is needed to achieve zero waste, the City could consider mixed waste processing.

Description

The recovery of recyclable and compostable materials from garbage is gaining traction as a viable method for achieving higher diversion rates when augmented with traditional recycling programs and public education efforts promoting source separation. If deemed necessary by the City to aid in the achievement of the zero waste, selective routing to collect garbage from commercial and multi-family customers identified as having a high content of recyclable or compostable materials in their landfill bins would be established by the franchised hauler, and the material directed to a local facility for processing.

The City recently renewed its Transfer and Disposal of Solid Waste Agreement with Davis Street Transfer Station (Davis Street), which includes provision for potential mixed waste processing. Davis Street has a dry waste processing line (mixed waste processing that targets the recovery of recyclable materials) and recently invested in a set of organics processing operations for wet waste that the City could utilize if it initiates a change to the contract scope and accepts the facility operator's proposal for mixed waste processing services. The franchised hauler would continue to deliver garbage to Davis Street as it does now; however, dry waste and wet waste route trucks would be delivering materials for processing and diversion in lieu of disposal.

Davis Street recently invested in the development of a set of organics processing operations, which are expected to become operational in late 2018. These include an organic materials recovery facility (OMRF), an in-vessel composting facility, and an anaerobic digestion facility, all designed to be indoor and a part of the Davis Street transfer station footprint.

Residual from mixed waste processing would be transferred and transported to the Altamont landfill along with the rest of Alameda's unprocessed garbage. The City may elect to use an alternative facility for dry waste processing; however, the contract between the City and Davis Street requires that any residual, or other material in an equivalent amount, be directed to Davis Street for transfer, transport, and disposal. For this reason, Davis Street may present an overall more cost-effective option for mixed waste processing, and, from a climate action planning perspective, no additional greenhouse gases would be generated from the transport of garbage to this facility for processing.

Commercial and multi-family accounts selected for dry waste or wet waste processing would not be notified that their garbage is to be processed, and community outreach and education would not include mixed waste processing. This will help avoid undermining source separation

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Recommended Strategies

efforts and any misconceptions that mixed waste processing is to be applied to Alameda's entire disposal stream. Source separation of materials is still preferable (e.g., the recovered recyclables will be cleaner and more marketable, and therefore more divertible, than the recyclables sorted via dry waste processing). However, it remains an important potential strategy for moving tons from landfill disposal as an option of last resort after strong efforts are made to reduce waste upstream.

It should be noted that whether mixed waste processing could begin within the 5-year time frame is uncertain: regional capacity is limited and new infrastructure to expand that capacity is still under development. In the short-term, Davis Street may not be able to accept more materials for processing on its dry waste line, and its OMRF may not become operational and/or open to accept more wet waste until a later date than anticipated.

SECTION 6 PLANNING FOR ZERO WASTE

In planning for recommended strategy implementation and supporting the community's achievement in zero waste, the City should consider the cost, timeline, and potential impacts on its related planning documents. The City's estimated costs for each zero waste strategy and projected implementation over a 5-year planning horizon are further detailed in Appendix C.

R3 also reviewed the current franchise agreement with ACI, the Climate Action Plan, elements of the City's General Plan, and the Long-Term Trash Plan for maintaining stormwater quality, to assess if potential changes are needed to support zero waste.

Estimated Cost and Implementation Timeline for Zero Waste Strategies

Costs for implementation of recommended zero waste strategies were developed by estimating:

- The number of hours that would be needed to develop and maintain each program;
- An average hourly rate for consultant time of \$175 per hour, and \$100 per hour for a third-party contractor to conduct technical assistance;
- The annual outreach and education materials expense for each program (e.g. advertising, promotional flyers, brochures, City website content, etc.);
- The cost of a truck for food collections at \$100,000, amortized over 10 years, fuel for 10-mile routes, and labor for collections at \$75/hour; and
- The annual mixed waste processing costs for dry waste systems targeting diversion of recyclables (\$135/ton, based on the Newby Island Landfill cost per ton), and wet waste systems targeting diversion of organic materials (\$320/ton based on the Recology SF OREX cost per ton). Avoided disposal fees are also factored into the cost estimate: \$89.65/ton per the City's contract with Davis Street.

Implementation of recommended zero waste strategies is projected over a 5-year timeline to help focus efforts in the near-term, and divert the most tons from landfill disposal through 2022. The City's franchise agreement also terminates in 2022, and following this pivotal point the City evaluate and measure goal achievement, as well as reassess conditions and strategies as needed.

Solid Waste Rates

R3 calculated the potential rate impacts of funding zero waste strategies, which is presented below in Table 6-1. If the City were to fund Strategies 1-5 through the rate base, Alameda's solid waste rates would need to increase by approximately 4% in order to cover the average annual cost of implementation. For single-family customers with a 20-gallon garbage cart, which is a common cart size for Alameda residents, this would be an additional \$0.92 per month. To help reduce a rate increase to fund zero waste policies and programs, the City could use funds from the Department of Public Works Budget. As an estimate and guideline, each 1% rate increase represents approximately \$200,000 in funds.

R3

Section 6

Planning for
Zero Waste**Table 6-1: Rate Increase for Zero Waste Components**

Recommended Strategies	
1) Support Zero Waste Culture in Alameda	0.6%
2) Conduct Targeted Technical Assistance with Commercial and Multi-Family	1.9%
3) Create Food Recovery Program and Enhance Organics Management	0.7%
4) Update C&D Ordinance and Conduct Outreach	0.5%
5) Expand High Diversion Franchise Agreement	0.3%
TOTAL	3.9%

Table 6-2 shows the estimated rate increase for zero waste as a dollar amount for residential customers based on garbage container size. For commercial customers, the additional dollar amount added per month would be \$5.88 per cubic yard of service.

Table 6-2: Zero Waste Funding Impact on Residential Solid Waste Rates

Garbage Container Size	2017-2018 Single-Family Monthly Rate	Rate Increase for Zero Waste	Variance (\$)
20-gallon Cart	\$23.53	\$24.45	\$0.92
32-gallon Cart	\$29.70	\$30.86	\$1.16
64-gallon Cart	\$48.81	\$50.71	\$1.90
96-gallon Cart	\$68.16	\$70.82	\$2.66

Timing for the implementation of enhanced or new zero waste strategies is subject to the City's budget process, contract extensions with ACI or new contracts with another service provider, further collaboration with ZWIP stakeholders, and negotiations for additional materials processing and other solid waste services.

Local Action Plan for Climate Protection

Alameda's Local Action Plan for Climate Protection (LAPCP) provides guidelines for the City to reduce its greenhouse gas emissions, and sets a goal of reducing Citywide greenhouse gas emissions to 25% below 2005 levels by the year 2020. This planning document was originally adopted by the City Council in 2008, and the City is currently preparing to update it to reflect current conditions and progress made in reducing Alameda's generation of greenhouse gases.

Initiatives for waste and recycling are outlined in LAPCP to support achievement of this goal, which together were recommended for the City's consideration in order to formulate a zero waste strategy. LAPCP suggested zero waste initiatives include a ban on polystyrene foam to-go containers, a stronger EPPP, a stronger C&D ordinance, collaboration with AUSD to increase school recycling, and collaboration with CalRecycle to site more CRV drop-off areas and local recycling centers.

Recommended changes to the LAPCP regarding zero waste include the following:

- Update descriptions of Alameda's current solid waste policies and programs, including the implementation status of LAPCP recommended initiatives, diversion performance and progress, and disposal and waste stream composition;
- Include the recommended zero waste strategies as priority zero waste initiatives for the City to implement in support of greenhouse gas emission reduction goals;

- Reiterate that the benefits gained from recycling and the associated reduction in “upstream” energy use far outweigh sending waste to the landfill, and connect this to the implementation of upstream ZWIP and recommended strategies; and
- Under “Helpful Resources Available for Alamedans!” include the fourth R (Rot) and expand this list to include more local organizations that support waste reduction efforts (e.g., food donation to Alameda Kitchen), third-party certified C&D facilities (e.g., Davis Street), and others.

Preliminary numbers from the City’s updated Greenhouse Gas Inventory show that Alameda waste-related emissions have gone down an estimated -19% in 2015 as compared to the 2005 baseline. The City’s implementation of its ZWIP has likely played an important role in achieving this reduction.

Alameda General Plan

R3 reviewed elements of the City’s General Plan to identify recommended changes and areas of overlap or concern with reference to the Zero Waste Implementation Plan Update, which include:

- Amend the Transportation Element to add a policy to provide transportation facilities to enable the efficient servicing of all properties by waste collection vehicles, in support of Objective 4.1.1: Provide for the safe and efficient movement of people, goods, and services;
- Noise from waste collection vehicles is generally addressed in the Safety and Noise Element as part of the Objective to protect Alameda residents from the harmful effects of exposure to excessive noise from aircraft, buses, boats, trucks and automobiles, and adjacent land uses; and
- Referenced codes and standards relating to green building and sustainable design, as found in sections of the Land Use Element and Housing Element, include requirements for provision of adequate space and enclosures for containers for each of the garbage, recycling, and organics waste streams.

Given projections of moderate population growth, adequate consideration must be given to designing for zero waste and creating the conditions for PPD to continue its downward trajectory. The infrastructure policies and design standards referenced above and the strategies in this ZWIP Update will help ensure that progress toward zero waste on a per capita basis will continue despite any increases in the City’s population. The strategy to conduct outreach on C&D waste will help maximize diversion from development activities, and the strategy to conduct targeted technical assistance will help provide new members of the Alameda community with the education and resources necessary to minimize waste.

Long-Term Trash Plan

The City’s Long-Term Trash Load Reduction Plan and Assessment Strategy (Long-Term Plan) was developed in compliance with the Municipal Regional Permit (also known as the NPDES Permit), which applies to 76 municipalities and flood control agencies in the San Francisco Bay Region. The Long-Term Plan describes the implementation of trash control measures, and additional planned control measures, that will be implemented to attain a 70% trash load reduction by July 1, 2017, and 100% (i.e., “No Visual Impact”) by July 1, 2022. Trash control

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measures that are being implemented, or identified for implementation in the Long-Term Plan, include:

- Full-Capture Treatment Devices
- Partial-Capture Treatment Devices
- Enhanced Storm Drain Inlet Maintenance
- Street Sweeping
- On-land Cleanups
- Shoreline Cleanups
- Improved Trash Bins/Container Management
- Anti-Littering and Illegal Dumping Enforcement Activities

In recognition of Alameda's potential development opportunities and forecast population growth, R3 finds that the land use and trash generation categories as currently presented in the plan may shift towards more residential areas, which generally have a low trash load, and potentially higher trash loads in retail areas and urban parks. Retail areas and urban parks are already identified as having the highest trash loads, a trend that is likely to intensify with more use from a growing residential base; these land uses could grow in number if development plans favor multi-use to integrate commercial areas and green spaces.

In supporting zero waste culture in Alameda, the City may see better utilization of three-stream public containers over time as residents and visitors come to expect and normalize their use. Working with businesses to reduce litter through technical assistance, and improved trash bins and container management, will also be helpful waste management strategies that can be leveraged to improve stormwater quality.

The Future of Solid Waste In Alameda

The future of Alameda's solid waste program will be shaped by several factors: the community's progress towards zero waste, the requirements of new state legislation, and influence of larger socioeconomic shifts. In 2023, Alameda should conduct an evaluation of its landfill diversion and ZWIP Update implementation to measure success and keep all stakeholders accountable for the outcome. Actions taken to fulfill each zero waste strategy, and the results, should be well documented alongside any program innovations, supporting initiatives, and other changes in conditions. Findings should be communicated to further improve waste reduction (Scenario 1) or open a dialogue with the community on next steps for achieving zero waste (Scenario 2).

Scenario 1: 2022 Zero Waste Goal Achievement

If Alameda reaches its goal by 2022, the community's success should be first and foremost be celebrated. Alamedans should be recognized for their collective achievement and encouraged to maintain the zero waste practices for sustained community and environmental benefit. The City, franchised hauler, and CASA should then take this opportunity to consider how this success could potentially be built upon for greater sustainability. During this next phase (through 2030) supporting Alameda's Local Action Plan for Climate Protection through zero waste initiatives with climate co-benefits will likely become a primary focus as the community strives to reduce its greenhouse gas emissions.

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Zero waste has a direct connection with reducing greenhouse gas emissions. Food waste and other organic materials sent to landfill for disposal create methane, a potent greenhouse that accelerates climate change. In particular, the use of compost to sequester carbon on public lands as a next step in zero waste achievement supports increased diversion of organic materials from landfill by providing a greater market demand and beneficial end use for organic material that reduces greenhouse gas emissions.

Specifically, Alameda could use compost created from its own organic material for “carbon farming” on city landscaping and public land (e.g., Doolittle Landfill and parks), closing the loop and enhancing climate action at the local level. Carbon farming involves implementing practices that are known to improve the rate at which CO₂ is removed from the atmosphere and converted to plant material and soil organic matter. The Marin Carbon project is a successful model that Alameda could adapt for use in the urban environment to help Alameda meet its 2030 emissions target through improving carbon sequestration. This approach also aligns with the anticipated requirements of SB 1383, which the City will need to address and could surpass by taking a proactive approach to its organic materials management.

Recycling materials into new products is often less energy intensive than creating new products from virgin materials, and recycling paper and fiber also avoids the production of methane if that same material were to be landfilled. This reduces pressure on the world’s forests and other ecosystems, allowing them to function as natural carbon sinks.

Identifying opportunities to recycle and compost more materials will also be beneficial at this stage, further reducing the amount of resources sent to landfill. The current volatility of recycling markets, currently in response to China’s National Sword, could settle in the coming years as local manufacturing becomes a more viable alternative to international exports. In parallel, working to reduce contamination will improve recycling and compost quality, ensuring source separated materials can be utilized effectively.

