



Zero Waste & Solid Waste Planning Benchmarking and Literature Review



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Executive Summary

This report presents the results of a benchmarking analysis of nine jurisdictions in the United States that have developed and adopted zero waste plans and goals, sustainable materials management plans and goals or ambitious solid waste management plans more than five years ago. Jurisdictions examined include Austin, Texas; Boulder and Fort Collins, Colorado; Palo Alto, San Jose, and Santa Monica, California; Montgomery County and Prince George’s County, Maryland; and Portland, Maine.

Overall Findings:

- **The earliest zero waste commitment was made by the City of Austin.** Austin committed to achieving zero waste by 2040 back in 2005 by signing the United Nations Environmental Accords. Among the benchmarked jurisdictions Prince George’s County was the most recent one to commit to zero waste, in 2018, while Portland has not included it yet in any official document.
- **Out of the nine jurisdictions, five have defined the zero-waste target as 100 percent diversion of materials from disposal, one as greater than 90 percent diversion from disposal, two as 85 percent diversion rate, and one as minimum of 70 percent diversion rate.** Table 1 shows the target diversion goals and the years to achieve them for each or the benchmarked jurisdiction. The highest diversion rate in the shortest period as a zero-waste goal is in place in Palo Alto, which seeks to achieve 90-100 percent diversion by 2021, followed by San Jose, seeking 100 percent diversion by 2022, and Boulder, with a target of 85 percent by 2025.

Table 1. Zero-Waste Targets in The Benchmarked Jurisdictions

Jurisdiction	Current Diversion Rate	Zero-Waste Diversion Goal	Year Zero-Waste Goal Adopted	Target Year to Achieve Zero- Waste Goals
Arlington County, Virginia	49%	>90%	2015	2038
Austin, Texas	42%	100% (Restorative Economy) ¹	2011	2050
Boulder, Colorado	40%	85%	2015	2025
Fort Collins, Colorado	51%	100%	2013	2030
Montgomery County, Maryland	55%	>70%	2012	2020
Palo Alto, California	82%	90- 100%	2007	2021
Prince George’s County, Maryland	60%	85%	2018	2040
San Jose, California	66%	100%	2008	2022
Santa Monica, California	79%	95-100%	2014	2030
Portland, Maine*	>50%	>90%	N/A	N/A

*As documented in Capstone project

- **The benchmarked jurisdictions have set, on average, 18 years to achieve their zero-waste targets.** The longest period to achieve the Restorative Economy¹ (100% diversion) of 39 years is adopted in Austin, while Palo Alto and San Jose are planning to reach their zero-waste goals in 14 years. Arlington County plans 23 years to reach its zero-waste goals.

¹ The concept of a “restorative economy” was coined by Paul Hawken: *In a restorative, “least cost economy,” we move to that system of agriculture, forestry, transportation, construction, and communication that has the least cost to the environment... In a least-cost system, those resources, our “natural capital,” are valued at their true replacement cost. Instead of competing to produce the cheapest goods in terms of price, we compete to produce the goods and services we need according to which have the lowest impact on those resources, and thus the lowest cost to current and future generations.* - Hawken, Paul. “The Restorative Economy.” Sustainability Consciousness Conference. Esalen Institute. Big Sur, California. 22 April, 1995. Web. 1 Sept 2011

- **Currently the most successful in reaching their zero-waste goals are the jurisdictions with the most ambitious goals.** Palo Alto, Santa Monica and San Jose have the most ambitious goals and have been most successful to date. These locations have the following similarities in their current solid waste management practices: (1) programs, policies and infrastructure for collection and processing for recycling of construction and demolition debris (CDD) materials; (2) policy, programs and infrastructure for food scraps collection and processing to biogas and compost.
- **Jurisdictions have identified immediate opportunities for CDD and food waste to increase material recovery and help achieve to zero-waste diversion targets.** All reviewed plans have evaluated and included strategies for recycling or energy recovery. Special interest and attention are given to food scraps as they represent the biggest recyclable fraction of the municipal solid waste (MSW) stream. In the case of San Jose and Palo Alto, having the Zero Waste Energy Development Company anaerobic digestion (AD) facility to take the collected organics and process it to compost and biogas has significantly impacted the diversion rates of the food scraps.
- **Following the solid waste management hierarchy is key to achieving goals.** The benchmarked jurisdictions have targeted reduction of waste generation (source reduction) as the best way to reduce the amount of waste destined for disposal. For example, Fort Collins and Santa Monica, have included target per-capita generation rates in their zero-waste goals (much like the goal established in the Arlington County Solid Waste Management Plan of less than 4.3 pounds per person per day, from 2004).
- **Consistent with the waste management hierarchy, all zero-waste plans include strategies for increasing the recycling rate.** Plans include expanding the programs to include all residents and businesses, education campaigns to reduce the contamination in the recyclables, and providing support for public events.
- **Implementing appropriate collection programs has a big impact on the rate of material recovered and its recyclability/processing options.** This is especially important when developing collection programs for recyclables and food scraps. Benchmark jurisdictions experienced significant increase in the amount of recyclables collected when dual-stream collection programs were replaced with single-stream collection programs. Out of the nine-reviewed jurisdictions, only Montgomery County still collects recyclables through a dual-stream collection system. With respect to food scraps collection programs, it is important to consider solutions convenience level. San Jose experienced significant increases in the commercial participation rate and the amount of organic material collected by instituting a two-stream, wet and dry, waste collection program for commercial customers.
- **Jurisdictions will likely need to use thermal treatment, waste-to-energy (WTE) facilities, or landfilling of inert materials to achieve goals.** Although most of the benchmarked jurisdictions have adopted a goal of 100 percent diversion from disposal, some do not recognize the limited recyclability of certain materials in the waste stream and that for a certain period, the only option for diverting these materials from landfills may be WTE facilities. All jurisdictions include alternative technologies for processing the waste to energy, although they have not identified clear path on what technologies are going to be considered. Jurisdictions in California are clear that they do not accept mass burn combustion WTE as a potential solution, while Fort Collins, Boulder, Montgomery County and Portland have stated that they would consider it as an option preferred over landfilling for non-recyclable items. The latter is in line with the zero-waste definition of Arlington County, which states that certain materials due to the limited recyclability, and until the redesign makes them recyclable, will be better processed for energy recovery than landfilled. In addition, inert materials that cannot be used for energy generation nor are recyclable, including the ash from WTE, facilities will need to be disposed in landfills.

A lot of the achievements of the reviewed jurisdictions towards their zero-waste goals would not have been possible without strong policies in place. Following is a brief list of most important types of policies among the reviewed jurisdictions that have provided the most impact on the diversion rates:

- Mandatory recycling ordinances for both residential and commercial sectors
- Mandatory food waste recycling programs
- Disposal bans (yard, waste, food scraps, recyclables)
- Bans or restricted use for single-use plastic bags and expanded polystyrene food packaging

Conclusions and Recommendations

Based on the reviewed information and benchmarked to the current situation in Arlington County, the zero-waste goal as defined in the Zero Waste Resolution of the County Board, may be achievable with the right policies, programs and infrastructure in place.

Recommendations for consideration during the development of the Zero Waste Management Plan:

- Understand the level of recyclability of the generated waste, and the sources, amounts and seasonality of it. This can be achieved through waste characterization studies.
- Map and understand the available processing infrastructure in Arlington and surrounding counties including the types of feedstock they can accept, processing capacity, and the impact they would have on getting the county close to the zero-waste goal. This includes materials recovery facilities (MRFs), transfer stations, composting and anaerobic digestion installations, waste water treatment plants with anaerobic digestion capacity that can potentially take food waste, and WTE facilities.
- Identify the changes needed to collection programs and develop strategies for implementing them. This can include education campaigns, adopting policies, and developing incentives systems programs.
- Explore regional opportunities to facilitate zero waste efforts.
- Consider the triple bottom line approach during the development of the Zero Waste Plan to provide for socially, environmentally and economically sustainable solid waste management system.
- Develop a measurement and metrics system based on the zero-waste strategy that will be used to assess progress.

In continuation of this report are Appendix A and Appendix B. Appendix A includes detailed profiles of the zero-waste programs for each jurisdiction, including progress and the results. Appendix B includes a comparative table to identify program commonalities and the unique aspects of the programs that have had an impact on reaching the goals set in the zero waste plans.

PROGRAM PROFILES

Population (Jan, 2018 Arlington): 225,200 Planning Division Estimate

Plan

Zero Waste Resolution, County Board of Arlington County, Virginia

- Year plan adopted: 2015
- Statutory requirements for recycling goals, solid waste plans, etc.: requirements for solid waste management, including storage, treatment, and disposal, are provided in regulations adopted by the Virginia Waste Management Board.
 1. VA DEQ Waste Management Board- Chapter 130. Solid Waste Planning and Recycling Regulations requires each solid waste planning unit in the Commonwealth to:
 - Develop and maintain SWM plan or amend an existing one (to be developed following the SWM hierarchy);
 - Conduct an assessment of all current and predicted needs for solid waste management for a period of 20 years and a description of the action to be taken to meet those needs with 5-year update requirement;
 - Maintain a minimum 25% recycling rate (or 15% for low population density rates areas and high unemployment rate);
 2. Chapter 81. Solid Waste Management Regulations
- City/County code requirements, ordinances: all multi-family and commercial properties are required to provide a recycling system per Arlington County Code Chapter 10
- Jurisdiction's definition of zero waste: Zero Waste management has been recognized internationally as an economically viable, ethical, and sustainable way to responsibly manage waste to better protect and preserve the environment by viewing discarded materials as a resource for others to use; conserving and recovering natural resources through waste prevention; reusing or recycling 90 percent of discarded materials rather than burning or burial; turning discarded resources into jobs and new products instead of trash; encouraging the production of products that are durable and recyclable; and discouraging products and materials that become trash after their use; and while striving to attain higher waste reduction goals, the County acknowledges that a certain amount of residual waste is inevitable, and thus will continue to give preference to waste-to-energy technology as the primary means of disposal rather than landfilling, consistent with the U.S. Environmental Protection Agency's (EPA) waste management hierarchy. (Zero Waste International Alliance Definition)
- Plan's diversion goal timeline and milestones: Arlington's current Solid Waste Management Plan (SWMP) adopted by County Board in June of 2004 established a number of goals and objectives including: 1) maximizing waste reduction and recycling programs; 2) reducing waste generation to less than 4.3 pounds/person/day; and, 3) increasing the County's recycling rate to 37 percent by 2014, and ultimately 47 percent by 2024. Diversion goal is updated to at least 90 percent by 2038 with the Zero Waste Resolution.
- Other goals (i.e. greenhouse gas emission reductions): 2013 Community Energy Plan established overall County GHG reduction goal of 3.0 MT CO₂e/capita/year (down from 2007's 13.4 MT CO₂e/capita)

- Current (or most recent) diversion rates and goals: 47 percent reported diversion rate in 2017. 61 percent residential, C/MF 41.5 percent

Residential Services

- Residential diversion rate: 61percent in 2017 (includes Covanta ferrous metal recovery allocations and source reduction credits per DEQ report).
- Recycling collection program: single stream
- Yard trimmings: year-round program for single- family homes, duplexes, and some townhomes in the County; collection on regular trash day collection. Accepted materials include: grass clippings, leaves and trimmings too small to be included as bundled brush. For larger limbs or tree trunks, free brush pickup program is available.
- Vacuum Leaf Collection November 13 - December 22.
- Food scraps: Drop-off collection at the Trades Center and Columbia Pike Farmer's Market. Considered curbside food scraps collection, and further activities postponed for FY 2020. Cost estimated is ~\$10 per household per year. Survey indicated strong resident support (74 percent positive response)
- Collection frequency: weekly for all streams.
- Variable rate program (i.e. pay-as-you-throw): N/A
- Program Incentives (i.e. Recyclebank): N/A

Commercial, Multi-Family and Institutional (C/MF/I) Programs

- C/MF/I diversion rate: C/MF 41.5 percent in 2017;
- Collection services (private or jurisdiction provided): private (49 hauler companies in 2018).
- Regulations/ordinances requirements: Arlington County businesses and multi-family dwellings have been required to have recycling systems in place by the Arlington County Code Chapter 10 Garbage, Refuse And Weeds since 1994.
- Commercial Franchising: N/A
- City/County assistance (technical assistance):
 - County contracts for recycling and trash collections services for County facilities and Arlington Public Schools (APS). Department of Parks and Recreation recycled more than 1,400 tons of wood and landscaping wastes at SWB's Earth Products Recycling Yard in FY 2018. Combined County/APS diversion rate is 45.5 percent.
 - County SWB provides supporting materials, including a MF/C toolkit with downloadable posters, recycling bin labels, memo templates, etc. Also performs site inspections and presentations. MF/C properties file plans using ReTRAC system. County allows smaller businesses to self-haul materials to its two drop-off centers.