Scenario 2: Continuing on the Path to Zero Waste

If zero waste is not achieved by 2022, the City should use its evaluation of zero waste progress to identify the largest areas of opportunity to increase diversion, and take lessons learned to inform next steps in working with the franchised hauler and community. For example, if Strategy 1. Support Zero Waste Culture in Alameda has not yet reached its full potential, but continues to grow and show promise, then the City should collaborate with CASA to further reduce barriers to zero waste encountered in everyday life (e.g., pilot a plastic free aisle in a local grocery store, and provide residents with reusable containers and produce bags) and develop corresponding behavior change marketing. In addition, the City should consider full implementation of all ZWIP strategies, particularly those not implemented to date.

Enforcement of recycling and composting should also be considered if a positive education approach proves insufficient to move tons from landfill. Specifically, if waste generators are still out of compliance with Alameda’s solid waste ordinance requirements after increased efforts are made to educate the public and conduct outreach, then the City could begin issuing citations and fines. This approach may be needed to help Alameda reach zero waste, particularly if voluntary, active participation in recycling and composting programs falls short.

In order for the community to take the next steps on Alameda’s path to zero waste, a new goal date should be established and a new strategic plan developed for zero waste achievement. Dependent upon on how close Alameda is to reaching its goal, R3 recommends 2030 be considered as the new goal date to allow sufficient time for selected zero waste strategies to be implemented. A greater focus on zero waste initiatives that reduce greenhouse gas

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emissions will likely be a driving force for this next phase in order to enhance Alameda's implementation of its Local Action Plan for Climate Protection, see further discussion below.

To 2050 and Beyond

While 1.2 PPD is a significant achievement and not to be understated, there is more that can be done via source reduction and reuse to build on prior successes and get Alameda as close as possible to zero landfill disposal. In addition to being highest on the waste hierarchy, source reduction and reuse also protect the climate by avoiding carbon emissions associated with resource extraction, production, distribution, consumption, and disposal—especially as an alternative to consuming single-use, disposable products.

Applying source reduction and reuse to the construction and demolition waste stream has incredible potential to reduce landfill disposal. Fostering the local development of organizations that salvage building materials and fixtures for reuse, while iteratively improving the City's C&D recycling program to incorporate more requirements and guidelines for deconstruction and the utilization of salvaged materials, will put Alameda in the forefront of innovative C&D waste stream management.

Reducing plastics entering the world's oceans through source reduction and reuse has important implications for zero waste and climate action. Oceans are huge reservoirs of atmospheric carbon, and protecting the marine environment from plastic pollution allows for better functioning ecosystems that can help stabilize the climate. Zero waste program partnership with the CWP will be valuable for addressing this environmental challenge. For example, the City could consider funding the installation of more trash capture devices as a solid waste initiative to help remove plastic and other contaminants from stormwater and sort collected materials for diversion where possible. For a community surrounded by water the spread of zero waste culture, including Disposable Food Service Ware Ordinance implementation and ReThink Disposable project, will be particularly important for reducing the use of plastics that too often end up in landfill or in the environment as marine litter.

Through 2050 and beyond, the continued support from the City, franchised hauler, and CASA will be needed in order to help the community maintain its zero waste success. Alameda is a leader and innovator on its way to becoming a model for others to follow not only in achieving zero waste, but city sustainability.

City of Alameda Public Works Department Public Works Works for You!										Project Lead: Public Works										Project: Zero Waste Implementation Plan										Date: 10/10/17																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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Recommended Zero Waste Strategy	Annual Additional Potential Diversion					
	Single Family	Multi-Family	Commercial	Industrial	C&D Debris	Total All Sectors
1) Support Zero Waste Culture in Alameda	1,080	490	840	570	1,060	4,040
2) Conduct Targeted Technical Assistance with Commercial and Multi-Family Sectors		1,800	2,640	1,880		6,320
3) Create Food Recovery Program and Enhance Organics Management	390	200	280	190		1,060
4) Update C&D Ordinance and Conduct Outreach					3,060	3,060
5) Expand High Diversion Franchise Agreement	350	230	340	230		1,150
TOTAL	1,820	2,720	4,100	2,870	4,120	15,630

Estimated Disposal and PPD Impact	
2016 Alameda DRS Disposal	33,626
DRS Disposal Less Additional Potential Diversion	17,996
2016 Alameda Population	79,338
2016 Alameda PPD	2.3
Alameda PPD with Annual Additional Potential Diversion	1.2

Residential - Single Family								
Material	Disposed		Expand High Diversion Franchise Agreement		Create Food Recovery Program		Total by Material Type	
	Est. %	Est. Tons	Capture Rate	Tons Captured	Capture Rate	Tons Captured	Capture Rate	Tons Captured
Paper	19.2%	1,722		-		-	0%	-
Uncoated Corrugated Cardboard	2.0%	179	5%	9		-	5%	9
Paper Bags	0.3%	27	5%	1		-	5%	1
Newspaper	2.1%	188	5%	9		-	5%	9
White Ledger Paper	0.3%	27	5%	1		-	5%	1
Other Office Paper	0.5%	45	5%	2		-	5%	2
Magazines and Catalogs	0.7%	63	5%	3		-	5%	3
Phone Books and Directories	0.0%	-	5%	-		-	5%	-
Other Miscellaneous Paper	4.50%	404	5%	20		-	5%	20
Remainder/Composite Paper	8.8%	789	5%	39		-	5%	39
Glass	2.2%	197		-		-	0%	-
Clear Glass Bottles and Containers	1.2%	108	5%	5		-	5%	5
Green Glass Bottles and Containers	0.3%	27	5%	1		-	5%	1
Brown Glass Bottles and Containers	0.5%	45	5%	2		-	5%	2
Other Colored Glass Bottles and Containers	0.0%	-	5%	-		-	5%	-
Flat Glass	0.0%	-	5%	-		-	5%	-
Remainder/Composite Glass	0.2%	18	5%	1		-	5%	1
Metal	2.9%	260		-		-	0%	-
Tin/Steel Cans	0.8%	72	5%	4		-	5%	4
Major Appliances	0.2%	18	5%	1		-	5%	1
Used Oil Filters	0.0%	-	5%	-		-	5%	-
Other Ferrous	0.6%	54	5%	3		-	5%	3
Aluminum Cans	0.2%	18	5%	1		-	5%	1
Other Non-Ferrous	0.4%	36	5%	2		-	5%	2
Remainder/Composite Metal	0.5%	45	5%	2		-	5%	2
Electronics	1.1%	99		-		-	0%	-
Brown Goods	0.3%	27	5%	1		-	5%	1
Computer-related Electronics	0.2%	18	5%	1		-	5%	1
Other Small Consumer Electronics	0.4%	36	5%	2		-	5%	2
Video Display Devices	0.3%	27	5%	1		-	5%	1
Plastic	10.2%	915		-		-	0%	-
PETE Containers	0.8%	72	5%	4		-	5%	4
HDPE Containers	0.5%	45	5%	2		-	5%	2
Miscellaneous Plastic Containers	0.6%	54	5%	3		-	5%	3
Plastic Trash Bags	1.2%	108		-		-	0%	-
Plastic Grocery and Other Merchandise Bags	0.8%	72		-		-	0%	-
Non-Bag Commercial and Industrial Packaging Film	0.1%	9		-		-	0%	-
Film Products	0.0%	-		-		-	0%	-
Other Film	2.0%	179		-		-	0%	-
Durable Plastic Items	1.8%	161	5%	8		-	5%	8
Remainder/Composite Plastic	2.5%	224		-		-	0%	-
Other Organic	45.8%	4,108		-		-	0%	-
Food	21.9%	1,964	5%	98	20%	393	25%	491
Leaves and Grass	4.6%	413	5%	21		-	5%	21
Prunings and Trimmings	3.8%	341	5%	17		-	5%	17
Branches and Stumps	1.5%	135	5%	7		-	5%	7
Manures	0.0%	-		-		-	0%	-
Textiles	5.5%	493	5%	25		-	5%	25
Carpet	1.5%	135	5%	7		-	5%	7
Remainder/Composite Organic	6.5%	583	5%	29		-	5%	29
Inerts and Other	10.8%	969		-		-	0%	-
Concrete	0.8%	72		-		-	0%	-
Asphalt Paving	0.0%	-		-		-	0%	-
Asphalt Roofing	0.5%	45		-		-	0%	-
Lumber	6.8%	610		-		-	0%	-
Gypsum Board	0.3%	27		-		-	0%	-
Rock, Soil and Fines	1.8%	161		-		-	0%	-
Remainder/Composite Inerts and Other	0.8%	72		-		-	0%	-
Household Hazardous Waste (HHW)	0.5%	45		-		-	0%	-
Paint	0.2%			-		-	0%	-
Vehicle and Equipment Fluids	0.0%			-		-	0%	-
Used Oil	0.0%			-		-	0%	-
Batteries	0.1%			-		-	0%	-
Remainder/Composite Household Hazardous	0.2%			-		-	0%	-
Special Waste	3.2%	287		-		-	0%	-
Ash	0.0%	-		-		-	0%	-
Treated Medical Waste	0.2%	18		-		-	0%	-
Bulky Items	2.8%	251	5%	13		-	5%	13
Tires	0.1%	9		-		-	0%	-
Remainder/Composite Special Waste	0.1%	9		-		-	0%	-
Mixed Residue	4.8%	431		-		-	0%	-
Mixed Residue	4.8%	431		-		-	0%	-
TOTAL	100%	8,970	4%	346	4%	393	8%	739

Support Zero Waste Culture in Alameda Diversion Estimate	1080
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Residential - Multi-Family										
Material	Disposed		Expand High Diversion Franchise Agreement		Conduct Targeted Technical Assistance		Create Food Recovery Program		Total by Material Type	
	Est. %	Est. Tons	Capture Rate	Tons Captured	Capture Rate	Tons Captured	Capture Rate	Tons Captured	Capture Rate	Tons Captured
Paper	23.9%	981		-		-		-	0%	-
Uncoated Corrugated Cardboard	3.6%	148	7%	10	60%	89		-	67%	99
Paper Bags	0.6%	25	7%	2	60%	15		-	67%	16
Newspaper	5.0%	205	7%	14	60%	123		-	67%	137
White Ledger Paper	0.5%	21	7%	1	60%	12		-	67%	14
Other Office Paper	0.5%	21	7%	1	60%	12		-	67%	14
Magazines and Catalogs	0.7%	29	7%	2	60%	17		-	67%	19
Phone Books and Directories	0.0%	-	7%	-	60%	-		-	67%	-
Other Miscellaneous Paper	5.1%	209	7%	15	60%	126		-	67%	140
Remainder/Composite Paper	7.90%	324	7%	23	60%	195		-	67%	217
Glass	3.0%	123		-		-		-	0%	-
Clear Glass Bottles and Containers	1.6%	66	7%	5	60%	39		-	67%	44
Green Glass Bottles and Containers	0.1%	4	7%	0	60%	2		-	67%	3
Brown Glass Bottles and Containers	0.7%	29	7%	2	60%	17		-	67%	19
Other Colored Glass Bottles and Containers	0.1%	4	7%	0	60%	2		-	67%	3
Flat Glass	0.0%	-	7%	-	60%	-		-	67%	-
Remainder/Composite Glass	0.5%	21	7%	1	60%	12		-	67%	14
Metal	3.3%	135		-		-		-	0%	-
Tin/Steel Cans	0.9%	37	7%	3	60%	22		-	67%	25
Major Appliances	0.0%	-	7%	-	60%	-		-	67%	-
Used Oil Filters	0.0%	-	7%	-		-		-	7%	-
Other Ferrous	0.7%	29	7%	2	60%	17		-	67%	19
Aluminum Cans	0.2%	8	7%	1	60%	5		-	67%	5
Other Non-Ferrous	0.7%	29	7%	2	60%	17		-	67%	19
Remainder/Composite Metal	0.7%	29	7%	2	60%	17		-	67%	19
Electronics	1.4%	57		-		-		-	0%	-
Brown Goods	0.5%	21	7%	1	60%	12		-	67%	14
Computer-related Electronics	0.2%	8	7%	1	60%	5		-	67%	5
Other Small Consumer Electronics	0.2%	8	7%	1	60%	5		-	67%	5
Video Display Devices	0.5%	21	7%	1	60%	12		-	67%	14
Plastic	11.0%	451		-		-		-	0%	-
PETE Containers	0.1%	4	7%	0	60%	2		-	67%	3
HDPE Containers	0.4%	16	7%	1	60%	10		-	67%	11
Miscellaneous Plastic Containers	0.6%	25	7%	2	60%	15		-	67%	16
Plastic Trash Bags	1.1%	45		-		-		-	0%	-
Plastic Grocery and Other Merchandise Bags	0.9%	37		-		-		-	0%	-
Non-Bag Commercial and Industrial Packaging Film	0.2%	8		-		-		-	0%	-
Film Products	0.0%	-		-		-		-	0%	-
Other Film	2.2%	90		-		-		-	0%	-
Durable Plastic Items	1.1%	45	7%	3	60%	27		-	67%	30
Remainder/Composite Plastic	3.5%	144		-		-		-	0%	-
Other Organic	43.8%	1,797		-		-		-	0%	-
Food	24.7%	1,014	7%	71	60%	608	20%	203	87%	882
Leaves and Grass	2.8%	115	7%	8	60%	69		-	67%	77
Prunings and Trimmings	0.8%	33	7%	2	60%	20		-	67%	22
Branches and Stumps	0.0%	-	7%	-	60%	-		-	67%	-
Manures	0.0%	-		-		-		-	0%	-
Textiles	7.6%	312	7%	22		-		-	7%	22
Carpet	0.6%	25	7%	2		-		-	7%	2
Remainder/Composite Organic	7.1%	291	7%	20	60%	175		-	67%	195
Inerts and Other	6.1%	250		-		-		-	0%	-
Concrete	0.3%	12		-		-		-	0%	-
Asphalt Paving	0.0%	-		-		-		-	0%	-
Asphalt Roofing	0.0%	-		-		-		-	0%	-
Lumber	5.0%	205		-		-		-	0%	-
Gypsum Board	0.4%	16		-		-		-	0%	-
Rock, Soil and Fines	0.3%	12		-		-		-	0%	-
Remainder/Composite Inerts and Other	0.2%	8		-		-		-	0%	-
Household Hazardous Waste (HHW)	0.1%	4		-		-		-	0%	-
Paint	0.0%	-		-		-		-	0%	-
Vehicle and Equipment Fluids	0.0%	-		-		-		-	0%	-
Used Oil	0.0%	2		-		-		-	0%	-
Batteries	0.0%	1		-		-		-	0%	-
Remainder/Composite Household Hazardous	0.1%	3		-		-		-	0%	-
Special Waste	3.9%	160		-		-		-	0%	-
Ash	0.1%	4		-		-		-	0%	-
Treated Medical Waste	0.8%	33		-		-		-	0%	-
Bulky Items	2.9%	119	7%	8	60%	71		-	67%	80
Tires	0.0%	-		-		-		-	0%	-
Remainder/Composite Special Waste	0.0%	-		-		-		-	0%	-
Mixed Residue	3.6%	148		-		-		-	0%	-
Mixed Residue	3.6%	148		-		-		-	0%	-
TOTAL	100%	4,104	6%	230	43%	1,773	5%	203	54%	2,206