Program Outreach Summary

- Website content: very straightforward website with information on how and what to throw away, recycle, and give to yard waste facilities.
- Social marketing: revisiting e-news, HR recycling slides, Facebook, Twitter.

- Events/presentations: solid waste division staff have supported many special events including:
 - 9/11 Run
 - Oktoberfest
 - Columbia Pike Beer and Wine Fest
 - Army 10-Miler
 - USMC Marathon
- Promotional material: summer cart hanger report card, multifamily toolkit misc. projects: yard sign (EPRY), farmer's market A-farm compost signs, CoG Go Recycle Campaign.

Organic Waste Management

- Residential collection: yard waste curbside collection, and food scraps drop-off collection (see residential services section above).
- C/MF/I collection: drop-off.
- Backyard composting: Arlington County sells backyard composting bins.
- Anaerobic digestion: N/A.
- Food waste including food waste prevention, donation support, etc.: under development.

Waste Reduction and Product bans

- Single-use bags ban/fee: no ban, but County suggests to re-use them or give them to a local grocery store.
- Expanded polystyrene (EPS) bans/restrictions: no ban, but the County reminds citizens to choose recyclable items over polystyrene and other containers that must go into the trash.
- Waste reduction outreach: host county forums, events, and sponsored projects to engage the public.
- Product repair and reuse/materials exchanges/support for hard-to-recycle items: comprehensive index of where to donate items from books to bikes to electronics to packing peanuts.

Construction and Demolition Debris (CDD)

- Is CDD counted as a solid waste? No.
- Is CDD recycling included in jurisdiction's plan? No.
- Misc. CDD programs/policies: N/A.

Other

- Are waste-to-energy (WTE) or alternative technologies considered in goals? Currently Arlington County sends the trash after recycling to the Alexandria WTE facility. Will continue to give preference to waste-to-energy technology as the primary means of disposal over landfilling.
- Environmentally preferable purchasing or green purchasing policies: National Capital Region jurisdictions, drinking water and waste water entities, and school systems were surveyed and asked to identify all current contracts that, at least in part include environmentally preferable products and services and whether the COG Rider Clause is included in the contract. The results are compiled into Green Contracts Database to assist with local green purchasing efforts by (1) identifying contracts that COG Cooperative Purchasing Program Members can "ride" to acquire the same product or service and (2) connect with other members to share specifications and experience with the product/service (implementation and product quality).
- Producer responsibility goals and/or initiatives (at state or local level): under development.
- Regional and/or state policies/initiatives, compacts, goals, etc.: under discussion.
- Economic development policies or initiatives (recycling market zones, marketing cooperatives, business financing support, etc.): N/A
- Triple Bottom Line impacts and goals: N/A

Population (2017 Census update): 950,715

Plan

Austin Resource Recovery's Master Plan

- 2005 - The City of Austin signed the UN Urban Environmental Accords which committed the city to achieve zero waste by 2040
 - 2007 - The city adopted the Climate Protection Resolution to create plans and programs to make Austin “the leading city in the nation in the effort to reduce the negative impacts of global warming.
 - 2009 - The city adopted the Zero Waste Strategic Plan
 - 2011- The Austin City Council approved **Austin Resource Recovery's Master Plan** (the Master Plan), which identifies the key strategies and resources to achieve Zero Waste
- Year plan adopted: 2011
 - Statutory requirements for recycling goals, solid waste plans, etc.: Under Texas State Law, cities have the authority to regulate solid waste service providers in their communities.
 - In future phases of the URO [Universal Recycling Ordinance], the City shall require diversion of organic materials by residential and commercial generators and at City offices and facilities.
 - In future phases of the Event Recycling Ordinance, the City shall require diversion of organic materials at all special events. In addition, the City will register all organic service providers that haul within the City limits.
 - State law bars the outright ban of styrofoam and straws by municipalities.
 - City/County code requirements/ordinances:
 - EST.1998- Apartments and Multi-Family Communities with 100 units or more must provide on-site recycling of any four of the following materials: aluminum cans, tin/steel cans, glass containers, plastic bottles, news-paper, cardboard, craft paper bags, and home office paper. Businesses and office buildings with 100 employees or more must provide on-site recycling of any two of the following materials: aluminum cans, tin/steel cans, glass containers, plastic bottles.
 - Universal Recycling and Composting Ordinance- requires all properties to provide recycling services to their tenants and employees by October 1, 2017. The ordinance phases in recycling and composting in all multi-family dwellings, office buildings and institutions. The ordinance will also phase in retail, restaurants and industrial generators as well as collection of compostable organics.
 - Single use products and packaging ordinances: adopted by the City Council in 2012, it regulates single-use carryout paper and plastic bags. Austin requires important messages in store to help businesses and consumers work together to reduce bag waste. Reusable bags must display language describing their re-usability in a visible manner. Stores must post signs in English and Spanish describing the city's ban and encouraging customers to bring their own.
 - Construction and Demolition Recycling Ordinance: in 2015, the City Council adopted an ordinance requiring building projects for more than 5,000 square feet of new, added, or remodeled floor area to reuse or recycle at least 50% of the construction debris or dispose of no more than 2.5 pounds per square foot.
 - Extended Producer Responsibility (EPR) Initiatives: the City plans to adopt an EPR policy, support the Texas Product Stewardship Council, support the development of EPR framework legislation for state agencies, consider a local EPR Ordinance and participate in state and national EPR advocacy.
 - Takeback Ordinance: If the State of Texas does not adopt an EPR framework or product-specific legislation, Austin will consider requiring brand owners to take back non-recyclable, non-compostable or hard to handle products such as pharmaceuticals, sharps, batteries and fluorescent bulbs.
 - Hauler Registration Ordinance: nonprofit and private service providers will register with the city and report service levels, diversion and disposal tonnages. Fees will cover monitoring and enforcement costs. City will provide technical assistance to commercial generators.
 - Refundable Deposit (Bottle Bill): The city supports a statewide bill that provides financial incentives and convenient redemption centers.
 - In October 2016, the City of Austin implemented the Universal Recycling Ordinance Organics Diversion, the second stage of the Universal Recycling Ordinance that requires all food-permitted facilities 15,000 sq. ft. or larger to establish programs to divert organic material from landfill.
 - Jurisdiction's definition of zero waste: reducing the generation of wasted materials at the source and maximizing diversion methods to avoid landfills and incinerators. The overall goal is to strive for no waste burned or buried.
 - Plan's diversion goal timeline and milestones: 50 percent by 2015; 75 percent by 2020; 85 percent by 2025; 90 percent by 2030; 95+ percent, working toward zero waste by 2040; Restorative Economy by FY 2050.
 - Other goals (i.e. greenhouse gas emission): the City adopted the Climate Protection Resolution to create plans and programs to make Austin “the leading city in the nation in the effort to reduce the negative impacts of global warming.” The resolution established the Austin Climate Protection Program with goals in five major areas:
 1. Municipal Operations – make all City fleets, facilities, and operations carbon neutral by 2020. (By 2012, the city's carbon footprint had decreased from 226,000 metric tons of CO₂ in 2007 to 75,000).
 2. Energy Generation Planning – reduce Austin's total energy use to 800 megawatts and increase the renewables portfolio to 35 percent of the power mix by 2020. (By 2012, the city had reached 40 percent of the 800MW target and increased renewable energy portfolio to 15 percent).
 3. Energy Efficiency – enforce energy efficiency codes on current homes, commercial buildings and new construction. (In 2010, the city adopted the 2009 International Energy Conservation Code, which reduced the energy used by new single-family homes by 31percent).
 4. Community-wide Emissions – develop an inventory of community greenhouse gas emissions, as well as targets and strategies for reduction. (In 2008, the GHG inventory was completed using 2007 data. In 2010, the city set a target of net-zero GHG emissions by 2050).
 5. Carbon Neutrality Assistance – provide tools such as offsets for individuals to mitigate their own emissions. (In 2010, an Austin-specific carbon calculator was made available. In 2012, the Austin Green Business Leaders program and the Bright Green Future Grants program were launched).
 - Current (or most recent) diversion rates and goals: citywide diversion rate 42 percent in 2015.

Residential Services

- Residential diversion rate: 44 percent recycling rate. (2015)
- Recycling collection program: single stream.
- Yard trimmings: Austin Resource Recovery (ARR) provides weekly, curbside yard trimmings collection to single-family homes, duplexes and triplexes in Austin. Yard trimmings include grass clippings, leaves and small branches or limbs that are no longer than 5 feet and no thicker than 3 inches in diameter.
- Food scraps: beginning June 25, 2018, ARR will provide curbside composting collection program to nearly half of its curbside customers, adding 38,000 new homes to the existing 52,000 already receiving the service. ARR plans to add all curbside customers to the service by 2020, pending funding approval by City Council in future years. This program will collect comingled food waste with yard waste and soiled paper.
- Collection frequency: trash and yard waste are collected weekly. Recycling is collected bi-weekly. Clothing and housewares recycling is collected bi-weekly.
- Variable rate program i.e. pay-as-you-throw (PAYT): Austin has PAYT system since the 1997 which charges residents for the size of their garbage container.
- Program Incentives (i.e. Recyclebank): WasteSMART is a program that recognizes local businesses that reduce waste, recycle and buy recycled products. Several local businesses are reducing, and recycling and the City of Austin provides summaries of the green and sustainable techniques these businesses have implemented.

Commercial, Multi-Family and Institutional (C/MF/I) Programs

- C/MF/I diversion rate: N/A
- Collection services (private or jurisdiction provided): nonprofit and private sector service providers collect and process organic materials generated by multifamily complexes; commercial establishments such as restaurants, mobile food vendors, and food processors; special events and city facilities requiring dumpster service. There are 170 licensed haulers in Austin which collect various types of waste including landfill, recycle, compost - <http://www.austintexas.gov/page/licensed-haulers>. If there is a service void and no private sector service providers are willing or able to provide the organic collection service, the Austin Resource Recovery department will also provide for collection of organic materials from multifamily and commercial generators. Based on input from multifamily and commercial generators as well as private sector service providers, the department will evaluate whether it will be necessary to expand organics collection beyond the department's current customer base.
- Regulations/ordinances requirements: Universal Recycling Ordinance.
- Commercial Franchising: No.
- City/County assistance (technical assistance): the ARR department provides commercial technical assistance through its Waste Reduction Assistance Program (WRAP), a free service that assists local businesses with their recycling and waste reduction efforts. The program motivates businesses to get involved, provides technical assistance and resources, and recognizes businesses that are making a difference. The program includes:
 - Technical assistance to commercial businesses in support of the URO;
 - Rewards and recognitions;
 - Incentives and pilot projects;
 - Information on recycling and reuse outlets;
 - Information about rates and available services voluntarily provided by

- private sector service providers and nonprofits; and
- Profiles and promotion of businesses transitioning to Zero Waste.

Program Outreach

- Website content: the City plans to communicate with their residents/stakeholders through various mediums including email, website, social media, message boards, etc.
- Social marketing: ARR strives for two-way communication throughout implementation of the communications plan. By listening to target audiences on an ongoing basis, the ARR will have the opportunity to address issues before they occur, revise messages to make them more meaningful, and get input and ideas from target audiences. Staff should evaluate communications methods throughout implementation of the Master Plan to include new media and technologies.
- WRAP (for commercial): ARR will conduct outreach to every business in Austin over a five year period. The program will start with businesses of more than 100,000 square feet, as the first phase, and remaining businesses will be phased in within three years.
- Events/presentations: the City plans to hold special events/booths, face-to-face/one-on-one meetings, PSAs, etc. to communicate with residents/stakeholders.