Support Zero Waste Culture in Alameda Diversion Estimate	490
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Commercial										
Material	Disposed		Expand High Diversion Franchise Agreement		Conduct Targeted Technical Assistance		Create Food Recovery Program		Total by Material Type	
	Est. %	Est. Tons	Capture Rate	Tons Captured	Capture Rate	Tons Captured	Capture Rate	Tons Captured	Capture Rate	Tons Captured
Paper	20.4%	1,425		-		-		-	0%	-
Uncoated Corrugated Cardboard	5.0%	349	7%	24	60%	210		-	67%	234
Paper Bags	0.2%	14	7%	1	60%	8		-	67%	9
Newspaper	0.5%	35	7%	2	60%	21		-	67%	23
White Ledger Paper	0.7%	49	7%	3	60%	29		-	67%	33
Other Office Paper	0.3%	21	7%	1	60%	13		-	67%	14
Magazines and Catalogs	0.6%	42	7%	3	60%	25		-	67%	28
Phone Books and Directories	0.0%	-	7%	-	60%	-		-	67%	-
Other Miscellaneous Paper	4.50%	314	7%	22	60%	189		-	67%	211
Remainder/Composite Paper	8.6%	601	7%	42	60%	361		-	67%	403
Glass	3.3%	231		-		-		-	0%	-
Clear Glass Bottles and Containers	0.7%	49	7%	3	60%	29		-	67%	33
Green Glass Bottles and Containers	0.2%	14	7%	1	60%	8		-	67%	9
Brown Glass Bottles and Containers	0.3%	21	7%	1	60%	13		-	67%	14
Other Colored Glass Bottles and Containers	0.1%	7	7%	0	60%	4		-	67%	5
Flat Glass	0.1%	7	7%	0	60%	4		-	67%	5
Remainder/Composite Glass	1.8%	126	7%	9	60%	75		-	67%	84
Metal	3.3%	231		-		-		-	0%	-
Tin/Steel Cans	0.6%	42	7%	3	60%	25		-	67%	28
Major Appliances	0.1%	7	7%	0	60%	4		-	67%	5
Used Oil Filters	0.0%	-	7%	-		-		-	7%	-
Other Ferrous	1.0%	70	7%	5	60%	42		-	67%	47
Aluminum Cans	0.1%	7	7%	0	60%	4		-	67%	5
Other Non-Ferrous	0.6%	42	7%	3	60%	25		-	67%	28
Remainder/Composite Metal	0.8%	56	7%	4	60%	34		-	67%	37
Electronics	0.8%	56		-		-		-	0%	-
Brown Goods	0.3%	21	7%	1	60%	13		-	67%	14
Computer-related Electronics	0.1%	7	7%	0	60%	4		-	67%	5
Other Small Consumer Electronics	0.1%	7	7%	0	60%	4		-	67%	5
Video Display Devices	0.3%	21	7%	1	60%	13		-	67%	14
Plastic	12.5%	873		-		-		-	0%	-
PETE Containers	0.7%	49	7%	3	60%	29		-	67%	33
HDPE Containers	0.6%	42	7%	3	60%	25		-	67%	28
Miscellaneous Plastic Containers	0.7%	49	7%	3	60%	29		-	67%	33
Plastic Trash Bags	1.7%	119		-		-		-	0%	-
Plastic Grocery and Other Merchandise Bags	0.3%	21		-		-		-	0%	-
Non-Bag Commercial and Industrial Packaging Film	0.5%	35		-		-		-	0%	-
Film Products	0.5%	35		-		-		-	0%	-
Other Film	2.1%	147		-		-		-	0%	-
Durable Plastic Items	2.7%	189	7%	13	60%	113		-	67%	126
Remainder/Composite Plastic	2.6%	182		-		-		-	0%	-
Other Organic	34.8%	2,432		-		-		-	0%	-
Food	20.1%	1,404	7%	98	60%	843	20%	281	87%	1,222
Leaves and Grass	3.2%	224	7%	16	60%	134		-	67%	150
Prunings and Trimmings	1.8%	126	7%	9	60%	75		-	67%	84
Branches and Stumps	1.7%	119	7%	8	60%	71		-	67%	80
Manures	1.3%	91		-		-		-	0%	-
Textiles	3.1%	217	7%	15		-		-	7%	15
Carpet	1.0%	70	7%	5		-		-	7%	5
Remainder/Composite Organic	2.7%	189	7%	13	60%	113		-	67%	126
Inerts and Other	17.9%	1,251		-		-		-	0%	-
Concrete	0.8%	56		-		-		-	0%	-
Asphalt Paving	0.0%	-		-		-		-	0%	-
Asphalt Roofing	0.7%	49		-		-		-	0%	-
Lumber	12.1%	845		-		-		-	0%	-
Gypsum Board	0.8%	56		-		-		-	0%	-
Rock, Soil and Fines	1.9%	133		-		-		-	0%	-
Remainder/Composite Inerts and Other	1.6%	112		-		-		-	0%	-
Household Hazardous Waste (HHW)	0.4%	28		-		-		-	0%	-
Paint	0.2%	14		-		-		-	0%	-
Vehicle and Equipment Fluids	0.0%	-		-		-		-	0%	-
Used Oil	0.0%	3		-		-		-	0%	-
Batteries	0.0%	3		-		-		-	0%	-
Remainder/Composite Household Hazardous	0.1%	7		-		-		-	0%	-
Special Waste	4.8%	335		-		-		-	0%	-
Ash	0.1%	7		-		-		-	0%	-
Treated Medical Waste	0.0%	-		-		-		-	0%	-
Bulky Items	3.8%	266	7%	19	20%	53		-	27%	72
Tires	0.0%	-		-		-		-	0%	-
Remainder/Composite Special Waste	0.8%	56		-		-		-	0%	-
Mixed Residue	1.8%	126		-		-		-	0%	-
Mixed Residue	1.8%	126		-		-		-	0%	-
TOTAL	100.0%	6,988	5%	341	38%	2,644	4%	281	47%	3,266
Support Zero Waste Culture in Alameda Diversion Estimate		840								

Industrial										
Material	Disposed		Expand High Diversion Franchise Agreement		Conduct Targeted Technical Assistance		Create Food Recovery Program		Total by Material Type	
	Est. %	Est. Tons	Capture Rate	Tons Captured	Capture Rate	Tons Captured	Capture Rate	Tons Captured	Capture Rate	Tons Captured
Paper	20.4%	973		-		-		-		-
Uncoated Corrugated Cardboard	5.0%	239	7%	17	60%	143		-	67%	160
Paper Bags	0.2%	10	7%	1	60%	6		-	67%	6
Newspaper	0.5%	24	7%	2	60%	14		-	67%	16
White Ledger Paper	0.7%	33	7%	2	60%	20		-	67%	22
Other Office Paper	0.3%	14	7%	1	60%	9		-	67%	10
Magazines and Catalogs	0.6%	29	7%	2	60%	17		-	67%	19
Phone Books and Directories	0.0%	-	7%	-	60%	-		-	67%	-
Other Miscellaneous Paper	4.50%	215	7%	15	60%	129		-	67%	144
Remainder/Composite Paper	8.6%	410	7%	29	60%	246		-	67%	275
Glass	3.3%	157		-		-		-	0%	-
Clear Glass Bottles and Containers	0.7%	33	7%	2	60%	20		-	67%	22
Green Glass Bottles and Containers	0.2%	10	7%	1	60%	6		-	67%	6
Brown Glass Bottles and Containers	0.3%	14	7%	1	60%	9		-	67%	10
Other Colored Glass Bottles and Containers	0.1%	5	7%	0	60%	3		-	67%	3
Flat Glass	0.1%	5	7%	0	60%	3		-	67%	3
Remainder/Composite Glass	1.8%	86	7%	6	60%	52		-	67%	58
Metal	3.3%	157		-		-		-	0%	-
Tin/Steel Cans	0.6%	29	7%	2	60%	17		-	67%	19
Major Appliances	0.1%	5	7%	0	60%	3		-	67%	3
Used Oil Filters	0.0%	-	7%	-		-		-	7%	-
Other Ferrous	1.0%	48	7%	3	60%	29		-	67%	32
Aluminum Cans	0.1%	5	7%	0	60%	3		-	67%	3
Other Non-Ferrous	0.6%	29	7%	2	60%	17		-	67%	19
Remainder/Composite Metal	0.8%	38	7%	3	60%	23		-	67%	26
Electronics	0.8%	38		-		-		-	0%	-
Brown Goods	0.3%	14	7%	1	60%	9		-	67%	10
Computer-related Electronics	0.1%	5	7%	0	60%	3		-	67%	3
Other Small Consumer Electronics	0.1%	5	7%	0	60%	3		-	67%	3
Video Display Devices	0.3%	14	7%	1	60%	9		-	67%	10
Plastic	12.5%	596		-		-		-	0%	-
PETE Containers	0.7%	33	7%	2	60%	20		-	67%	22
HDPE Containers	0.6%	29	7%	2	60%	17		-	67%	19
Miscellaneous Plastic Containers	0.7%	33	7%	2	60%	20		-	67%	22
Plastic Trash Bags	1.7%	81		-		-		-	0%	-
Plastic Grocery and Other Merchandise Bags	0.3%	14		-		-		-	0%	-
Non-Bag Commercial and Industrial Packaging Film	0.5%	24		-		-		-	0%	-
Film Products	0.5%	24		-		-		-	0%	-
Other Film	2.1%	100		-		-		-	0%	-
Durable Plastic Items	2.7%	129	7%	9	60%	77		-	67%	86
Remainder/Composite Plastic	2.6%	124		-		-		-	0%	-
Other Organic	34.8%	1,660		-		-		-	0%	-
Food	20.1%	959	7%	67	60%	575	20%	192	87%	834
Leaves and Grass	3.2%	153	7%	11	60%	92		-	67%	102
Prunings and Trimmings	1.8%	86	7%	6	60%	52		-	67%	58
Branches and Stumps	1.7%	81	7%	6	60%	49		-	67%	54
Manures	1.3%	62		-		-		-	0%	-
Textiles	3.1%	148	7%	10		-		-	7%	10
Carpet	1.0%	48	7%	3		-		-	7%	3
Remainder/Composite Organic	2.7%	129	7%	9	60%	77		-	67%	86
Inerts and Other	17.9%	854		-		-		-	0%	-
Concrete	0.8%	38		-		-		-	0%	-
Asphalt Paving	0.0%	-		-		-		-	0%	-
Asphalt Roofing	0.7%	33		-		-		-	0%	-
Lumber	12.1%	577		-		-		-	0%	-
Gypsum Board	0.8%	38		-		-		-	0%	-
Rock, Soil and Fines	1.9%	91		-		-		-	0%	-
Remainder/Composite Inerts and Other	1.6%	76		-		-		-	0%	-
Household Hazardous Waste (HHW)	0.4%	19		-		-		-	0%	-
Paint	0.2%	10		-		-		-	0%	-
Vehicle and Equipment Fluids	0.0%	-		-		-		-	0%	-
Used Oil	0.0%	2		-		-		-	0%	-
Batteries	0.0%	2		-		-		-	0%	-
Remainder/Composite Household Hazardous	0.1%	5		-		-		-	0%	-
Special Waste	4.8%	229		-		-		-	0%	-
Ash	0.1%	5		-		-		-	0%	-
Treated Medical Waste	0.0%	-		-		-		-	0%	-
Bulky Items	3.8%	181	7%	13	60%	109		-	67%	121
Tires	0.0%	-		-		-		-	0%	-
Remainder/Composite Special Waste	0.8%	38		-		-		-	0%	-
Mixed Residue	1.8%	86		-		-		-	0%	-
Mixed Residue	1.8%	86		-		-		-	0%	-
TOTAL	100.0%	4,771	5%	233	39%	1,878	4%	192	48%	2,302