Organic Waste Management

- Residential collection: beginning June 25, 2018, ARR started curbside composting collection to nearly half of its curbside customers. The program collects food scraps, yard trimmings and food soiled paper, for composting.
- C/MF/I collection: the Universal Recycling Ordinance (URO) has an organics diversion component for businesses with a food permit. Starting October 1, 2016, food permitted facilities are required to establish programs to divert organic material (such as food or yard trimmings). Affected properties are phased in by size: properties over 15,000 sq. ft. – Oct. 2016; properties over 5,000 sq. ft. – Oct. 2017; and all properties – Oct. 2018.
- Backyard composting: ARR department has a Home Composting Rebate Program with online classes. By 2015, 2,564 households completed the backyard composting rebate program, and composted estimated 282 tons of organic waste in 2015.
- Anaerobic digestion: City staff has been approached by representatives promoting the use of sink-based food waste disposals as a means of avoiding collection of food waste. The systems instead transport food waste through the wastewater system to AWU's [Austin Water Utility] anaerobic digesters. The City's Office of Sustainability, in collaboration with AWU and the ARR department, evaluated the potential added use of food waste disposal units and their impacts on City infrastructure. After careful study of the issues and providing a balanced perspective that integrates multiple aspects specific to Austin's utility and sustainability perspectives, the City's recommendation was to maintain its existing position on food waste disposals. This means the City does not support the use of food waste disposals in its promotional or educational materials and programs, and would continue its existing ban on commercial disposals.
- Food waste including food waste prevention, donation support, etc.: in 2017, the City of Austin's Break It Down partnered with Copia to bring a tech-based solution to end hunger and food waste in Austin.

Waste Reduction and Product Bans

- Single-use bags ban/fee: Austin's Single Use Bag Ordinance from 2013, known as SUBO, bans single use bags outright and regulates what qualifies as a reusable bag. There is no bag fee in the Austin bag ban. The law allows reusable bags made of cloth and machine washable fabrics of all kinds and plastic film bags which are not machine washable. However, plastic film bags must be at least 4 mm thick to be reusable in Austin. Two years after the bag ban was implemented, the City asked the ARR group to investigate its effectiveness. Their June 10, 2015 report, states that while the ban was successful in lowering the amount of single-use plastic bags made from high-density polyethylene in City landfills, it was actually worse for the environment overall. "The amount of single use plastic bags has been reduced, both in count and by weight," Waters states. "However, in their place, the larger 4 mm [4/1,000ths of an inch] bags have replaced them as the go to standard when the reusable bag is left at home. This reusable plastic bag, along with the paper bag, has a very high carbon footprint compared to the single use bag." On June 22, 2018, Texas Supreme Court Rules cities can't ban plastic bags.
- Expanded polystyrene (EPS) bans/restrictions: ARR will work with the City Purchasing Department to develop and incorporate standard guidelines for all contracts related to vending at City facilities and at City sponsored events. These guidelines will apply to anyone vending food at a City sponsored event or on City property, including any subcontractors providing services at an event. No mention of polystyrene ban on Purchasing Office's website.
- Waste reduction outreach: ARR will research and publicize best practices for waste reduction at home, including methods such as those promoted by the EPA, including but not limited to: purchasing items in bulk or economy sizes, in reusable containers or with the least amount of packaging; purchasing products which are available in concentrated form or are high-quality long-lasting products; and avoiding the use of single use items such as disposable cups, plates, and cutlery; expanded polystyrene and single use checkout bags. Instead, revert to reusable items such as such as reusable utensils, cloth towels, and canvas bags. The City's website offers waste reduction tip sheets for hotels/motels, junk mail, offices, paper, restaurants, starting a recycling program, and waste assessment.
- Product repair and reuse materials exchanges support for hard-to-recycle items: the City currently has various recycle and reuse drop off centers for household hazardous waste, electronics and appliances, clothing and housewares, other recyclables, tires, and brush and yard trimmings. On their website, they also have information on reuse stores.

Construction and Demolition debris (CDD)

- Is CDD counted as a solid waste? Yes.
- Is CDD recycling included in jurisdiction's plan? Yes, see below.
- Misc. CDD programs/policies: in November 2015, Austin City Council approved the Construction and Demolition Recycling Ordinance and administrative rules to increase reuse and recycling of materials from construction and demolition projects. The ordinance is modeled after the City's Green Building efforts and is consistent with the City's Zero Waste goal and the ARR Master Plan. Initially, the ordinance affected contractors working on certain construction (not demolition) projects. Beginning Oct. 1, 2019, commercial demolition projects of all sizes will also have to meet the ordinance requirements. General contractors for affected projects must do at least one of the following: divert from the landfill at least 50 percent of the construction project debris;

dispose no more than 2.5 pounds of material per square foot of floor area in the landfill. Reporting requirements: when a general contractor requests a final building inspection for an affected project, the contractor must report how much construction debris was landfilled, reused or recycled. Contractors failing to report are subject to a Class C misdemeanor.

Other

- Are waste-to-energy (WTE) or alternative technologies considered in goals? The Austin community landfill has a gas-to-energy plant which generates "green" power, enough to power 6,000 homes. In 2012 the city approved a biomass plant which would be fueled by waste wood from lumber and mill operations. However, this was a very expensive project that cost tax payers a lot of money (\$54 million/year) and has not proven to be successful. The City is now trying to get out of a 20-year contract for the plant.
- Environmentally preferable purchasing or green purchasing policies: N/A
- Producer responsibility goals and/or initiatives (at state or local level) the City plans to adopt an EPR policy, support the Texas Product Stewardship Council, support the development of EPR framework legislation for state agencies, consider a local EPR Ordinance and participate in state and national EPR advocacy. ARR staff is part of the 2017 Texas Product Stewardship Council Steering Committee which was formed to shift Texas' product waste management system from one focused on government funded and ratepayer financed waste diversion to one that relies on producer responsibility in order to reduce public costs and drive improvements in product design that promote environmental sustainability. The Texas Product Stewardship Council works to integrate the principles of product stewardship into the policy and economic structures of Texas.
- Regional and/or state policies/initiatives, compacts, goals, etc.: N/A
- Economic development policies or initiatives (recycling market zones, marketing cooperatives, business financing support, etc.): The Department will provide funding for a new staff member in the Economic Growth and Redevelopment Services Office (EGRSO) who will be responsible for retaining and attracting reuse and recycling industries to Austin. Through this new position, EGRSO will create the Resource Recovery Economic Development program, which will be responsible for undertaking the following initiatives:
 - Locating resource recovery small businesses;
 - Supporting byproduct synergies;
 - Promoting the department's commercial Waste Reduction Assistance Program;
 - Supporting the development of a Green Business Leaders Program;
 - Supporting incentives to attract recycling re-processors;
 - Eco-Business Park & Eco-Industrial Park; and
 - Brownfields Redevelopment Program.
- Austin offers businesses a rebate of up to \$1,800 to go Zero Waste. Austin offers an Enterprise Resource Guide which helps new enterprises enter the recycling and reuse sector by providing information on local programs, services, resources, community groups, and regulations. The City also has a Materials Marketplace which is an online platform that allows businesses and organizations to connect and find reuse and recycling solutions for waste and by-product materials.
- Triple Bottom Line impacts and goals: N/A

Population (2017 Census update): 108,090

Plan

Zero Waste Strategic Plan

- Year plan adopted: 2015
- Statutory requirements for recycling goals, solid waste plans, etc.: Colorado Integrated Solid Waste and Material Management Plan and Resolution to adopt statewide and regional municipal solid waste diversion goals for Colorado from the Solid and Hazardous Waste Commission as follows: by 2021- 32 percent Front Range, 10 percent Greater Colorado, 28 percent Statewide; by 2026- 39 percent Front Range, 13 percent Greater Colorado, 35 percent Statewide; by 2036- 51 percent Front Range, 15 percent Greater Colorado and 45 percent Statewide; "Waste Diversion" shall include recycling, composting and anaerobic digestion of MSW.
- City/County code requirements/ordinances:
 - Universal Zero Waste Ordinance (implemented June 16, 2015)
 - City manager's rule (implemented March 28, 2016);
 - Ordinance implementation plan (developed Action Plan in November 2015 to implement the Zero Waste Strategic Plan);
 - Develop compliance and enforcement plan, including tracking system (the University of Colorado-Boulder is a WasteWise partner, the City has kept track of their waste diversion efforts Complete online self-reporting form option for compliance;
 - Research ways to encourage and incentivize edible food waste donations.
- Jurisdiction's definition of zero waste: each sector of the Boulder community, including single-family residential, multi-family residential, and commercial should each achieve 85 percent waste diversion by 2025.
- Plan's diversion goal timeline and milestones: generate new materials from 85 percent of our waste by 2025 rather than send that waste to the landfill.
- Other goals (i.e. greenhouse gas emission reductions): as part of the overall strategic vision for Zero Waste in Boulder, the city continues to strive to co-locate its reuse and recycling centers along "Recycle Row," a one-mile stretch of properties in the eastern portion of the City. Make every school in Boulder Valley and St. Vrain Valley School Districts a Green Star (Zero Waste) School. Modify the Green Star Schools program to fit the unique needs of larger schools, particularly high schools.
- Current (or most recent) diversion rates and goals: City of Boulder current diversion rate is 40 percent.

Residential Services

- Residential diversion rate: 53 percent (2017).
- Recycling collection program: single stream.
- Yard trimmings: the City of Boulder and Boulder County sponsor the yard waste drop-off center and wood waste drop-off center at Western Disposal. Residents receive a 40% discount from normal yard waste and wood waste drop-off pricing.
- Food scraps: currently not available but under consideration.

- Collection frequency: trash is collected every week, recyclables are collected on alternating weeks.
- Variable rate program (i.e. pay-as-you-throw (PAYT)): in 2016, Boulder County implemented a PAYT disposal pricing tags. Waste haulers are required to offer services based on the "zone" in which the customer resides. There are four general zones with different collection requirements: PAYT trash collection only, PAYT trash collection and unlimited recycling, PAYT trash collection, unlimited recycling, food scrap & yard waste composting, PAYT trash collection, unlimited recycling and yard waste composting. Haulers are also required to provide all residential customers (residential structures with not more than two units) in the unincorporated county with PAYT waste disposal pricing.
- Program Incentives (i.e. Recyclebank): N/A

Commercial, Multi-Family and Institutional (C/MF/I) Programs

- C/MF/I diversion rate: 37 percent (2017).
- Collection services (private or jurisdiction provided): private. All hauling companies that collect, transport or dispose of discarded materials (garbage, recyclables, or compostables) in unincorporated Boulder County are required to obtain a hauler license.
- Regulations/ordinances requirements:
 - Disposable bag fee: see "Single-use bags ban/fee" field for more information.
 - Trash tax: occupation tax on trash haulers serving customers within the city limits and helps fund waste reduction efforts in Boulder. Most haulers pass the tax on to customers as part of their trash service bills.
 - Waste hauling ordinance that applies to all haulers.
 - Universal Zero Waste Ordinance.
- Commercial Franchising: N/A.
- City/County assistance (technical assistance): continue improving business assistance and advising program in response to needs and barriers that arise.
 - Assess the rate of early compliance with any commercial regulations adopted and adjust business technical assistance to bring as many businesses on board prior to compliance deadlines.
 - The City has provided many resources on their website to help residents comply with the URO including guidebooks, toolkits, training videos, green bag giveaways, and free recycling and compost signs.

Program Outreach

- Support multi family units in complying with the new ordinance with efforts including canvasses, volunteer trainings and recruitment, collection services, etc.
- Better support the Spanish-speaking community in the use of Zero Waste services and programs. Recruit and train Spanish-speaking Block Leaders and MFU champions. Increase the amount of educational and outreach materials in Spanish.
- Help businesses comply with City of Boulder's universal recycling ordinance by:

- Creating customized trainings, tools, and hauling services to better meet businesses' needs;
- Supporting downtown or other space-constrained Boulder businesses in overcoming unique challenges, matched with unique collection services;
- Expanding Eco-Cycle's Green Star Businesses program to at least 50 businesses; and
- Expanding diversion and collections of hard-to-recycle materials from businesses.
- Support ordinance requiring reusable/recyclable/compostable containers to avoid take-out waste.
- Significantly increase residential understanding of additional resources available to them to help them achieve their goals, such as:
 - Eco-Cycle A-Z Guide, which features more than 200 materials that can be recycled or reused within Boulder County through a wide variety of businesses and programs;
 - Guidelines, tools, programs, etc. provided by Eco-Cycle and others, and
 - Recycle Row and its facilities.
- Website Content:
 - Create "Zero Waste Online Channel" on Eco-Cycle website as part of the website upgrade.
 - Create quick video, presentations, volunteer webinars, PSA's, how-to's, etc. for all sectors.
 - Provide a platform for viewing all Eco-Cycle and other local videos on Zero Waste, including from interested partners.
 - Continue to create guidelines, articles, blogs, info graphics, holiday-related content, 3-R content, and distribute through Eco-Cycle Guide, holiday guide, ads, brochures, website, videos, presentations, tours, etc."
- Social Marketing: door-to-door outreach and training for residents.
- Events/presentations: help shape ordinance language that has clear and enforceable requirements for event planners to exclusively use Zero Waste products. The City provides Zero Waste event information on their website.

Organic Waste Management

- Residential collection: yard waste and food scrap Drop-Off Center for residents. Many of the sites offer free mulch and other compost materials to residents of the County or City.
- C/MF/I collection: see residential collections above.
- Backyard composting: the plan is to support development of backyard composting, work with local partners to create local opportunities to collect, process, and disseminate compost and build local soils.
- Anaerobic digestion: N/A
- Food waste including food waste prevention, donation support, etc.: through the Universal Zero Waste Ordinance the City will evaluate ways to encourage and incentivize edible food waste donations.

Waste Reduction and Product Bans

- Single-use bags ban/fee: in November 2012, City Council adopted a Disposable Bag Fee Ordinance requiring a 10-cent fee for disposable plastic and paper checkout bags at all grocery stores in Boulder. The bag fee does not apply to restaurants, bulk or produce bags, newspaper bags, or any other kind of food packaging bags.

- Expanded polystyrene (EPS) bans/restrictions: Boulder encourages residents to donate polystyrene materials such as styrofoam peanuts and bubble wrap for reuse. There's a Plastic Loose Fill Council's Peanut Hotline to help residents find a "peanut" reuser.
- Waste reduction outreach: door-to-door outreach and training for residents. See Program Outreach section above.
- Product repair and reuse/ materials exchanges support for hard-to-recycle items: Eco-Cycle CHaRM (Center for Hard-to-Recycle Materials) opened in 2001 and was the first facility of its kind in the nation. It collects unusual materials like electronics and plastic bags for recycling and reuse.

Construction and Demolition Debris (CDD)

- Is CDD counted as a solid waste? Yes.
- Is CDD recycling included in jurisdiction's plan? Yes, see below.
- Misc. CDD programs/policies:
 - Become the leader in increasing diversion of CDD across Boulder by continuing to provide services to City of Boulder residents, including deconstruction plans, material pickups and deconstruction expertise.
 - Expanding CDD and acquisition services by increasing internal capacity (staff, trucks, etc.) and by raising funds to make strategic investments and improve City's processes.
 - Offering multifaceted CDD services, including contractor education and outreach, data tracking and analysis and deconstruction plan verification.
 - Serve as a key part of the City's Recycle Row and as an active partner in the Boulder Zero Waste community.

Other

- Are waste-to-energy (WTE) or alternative technologies considered in goals? Yes - in the broad definition of how Boulder can become a Zero Waste community, it would be inappropriate to ignore the possible role of facilities that could process low-grade waste into heating or vehicle fuels.
- Environmentally preferable purchasing or green purchasing policies: Boulder County is committed to sustainability and has created Green Purchasing and Zero Waste policies. Require the procurement of specific supply items and encourage the procurement and use of all other environmentally preferable products. "Environmentally preferable" means products that have a lesser or reduced adverse effect on human health and the environment when compared with competing products that serve the same purpose. Product comparisons should consider life cycle factors such as: availability of any raw materials used in the product being purchased and the availability, use, production, safe operation, maintenance, packaging, distribution, disposal, or recyclability of the product being purchased.
- Producer responsibility goals and/or initiatives (at state or local level): producer responsibility is a goal/benefit of the City's Zero Waste Plan. Incorporating product stewardship initiatives at a state and local level are part of the City's mid-term steps to be implemented by 2018 or sooner. Eco-Cycle is a member of the Colorado Product Stewardship Council that works to bring producer responsibility to Colorado.
- Regional and/or state policies/initiatives, compacts, goals, etc.: Boulder County has similar goals to the City of Boulder, 50 percent or better reduction in Boulder County waste by 2010 and a threshold of Zero Waste by 2025.
- Economic development policies or initiatives (recycling market zones, marketing cooperatives, business financing support, etc.): economic development is part of the City's goals.

- Triple Bottom Line impacts and goals: sustainability framework categories are livable community, environmentally sustainable community, economically vital community.

Population (2017 Census update): 165,080

Plan

Road to Zero Waste Plan

- Year plan adopted: 2013
- Statutory requirements for recycling goals, solid waste plans, etc.: Colorado Integrated Solid Waste and Material Management Plan and Resolution to adopt statewide and regional municipal solid waste diversion goals for Colorado from the Solid and Hazardous Waste Commission as follows: by 2021- 32 percentage Front Range, 10 percentage Greater Colorado, 28 percentage Statewide; by 2026- 39 percentage Front Range, 13 percentage Greater Colorado, 35 percentage Statewide; by 2036- 51 percentage Front Range, 15 percentage Greater Colorado and 45 percentage Statewide “Waste Diversion” shall include recycling, composting and anaerobic digestion of MSW.
- City/County code requirements/ ordinances: Cardboard Ordinance, Pay-as-you-throw Ordinance, Electronic Waste Ordinance, Trash And Recycling Enclosure Requirements.
- Jurisdiction’s definition of zero waste: “Zero Waste is a goal that is ethical, economical, efficient and visionary, to guide people in changing their lifestyles and practices to emulate sustainable natural cycles, where all discarded materials are designed to become resources for others to use. Zero Waste means designing and managing products and processes to systematically avoid and eliminate the volume and toxicity of waste and materials, conserve and recover all resources, and not burn or bury them. Implementing Zero Waste will eliminate all discharges to land, water or air that are a threat to planetary, human, animal or plant health.”
- Plan’s diversion goal timeline and milestones: by 2020 75 percent diversion, 3.5 pounds/day/capita of waste generation; by 2025 90 percent diversion, 2.8 pounds/day/capita of waste generation; by 2030 Zero Waste.
- Other goals (i.e. greenhouse gas emission reductions): Action Plan and Colorado’s statewide goal to reduce GHG emissions (80 percent below 2005 levels by 2050) and achieve per capita waste generation levels of 2.8 pounds/day by 2025.
- Current (or most recent) diversion rates and goals: in 2017, the Fort Collins community achieved a 32 percent diversion rate, by recycling and composting.

Residential Summary

- Residential diversion rate: 30 percent residential diversion rate (2017).
- Recycling collection program: single stream. Not required by policy, but in practice by most haulers
- Yard trimmings: phase in a requirement over the next two years for all haulers to collect compostable yard trimmings and trash on a weekly basis from all customers. Initially, weekly compostable collection will solely be for the collection of yard trimmings.
- Food scraps: the City has banned food scraps and food-soiled paper from being disposed of as garbage. Instead, residents and businesses will compost food scraps. Alpine Waste and Recycling offers organics collection service for commercial customers. Common Good Compost offers residential food scrap

collection. They provide all the necessary equipment for households to divert food scraps from the garbage for a monthly fee. Food scraps are collected at the curb by electric vehicle every week and finished compost is periodically returned to customers.

- Collection frequency: per Ordinance 109, 2016, all collectors providing solid waste collection services to residential customers shall provide curbside recycling collection services at least once per week and on the same day of the week as the day of collection of solid waste from the customer.
- Variable rate program (i.e. pay-as-you-throw): Pay-As-You-Throw (PAYT) Ordinance details how City-licensed waste and recycling haulers must offer services to residents. Since 1995, the City has required the use of PAYT rates to provide incentives to single-family residents to recycle more. As part of their subscription service, recycling must be provided at no additional charge.
- Program Incentives (i.e. Recyclebank): multi-family dwellings that meet recycling standards detailed by the City should be publicly recognized annually by the City and provided some type of financial incentive by their hauler (financial incentives could be a donation to a homeowners association for a celebration or charity of their choice, or some reduction in fees charged for services the following year). This incentive is outlined in the plan but has not been implemented.

Commercial, Multi-Family and Institutional (C/MF/I) Programs

- C/MF/I diversion rate: 34 percent (2017).
- Collection services (private or jurisdiction provided): all trash and recycling is collected by private trash haulers. The City requires haulers to provide in-apartment recyclables and compostable collection containers (could be reusable bags or rigid containers) and educational programs (including distribution of educational materials developed by the City).
- Regulations/ordinances requirements: include all businesses under the Universal Recycling Ordinance within three years. This requires private trash haulers to provide recycling along with trash service to all multi-family complexes and business by 2020, for a separate charge.
- Commercial Franchising: N/A
- City/County assistance (technical assistance): the City offers the Waste Reduction and Recycling Assistance Program which provides free on site assessments, communication materials, and rebate information.

Program Outreach

- Website Content: the City’s webpage has information promoting the Zero Waste Plan.
- Social Marketing: the City’s website offers information/flyers on various waste diversion activities including plastic curbside recycling, yard trimmings, recycling trends, cardboard recycling, and even offers questionnaires that residents can fill out to give their feedback.
- Events/presentations: community conversations (multiple recordings of the events are available on the City’s website).

Organic Waste Management

- Residential collection: Common Good Compost (private company) offers residential food scrap collection.
- C/MF/I collection: Alpine Waste & Recycling offers front-load organics collection service in the Fort Collins area for commercial customers.
- Backyard composting: there is no program developed or supported by the City. Until city-wide composting services are available for all compostable, the City supports development of more pilot programs to compost or digest all compostable organics, particularly with schools and institutions.
- Anaerobic digestion: in 2013, the City started a pilot program of waste-to-energy working with Colorado State University; pulped food scraps from the university's cafeterias are taken to be "digested" at the Drake Water Reclamation Facility (DWRf). The digested food scraps generate methane gas in a controlled environment, which is then burned to generate energy that heats the plant during cold weather.
- Food waste including food waste prevention, donation support, etc.: assist the Larimer County Food Bank in diverting a higher percentage of its existing food waste from the landfill with the addition of another truck and driver, food-safe tins and lids and staff time for donor relations.

Waste Reduction and Product Bans

- Single-use bags ban/fee: recommendation in waste plan is to adopt fees on products or packaging sold in Fort Collins that are hard to reuse, recycle or compost. For example, enact a litter fee on single-use paper or plastic bags and fee or ban on expanded polystyrene take-out containers. Fees could be invested in a recycling education and investment fund. A bag fee was passed in July 2014 which applied a 10-cent per bag fee for both plastic and paper grocery bags. The ordinance was repealed in October 2014 after the city council received pressure from a citizen group. The citizen group had collected over 2,600 petition signatures.
- Expanded polystyrene (EPS) bans/restrictions: see Single-use bags ban/fee above.
- Waste reduction outreach: work with ClimateWise and the City's Waste Reduction and Recycling Assistance Program (WRAP) to conduct outreach to businesses and multi-family complexes about how to reduce wasting and eliminate wasteful practices. To accomplish culture change, the City needs a comprehensive, community-based social marketing program that will address:
 - Awareness – making sure everyone knows that Zero Waste is a priority in Fort Collins;
 - Education – making sure residents, businesses and visitors know how to participate in local Zero Waste programs;
 - Training – teaching employees in Zero Waste businesses and nonprofits how to work with residents, businesses and visitors to gain their support for local Zero Waste programs reinforcement and
 - Compliance – continuously meeting with residents and businesses to highlight how Zero Waste policies and programs work, and helping them comply with adopted City ordinances that guide the implementation of programs. This approach elicits more positive responses than a heavy-handed enforcement program.
 - Currently, the WRAP offers free on-site assessments, communication materials, and information on rebates.
- Product repair and reuse/ materials exchanges support for hard-to-recycle items: adopt fees on products or packaging sold in Fort Collins that are hard to reuse, recycle or compost. Ban hard to recycle products (e.g., reusable and recyclable durable goods) and packaging from landfilling.