Support Zero Waste Culture in Alameda Diversion Estimate	570
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C&D Debris						
Material	Disposed		Update C&D Ordinance and Conduct Outreach		Total by Material Type	
	Est. %	Est. Tons	Capture Rate	Tons Captured	Capture Rate	Tons Captured
Paper	3.3%	290		-	0%	-
Uncoated Corrugated Cardboard	1.9%	167	45%	75	45%	75
Paper Bags	0.1%	9		-	0%	-
Newspaper	0.0%	-		-	0%	-
White Ledger Paper	0.0%	-		-	0%	-
Other Office Paper	0.0%	-		-	0%	-
Magazines and Catalogs	0.1%	9		-	0%	-
Phone Books and Directories	0.1%	9		-	0%	-
Other Miscellaneous Paper	0.6%	53	45%	24	45%	24
Remainder/Composite Paper	0.4%	35		-	0%	-
Glass	1.1%	97		-	0%	-
Clear Glass Bottles and Containers	0.1%	9		-	0%	-
Green Glass Bottles and Containers	0.0%	-		-	0%	-
Brown Glass Bottles and Containers	0.1%	9		-	0%	-
Other Colored Glass Bottles and Containers	0.0%	-		-	0%	-
Flat Glass	0.5%	44		-	0%	-
Remainder/Composite Glass	0.4%	35		-	0%	-
Metal	3.4%	299		-	0%	-
Tin/Steel Cans	0.2%	18		-	0%	-
Major Appliances	0.1%	9	45%	4	45%	4
Used Oil Filters	0.0%	-		-	0%	-
Other Ferrous	1.0%	88	45%	40	45%	40
Aluminum Cans	0.0%	-		-	0%	-
Other Non-Ferrous	0.5%	44	45%	20	45%	20
Remainder/Composite Metal	1.6%	141		-	0%	-
Electronics	0.5%	44		-	0%	-
Brown Goods	0.1%	9		-	0%	-
Computer-related Electronics	0.2%	18		-	0%	-
Other Small Consumer Electronics	0.1%	9		-	0%	-
Video Display Devices	0.1%	9		-	0%	-
Plastic	5.4%	475		-	0%	-
PETE Containers	0.1%	9		-	0%	-
HDPE Containers	0.0%	-		-	0%	-
Miscellaneous Plastic Containers	0.0%	-		-	0%	-
Plastic Trash Bags	0.1%	9		-	0%	-
Plastic Grocery and Other Merchandise Bags	0.0%	-		-	0%	-
Non-Bag Commercial and Industrial Packaging Film	0.1%	9		-	0%	-
Film Products	0.2%	18		-	0%	-
Other Film	0.1%	9		-	0%	-
Durable Plastic Items	2.3%	202	45%	91	45%	91
Remainder/Composite Plastic	2.5%	220		-	0%	-
Other Organic	19.0%	1,671		-	0%	-
Food	0.4%	35		-	0%	-
Leaves and Grass	3.0%	264	45%	119	45%	119
Prunings and Trimmings	4.5%	396	45%	178	45%	178
Branches and Stumps	2.4%	211	45%	95	45%	95
Manures	0.5%	44		-	0%	-
Textiles	1.6%	141		-	0%	-
Carpet	5.3%	466		-	0%	-
Remainder/Composite Organic	1.3%	114		-	0%	-
Inerts and Other	54.9%	4,828		-	0%	-
Concrete	3.9%	343		-	0%	-
Asphalt Paving	1.5%	132		-	0%	-
Asphalt Roofing	1.8%	158	45%	71	45%	71
Lumber	28.3%	2,489	45%	1,120	45%	1,120
Gypsum Board	4.3%	378	45%	170	45%	170
Rock, Soil and Fines	5.9%	519	45%	233	45%	233
Remainder/Composite Inerts and Other	9.2%	809	45%	364	45%	364
Household Hazardous Waste (HHW)	0.0%	-		-	0%	-
Paint	0.0%	-		-	0%	-
Vehicle and Equipment Fluids	0.0%	-		-	0%	-
Used Oil	0.0%	-		-	0%	-
Batteries	0.0%	-		-	0%	-
Remainder/Composite Household Hazardous	0.0%	-		-	0%	-
Special Waste	12.0%	1,055		-	0%	-
Ash	0.0%	-		-	0%	-
Treated Medical Waste	0.0%	-		-	0%	-
Bulky Items	11.4%	1,003	45%	451	45%	451
Tires	0.5%	44		-	0%	-
Remainder/Composite Special Waste	0.0%	-		-	0%	-
Mixed Residue	0.4%	35		-	0%	-
Mixed Residue	0.4%	35		-	0%	-
TOTAL	100.0%	8,794	35%	3,055	35%	3,055

Zero Waste Implementation Plan Update | Appendix C | Implementation Timeline and Estimated Costs

#	Recommended Strategy	Expense Categories	Start-up Hours	Ongoing Annual Hours	2018	2019	2020	2021	2022	Average Annual Cost	Strategy Total Cost	Annual Tons Diverted
1	Support Zero Waste Culture in Alameda	Outreach and Education Materials, and Community Grants			\$100,000	\$102,500	\$105,100	\$107,700	\$110,400	\$105,100	\$525,700	4,040
2	Conduct Targeted Technical Assistance With Commercial and Multi-Family Sectors	Time for Annual Labor		3000	\$300,000	\$307,500	\$315,200	\$323,100	\$331,200	\$368,000	\$1,840,000	6,320
		Annual Outreach and Education Materials			\$50,000	\$51,300	\$52,600	\$53,900	\$55,200			
3	Create Food Recovery Program and Enhance Organics Management	Time for Start-up Labor	200		\$35,000	\$0	\$0	\$0	\$0	\$131,800	\$659,200	1,060
		Time for Annual Labor		150	\$0	\$26,300	\$27,000	\$27,700	\$28,400			
		Annual Outreach and Education Materials			\$15,000	\$15,400	\$15,800	\$16,200	\$16,600			
		Operating Expense for Food Collection			\$82,900	\$85,000	\$87,100	\$89,300	\$91,500			
4	Update C&D Ordinance and Conduct Outreach	Time for Start-up Labor	200		\$35,000	\$0	\$0	\$0	\$0	\$100,700	\$503,300	3,060
		Time for Annual Labor		500	\$0	\$87,500	\$89,700	\$91,900	\$94,200			
		Annual Outreach and Education Materials			\$20,000	\$20,500	\$21,000	\$21,500	\$22,000			
5	Expand High Diversion Franchise Agreement	Time for Start-up Labor	250		\$43,800	\$0	\$0	\$0	\$0	\$52,300	\$261,700	1,150
		Time for Annual Labor		300	\$0	\$52,500	\$53,800	\$55,100	\$56,500			
TOTAL			650	3,950	\$681,700	\$748,500	\$767,300	\$786,400	\$806,000	\$ 757,900	\$ 3,789,900	15,630

Zero Waste Implementation Plan Update | Appendix D | Community Planning Process Input Received

City of Alameda Zero Waste Implementation Plan Update Community Engagement Questions and Comments Collected via August 31st 2017 CASA Interview and Meeting Follow-up, October 5th 2017 Town Hall, November 2nd 2017 and March 1st 2018 ZWIP Update Community Workshops		
#	Community Questions and Comments	How Addressed
1	How many people use the smallest container size, and does ACI advertise this size? Do people know they can get a smaller container?	In 2017, approximately 6,000 single family accounts used a 20-gallon garbage container, and ACI does advertise its availability.
2	Is pounds per person per day (PPD) of trash included on the current solid waste bill? Interest in seeing PPD on an individual household basis.	This is not information included on the bill, as the waste of individual households is not weighed upon collection. However, households could potentially weigh their own waste to find out.
3	DRS, PPD, and collected tonnage diversion--what does it mean?	DRS = Disposal Reporting System, PPD = Pounds per Person per Day of garbage Collected tonnage diversion = percentage of collected waste that is diverted. Diversion metrics are further discussed and explained in the ZWIP Update report.
4	How are waste material categories defined--what is "Organics"?	Organic materials include green waste, food waste, food soiled paper, and other compostable materials allowed for inclusion in the green cart by ACI.
5	Are schools included in the commercial sector category?	Yes, they are included in commercial sector.
6	Is mixed waste processing being considered?	Yes, this is included in the current ZWIP and is under evaluation for the update.
7	How did San Francisco get to 83% diversion? How did Menlo Park and Castro Valley achieve high commercial and multi-family diversion numbers?	Considerable resources and investment in diversion programs. Greater levels of direct engagement with commercial and multi-family waste generators.
8	What is the difference between different types of communities and diversion performance? How do you account for differences in population?	Bedroom communities tend to have higher diversion than communities with more businesses and industry. PPD is a helpful measure of diversion that accounts for community population.
9	What proportion of the budget goes to diversion programs and resources in Alameda? How does this compare to other communities?	Unfortunately, due to certain constraints, this question requires further research and is beyond the scope of the ZWIP Update effort to answer.
10	San Francisco is a very different community, it's one hauler, one city and county, one school district, one zero waste message.	When benchmarking community diversion performance, it's difficult to draw comparisons to the City of San Francisco. As noted, a unique set of conditions influence waste diversion in this City.
11	How many companies are represented in Alameda's commercial sector? Are there areas where they are concentrated, to help focus efforts in certain areas?	There are approximately 2,400 commercial accounts in Alameda. Regarding the geographic location of businesses, unfortunately, this question requires further research and is beyond the scope of the ZWIP Update effort to answer.
12	We need to have targeted technical assistance to help businesses recycle and compost.	Active technical assistance for commercial and multi-family is included in the ZWIP Update report as a recommended strategy for Alameda to increase diversion of waste from landfill. This is located in Section 5, Strategy 2.
13	We also need incentives and penalties for businesses to increase recycling, what are other communities doing? We need to push back on waste generators.	Alameda has mechanisms for recycling and composting requirements, and penalties, but greater enforcement is needed. This is noted in the ZWIP Update report in Section 2 and 5.
14	Are other haulers besides ACI allowed to haul construction and demolition waste in Alameda?	Yes, there are other haulers of C&D permitted to operate in Alameda, as are other haulers of commercial recyclables and organic materials. ACI has the right to haul all building projects valued under \$100,000, with the exception of self-haul. Other waste haulers are noted in the ZWIP Update report in Section 2.
15	Are self-hauled materials reported to the City?	Self-hauled waste disposal is reported via the State's Disposal Reporting System; there is currently no reporting of self-hauled recycled materials or other alternative diversion activities. This is noted in the ZWIP Update report in Section 2.
16	How does San Francisco motivate its waste hauler to increase diversion?	San Francisco has a diversion incentive program and funds are available to invest in diversion infrastructure.
17	What amount of money is in the General Budget to support waste diversion in San Francisco? In other communities?	Unfortunately, due to certain constraints, this question requires further research and is beyond the scope of the ZWIP Update effort to answer.
18	Are collected organic materials sorted and contaminants removed?	Organics processing facilities try to screen out plastics as part of the compost finishing process. ACI works to identify problem customers that highly contaminate source separated organics, and loads may be rejected for composting if they are too contaminated. It costs more to process contaminated organic material.
19	The schools went with WMAC and not ACI to get a cheaper contract. The Green Schools Challenge is modeled after the ACI program to help foster community change, to teach kids who then go home and teach their parents.	The Green Schools Challenge is noted in the ZWIP Update report in Section 2 as an implemented strategy.
20	Congratulations to the City on the food ware ordinance passing! Focus on reducing waste is important, what can the City do to change perceptions around recycling vs. reducing waste?	The City is open to working on a program like this, and will be doing more through ReThink Disposable.
21	What is San Francisco doing? Need a presentation with more data so we can drill down and advocate for these strategies.	Unfortunately, due to certain constraints, this question requires further research and is beyond the scope of the ZWIP Update effort to answer.

Zero Waste Implementation Plan Update | Appendix D | Community Planning Process Input Received