Construction and Demolition Debris (CDD)

- Is CDD counted as a solid waste? Yes.
- Is CDD recycling included in jurisdiction's plan? Yes.
- Misc. CDD programs/policies: on January 1, 2012, Fort Collins' building code was updated. It states: "For new buildings and additions over 2,500 square feet or remodels over 2,500 square feet, a construction waste management plan acceptable to the building official that includes recycling of concrete and masonry, wood, metals and cardboard, is required at the time of application for a building permit. The construction waste management plan shall be implemented and conspicuously posted on the construction site. Compliance shall be certified by the hauler through receipts and signed affidavits. Substantive changes to the plan shall be subject to prior approval by the building official. The City of Fort Collins encourages building owners, designers and builders to plan ahead and manage construction waste." Some local projects, such as Poudre School District's construction of new schools, recycle or reuse 90% of the materials generated by the project.

Other

- Are waste-to-energy (WTE) or alternative technologies considered in goals? Yes. The goals include to: "evaluate and pilot clean waste to energy systems for targeted waste streams."
- Environmentally preferable purchasing or green purchasing policies: Zero Waste Associates identified a variety of policy and program options from other Zero Waste Communities to be considered as part of the Fort Collins' plan. One option was to implement existing waste reduction and recycling purchasing goals and add an Environmentally Preferable Purchasing Policy and Precautionary Principle for City purchases and work with each City department to help identify products and service specifications that should be revised. Currently, the City's purchasing division advocates sustainable purchasing and had a Purchasing Guide available on their website which helps City departments determine what "sustainable purchases" are.
- Producer responsibility goals and/or initiatives (at state or local level): continue to be a strong advocate for Extended Producer Responsibility (EPR) legislation and programs regionally, statewide and nationally (as supported in the Fort Collins City Plan). Continue to support the Colorado Product Stewardship Council of the Colorado Association for Recycling to assist in that effort, particularly to drive improvements in product design that are environmentally sustainable. Some major businesses in Fort Collins have reported that they have diverted over 90 percent of their discarded materials from landfills and incinerators, including: New Belgium Brewery, Hewlett-Packard, Woodward, Anheuser-Busch, and Intel.
- Regional and/or state policies/initiatives, compacts, goals, etc.: develop public/private and intergovernmental partnerships (Larimer County, City of Loveland, Colorado State University and Poudre School District) to help identify locations and develop needed facilities (e.g., composting, CDD recycling, additional Resource Recovery Parks).
- Economic development policies or initiatives (recycling market zones, marketing cooperatives, business financing support, etc.): the City should better identify the sources, and the potential highest and best uses of discarded materials, as well as the importance of creating demand for some of those uses. The City should take a more proactive approach to using these resources for improving the City's economic health and reducing barriers to implementation of innovative projects. The City's purchasing division includes economic prosperity as part of the mission/vision. Their sustainable purchasing considers the "Triple Bottom Line" of environmental, social, and economic aspects. Approved by City Council in November 2011

and completed in 2012, the City of Fort Collins finalized a reorganization that combined the Economic Health, Environmental Services, and Social Sustainability departments under one umbrella—the Sustainability Services Area. The City of Fort Collins is among the first, if not the first municipality, to structure all three components under one service area. The change enables the Sustainability Services Area to increase cooperation with the Fort Collins community, in pursuit of innovative alliances and continued improvements in the areas of economic health, environmental services, and social sustainability (a concept known as the “Triple Bottom Line”).

- Triple Bottom Line impacts and goals: application of Triple Bottom Line (TBL) evaluations, life-cycle analyses, and greenhouse gas emissions calculations to develop and prioritize implementation strategies. Economical- capital costs

for these facilities are estimated to be: Composting - \$7-9 million C&D - \$5-7 million Reuse - \$500,000 TOTAL \$12.5 - \$16.5 million. These investments, along with the rest of the policies and programs recommended in this Plan, would contribute significantly to recovering more of the \$6.5 million value of materials from the Fort Collins community that are buried in regional landfills every year. Environmental- the WARM Model shows that by diverting nearly all of its waste (96% or more) from landfilling, Fort Collins could reduce greenhouse gases by 187,389 MTCO₂e per year, the equivalent of removing emissions from 39,071 cars from Fort Collins roadways each year. Social-applying the Institute for Local Self-Reliance (ILSR) job-to-ton ratios to Fort Collins' current volume and type of discards indicates that 434 direct jobs could potentially be created if 100% of the City's discarded materials were recovered and used to make new products.

Population (2017 Census update): 1,058,810

Plan

10 Year Solid Waste Management Plan,
updated every 3 years (2012-2023)

- Year plan adopted: 2012.
- Statutory requirements for recycling goals, solid waste plans, etc.: Code of Maryland Regulations (last updated: July 29, 2016), Title 26. Department of Environment Part 1., Subtitle 03. WATER SUPPLY, SEWERAGE, SOLID WASTE, AND POLLUTION CONTROL PLANNING AND FUNDING, Chapter 26.03.03. Development of County comprehensive Solid Waste Management Plans requires: each county shall maintain a current, comprehensive, solid waste plan which covers at least the succeeding 10-year period. Each plan shall be prepared in accordance with these regulations and shall be arranged with an introduction and five chapters.
 - Maryland Recycling Act (MRA), established by Chapter 536 of 1988 sets mandatory recycling rates for state government and local jurisdictions, as well as voluntary statewide recycling goal of 55 percent by 2020. Mandatory recycling rates as of 2012 are 20 percent for counties with population less than 150,000, 35 percent for counties with population greater than 150,000 and 30 percent for state government. Section 11B-56 of the Montgomery County Code includes the County goal that recycled paper and paper products should constitute at least 50 percent of the total dollar value of paper and paper products purchased by or for the County government.
 - Special legislation for recycling such as House Bill 1290 “Environmental-Re-cycling-Public-School Plans” of the 2009 Maryland General Assembly added a new sub-section (b)(10) to §9-1703 of the Environment Article, Annotated Code of Maryland setting recycling requirement for public schools.
- City/County code requirements/ordinances: set yard waste tip fee per Section 5.4.2.1. Section 11B-56 Montgomery County Code on recycling tonnage and dollar value (see above for details) recycling at special events consistent with Section 3.1.1.3 compliance with the requirements of The Maryland Recycling Rates and Waste Diversion - Statewide Goal Act (2012) Recycling Apartment Buildings and Condominiums Act (2012). The County’s multi-family recycling program is set forth in Section 3(b) of Executive Regulation 15-04AM, “Residential and Commercial Recycling” and is fully compliant with Sections 9-1703(b), (12) and (13) of then Environmental Article, Annotated Code of Maryland.”
- Jurisdiction’s definition of zero waste: N/A
- Plan’s diversion goal timeline and milestones: achieve, maintain or exceed 70 percent source reduction and recycling of municipal solid waste by the end of 2020. This includes the State’s 5 percent diversion credit.
- Other goals (i.e. greenhouse gas emission reductions): Montgomery County has adopted a general goal of solid waste management that establishes waste reduction as the most preferred management technique, followed by reuse and recycling, then incineration with energy recovery, and, least preferred, landfilling.
 - Evaluates the GHG effects of solid waste management system. Complete solid waste system-wide inventory of GHG and ozone-related emissions.

Include net emissions effects in the consideration of future changes in solid waste management system. Work with the private sector (subscription) collectors to quantify and reduce emissions.

- Current (or most recent) diversion rates and goals: as of the end of 2017, the residents and businesses of Montgomery County had achieved a recycling rate of approximately 69 percent. The County must undertake all waste reduction measures to the extent practical and feasible.
 - All waste recycling measures should be implemented that are practical with available technologies and markets and which are not significantly more expensive than the waste disposal measures that would otherwise be needed.
 - The County will operate, or cause to be operated, a waste-to-energy Resource Recovery Facility (RRF) to burn the combustible solid waste remaining after reduction and recycling.
 - Out-of-County landfilling is the preferred disposal method for bypass waste and non-processible waste that cannot be recycled or reused. In-County landfilling should occur only if cost effective out-of-County landfilling options become unavailable or legislatively prohibited.
 - The County solid waste acceptance, drop-off, recycling, and disposal facilities are designed based upon projections of solid waste generated in the County. To conserve capacity at the RRF and at other solid waste and disposal facilities for the residents and businesses of the County, the use of these facilities is restricted to solid waste generated in the County.
 - The County builds and maintains solid waste acceptance and disposal facilities primarily to accommodate municipal solid waste generated in the County.

Residential Services

- Residential diversion rate: recycling rate: 61.6 percent single family, 27.7 percent multi-family. (2017)
- Recycling collection program: dual-stream: 1) paper and cardboard; 2) commingled-plastic, glass and metal containers.
- Yard trimmings: weekly collection on regular trash day; curbside leaf vacuuming is offered in fall in certain areas of the County.
- Food scraps: no food waste collection program in place. Strategic Plan to Advance Composting, Compost Use, and Food Scraps Diversion in Montgomery County, Maryland, published in April 2018, includes a background, assessment of current efforts, and challenges associated with maximizing participation in six specific focus areas: reducing wasted food and channeling food to others; in-home, backyard and community-scale composting; on-site institutional and on-site business composting; on-farm composting; composting capacity to serve Montgomery County; and strategies to maximize collection of food scraps at the curb. In addition, the Strategic Plan includes recommendations in each focus area to address policy, legislation, regulations, education, metrics, and resources.
- Collection frequency: weekly collection of garbage, recycling, and yard trimmings.
- Variable rate program (i.e. pay-as-you-throw (PAYT)): N/A
- Program Incentives (i.e. Recyclebank): N/A

Commercial, Multi-Family and Institutional (C/MF/I) Programs

- C/MF/I diversion rate: 61 percent total waste diversion rate in 2017.
- Collection services (private or jurisdiction provided): day-to-day management of the County's integrated solid waste management system and planning for solid waste management is the responsibility of the County's Department of Environmental Protection (DEP). The County must not collect solid waste from any building with seven (7) or more dwelling units. The County provides refuse and recycling collection services, through contracts with private collectors one or more times per week, at the discretion of the County Executive. Multi-family recycling program mirrors its single-family recycling program, except that privately contracted collectors, rather than County or County-contracted collectors, provide a separate collection of specified recyclable materials. Wastes from these sources are either collected by a private collection company or self-hauled to a waste acceptance facility.
- Regulations/ordinances requirements: title 9 of the Environment Article contains provisions for the planning and permitting of solid waste management and related facilities; it also provides for the regular submission of solid waste management plans by the counties, sets forth the minimum requirements of such plans, provides for a recycling office and requires counties to submit a recycling plan. The County's multi-family recycling program is set forth in Section 3(b) of Executive Regulation 15-04AM, "Residential and Commercial Recycling" (See Appendix I to this Plan) and is fully compliant with Sections 9-1703(b), (12) and (13) of the Environmental Article, Annotated Code of Maryland.
- Commercial Franchising: N/A
- City/County assistance (technical assistance): the County provides much technical assistance with regards to waste reduction, solid waste management outreach, and recycling programming and collection.

Program Outreach

- Website Content: information about single family residential recycling electronics recycling, waste reduction, solid waste services, and other programs.
- Social marketing: brochures and fact sheets, comprehensive resident's guide for recycling and solid waste services distributed to single-family residents; distribution of specialized handbooks and resource guides; educational materials and offerings in multiple languages; cable television programs and mail campaigns.
- Events/presentations: the County promotes waste reduction through outreach, education, technical assistance and training using various media, including development, production and distribution of educational and motivational materials, public and private schools outreach, training and support of recycling and composting volunteers, workshops, demonstrations and seminars. The central elements of this effort are the SORRT Program (Smart Organizations Reduce and Recycle Tons), and the TRRAC Program (Think Reduce and Recycle at Apartments and Condominiums). Specific outreach activities include: tours of solid waste facilities, video presentations on recycling, presentations to civic groups, seminars and workshops.

Organic Waste Management

- Residential collection: yard waste collected on regular recycling day; no food scraps collection.

- C/MF/I collections: yard waste collection available, and food scraps collection available thru some haulers. Businesses are required to develop food scraps recycling programs.
- Backyard composting: the County continues aggressive promotion, education and training for grasscycling and backyard or on-site composting.
- Anaerobic digestion: anaerobic digestion units under development or planning at the wastewater treatment plant (WWTP) but no plans to include food waste as feedstock except for fats, oils and grease (FOG).
- Food waste including food waste prevention, donation support, etc.: the County will examine the feasibility of targeting additional materials types for recycling including food waste generated at restaurants, schools and institutions. Within six months of adoption by MDE of new and comprehensive regulations governing the siting, permitting, construction and operation of food composting facilities in Maryland, DEP will develop a strategy to contractually obtain access to or promote the development and use of food waste composting capacity to service Montgomery County waste generators. In particular, DEP will monitor potential technological advances in food waste composting to determine if this activity may one day be suitable for implementation in the County. With respect to new materials for targeting enhanced recycling achievement, food waste stands out, as a potential volume opportunity.

Waste Reduction and Product Bans

- Single-use bags ban/fee: 5 cent bag fee.
- Expanded polystyrene (EPS) bans/restrictions: Montgomery County Council has enacted Council Bill 41-14: expanded polystyrene (#6-PS) products, such as foam containers, bowls, plates, trays, cartons, cups, egg cartons, etc. are not recyclable in Montgomery County, Maryland. This legislation effectively bans the use and sale of this material in the County.
- Waste reduction outreach: the County Executive will evaluate the opportunities for waste reduction and conduct education and outreach programs to explain the need and opportunities for waste reduction.
- Product repair and reuse/ materials exchanges: the County offers drop-off services for hard-to-recycle items: yard trim, mixed paper, bottles and cans, textiles, tires, books, bicycles, used motor oil, antifreeze, vegetable oil, automobile batteries, building materials, consumer electronics, household hazardous materials, large plastic items like lawn furniture, and white goods/scrap metal (large home appliances). The County also offers one-day drop-off recycling events in various locations throughout the County for shredding and recycling of confidential paper, donation and reuse of household items and clothing which are in usable condition. The County has robust electronics recycling program, cooperates with two part salvage companies to recycle automobiles and has scrap tire recycling program.

Construction and Demolition Debris (CDD)

- Is CDD counted as a solid waste? No, when consolidated from a construction or demolition site, these materials are not MSW.
- Is CDD recycling included in jurisdiction's plan? Approximately 44 percent of the CDD generated in the County is handled by the County Transfer Station, and 56 percent is exported to private facilities.
- Misc. CDD programs/policies: N/A

Other

- Are waste-to-energy (WTE) or alternative technologies considered in goals? Yes. The County currently operates, and is planning to continue to use their WTE Resource Recovery Facility (RRF) to burn the combustible solid waste remaining after reduction and recycling.
- Environmentally preferable purchasing or green purchasing policies: Montgomery County prioritizes purchasing green products and services. The Office of Procurement, in partnership with the Montgomery County Interagency Purchasing Committee, developed a comprehensive web tool to help County staff select green products and services. Staff also can use the Office of Procurement database to search for businesses certified by the Montgomery County Green Business Program. The Office of Procurement also offers employee training in green purchasing.
- Producer responsibility goals and/or initiatives (at state or local level): the Zero Waste Plan explores the possibility of Enhanced Producer Responsibility (EPR) for packaging, including plastic bottles, mattresses and other

difficult-to-manage materials.

- Regional and/or state policies/initiatives, compacts, goals, etc.: the County stated a paper and printing reduction initiative with the goal of reducing the government's impact on the environment and to save tax dollars. In April 2010, the County Executive introduced a new "green policy" requiring departments and offices to post all newsletters and annual reports on the County's website unless printing was required due to legal requirements or under special circumstances. MRA for measuring its recycling rate, and includes the Source Reduction Credit used to calculate the waste diversion rate by the State. County recycling efforts exceed the MRA goal of 40 percent diversion rate.
- Economic development policies or initiatives (recycling market zones, marketing cooperatives, business financing support, etc.): refuse tipping fee avoidance provides an economic incentive for waste generators who pay a contractor for waste removal and disposal. Also, the system benefit charge financing method provides financial incentives for the non-residential sector to reduce waste generation whereby property owners who document a lower than average waste generation rate can be assessed a reduced base system benefit charge. MDE has developed "Tonnage System Reporting Guidelines for CY 2012" for calculating recycling rates for the purpose of compliance with MRA requirements. In addition, the State recognizes specific source reduction activities carried out by a jurisdiction that yields a combined recycling and diversion rate under the MRA by awarding them an additional credit of up to 5 percent. Incentives include compost bins and lawn care products at no additional charge.
- Triple Bottom Line impacts and goals: N/A

Population (2017 Census update): 67,178

Plan

Zero Waste Plan

- Year plan adopted: 2007
- Statutory requirements for recycling goals, solid waste plans, etc.: several California state mandates regulate waste diversion activities. Two recent state policies include:
 - Assembly Bill 341 – created a mandatory commercial recycling program, requiring businesses and multi-family homes to recycle, beginning in 2012, if they generated four cubic yards or more of organic waste per week. The purpose of this bill is to reduce greenhouse gas emissions by diverting commercial solid waste and increasing recycling efforts with the hope of expanding recycling services and recycling manufacturing facilities in California.
 - Assembly Bill 1826 – created a mandatory commercial organics recycling program. The program is being phased in according to how much waste a business generates over the period of 2016 through 2019. In addition, this bill requires that local jurisdictions implement outreach and education about how to recycle organic waste and develop systems to monitor businesses not complying with the organic recycling requirement. This bill includes businesses and multi-family residential dwellings that consist of five or more units.
- City/County code requirements/ordinances: Palo Alto Municipal Code Chapter 5.20 “Collection, Removal and Disposal of Refuse” (commonly known as the Recycling and Composting Ordinance) requires all customers (i.e. businesses, institutions, property managers, restaurants) to subscribe to recycling, compost, and garbage service; set up labeled and color-coded containers in convenient locations for residents, employees, and patrons; train and educate residents, tenants, employees, and custodians how to sort properly; and sort waste into proper containers. The ordinance began in April 2016 and was phased into full implementation in January 2018.
- Jurisdiction’s definition of zero waste: Palo Alto’s definition of Zero Waste is “virtually no waste burned or buried.” The City also refers to the Zero Waste International Alliance’s definition of Zero Waste: “Zero Waste is a goal that is ethical, economical, efficient and visionary, to guide people in changing their lifestyles and practices to emulate sustainable natural cycles, where all discarded materials are designed to become resources for others to use. Zero Waste means designing and managing products and processes to systematically avoid and eliminate the volume and toxicity of waste and materials, conserve and recover all resources, and not burn or bury them. Implementing Zero Waste will eliminate all discharges to land, water or air that are a threat to planetary, human, animal or plant health.”
- Plan’s diversion goal timeline and milestones: 63 percent diversion in 2007, 73 percent diversion by 2011, 90 percent diversion or Zero Waste by 2021.
- Other goals (i.e. greenhouse gas emission reductions): in April 2016, the City Council adopted 80 percent GHG reduction by 2030 goal, using a baseline of 1990. In 2017, Palo Alto reduced GHG emissions by 43 percent from the 1990 baseline.
- Current (or most recent) diversion rates and goals: 82 percent actual diversion in 2016, goal is 90 percent diversion by 2021, 95 percent diversion by 2030.

Residential Services

- Residential diversion rate: N/A
- Recycling collection program: Green Waste of Palo Alto is currently the service provider for the City’s single stream recycling program. Residents can recycle: plastic, paper, glass, metal, and e-waste.
- Yard trimmings: through Green Waste of Palo Alto, residents can compost yard trimmings.
- Food scraps: through Green Waste of Palo Alto, residents can compost food scraps, food soiled paper, and compostable plastic.
- Collection frequency: weekly collection of garbage, recycling, and yard trimmings.
- Variable rate program (i.e. pay-as-you-throw): Yes.
- Program Incentives (i.e. Recyclebank): N/A

Commercial, Multi-Family and Institutional (C/MF/I) Programs

- C/MF/I diversion rate: N/A
- Collection services (private or jurisdiction provided): private (Green Waste of Palo Alto).
- Regulations/ordinances requirements: California Mandatory Commercial Recycling Law.
- Commercial Franchising: Yes, Green Waste is a private company that has an exclusive contract with Palo Alto.
- City/County assistance (technical assistance): Trainings.

Program Outreach

- Website Content: the City has a pretty robust website, which includes sample educational materials on refuse, recycling, waste reduction, and even green marketing (i.e. how to have a zero-waste holiday). People can also subscribe to a Zero Waste Palo Alto e-newsletter.
- Social Marketing: there is a Zero Waste Palo Alto Facebook page and E-news Letters, Zero Waste System & Sorting.
- Events/presentations: the City offers a calendar of events and workshops to help residents go toward zero waste. Some examples include 1) ReFuel Your Fun - propane cylinder exchange (April to June 2018). To reduce the waste created by single use canisters, residents could exchange their empty single-use 1-pound propane cylinder for a refillable cylinder. 2) Residents can safely recycle their old papers at Document Shredding events, held several times a year. 3) The annual Palo Alto Citywide Yard Sale encourages reusing items. 4) Residents can borrow free Zero Waste Party Packs for their parties. The packs include reusable table settings for 24 people.

Organic Waste Management

- Residential collection: through Green Waste of Palo Alto, weekly collection of yard trimmings, food scraps, food soiled paper and compostable plastic. Standard service is one 96 gallon cart. Service is also available in 20, 32, or 64 gallon carts.

- C/MF/I collection: collection is available up to 6 times a week. Service is available in wheeled carts, bins, or compactors in a variety of sizes.
- Backyard composting: City-sponsored free 2 hour long compost workshops (“Compost Basics” and “Worm Composting Basics”). Residents can receive a free compost bin or worm bin by attending a compost workshop.
- Anaerobic digestion: organics collected in Palo Alto are sent to the Zero Waste Energy Development Company anaerobic digestion facility in San Jose.
- Food waste including food waste prevention, donation support, etc.: City’s website provides food waste facts, tips/videos for businesses and residents on how to reduce food waste, and information on local food donation sites. The City also led a broad-scale media campaign aimed at reducing household food waste from June 2013 to 2016. This included traditional media (newspaper and print ads), bill inserts, and social media (online, Pandora, and Facebook ads), and the general population was the target audience.

Waste Reduction and Product Bans

- Single-use bags ban/fee: implemented in 2013, the Palo Alto Disposable Checkout Bag Ordinance bans all retail and food service establishments from distributing single-use plastic checkout bags. The establishments must charge a minimum of 10 cents for paper/reusable bags.
- Expanded polystyrene (EPS) bans/restrictions: the City’s Polystyrene Restriction Ordinance, implemented in 2009, prohibits restaurants from distributing plastic foam food ware. The 2016 update to the Ordinance also prohibits retailers from selling or distributing plastic foam packaging materials, egg cartons, food ware, and ice chests. Furthermore, the City encourages citizens to not use polystyrene and all of the material must go in the trash (not recycling) facilities.
- Waste reduction outreach: the City has many campaigns and educational materials to reduce food waste and divert items that can be recycled or composted.
- Product repair and reuse/ materials exchanges support for hard-to-recycle items: 1) The Repair Café Palo Alto hosts events where people can repair their broken belongings. 2) The organization Transition Palo Alto runs Share Fairs, where people can share produce, art supplies, books, toys, clothes, etc. 3) City residents can safely drop off their toxic household items at the Household Hazardous Waste Station. 4) City residents can pick up free, usable household products (i.e. unused motor oil, cleaners, paints) from Reuse Cabinets, which are located inside the Household Hazardous Waste Station.