City of Alameda Zero Waste Implementation Plan Update Community Engagement Questions and Comments Collected via August 31st 2017 CASA Interview and Meeting Follow-up, October 5th 2017 Town Hall, November 2nd 2017 and March 1st 2018 ZWIP Update Community Workshops		
#	Community Questions and Comments	How Addressed
22	San Francisco is a leading city, but on the numbers it's incomparable-- the City includes a lot of inerts and C&D waste towards its diversion numbers, which are counted much more thoroughly than in other communities.	Yes, this is important to note when benchmarking diversion performance against San Francisco, and more generally in consideration of how diversion is measured in different communities.
23	If San Francisco is an outlier we should note that, and maybe Alameda's diversion numbers don't show C&D recycling enough? Desire for more data to review.	ACI and other permitted haulers report collected C&D, and this is included in the measurement of community diversion. The ZWIP Update report contains several diversion metrics for measuring Alameda's progress towards zero waste.
24	The problem of self-haul reporting is that it relies on people to self report waste origin and materials when they drop off loads at transfer stations and landfills.	This is a barrier to accurate reporting. There is also a problem with facilities attributing waste to the City of Alameda that really originated from the County of Alameda (e.g., self-hauler reports "Alameda" for waste origin and facility staff may assume they meant the City and record it as such).
25	We have an island of plastics, plastic is everywhere, and it's recycled but not accomplishing waste reduction. Lets collaborate regionally and with the state to work on packaging issues to require manufacturers to do better.	Extended producer responsibility and encouraging source reduction are potential strategies for supporting culture change within Alameda to help the community achieve zero waste.
26	Multi-family has issues with the management of waste, while commercial and industrial waste generators are motivated by money. Multi-family has high turnover of both residents and management (as does commercial).	Price is a motivator, and in Alameda it is cheaper to reduce landfill service in favor of increasing recycling and composting (the first recycling and organics carts are provided free with garbage service). The relationship between solid waste rates and waste diversion will be discussed in the ZWIP Update report in Section 6.
27	Has City met with commercial and industrial customers to find out what their barriers to recycling and composting are? Issues are specific to each business, and technical assistance must be done company by company.	The City is fully opted into StopWaste's MRO, which has inspectors and enforcement via warnings and citations. StopWaste provides technical assistance, and additional efforts are made by City staff, ACI and CASA to provide outreach. More technical assistance is needed, and more often. This is discussed in the ZWIP Update report in Section 5, Strategy 2.
28	From personal experience working in Oakland hospital that doesn't recycle, the barriers are many: hierarchy, slow process, and janitor push back. They know it would save money to reduce landfill service, but it's slow to enact change.	Similar barriers are likely to exist in Alameda. More technical assistance is needed to overcome barriers to recycling and composting, and it is a constant effort to maintain. This is discussed in the ZWIP Update report in Section 5, Strategy 2.
29	There's a local brewery without enough compost bins, and it's a new business -- what can residents do when we see issues like this?	Email the City, and the City can have ACI send its technical assistance staff to go out to help them change service levels.
30	We want to recognize businesses that are doing a really good job recycling and composting.	Similar to the Emerald Effect in the original ZWIP, ReThink Disposable work will have this element as well. They could also potentially be recognized through the Alameda Theatre, and the City would like to help "unpack" the theatre as flagship downtown business as part of ReThink Disposable.
31	We can do it, one business at a time. Lots of barriers and limitations to infrastructure, funding, time, leadership, etc., but it's possible and there are some resources available to help.	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
32	Alameda magazine has a "best of" and we could petition them to include new categories recycling and composting to recognize high performing businesses.	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
33	When you go to a business and see an opportunity for change, go talk to the manager. If enough people do it this makes a difference.	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
34	The City needs our help. It takes people, time, and resources to do outreach. And people want to do the right thing, but first they need to know.	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
35	Concern over a reliance on Dirty MRF / Dirty AD	Mixed waste processing is included in the current ZWIP and is under evaluation for the update.
36	Mandatory recycling and composting regulations?	The StopWaste Mandatory Recycling Ordinance, and state legislative requirements under AB 341 Mandatory Commercial Recycling and AB 1826 Mandatory Commercial Organics Recycling, are discussed in the ZWIP Update report in Section 2.
37	Implementation status of ZWIP not accurate? (social marketing, commercial technical assistance, EPR or Ordinance Changes)	ZWIP implementation status is discussed in the ZWIP Update report. Status is based interviews with City staff and R3 review of relevant documentation relative to the recommended actions as stated in the ZWIP Update report Section 2.
38	[ZWIP Update] lack of seriousness and purpose	Per City request, the ZWIP Update focuses on data driven approaches to reduce landfilled tons in the near term.
39	Want Alameda to be a leader as a key component of sustainability plan	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
40	Alameda needs to invest in staffing. Request to compare City / ACI staffing to other entities (Palo Alto / CVSan). Suggestion to use interns.	Staffing level is subject to the discretion of each organization. Unfortunately, due to certain constraints, this question requires further research and is beyond the scope of the ZWIP Update effort to answer.
41	Diversion by generator type?	Diversion by sector (single family, multi-family, commercial, and industrial) is included in the ZWIP Update report Section 2.
42	Need analysis of ACI contract to understand low diversion performance	This would require a Performance Review of ACI to answer fully. Unfortunately, due to certain constraints, this question requires further research and is beyond the scope of the ZWIP Update effort to answer.

Zero Waste Implementation Plan Update | Appendix D | Community Planning Process Input Received

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#	Community Questions and Comments	How Addressed
43	Capture gas from composting (anaerobic digestion)	Anaerobic digestion is an important technology for food waste diversion, and could be considered for SB 1383 compliance and zero waste.
44	Create compostable products and stop single-use purchasing. Buy used and reduce consumption	ReThink Disposable and the new food ware ordinance address the use of compostable products. Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
45	Recycle on island-- keep it local.	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
46	Why has the decrease in waste "flat lined" and how to fix it?	A rising economy, and corresponding consumption, are influencing the waste stream and community disposal. More resources are needed to support zero waste initiatives to reduce disposal, particularly public education and technical assistance for businesses and multi-family properties.
47	City [should] offer incentives/rewards to schools based on numbers of families who pledge to compost all food waste/organics	Incentives can help the single-family sector divert more waste, and zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
48	Every month have a clear list separating what goes into each container	A color-coded list of materials to help guide sorting into recycling, composting, and garbage containers is available on ACI's website. This list could be distributed more frequently via email or other means.
49	Collaborate with the school district on door to door outreach	This suggestion would help support zero waste culture change in Alameda, which is discussed in the ZWIP Update report in Section 5, Strategy 1.
50	A reduce marketing (+reward program)-- get residents to use less!	This suggestion would help support zero waste culture change in Alameda, which is discussed in the ZWIP Update report in Section 5, Strategy 1. A social media campaign could be run on this idea.
51	Acknowledge zero waste leadership as a community.	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
52	Make sure there is space available for three bins at multi-family properties, and find an advocate in each complex	Technical assistance for multi-family properties to help overcome challenges to recycling and composting, such as space constraints, is discussed in the ZWIP Update report in Section 5, Strategy 2. Finding an advocate would help organize and promote zero waste practices on the property, and could potentially be identified during the course of a site visit.
53	All sector team of five consultants to the city to conduct single-family door to door outreach, multi-family tenant outreach, materials (e.g., recycling bags) and door to door, provides schools with a dedicated consultant for public/private/charter pre K schools, and commercial site visits, staff training, with a goal 100% in three years	Strategies for addressing waste generation in each sector are discussed in the ZWIP Update report in Section 5. Having a lead consultant (e.g., trained community volunteers) could help the City organize efforts for each sector, and would support zero waste culture change.
54	Address HOA groups to educate them on three streams as well as cost saving potential	Technical assistance for multi-family properties to help overcome challenges to recycling and composting is discussed in the ZWIP Update report in Section 5, Strategy 2. HOA groups could be targeted for technical assistance through such a program.
55	All city sponsored events + all food events requiring a permit shall hire Trash Talkers/volunteers, provide three bins, require fiber-based compostable online food ware, and require three bin sorting. Require outreach staff to work with event holders, commercial and industrial.	This suggestion would help support zero waste culture change in Alameda, which is discussed in the ZWIP Update report in Section 5, Strategy 1. Targeted technical assistance for businesses (commercial and industrial) is recommended and also discussed in the report in Section 5, Strategy 2.
56	Same hauler for schools as residential, and figure out a way to get out grandfathered haulers.	The current franchise agreement expires in 2022, and if the City elects to procure for solid waste services then the same hauler could potentially serve both. The City does not have the ability to select a hauler for schools, which receive service independently under a separate contract. Very few accounts have grandfathered service, and over time more start service with City's franchised hauler.
57	City to have multiple clear stream bins for all festivals, permits include requirement to have volunteer trash talkers trained by waste consultants or video/reading material.	This suggestion would help support zero waste culture change in Alameda, which is discussed in the ZWIP Update report in Section 5, Strategy 1.
58	AB 901 find out what that stuff is [in self-haul waste]	New requirements under AB 901 could improve waste stream tracking and understanding of materials diverted and disposed. Self-haul stream monitoring could be an activity included under the C&D program. The City's C&D ordinance, program and outreach are discussed in the ZWIP Update report in Section 5, Strategy 4.
59	Organizations that rent city facilities can only rent city facilities if they use recyclable or compostable materials. City-sponsored events – no plastic water bottles. Put in the contract that they must use recyclable and compostable materials and no water bottles.	This suggestion would help support zero waste culture change in Alameda, which is discussed in the ZWIP Update report in Section 5, Strategy 1.
60	Work with vendors to get them to recycle and compost. Redesign signs for the clear streams. Universal signs.	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
61	All events that have permits must comply with city food ware ordinance. San Francisco, San Jose – quarterly meeting with folks that sponsor events. Make vendors watch the video.	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
62	Eagles, Elks, O Club – if they have events that are open to the public, they need to comply with the food ware ordinance and the mandatory recycling and composting.	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
63	ReThink Disposable and other approaches to increase the public's awareness and accountability. Target restaurants for the voluntary program. Interim review at 6 months.	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.

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#	Community Questions and Comments	How Addressed
64	Allocate land at Alameda Point for a community recycling center.	This suggestion would help support zero waste culture change in Alameda, which is discussed in the ZWIP Update report in Section 5, Strategy 1. However, determining whether land can be allocated for a community recycling center at Alameda Point is beyond the scope for this ZWIP Update effort to answer.
65	Quarterly drop off event at Alameda Point (coordinated with StopWaste/Alameda County) for different material types: HHW, E-waste, mattresses, Styrofoam blocks, big scrap metal, textiles, shoes, tires, reusables (Urban Ore, Goodwill, East Bay Depot). Joint County/City event	This suggestion would help support zero waste culture change in Alameda, which is discussed in the ZWIP Update report in Section 5, Strategy 1.
66	Need a social media plan and a marketing plan; Green Teams at Business Districts; Zero Waste Block Leaders; Door-to-door outreach; Outreach on kitchen pails; Stylized approaches through Instagram; Free tickets – bribe the community to do the right; Hip, slick, and cool; Movie screenings – try different marketing approaches, track who is coming and tell them about recycling	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
67	Food rescue program to ID generators of wasted edible food and redirect it Send ACI the Alameda County Commercial Food Waste Reduction report. Meet with Executive Director of Alameda Food Bank – Cindy Hout – she has drivers out everyday	Food waste recovery is discussed in the ZWIP Update report and included as a recommended strategy in Section 5, Strategy 3.
68	Pilot source separation of food waste for residential customers. Split cart like Sunnyvale. [Or] how about weather proof stickers [promoting food waste composting on green carts] instead? Allowing compostable bags? Magnet, etc. Mandatory residential collection – single family and multifamily – SB 1383 Status of implementation of StopWaste – mandatory ordinance	Food waste recovery is discussed in the ZWIP Update report and included as a recommended strategy in Section 5, Strategy 3. SB 1383 and StopWaste's mandatory ordinance are also discussed in the report. The City's current ordinance can be interpreted to require mandatory residential recycling and composting collection.
69	Better tracking of alternative diversion activities in the community (e.g., a brewery giving spent grain to a farmer for use as a soil amendment)	This suggestion would help support zero waste culture change in Alameda, which is discussed in the ZWIP Update report in Section 5, Strategy 1. Promotion of alternative diversion activities could be used to inspire greater community action, and if quantified could be included in the calculation of Alameda's waste diversion.
70	Address contamination of recycling via a future franchise agreement There is a contamination issue at their facility – 17% There is a team that checks the carts What is the composition of the residual?	The issue of contamination is addressed in the ZWIP Update report in Section 2. R3 recently visited ACI's recycling facility, and inspected the residual material. Observed residual included small plastic pieces such as straws and utensils, product packing films and wrappers, and small bits of fiber.
71	Increased technical assistance and potentially increase outreach and education staff	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report. Targeted technical assistance is also recommended and discussed in the report in Section 5, Strategy 2.
72	Enclosure standards to ensure adequate space for all material stream containers; State Architects 2030 Plan, no garbage chutes; Green Building Ordinance – Need to provide space for recycling and composting; No waiver	Enclosure standards are discussed in the ZWIP Update report in Section 5, Strategy 4.
73	Sustainability Commission Zero Waste Commission Permanent and accountable to the City Council	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
74	Look at [ZWIP policies and programs] tracking sheet – check off what has been implemented and the status. Revisit what still needs to be implemented	This is discussed in the ZWIP Update report; a tracking sheet with progress indicators is also included as an attachment.
75	[Recommended] Interviews with others for Zero Waste Plan Update: ACI, City Staff Meet with Non-Profit Executive Directors Pastors – Laura Rose	Public outreach initiatives are limited to public workshops, a community survey, and interviews with City staff, ACI, and CASA as key stakeholders. As of December 2017, the City approved a second round of interviews and an additional public workshop with special invitation to schools, the business community, and other stakeholders.
76	Reference the countywide goal of “less than 10% of good stuff in the landfill by 2020.” In establishing a new goal for the plan, we might want to take this into account. We are currently over 35% (for residential) and no longer a leader in this area.	Reduction of divertible materials in landfill is a helpful metric and target. However, its accurate measurement and tracking over time requires regular waste audits, which can be time consuming and expensive. For the ZWIP Update the metric of pounds per person per day is used to frame the new goal, as this information is reported each year by the State for Alameda and this goal is relatable on a individual level to support greater awareness of garbage generation as part of the zero waste cultural shift in
77	Contact Avenal and Keller and find out what these tons are [what materials are in Alameda disposal and self-haul]	Unfortunately, due to certain constraints, this question requires further research and is beyond the scope of the ZWIP Update effort to answer. An accurate answer would likely require a disposal characterization study at each facility to gather Alameda-specific data.
78	Acknowledge the City's achievements in disposal reduction since 2010. 15% reduction since 2010. Compare overall trend line to franchised material trend line.	Alameda has shown good progress in reducing its landfill disposal; this is discussed in the ZWIP Update report and shown in Figure 1-2.
79	Recommend door-to-door outreach to single-family residential providing technical assistance and mail in requests for compost pails, distribution of compost pails as requested (prefer SureClose over current model).	This suggestion would help support zero waste culture change in Alameda, which is discussed in the ZWIP Update report in Section 5, Strategy 1.
80	Compare recycling rates of generators with grandfathered haulers to those of ACI prior to considering exclusive franchise	This comparison cannot be made on an account-by-account level with current data, and is beyond the scope for this ZWIP Update effort to answer. ACI has an exclusive franchise for garbage; grandfathered haulers collect recycling, organics, and C&D materials.
81	Please provide recycling rate by generator sector: Single-family; Multifamily; Commercial front load; Commercial roll-off/compactor; Construction debris; Self-haul; City Departments	This is discussed in the ZWIP Update report Section 2, and shown in Figure 2-5.
82	C&D ordinance – catch 22 – ACI is default hauler – does not process, only takes loads to Davis Street. We need innovation and higher goals and a focus on deconstruction. Recommend specific project to review state-of-the-art C&D ordinances and updating ours to reflect best practices.	This is discussed in the ZWIP Update report in Section 5, Strategy 4, and updating the C&D ordinance/enhancing the current program is recommended.
83	Outreach and technical assistance Zero Waste Implementation Plan called for adding staff, staff levels have been reduced since adoption (current climate is not to add FTEs) Zero Waste communities of comparable size have significantly more dedicated Zero Waste staff	The City is not in a position to hire additional staff at this time. However, funds could be allocated for outreach and technical assistance conducted by ACI or a third-party. This recommendation is discussed in the ZWIP Update report in Section 5, Strategy 2.
84	Lead by Example All departments need to meet the City's goals – 75% recycling rates, less than 10% of good stuff in the landfill by 2020 Need to right-size service levels	Zero waste targets and benchmarks are discussed in the ZWIP Update report in Section 6. Right sizing service levels is identified as an opportunity for technical assistance, which is a recommended strategy in Section 5, Strategy 2. The City's EPPP is also addressed in the report in Section 2.