Construction and Demolition Debris (CDD)

- Is CDD counted as a solid waste? Yes.
- Is CDD recycling included in jurisdiction’s plan? Palo Alto Municipal Code Chapter 16.14 “California Green Building Standards Code” includes the City’s construction and demolition debris diversion requirements and are based on the California Green Building Code. The City passed the Construction and Demolition Debris Diversion Ordinance in 2004 and updated it in 2009 and 2016. The City’s Green Building Program enforces the ordinance requirement that projects must salvage and/or divert at least 80 percent of residential and commercial project debris from landfill.
- Misc. CDD programs/policies: the City’s CDD Ordinance requires that reusable materials from buildings scheduled for demolition be made available for salvaging prior to demolition.

Other

- Are waste-to-energy (WTE) or alternative technologies considered in goals? Collected compost from green carts is brought to the Zero Waste Energy Development Company anaerobic digestion facility in San Jose, which produces both compost and renewable energy. Mass burn WTE is not acceptable.
- Environmentally preferable purchasing or green purchasing policies: the City has a Recycled Content Purchasing Policy, setting standards for the City to purchase environmentally preferable recycled content products. In the plan is recommended that the City establish standards and incorporate these into applicable bid solicitations and purchasing opportunities. In addition to maximizing post-consumer content, other criteria to be considered include waste reduction, reusability, and recyclability of both the product and packaging. The recycled product procurement process in the City has not achieved the goals set out by the policy. For example, although the City’s Purchasing Department had arranged for the purchase of 100 percent recycled paper, after nine months of implementation, this program was discontinued.
- Producer responsibility goals and/or initiatives (at state or local level): the City is a founding member of the Bay Area Zero Waste Communities. This informal group, consisting primarily of cities that have adopted zero waste goals, and meets regularly to discuss regional strategies for promoting zero waste policies and initiatives. A current focus of the zero waste communities is Extended Producer Responsibility (EPR).
- Regional and/or state policies/initiatives, compacts, goals, etc.: California Climate Investments (CCI) is a statewide program that puts billions of cap-and-trade dollars to work reducing GHG emissions; it creates a financial incentive for industries to invest in clean technologies. The waste diversion programs CCI funds are: 1) Organics Grant Program, 2) Recycled Fiber, Plastic, and Glass Grants, 3) GHG Reduction Loan Program, and 4) Food Waste Prevention and Rescue Grant Program. In addition to the Assembly Bill 341 and Assembly Bill 1826 (see statutory requirements earlier in the text) California state has the following mandates that regulate waste diversion activities:
 - SB 270/ Proposition 67 - in November 2016, CA voters approved the statewide Single-Use Carryout Bag Ban. Most grocery stores, retail stores with a pharmacy, convenience stores, food marts, and liquor stores cannot provide single-use plastic carry-out bags to their customers. Instead, these stores may provide a reusable grocery bag or recycled paper bag to a customer at the point of sale at a charge of at least 10 cents.
 - AB 1045 - requires state entities to work together for the development and deployment of composting.
 - AB 876 - requires local governments to plan for the building of sufficient composting and anaerobic digestion infrastructure to process for a 15-year period in their jurisdictions.
 - AB 199 - creates a sales-and-use tax exemption for businesses on purchases of equipment used for recycling and composting and equipment that processes recycled materials.
- Economic development policies or initiatives (recycling market zones, marketing cooperatives, business financing support, etc.): business financing support and tax incentives for any business that has to do with waste reduction, donation services, etc.
- Triple Bottom Line impacts and goals: N/A.

Population (2017 Census update): 66,882

Plan

Capstone Project Report- “Why Waste Waste? -A strategic plan to Achieve Zero Waste in Portland, Maine”

- Year Study Published: 2015
- Statutory requirements for recycling goals, solid waste plans, etc.:
 - Policy Priorities at large: waste diversion rate of at least 90 percent;
 - Extended Producer Responsibility (EPR) regulation;
 - Industrial ecology;
 - Adequate support of reuse enterprises;
 - Incineration and landfilling should be phased out and production techniques and toxic materials should be more restrictively regulated.
- City/County code requirements/ ordinances:
 - Order 264 12/13, a recently passed ordinance requiring that the owners of multi-family apartment buildings to provide recycling services to their residents.
 - Ordinance 12-23 to outline proper yard waste material.
 - Nonprofits like the Natural Resources Council of Maine has an important role in passing ordinances on municipal waste reduction.
- Definition of Zero Waste: waste diversion rate of at least 90 percent. Recognizing that even with aggressive and successfully applied waste reduction and diversion policies, some inorganic, non-recyclable fraction of waste will remain. The measurement of a diversion rate should not be limited to residential municipal solid waste (MSW), but also to businesses and industry EPR regulation, such as the bottle bill and a deposit/refund system for container.
- Plan’s diversion goal timeline and milestones: divert 90 percent or more.
- Other goals (i.e. greenhouse gas emission reductions): Universal Disposal Ban on Divertible Materials.
- Current (or most recent) diversion rates and goals: Portland seeks to surpass a 50 percent diversion rate.

Residential Services

- Residential diversion rate: N/A
- Recycling collection program: single stream introduced in 2007.
- Yard trimmings: seasonal yard waste and leaf collection in biodegradable bags every two weeks. Riverside Recycling facility site is owned by the city, but operated by a private company, and processes much of the city’s yard waste.
- Food scraps: No collection program in place but under consideration as ecomaine piloted a program in surrounding communities. A large part of the challenge Portland faces in diverting its residential organic waste is the issue of volume.
- Collection frequency: weekly curbside collection of trash and recycling, food composting services currently through private hauler and they bill monthly, though collection is more frequent. Strategy suggests increasing the trash collection to every other week and maintain weekly organics collection.

- Variable rate program (i.e. pay-as-you-throw (PAYT)): the City of Portland unveiled new purple PAYT trash bags on July 5, 2015. The new trash bag rate for purple bags is \$1.35 per 15 gallon bag or \$2.70 per 30 gallon bag. The report described a “policy toolbox for Portland” and highlighted how some municipalities have seen close to a 50 percent decline in the total waste tonnage collected curbside after the adoption of a PAYT program This is part of the policy objective to have intervention after consumption.
- Program Incentives (i.e. Recyclebank): N/A

Commercial, Multi-Family and Institutional (C/MF/I) Programs

- C/MF/I diversion rate: N/A
- Collection services (private or jurisdiction provided): it is the sole responsibility of business owners to contract with a private company to collect, manage, and dispose of their waste. Many haulers provide recycling services to their commercial clients, though some choose not to. While numerous small to mid-sized haulers have provided garbage collection service for decades, several new entrants to the market are noteworthy. Garbage-to-Garden collects organic waste from residential clients in Portland and six nearby towns, while WeCompostIt! (formerly Resurgam) collect principally from commercial clients.
- Regulations/ordinances requirements: industrial ecology approaches to reuse and remanufacture, particularly in the form of eco-industrial parks in which businesses with complementary inputs and outputs co-locate to leverage their complementarity into higher profits and waste diversion.
- Commercial Franchising: N/A
- City/County assistance (technical assistance): N/A

Program Outreach

- Website Content: contains fairly basic information on trash and recycling. They also have an app with similar information. It does not advertise the zero waste idea.
- Social Marketing: no social marketing was present apart from the website.
- Events/presentations: no events were advertised on the website.

Organic Waste Management

- Residential collection: drop-off location for leaves and yard waste.
- C/MF/I collection: the City does not provide these services.
- Backyard composting: some residents chose to do backyard composting over contracting for yard waste collection services due to the price.
- Anaerobic digestion: currently not available as an option for processing organics but the City can benefit from working with the farms in the area for locating the facilities and codigest food waste and animal waste.
- Food waste including food waste prevention, donation support, etc.: Mayor’s Initiative for a Healthy Sustainable Food System, which has established a significant reduction in food waste and support of private composting businesses as a central goal.

Waste Reduction and Product Bans

- Single-use bags ban/fee: single use bag fee.
- Expanded polystyrene (EPS) bans/restrictions: ban on the use of polystyrene “clamshell” takeout containers in restaurants and eateries in the City.
- Waste reduction outreach: eco Maine gives tours of its facilities (waste-to-energy, landfill, and recycling center) as well as other educational outreach like presentations and handout materials.
- Product repair and reuse/materials exchanges/support for hard-to-recycle items.
- Portland has a long and established tradition for reusing materials through reuse businesses Goodwill, and many smaller shops. The City hosts nine annual household hazardous waste collection events and bulky waste disposal services through the e-card program and collection services.

Construction and Demolition Debris (CDD)

- Is CDD counted as a solid waste? No.
- Is CDD recycling included in jurisdiction’s plan? Yes.
- Misc. CDD programs/policies: preserve or donate for reuse to Habitat for Humanity, or haul to Riverside Recycling for recycling.

Other

- Are waste-to-energy (WTE) or alternative technologies considered in goals? Maine prefers waste-to energy facilities over landfills. Ecomaine has a WTE facility, built in 1988, and a material recovery facility (MRF) that opened in 1990.
- Environmentally preferable purchasing or green purchasing policies: the City has enacted a LEED certification requirement for municipal buildings. City parking enforcement employees and police officers use bicycles during the

summer as part of an alternative transportation policy. They are working from the City of Alameda’s policy and will likely make it a voluntary EPP Policy—reliant on the merits of external economic forces. 3.1.5 Request vendors eliminate packaging or use the minimum amount necessary for product protection. Vendors shall be encouraged to take back packaging for reuse. A vendor’s willingness to take back packaging is used as part of the consideration in the bid process.

- Producer responsibility goals and/or initiatives (at state or local level): Maine’s Framework Legislation for Producer Responsibility has set the stage for one of the nation’s most comprehensive take back programs. Currently covered are mercury thermostats, compact-fluorescent light bulbs, rechargeable batteries and cellphones, electronic devices, and mercury auto switches, and the program will soon be extended to include architectural paint. Manufacturers and retailers of these products are required to provide facilities for the recovery of the target materials and are given some leeway in terms of how those facilities are provided. The fee for management of the target material is assessed directly to manufacturers, who then pass the added cost onto retailers.
- Regional and/or state policies/initiatives, compacts, goals, etc.: Maine bottle bill and bag taxes exist in several Maine counties. A huge part of Maine’s economy relies on outdoor recreation, so keeping natural spaces clean is very important to jurisdictions. Many communities and colleges are adopting renewable energy.
- Economic development policies or initiatives (recycling market zones, marketing cooperatives, business financing support, etc.): as Zero Waste certifications and labels expand in the future, the City can establish a support fund to help Portland businesses afford the certification costs. The City could help businesses chose which label would be most appropriate and could pay for all or a percentage of the certification costs.
- Triple Bottom Line impacts and goals: N/A

Population (2017 Census update): 909,535

Plan

Zero Waste Initiative

- Year plan adopted: 2018
- Statutory requirements for recycling goals, solid waste plans, etc.: Code of Maryland Regulations (Last Updated: July 29, 2016), Title 26. Department of Environment Part 1., Subtitle 03. WATER SUPPLY, SEWERAGE, SOLID WASTE, AND POLLUTION CONTROL PLANNING AND FUNDING, Chapter 26.03.03. Development of County comprehensive solid waste management plans requires: "Each county shall maintain a current, comprehensive, solid waste plan which covers at least the succeeding 10-year period. Each plan shall be prepared in accordance with these regulations and shall be arranged with an introduction and five chapters."
 - Maryland Recycling Act (MRA), established by Chapter 536 of 1988 sets mandatory recycling rates for State government and local jurisdictions, as well as voluntary statewide recycling goal of 55 percent by 2020. Mandatory recycling rates as of 2012 are 20 percent for counties with population less than 150,000, 35 percent for counties with population greater than 150,000 and 30 percent for State government. Subtitle 21 of the County Code specifically addresses solid waste management and recycling. It includes requirements for establishing a voluntary recycling program, mandatory requirements for apartment owners to provide recycling opportunities for their tenants, implementation of a pilot food waste composting program, and establishment of material bans such as polystyrene for food packaging.
 - The County is incorporating the Zero Waste plan into the 10 year Waste Management Plan. One timeline to achieving Zero Waste mirrors the State's goal of 85 percent waste diversion by 2040.
 - Special legislation for recycling such as House Bill 1290 "Environmental-Recycling-Public-School Plans" of the 2009 Maryland General Assembly added a new sub-section (b)(10) to §9-1703 of the Environment Article, Annotated Code of Maryland setting recycling requirement for public schools.
- City/County code requirements/ordinances: the Maryland Department of the Environment (MDE) established Zero Waste goals as part of its legislatively mandated Green House Gas Reduction Plan. These goals strive to achieve long-term recycling and waste diversion rates of 80 percent and 85 percent, respectively, by 2040. To adhere to the waste goals of the State, the County would need to maintain current levels of recycling and diversion and recycle and divert additional amounts of waste, including:
 - 85 percent or an additional 258,000 tons of waste annually disposed of at the County's Landfill;
 - 85 percent or an additional 190,000 tons of construction and demolition debris disposed of annually at private rubblefills inside and outside the County.
- Jurisdiction's definition of zero waste: "Zero Waste is not a literal goal like "100 percent recycling", there will always be materials that cannot be recycled and cannot be designed out of the system. However, the vision of Zero Waste is to strive for sustainability through the following key zero waste initiatives:

whole system approach, reducing consumption, minimize waste and maximize recycling."