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City of Alameda Zero Waste Implementation Plan Update Community Engagement Questions and Comments Collected via August 31st 2017 CASA Interview and Meeting Follow-up, October 5th 2017 Town Hall, November 2nd 2017 and March 1st 2018 ZWIP Update Community Workshops		
#	Community Questions and Comments	How Addressed
85	Rename "Integrated Waste Management" Program to Zero Waste Program – reflect in franchise, contracts	Rebranding of the City's solid waste program as "Zero Waste Alameda" is discussed in the report as part of Alameda's zero waste culture change, Section 5, Strategy 1. Creating a franchise agreement that supports high diversion is discussed in the ZWIP Update report in Section 5, Strategy 5.
86	Recognize and promote Alameda as a leading Zero Waste city	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
87	Climate Action Plan (update in process – GHG impact of Zero Waste initiatives)	This is addressed in the ZWIP Update report in Section 6.
88	Goal Integration across Plans (Economic Development, General Plan, Housing Element, S-CAP)	The ZWIP Update and its potential impact and alignment with other City planning documents is discussed in the report, Section 6.
89	Precautionary Principle (collaborate on SFApproved.org)	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
90	Environmentally preferable procurement (all products purchased by City to be recyclable or compostable)	The City's EPPP is discussed in the ZWIP Update report in Section 2.
91	Healthy soils – compost requirement in new development	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
92	Expansion of Styrofoam ban to include sales - cartons (egg cartons, meat trays), peanuts, coolers, etc. – see Santa Cruz, Mountain View, Sunnyvale, SF	The City recently updated its food ware ordinance to require use of fiber-based compostable products. An expansion on the City's Styrofoam ban would support zero waste culture change, which is discussed in the ZWIP Update report Section 5, Strategy 1.
93	Disposables ordinance – expand to reduce distribution of single use items (cutlery, sauce packets, napkins) except on request	The City recently updated its food ware ordinance to require use of fiber-based compostable products and straws on request.
94	Reusable take-out packaging policy (GoBox promotion, reuse requirements, fee on single use disposables, etc.)	The City recently updated its food ware ordinance to require use of fiber-based compostable products and straws on request. Staff also support the use of reusable take-out packaging, which would be in compliance with the ordinance.
95	Clear bags for all streams, produce bag colors	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
96	Retailer Take-backs (voluntary, mandatory) – expand to include more materials (pharmaceuticals, etc.)	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
97	Product stewardship for problem products (single use diapers, Mylar packaging, etc.)	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
98	Outreach campaigns (sorting, reuse, waste reduction, print less)	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
99	Reuse & recycling grants (collection, processing, market development) – small scale to supplement StopWaste	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
100	Recycled content buying cooperative	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
101	Lead By Example (public receptacles, employee training, government facilities – all departments, Zero Waste events and venues)	The City has made marked progress in reducing City facility landfill disposal, and has the opportunity to further improve its waste diversion. City facility waste diversion is discussed in Section 2 of the ZWIP Update report.
102	No single use water bottles or cans at City meetings (City Council has pitchers and cups, but PUB, Board of Education and other commissions still use disposables – require reuse in permit)	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
103	Rental and repair business promotion (compile and promote directory, services)	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
104	Monthly repair fairs, iFix It training, etc.	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
105	Incentives for reuse, rental, repair industry	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report. This includes the potential for community grants to fund groups/activities that support increased waste diversion from landfill disposal.

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106	Green products & services directory	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
107	Recycling & reuse directory for Alameda	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report. A brief directory is included in the Climate Action Plan, and it's updating/expansion is recommended in the ZWIP Update report in Section 6.
108	Reusable diaper promotion (kit to new parents)	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
109	Green Teams at Schools, Business Districts, Neighborhoods (Zero Waste block leaders) – City support to formation, training – see Palo Alto	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
110	Interdepartmental Green Team for implementing Zero Waste initiatives across the City in all departments	The City has made marked progress in reducing City facility landfill disposal, and has the opportunity to further improve its waste diversion. Interdepartmental efforts continue to support progress.
111	Carbon farming for public lands/parks	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
112	Resource Recovery Park	This suggestion would help support zero waste culture change in Alameda, which is discussed in the ZWIP Update report Section 5, Strategy 1.
113	Museum of Bad Design displays – see CVSsan	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
114	Tool lending library expansion – see Berkeley	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
115	Reusable filling stations at stores	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
116	Zero packaging store	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
117	Residential Mandatory Participation and enforcement (recycling, composting) ordinance	The City's current ordinance can be interpreted to require mandatory residential recycling and composting collection.
118	Service Provider minimum diversion requirements e.g., 75%	This could potentially be included as a service under a new high diversion franchise agreement. Creating a franchise agreement that supports high diversion is discussed in the ZWIP Update report in Section 5, Strategy 5.
119	Behavior change marketing	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
120	Outreach (presentations, door-to-door outreach, recycling ambassadors) – new family welcome wagon – see CVSsan	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
121	Technical assistance	This is discussed in the ZWIP Update report and is included as a recommended strategy in Section 5, Strategy 2.
122	Reuse collection (part of bulky item collection services – see RecycleSmart)	This could potentially be included as a service under a new high diversion franchise agreement. Creating a franchise agreement that supports high diversion is discussed in the ZWIP Update report in Section 5, Strategy 5.
123	Improve bulky item collection program to focus on recycling – currently material are commingled and floor sorted – more careful segregation and recovery would improve diversion – set a higher diversion requirement	This could potentially be included as a service under a new high diversion franchise agreement. Creating a franchise agreement that supports high diversion is discussed in the ZWIP Update report in Section 5, Strategy 5.
124	aseptics (not currently marketed), film plastic, rigid plastics, textiles, other)	Expanding recyclable materials acceptance is discussed in the ZWIP Update report, Section 2.
125	Food waste prevention	This is discussed in the ZWIP Update report and is included as a recommended strategy in Section 5, Strategy 3.
126	Center for Hard to Recycle Materials	This suggestion would help support zero waste culture change in Alameda, which is discussed in the ZWIP Update report in Section 5, Strategy 1.

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127	Business outreach (presentations, door-to-door outreach, recycling ambassadors)	This is discussed in the ZWIP Update report Section 5, and technical assistance for businesses is included as a recommended strategy (Strategy 2).
128	Nonprofit outreach (schools, faith-based, organizations)	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
129	Commercial Technical Assistance – some offered through StopWaste/ACI – needs to be more proactive with dedicated staff or contractor resources	This is discussed in the ZWIP Update report and technical assistance for businesses is included as a recommended strategy in Section 5, Strategy 2.
130	Reuse collection for commercial	This could potentially be included as a service under a new high diversion franchise agreement. Creating a franchise agreement that supports high diversion is discussed in the ZWIP Update report in Section 5, Strategy 5.
131	Bulky recycling collection (recycling only, not trash)	This could potentially be included as a service under a new high diversion franchise agreement. Creating a franchise agreement that supports high diversion is discussed in the ZWIP Update report in Section 5, Strategy 5.
132	Zero Waste Events and Venues (public events, private events, reusable dishware at events – require all event permit holders to provide Zero Waste docents at public events – current program is not sufficient)	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
133	Business Recognition (certified Green business, certified Zero Waste facilities, Emerald Effect)	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
134	Alameda businesses product & packaging redesign	The City is working with ReThink Disposable on food ware products and packaging used by Alameda businesses to reduce waste. This will be an area of focus for City staff in 2018, in conjunction with the updated food ware ordinance implementation.
135	On-line Materials Exchange, donations	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
136	Use AB 901 process to investigate non-franchised disposal attributed to Alameda to understand source of disposal and determine whether generator is complying with franchise, C&D ordinance, etc.	New requirements under AB 901 could improve waste stream tracking and understanding of materials diverted and disposed. Self-haul stream monitoring could be an activity included under the C&D program. The City's C&D ordinance, program and outreach are discussed in the ZWIP Update report Section 5, Strategy 4.
137	Technical assistance, Self-Haul – follow up with generators identified through AB 901 process	The City's C&D ordinance, program and outreach (including outreach to self-haul generators) are discussed in the ZWIP Update report in Section 5, Strategy 4.
138	Mandatory Recycling – requires update to meet and exceed Cal Green requirements – recommend 100% for inerts and 75% for all other C&D or 100% of all recyclable items	Increasing recovery of C&D through requiring 100% of all recoverable materials by diverted is discussed in the ZWIP Update reporting Section 5, Strategy 4.
139	Public notice of pending demolition to facilitate deconstruction	This suggestion would help support zero waste culture change in Alameda, which is discussed in the ZWIP Update report in Section 5, Strategy 1. This is also a potential C&D program enhancement under consideration; the City's C&D program is discussed in Section 5, Strategy 4.
140	Deconstruction required prior to demolition	This suggestion would help support zero waste culture change in Alameda, which is discussed in the ZWIP Update report in Section 5, Strategy 1. This is also a potential C&D program enhancement under consideration; the City's C&D program is discussed in Section 5, Strategy 4.
141	Technical assistance, C&D	This is discussed in the ZWIP Update report in Section 5, Strategy 2.
142	Building materials reuse center	This suggestion would help support zero waste culture change in Alameda, which is discussed in the ZWIP Update reporting Section 5, Strategy 1.
143	Wood recycling facility (pallets, dimensional lumber, logs)	This suggestion would help support zero waste culture change in Alameda, which is discussed in the ZWIP Update report in Section 5, Strategy 1. Davis Street Transfer Station accepts wood for recycling.
144	Inert materials recycling facility (rocks, asphalt, concrete)	This suggestion would help support zero waste culture change in Alameda, which is discussed in the ZWIP Update report in Section 5, Strategy 1. Davis Street Transfer Station accepts inerts for recycling.
145	Would like to see a Repair Café or something like this in Alameda	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
146	Why do we see an uptick in garbage in 2016?	This is a statewide trend in increased disposal and PPD that is likely due to economic growth.
147	What is the content of self-haul material?	Self-hauled material is most commonly construction and demolition debris, and home cleanouts.

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148	We see that C&D recycling has increased in Alameda, and the waste stream as a whole has increased. More recycling is good, but source reduction is better.	Source reduction is important for achieving zero waste and the first tier on the waste hierarchy. Source reduction is also discussed in the ZWIP Update report.
149	Could Alameda have a more optimistic goal, why 1.2 PPD?	The ZWIP Update is a roadmap to get to an already established zero waste target (1.2 PPD). Alameda could get closer to zero waste than this target.
150	Where do materials collected at the curb go?	Collected waste is taken to the Davis Street Transfer Station. From there, garbage is taken to the Altamont Landfill, organic materials are sent to the Newby Island composting facility, and recyclable materials go to ACI's materials recovery facility where they are sorted and shipped internationally.
151	How much collected recyclables get turned into post-consumer products?	Per ACI, about 20% of what is collected in the blue container is trash. The other 80% is manufactured into new products.
152	Can I get a permit for no garbage service?	The specifics of this situation should be discussed with City staff.
153	I'm interested in having a reuse center at Alameda Point. A facility partnered with a non-profit for self-haul would help increase diversion.	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report. Creating a reuse center is a potential initiative that could be accomplished under this strategy as a community-led effort.
154	Why extend the zero waste goal date?	An extension is recommended based on trend lines in Alameda's disposal and waste diversion from landfill, and an assessment of feasibility. To meet the zero waste goal in two years would require an immediate and very high level of effort, and a very large amount of funding.
155	What is carbon farming?	Carbon farming is another name for carbon sequestration, a process by which carbon dioxide is removed from the atmosphere and held in solid or liquid form.
156	I saw an article about a supermarket with a plastic-free aisle. I want to put pressure on chains in Alameda to reduce plastic.	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report. Shopping at stores that have plastic free options and support a zero waste lifestyle is a good way to initiate change, and these stores may be open to trying a plastic-free aisle that then can become a model for other stores in Alameda.
157	Alameda has taken action on plastic straws. Could we go bigger?	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report. Targeting all single-use plastic products could be a next step on a larger scale.
158	Why have a museum of bad design? Why not a museum of good design?	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report. A museum of bad design is a public shaming for products that are not recyclable, compostable, or reusable. Having a museum of bad (or good) design could be considered as a potential community-led initiative implemented under Strategy 1.
159	I love the El Cerrito Recycling Center and want one in Alameda with a fix-it clinic. Could we do this?	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report. Building a facility like this could be considered, however, to capture the most tons from landfill disposal we recommend initiatives that focus on the waste diversion achievement gap between certain sectors (i.e., multi-family and commercial)
160	What are the cost components of Strategy 2, Targeted Technical Assistance for Multi-Family and Commercial?	Labor and outreach materials. Under this strategy the City would hire people to help Alameda businesses and multi-family properties overcome site-specific barriers to recycling and composting.
161	I've heard that multi-family property owners will increase rent to offer composting collection service to residents.	Compost collection is part of a bundled service for multi-family properties in Alameda, and ACI has conducted a universal roll-out of organics carts. There is a base fee per unit, and organic and recycling service is unlimited (i.e., multi-family property owners pay by the number of rental units, not for recycling and composting service level). Subscription to all three waste stream collection services is required via City ordinance, and multi-family properties are also required to have compost collection under
162	I think it's a reasonable cost per cubic yard of compost service in Alameda. Could there be an anonymous tip form for multi-family properties without compost collection (if there are any)?	Residents may email the City (or StopWaste) to report a lack of compost service at their multi-family complex.
163	There's a problem with public access to all three (garbage, recycling, and compost) bins at businesses.	Technical Assistance, Strategy 2, would help address this issue (front of house vs back of house waste collection). The City won a CalRecycle grant and installed more recycling and composting bins around town to help provide more public access. Some businesses pay employees to sort garbage and have one publicly accessible bin in the front.
164	There's a disconnect between the land owner and lease holder, a lack of coordination and breakdown when it comes to recycling and composting.	The City could potentially have fines and enforcement of its municipal code requirement that waste generators subscribe to all three streams to address this.
165	What is the impact of SB 1383 on landfills that have invested in methane capture?	If all organics were to stop going into landfills now, these facilities would still have methane produced from previously landfilled materials for years to come. Altamont landfill makes fuel out of the methane it captures, and one estimate is that they have 30 years of capture from material in place.
166	What opportunities are there to work with schools on reducing organic materials disposal?	Technical assistance (Strategy 2), could help schools reduce organic waste. Food share carts in lunchrooms have also proven successful. Some schools have installed worm bins and keep chickens to eat food scraps.
167	We need a facility to deliver chicken manure to on the island to get this material out of landfill.	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
168	Does the City have Green Halo?	Yes, the City uses Green Halo as a tracking mechanism for C&D recycling. The City's C&D program and opportunities to expand the use of Green Halo are discussed in Section 5, Strategy 4 of the ZWIP Update report.

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#	Community Questions and Comments	How Addressed
169	To address Alameda's illegal dumping problem we should require contractors to show proof of going to Davis Street before payment	This is a best practice for reducing illegal dumping and is best done on the individual level when hiring a debris hauler or contractor. Requiring proof of the hauler or contractor taking material to a facility where it will be recycled is important for keeping it out of landfill, and for stopping illegal dumping. Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
170	Is recycling residual a market problem?	Yes, and a problem of people placing garbage in the blue bin. It is also a question of rate payer willingness to pay in recognizing that to recycle some materials will cost more.
171	As a resident I've never really received information on what can be recycled in Alameda. Could this information be put in the solid waste bill?	Yes, ACI sends bill inserts with recycling information and also has a list of materials accepted in the blue and green carts on its website.
172	Are there opportunities to upcycle materials?	Yes, but there are logistics to collect, package and manufacture these materials. This can be accomplished, however it is ultimately determined by what rate payers are willing to pay. Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
173	Has Alameda ever done a contamination fee?	No, to-date the City has never instituted a contamination fee. Contamination fees are discussed in Section 5, Strategy 5 of the ZWIP Update report.
174	Could we have tags on carts like in Oakland?	In Oakland contamination is a challenge and the City recently started implementation of high contamination fees that escalate with repeat offenses occurring within a certain timeframe. The fees go on a customer's solid waste bill as a surcharge. The City conducted community outreach for this new program, which started only a few months ago. Staff don't know yet if it will be effective, but think it will. Alameda could consider contamination fees/tags, and wait to learn from Oakland's program if/how
175	How to deal with scavenging? Or when neighbors put trash in your carts when at the curb for pickup?	Scavenging and others (sometimes incorrect) use of carts is a challenge in every community. For residents, placing carts at the curb early morning before trucks arrive will reduce the window of opportunity when others will try to use the carts or scavenge.
176	In apartments there is often a small under-the-sink area where it is hard to fit containers for all three streams. I'm sure there are creative solutions to setting up containers in-house to sort waste, and tips like these could be part of the outreach to multi-family residents.	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report. This idea and others for multi-family outreach could be implemented under this strategy as part of a community-led effort. The City also has recycling totes for multi-family residents and these are available through ACI upon request.
177	Is Davis Street a dirty MRF? Why not have garbage processing for multi-family, when we see how poorly they do at sorting? What are the environmental consequences of sending material to a dirty MRF?	Davis Street has this and other waste processing operation on-site. Mixed waste processing is a strategy in the original ZWIP and is an option the City may consider for future implementation if diversion does not improve enough through 2022, however, the community wants to focus on zero waste culture change. Mixed waste processing results in sorted recyclables that are of lower value and lower recovery.
178	At my multi-family complex we use peer pressure and send an email if we see good stuff put in the trash or one person not recycling.	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
179	If we reduce landfill disposal, how will this impact landfill emissions?	There will still be emissions from landfilled material in place. There are trade offs in energy sources and generation methods (i.e., methane capture).
180	The County of San Mateo has good multi-family outreach, and Alameda could bring in elements of this for its own program.	Looking to other successful programs is a good strategy for designing new outreach and improving current programs. Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
181	What goes in landfill takes a very long time to break down. At Davis Street there was a load of old trash that had been brought out the landfill to be sorted. We found grass that was still bright green as the day it was cut and preserved newspapers from the '70s.	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report. This story and others could be used as a teaching tool to help inspire culture change in Alameda.
182	NextDoor and Freecycle are great resources for reusable goods and should be promoted more. The City should have an Alameda Zero Waste webpage with helpful resource links to these and others.	As part of its next steps implementing the ZWIP Update (Strategy 1), the City will create a zero waste Alameda webpage and include resource links. Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report.
183	There is an issue with C&D waste, which is that the building code requires the use of materials that are toxic and/or non-recyclable.	Not all C&D waste if recoverable, so the capture of recoverable materials is the current focus for increasing C&D waste diversion and there is still a lot of opportunity for improvement in this area. C&D program enhancements are discussed in Section 5, Strategy 4 of the ZWIP Update report.
184	Thank you to the City and R3 for this ZWIP Update effort. You have a supportive citizenry, and I would support a rate increase for zero waste.	We thank the community of Alameda for its engagement and participation in the ZWIP Update. Throughout this planning process the thoughtful input we received has helped to guide and improve the ZWIP Update report so that it better reflects community interests and desired outcomes.
185	It's difficult to be zero waste at the grocery store. Businesses don't understand or don't have the infrastructure to support it.	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report. Shopping at stores that support a zero waste lifestyle is a good way to initiate change. The City could consider doing a giveaway of reusable produce bags to support residents in minimizing waste while at the grocery store.
186	There should be anonymous reporting so that multi-family properties and/or businesses that don't recycle or compost, need technical assistance, etc. can be brought to the City's attention by residents and their problems addressed.	Residents can contact the Public Works Department to report instances like these so that City staff can work with ACI to address the issue with the waste generator and provide support to improve recycling and composting on-site.
187	There should be requirements for businesses to provide front of house recycling and compost collection containers that are made easily accessible to the public.	Zero waste culture change is discussed in Section 5, Strategy 1 of the ZWIP Update report. This could be considered, however, it should be noted that some businesses prefer to have one container at the front of the house so they can sort the collected material themselves due to contamination concerns.
188	The report should have more discussion of Alameda's plans for post-2022, what's next?	This discussion has been expanded upon in the report to better address next steps for zero waste and the City's solid waste program.
189	I have concerns that the City's other solid waste consultant can't write a zero waste franchise agreement.	This concern has been noted by the City. Developing a high diversion franchise agreement is discussed in Section 5, Strategy 5 of the ZWIP Update report.

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190	The ZWIP Update should also identify, callout and/or leverage the supporting and allied efforts of the City Public Works Department's Clean Water Program (CWP), especially when it comes to support and assistance for Priority Strategy #1, Support Zero Waste Culture in Alameda (2018-2022). • Please consider the following background information to inform the crafting and placement of synergistic references to the CWP in the ZWIP, perhaps within the Section 5 discussion of Strategy 1. • One of the important and pressing tasks of the City's CWP is the reduction and control of both the loose trash and litter within Alameda and the resultant discharges of that loose trash and litter into the City' storm drainage system and ultimately San Francisco Bay. The efforts focused on this • So, one additional, potential benefit of Zero Waste Culture promotion that could be identified within the document, even if incidental to the direct activities of the ZWIP Update, is the resultant reduction in the amount of loose trash waste dispersing into the environment. • Presently, there are local initiatives and recent Alameda County ordinances that promote a zero waste culture through the banning of single-use disposable products. These initiatives and ordinances include, but are not necessarily limited to, the City's polystyrene foam food ware ban, the single-use plastic bag bans (the Reusable Bag Ordinance for Alameda County), and the plastic straw ban and straws-on-request program. These initiatives could be mentioned to strengthen the background discussion of Strategy 1. • The City's CWP supports and promotes the polystyrene foam food ware and single-use plastic bag bans that have gone into effect in Alameda and Alameda County in recent years. • The City's CWP, through the public-agency consortium Alameda Countywide Clean Water Program, helped provide kickstart funds for the two-wave expansion of the Reusable Bag Ordinance that went into effect in 2017. • Presently, the City documents trash load reduction credits in annual CWP compliance reporting for the City's active engagement with and implementation of the polystyrene foam food ware and single-use plastic bag bans. • City CWP staff performs more than 100 business inspections annually and can be viewed as ZWIP outreach allies when it comes to the Zero Waste Culture themes that intersect with the lessening of the use of single-use, plastic, disposable items and/or the lessening of loose trash and litter in the environment.	Discussion of the connection between zero waste culture change in Alameda and the City's Clean Water Program has been added in Section 5, Strategy 1 of the ZWIP Update report.

Zero Waste Planning Checklist

Alameda, California

Sector	Policies	Programs	Facilities
Community-Wide	☒Zero Waste goal ☐Rename “Integrated Waste Management” Program to Zero Waste Program – reflect in franchise, contracts ☐Recognize and promote Alameda as a leading Zero Waste city ☐Climate Action Plan (update in process – GHG impact of Zero Waste initiatives) ☐Goal Integration across Plans (Economic Development, General Plan, Housing Element, S-CAP) ☐Precautionary Principle (collaborate on SFapproved.org) ☐Environmentally preferable procurement (all products purchased by City to be recyclable or compostable) ☐Healthy soils – compost requirement in new development ☐Product Policies (transport packaging, furniture, foodware) ☐Bans (sale, collection, disposal) – expansion of styrofoam ban to include sales - cartons (egg cartons, meat trays), peanuts, coolers, etc. – see Santa Cruz, Mountain View, Sunnyvale, SF ☒Disposables ordinance – expand to reduce distribution of single use items (cutlery, sauce packets, napkins) except on request ☐Reusable take-out packaging policy (GoBox promotion, reuse requirements, fee on single use disposables, etc.) ☐Clear bags for all streams, produce bag colors) ☐Statewide packaging policies ☐Retailer Take-backs (voluntary, mandatory) – expand to include more materials (pharmaceuticals, etc.) ☐Minimum content ☐Product & packaging fees ☐Product & packaging redesign ☐Product stewardship for problem products (single use diapers, Mylar packaging, etc.) ☐Outreach campaigns (sorting, reuse, waste reduction, print less) ☐Reuse & recycling grants (collection, processing, market development) – small scale to supplement StopWaste ☐Recycled content buying cooperative ☒Recycling revolving loan fund (collection, processing, market development) - StopWaste ☐Market Development (local, regional, state, international) ☐Lead By Example (public receptacles, employee training, government facilities – all departments, Zero Waste events and venues) ☐No single use water bottles or cans at City meetings (City Council has pitchers and cups, but PUB, Board of Education and other commissions still use disposables – require reuse in permit) ☐Rental and repair business promotion (compile and promote directory, services) ☐Monthly repair fairs, iFix It training, etc. ☐Incentives for reuse, rental, repair industry ☐Green products & services directory ☐Recycling & reuse directory for Alameda ☐Reusable diaper promotion (kit to new parents) ☐Circular Economy initiatives ☐Zero Waste Research Institute (to research policies, programs and facilities) ☐Green Teams at Schools, Business Districts, Neighborhoods (Zero Waste block leaders) – City support to formation, training – see Palo Alto ☐Interdepartmental Green Team for implementing Zero Waste initiatives across the City in all departments ☐Carbon farming for public lands/parks ☐Resource Recovery Park ☐Research & Development Facility (including Zero Waste Research Institute) ☐Center of Innovation for Product Redevelopment & Redesign (Zeri approach, Biomimicry, Green Chemistry, compostable flex packaging) ☐Museum of Bad Design displays – see CVSan ☐Tool lending library expansion – see Berkeley ☐Reusable filling stations at stores ☐Zero packaging store ☐Wood to biochar	Residential	☐Mandatory Participation and enforcement (recycling, composting) ☒Universal Service (recycling, composting) ☒Rate structure incentives ☐Service Provider payment incentives ☐Service Provider minimum diversion requirements e.g., 75% ☐Behavior change marketing ☐Outreach (presentations, door-to-door outreach, recycling ambassadors) – new family welcome wagon – see CVSan ☐Technical assistance ☒Textile recycling & reuse – Salvation Army/Good Will/Reus Boxes ☐Reuse collection (part of bulky item collection services – see RecycleSmart) ☐Improve bulky item collection program to focus on recycling – currently material are commingled and floor sorted – more careful segregation and recovery would improve diversion – set a higher diversion requirement ☐Add Materials to Recycling collection (single family, multifamily, bulky – aseptics (not currently marketed), film plastic, rigid plastics, textiles, other) ☒Food donations (food bank, soup kitchen, gleaning) – Alameda Food Bank, Alameda Backyard Growers ☐Food waste prevention ☐Backyard composting ☒Organics collection (yard debris, food scraps) ☐Reuse Warehouse ☐Swap shed ☐Center for Hard to Recycle Materials ☒Recycling processing ☒Yard trimmings processing ☒Food scraps composting ☐Food scraps digestion ☐Wood recycling facility (pallets, dimensional lumber, logs) ☐Mixed waste processing after source separation – for an extra fee to customer

☐Outreach campaigns (sorting, reuse, waste reduction, print less)

☐Reuse & recycling grants (collection, processing, market development) – small scale to supplement StopWaste

☐Recycled content buying cooperative

☒Recycling revolving loan fund (collection, processing, market development) - StopWaste

☐Market Development (local, regional, state, international)

☐Lead By Example (public receptacles, employee training, government facilities – all departments, Zero Waste events and venues)

☐No single use water bottles or cans at City meetings (City Council has pitchers and cups, but PUB, Board of Education and other commissions still use disposables – require reuse in permit)

☐Rental and repair business promotion (compile and promote directory, services)

☐Monthly repair fairs, iFix It training, etc.

☐Incentives for reuse, rental, repair industry

☐Green products & services directory

☐Recycling & reuse directory for Alameda

☐Reusable diaper promotion (kit to new parents)

☐Circular Economy initiatives

☐Zero Waste Research Institute (to research policies, programs and facilities)

☐Green Teams at Schools, Business Districts, Neighborhoods (Zero Waste block leaders) – City support to formation, training – see Palo Alto

☐Interdepartmental Green Team for implementing Zero Waste initiatives across the City in all departments

☐Carbon farming for public lands/parks

☐Resource Recovery Park

☐Research & Development Facility (including Zero Waste Research Institute)

☐Center of Innovation for Product Redevelopment & Redesign (Zeri approach, Biomimicry, Green Chemistry, compostable flex packaging)

☐Museum of Bad Design displays – see CVS

☐Tool lending library expansion – see Berkeley

☐Reusable filling stations at stores

☐Zero packaging store

☐Wood to biochar

Zero Waste Implementation Plan Update Appendix D Community Planning Process Input Received			
Sector	Policies	Programs	Facilities
Commercial	☒ Mandatory Participation and enforcement (recycling, composting) – through StopWaste ☒ Universal Service (recycling, composting) ☒ Rate structure incentives ☐ Service Provider payment incentives ☐ Service Provider minimum diversion requirements – e.g., 75%	☐ Every other week trash collection – less than weekly with RFID tags – see CVSan ☐ Separate diaper and animal waste collection ☐ Behavior change marketing ☐ Business outreach (presentations, door-to-door outreach, recycling ambassadors) ☐ Nonprofit outreach (schools, faith-based, organizations) ☐ Commercial Technical Assistance – some offered through StopWaste/ACI – needs to be more proactive with dedicated staff or contractor resources ☐ Waste prevention ☐ Site visits ☐ Food service with food scrap training ☐ Integrated environmental audits ☐ Reuse exchange ☐ Reuse collection for commercial ☐ Bulky recycling collection (recycling only, not trash) ☒ Recycling Collection, Commercial ☒ Food donations (food bank, soup kitchen, gleaning) – Alameda Food Bank, Alameda Backyard Growers ☐ Food waste prevention ☐ On-site composting ☒ Organics collection (yard debris, food scraps) ☐ Every other week trash collection ☐ Separate diaper and animal waste collection ☐ Zero Waste Events and Venues (public events, private events, reusable dishware at events – require all event permit holders to provide Zero Waste docents at public events – current program is not sufficient) ☐ Business Recognition (certified Green business, certified Zero Waste facilities, Emerald Effect) ☐ Alameda businesses product & packaging redesign ☐ On-line Materials Exchange, donations	☐ Reuse Warehouse ☐ Center for Hard to Recycle Materials ☐ Recycling processing ☒ Yard trimmings processing ☒ Food scraps composting ☐ Food scraps digestion ☐ Wood recycling facility (pallets, dimensional lumber, logs) ☐ Mixed waste processing after source separation – for an extra fee to customer
Self-Haul	☐ Mandatory source-separation (recycling, composting) ☐ Fee-based source-separation incentives (recycling, composting) ☐ Use AB 901 process to investigate non-franchised disposal attributed to Alameda to understand source of disposal and determine whether generator is complying with franchise, C&D ordinance, etc.	☐ Behavior change marketing ☐ Technical assistance, Self-Haul – follow up with generators identified through AB 901 process	☐ Resource Recovery Center ☐ Resource Recovery Park ☐ Wood recycling facility (pallets, dimensional lumber, logs) ☐ Reuse Warehouse ☐ Center for Hard to Recycle Materials ☐ C&D processing (specifically for self-haul)
C&D	☒ Mandatory Recycling – requires update to meet and exceed Cal Green requirements – recommend 100% for inerts and 75% for all other C&D or 100% of all recyclable items ☐ C&D plan, deposit, certified C&D facilities ☐ All C&D loads must be processed ☐ Public notice of pending demolition to facilitate deconstruction ☐ Deconstruction required prior to demolition	☐ Behavior change marketing ☐ Technical assistance, C&D ☐ Green Building credits (reuse, recycling, composting, recycled products) ☒ Residential small quantity C&D free collection – bulky item collection	☐ Building materials reuse center ☐ Wood recycling facility (pallets, dimensional lumber, logs) ☐ Inert materials recycling facility (rocks, asphalt, concrete) ☒ Mixed C&D recycling facility after source separation – Davis Street, Vasco
Additional information and case studies available at: https://www.epa.gov/managing-and-transforming-waste-streams-tool-communities			

Service Opportunity Analysis

Alameda, California

Master Category	Material with Local Markets	How is it Collected/Where is it Delivered?
Reusable Goods	☒ Donated food, gleanings – Alameda Food Bank ☒ Household goods – Salvation Army/Good Will ☐ Building materials ☒ Household appliances – Salvation Army/Good Will ☒ Electronics – Salvation Army/Good Will ☒ Clothes/shoes– Salvation Army/Good Will ☐ Reusable soils, gravel ☐ Artist materials, teacher supplies ☐ Other _____	☐ Curbside ☐ Commercial Pickup ☒ Drop off/buyback, where _____ ☐ Other _____
Paper	☒ Cardboard ☒ Office paper ☒ Mixed (cereal boxes, shoe boxes, magazines) ☐ Cartons/aseptics (milk cartons, juice boxes) – accepted in curbside program, but not marketed ☒ Coffee cups ☒ Paper towels, napkins	☒ Curbside ☐ Commercial Pickup ☐ Drop off/buyback, where _____ ☐ Other _____
Glass	☒ Bottles and jars ☐ Window glass ☒ Broken glass ☐ Light bulbs, compact fluorescents, light-emitting diodes	☒ Curbside ☐ Commercial Pickup ☐ Drop off/buyback, where _____ ☐ Other _____ ☐ No service
Metals	☒ Aluminum cans ☒ Aluminum foil/pie plates ☒ Steel/tin cans ☒ Scrap metal (ferrous, non-ferrous) ☒ Non-reusable metal electronics/household goods ☒ Automotive batteries – local automotive stores?	☒ Curbside ☐ Commercial Pickup ☐ Drop off/buyback, where _____ ☐ Other _____
Plastics/Rubber	☒ Bottles (narrow neck) ☒ Tubs (wide neck) ☒ Caps and lids ☐ Ridgeds (toys, berry baskets, buckets) ☐ Tires bulky - item recycling? ☐ Carpet/carpet pad – bulky item recycling? ☐ Non-reusable plastic electronics/household goods ☐ Plastic bags, shrink wrap	☒ Curbside ☐ Commercial Pickup ☐ Drop off/buyback, where _____ ☐ Other _____
Textiles/Leather	☐ Non-reusable clothing, leather ☐ Rags ☐ Carpet pad – bulky item recycling? ☒ Non-reusable mattresses – bulky item recycling ☐ Non-reusable sofas/chairs	☐ Curbside ☐ Commercial Pickup ☐ Drop off/buyback, where _____ ☐ Other _____
Wood	☐ Non-reusable dimensional lumber, pallets ☒ Non-reusable wooden products (popsicle sticks, chopsticks) ☐ Non-reusable furniture (broken Ikea furniture) ☐ Wood roofing shakes	☒ Curbside ☐ Commercial Pickup ☐ Drop off/buyback, where _____ ☐ Other _____
Plant Debris	☒ Grass and leaves ☒ Branches and prunings ☒ Christmas trees ☐ Stumps and logs – bulky item recycling?	☒ Curbside ☐ Commercial Pickup ☐ Drop off/buyback, where _____ ☐ Other _____
Food Scraps/ Putrescibles	☒ Pre-consumer trimmings (vegetables, meat, dairy) ☒ Post-consumer plate scrapings ☒ Food-soiled paper ☒ Spoiled food ☐ Diapers, sanitary products ☐ Manure ☐ Pet litter (wood pellets, paper) ☒ Biosolids (sewage sludge) – beneficial reuse through EBMUD	☒ Curbside ☐ Commercial Pickup ☐ Drop off/buyback, where _____ ☐ Other _____
Soils	☐ Non-reusable soils, dirt, sand ☐ Pet litter (clay)	☐ Curbside ☐ Commercial Pickup ☐ Drop off/buyback, where _____ ☐ Other _____
Ceramics	☒ Concrete, asphalt ☒ Asphalt roofing tiles ☒ Non-reusable toilets, sinks ☒ Wallboard/dry wall/sheetrock ☒ Non-reusable gravel, sand	☐ Curbside ☒ Commercial Pickup ☐ Drop off/buyback, where _____ ☒ Other _bulky item recycling_____ ☐ No service
Chemicals	☒ Solvents ☒ Motor oils, lubricants ☒ Other automotive fluids (antifreeze) ☒ Pesticides ☒ Corrosives ☒ Paint (oil, latex) – local paint stores ☐ Household batteries – several drop off locations in town	☐ Curbside ☐ Commercial Pickup ☒ Drop off/buyback, where _Alameda County HHW facility plus special events_____ ☐ Other _____

March 29, 2018

Kerry Parker, Program Specialist
City of Alameda Public Works

Emily Ginsburg, Senior Project Analyst
R3 Consulting Group, Inc.

Dear Kerry and Emily:

Thank you for the opportunity to provide feedback on the final draft version of the Zero Waste Implementation Plan dated March 1, 2018. Community Action for a Sustainable Alameda is thrilled to be a partner with the City in its pursuit of Zero Waste (or darn close).

We strongly support the five major strategies identified in the plan. We are particularly excited to work with the City to change the culture of wasting in Alameda.

We recognize that the goal of reducing disposal amounts to 1.2 pounds per person per day is ambitious and the plan identifies a goal date of 2022.

We support the plan's focus on commercial and multifamily customers and also recommend that the City lead by example and set a goal of 75% diversion for City Departments in the short-term with an ultimate goal of 90% waste prevention, recycling and composting.

However, we feel that Zero Waste is more about the journey of continuing Alameda's transformation into a Zero Waste community, rather reaching specific goals by any means necessary.

For example, reducing choice of contractors for commercial businesses and builders through increasing the exclusivity of the franchise must be carefully weighed against the potential benefit of getting more accurate data. The City's franchisee is not a construction debris recycler or a deconstruction contractor and the opportunities for reducing construction and demolition waste may be greater if the City increases the number of specialists allowed to operate in the City.

Market conditions created, in part, by China's National Sword policy will require more careful source-separation and focus on high-grade loads, such as cardboard and office paper generated by commercial customers. Domestic markets will want access to higher quality materials. Recyclers of clean, source-separated materials should be allowed to freely operate in Alameda without excessive regulation or fees. The City's franchisee should be designated as the "recycler of last resort" and commercial recycling should be part of the franchise and the franchisee should pay franchise fees on these activities.

The plan identifies mixed waste processing as an opportunity to achieve higher diversion levels and refers to the Davis Street Organics Recovery Facility and the Mission Trails dry waste materials recovery facility as potential solutions. We ask the City to keep in mind that feedstocks derived from mixed waste materials are less likely to be desired by manufacturers for use in new products or for farmers and landscapers to use for growing new plants. The digestate from Davis Street may ultimately be used as alternative daily cover at landfills or spread along the side of highways as it will include toxic materials and heavy metals from materials that have been disposed in the trash. While this may not be a near term priority for the City, the plan makes reference to the use of the Davis

Street facility within a five-year timeframe. We do not think five years is sufficient to exhaust the other alternatives anticipated by the City (including increased outreach, enforcement and fines).

The plan also suggests that commercial and multi-family accounts selected for mixed waste processing should not be informed that their garbage would be processed. This approach can help reduce unintended consequences of discouraging source-separation. However, an alternative that the City may wish to consider is to fine customers for non-compliance (e.g., double the garbage bill) or require that the business or property manager hire [Zero Waste facilitators](#) to ensure clean loads (no trash in the recycling and no recycling in the trash).

The City may wish to consider future Key Performance Indicators, such as a reduction in overall generation, rather than just disposal reduction. The City can also identify goals for its franchisee to find higher and better uses for its marketable materials, such as recycling milk cartons and juice boxes as grade 52 rather than including them as a potential contaminant in mixed paper bales.

The City is embarking on an update to its Local Action Plan for Climate Protection. While the specific goals for greenhouse gas emissions reduction have not been determined (and are subject to the stakeholder engagement process anticipated to commence shortly), it is likely that the City will identify targets for 2030 and 2050.

We ask that the City be open to new ideas for disposal reduction and generation reduction. Create an open and transparent process for developing the new construction and demolition debris ordinance and changes to the City's exclusive franchise or municipal code. Engage stakeholders, including property owners, commercial businesses, industrial customers and builders in the process to ensure that perceived barriers can be overcome and opportunities can be identified.

Let's find out why Alamedans are not fully utilizing our existing recycling and composting system (which should be able to achieve 90% if we all used it correctly). Our experience is that most people want to do the right thing, they just need to be shown how. We are eager to support the City in implementing its strategy to create a Zero Waste culture in Alameda.

The Climate Action Plan will likely require greater awareness and accountability for all of us (residents, businesses, City staff, City contractors). We look forward to supporting the City in the next phase of its journey on the road to Zero Waste.

Sincerely,



Ruth Abbe, Steering Committee
Community Action for a Sustainable Alameda
415-235-1356