- Plan's diversion goal timeline and milestones: Maryland Waste Diversion Goals: 54 percent by 2015, 65 percent by 2020, 70 percent by 2025, 75 percent by 2030, 85 by 2040.
- Other goals (i.e. greenhouse gas emission reductions): in 2007, the County implemented the "Going Green Initiative" and established goals for expanding green building practices in the County. The County has also developed an energy policy for reducing energy consumption and increasing the amount of renewable energy used in County facilities.
- Current (or most recent) diversion rates and goals: 64.58% (59.59% + 5% source reduction credits) in 2015 (MRA rules).

Residential Services

- Residential diversion rate: 34 percent diversion rate in 2015 (MRA rules).
- Recycling collection program: single stream.
- Yard trimmings: weekly curbside collection of yard trimmings is year-round. Yard trimming includes grass clippings, leaves, small branches, brush and Christmas trees.
- Food scraps: the Department of the Environment (DOE) is piloting the curbside collection of food scraps in a project funded by an EPA grant. This one year pilot affords DOE the opportunity to gain vital information for food scrap collection, prior to the implementation of a Countywide food scrap collection program. Approximately 140 participants from the targeted communities have their food waste picked up weekly.
- Collection frequency: weekly collection of garbage, recycling, and yard trimmings.
- Variable rate program (i.e. pay-as-you-throw (PAYT)): N/A
- Program Incentives (i.e. Recyclebank) under consideration:
 - Advanced recycling/ disposal fees;
 - Deposit/refund schemes;
 - Product charges;
 - Subsidies or tax credits for environmentally preferred products;
 - Differential fees based on product's health or environmental impact;

Commercial, Multi-Family and Institutional (C/MF/I) Programs

- C/MF/I diversion rate: 77 percent diversion rate in 2015 (MRA materials).
- Collection services (private or jurisdiction provided): private haulers through contracts with the County.
- Regulations/ordinances requirements: see under statutory requirements.
- Commercial franchising: N/A.
- City/County assistance (technical assistance): the County is considering reducing the financial burden on small businesses by establishing recycling co-operatives to overcome the financial obstacle of recycling collection services.

Program Outreach

- Website content: information on programs like source reduction, recycling FAQs and toolkit, and information about the compost pilot program.
- Social marketing: source reduction ideas are included in the County's public education material, including displays, presentations, and on the County's Facebook page and website. The plan recommends expanded use of Instagram, Twitter, Facebook, and YouTube.
- Events/presentations: the waste management division's staff is available to give source reduction presentations, and coordinate with other County departments to inform residents and businesses on where they can donate used materials to avoid disposal. Other actions include: staffed a source reduction display; hosted a source reduction event for the general public; incorporated source reduction information into the County website; promoted source reduction in schools on an ongoing basis;
 - A source reduction curriculum or ongoing activity in schools.
 - Yard trimmings: distributed publications to at least 30 percent of single family households in the County.

Organic Waste Management

- Residential collections: yard trimmings collected weekly with recycling and trash.
- C/MF/I collections: offered by some commercial haulers.
- Backyard composting: the County does not have a backyard composting program, but it is included as a recommendation in the initiative as an activity that can improve the composting program.
- Anaerobic digestion: currently not available but the County believes that composting and anaerobic digestion of organic materials will contribute a large portion of the additional recycling needed to meet the overall goals of being a zero-waste community.
- Food waste including food waste prevention, donation support, etc.: the law currently states that the event organizers for large events (200+ people at public facilities) may assess the availability of food scraps recycling services for the event.

Waste Reduction and Product Bans

- Single-use bags ban/fee: the County is considering a 5 cent bag tax after seeing the success of the program in Montgomery County. Currently the County has efforts to educate the public on alternatives to using single-use carry out bags and make available for free reusable bags for residents. As of January 2018, a Maryland House Bill aims to grant the County authority to enact a bag fee.
- Expanded polystyrene (EPS) bans/restrictions: Subtitle 21 of the County Code establishes material bans such as polystyrene for food packaging.
- Waste reduction outreach: yes, through education, marketing, and events.
- Product repair and reuse/ materials exchanges/ support for hard-to-recycle items: considering modeling a program after successful projects in other cities such as City of Santa Monica, California which hosts regular Repair Cafés. The City arranges for volunteer "fixers" to help residents repair items such as lamps, toasters, clothes, toys, bikes, and hair dryers. Also, considering, developing a comprehensive database of reuse programs, repair services, and donation centers in the County so residents have easy one-stop access to opportunities to extend the lives of their materials.

Construction and Demolition debris (CDD)

- Is CDD counted as a solid waste? No.
- Is CDD recycling included in jurisdiction's plan? The County is considering a diversion program. Diversion of these materials through recycling and reuse programs represents a significant opportunity for the County to reduce disposal of these materials. Policies and programs that promote the economic and environmental benefits of recycling these materials will encourage increased waste diversion.
- Misc. CDD programs/policies: nonprofit involvement recovered over \$12 million of building materials. Community Forklift is a non-profit reuse center for home improvement supplies. They collect unwanted building materials throughout the Washington DC Metro Region and make these materials available to the public at low-cost.

Other

- Are waste-to-energy (WTE) or alternative technologies considered in goals? As of 2016, the County cancelled plans for new WTE facility and many contribute this to the work of environmental justice nonprofits.
- Environmentally preferable purchasing or green purchasing policies: the Green Purchasing Committee is required to provide assistance to State units in developing strategies and best practices for implementing environmentally preferable purchasing practices; developing and maintaining environmentally preferable procurement specifications; issuing and maintaining purchasing guidelines; and reporting annually to the Governor and Legislature on its activities. This year House Bill 629 Environmentally Preferable Procurement, signed into law as Chapter 604 on May 15, 2014.
- Producer responsibility goals and/or initiatives (at state or local level): "promote EPR Policies by taking an active role in advocating for legislation that requires product manufacturers, retail establishments, wholesale distributors and other appropriate entities to take back certain products or packaging that currently are difficult to recycle, contain toxics or otherwise pose problems when they are discarded as waste. As part of internal procurement requirements, the County can preferentially support product manufacturers and businesses that have implemented EPR for their products."
- Regional and/or state policies/initiatives, compacts, goals, etc.:
 - Adopt the Zero Waste Plan and Resolution;
 - Prioritize Source Reduction and Reuse Programs;
 - Support and Implement Producer Responsibility Programs;
 - Reinforce Public Education and Outreach;
 - Target Organics for Diversion;
 - Establish Construction and Demolition Debris Ordinance;
 - Implement Pay-As-You-Throw;
 - Expand Existing Recycling Requirements;
 - Lead by Example;
 - Some programs target upstream flows (reuse, recycling and composting of end-of-life products) and others work with downstream flows (reuse, recycling and composting of end-of-life products). Source reduction initiative. The State of Maryland and Prince George's County require owners of multi-family rental facilities and condominiums to provide facilities that allow tenants to voluntarily recycle designated materials.
- Economic development policies or initiatives (recycling market zones, marketing cooperatives, business financing support, etc.): considering grants to re-use and donation start-ups.

- Port Towns of Bladensburg, Colmar Manor, Cottage City, and Edmonton form the Port Towns EcoDistrict. The EcoDistrict project has two chief goals:
 - 1) To be a regional leader in recycling, reuse and repurposing of building and organic waste by transforming industrial space and creating a leading-edge facility; and
 - 2) To help incubate and accelerate the development of green goals.

- Triple Bottom Line impacts and goals: in order to reach true sustainability, the strategies identified in this Zero Waste Strategic Plan must consider “People, Planet, and Profit” as the triple bottom line achieving social, environmental, and economic sustainability.

Population (2017 Census update): 1,035,317

Plan

Integrated Waste Management (IWM) Zero Waste Strategic Plan

- Year plan adopted: 2008
- Statutory requirements for recycling goals, solid waste plans, etc.: several California state mandates regulate waste diversion activities. Two recent state policies include:
 - Assembly Bill 341 – created a mandatory commercial recycling program, requiring businesses and multi-family homes to recycle, beginning in 2012, if they generated four cubic yards or more of organic waste per week. The purpose of this bill is to reduce greenhouse gas emissions by diverting commercial solid waste and increasing recycling efforts with the hope of expanding recycling services and recycling manufacturing facilities in California.
 - Assembly Bill 1826 – created a mandatory commercial organics recycling program. The program is being phased in according to how much waste a business generates over the period of 2016 through 2019. In addition, this bill requires that local jurisdictions implement outreach and education about how to recycle organic waste and develop systems to monitor businesses not complying with the organic recycling requirement. This bill includes businesses and multi-family residential dwellings that consist of five or more units.
- City/County code requirements/ordinances: San Jose has set additional diversion goals and local policies to promote IWM Zero Waste Strategic Plan. The City adopted a Zero Waste Plan in 2008 with a goal to divert 100% of waste from landfills and convert waste into energy by 2022. Contractor recycling incentive payments bonus for every percent of recycling diversion above the City's diversion requirement of 40 percent; incentive payment to offset contract costs for hard-to market materials; recycling haulers get to keep all revenue from the sale of their recyclables. Waste haulers are also offered incentives for clean feedstock and organics diversion; contractors are paid more for each truckload containing less than a threshold level of non-organic contaminants such as plastic and glass.
 - Bring Your Own Bag Ordinance: pharmacies and retailers can no longer provide plastic carryout bags at checkout to reduce the number of bags disposed of as trash.
 - Funding incentives to operate San Jose's IWM System.
- Jurisdiction's definition of Zero Waste: landfilling no more than 10 percent of waste, or recycling 90 percent.
- Plan's diversion goal timeline and milestones: 64 percent diversion rate in 2000, zero waste by 2022.
- Other goals (i.e. greenhouse gas emission reduction): the Urban Environmental Accords, adopted by the City of San José in 2005, include a goal for signatory cities to reduce greenhouse gas (GHG) emissions by 25 percent by 2030 (Action 3). Assembly Bill (AB) 32, together with Executive Order S-3-05, set a statewide goal of reducing GHG emissions to 1990 levels by 2020 and 80 percent below 1990 levels by 2050. In 2007, the San José City Council also adopted municipal GHG reductions to bring City GHG emissions below 1990 levels.

- Elements of San Jose's ISWM system include waste reduction, reuse, collection and transfer, recycling, composting, anaerobic digestion, and landfilling with energy recovery, which contribute to the City's overall goal to divert 100 percent of waste from landfilling by 2022 while protecting the environment and human health.
- Current (or most recent) diversion rates and goals: the City's overall recycling rate was 66 percent in 2015.

Residential Services

- Residential diversion rate: estimated to be 45 percent in 2015.
- Recycling collection program: the City switched to single stream in 2002 to increase recycling quantities and lower costs associated with multiple recycling collections. Immediately following the switch there were high contamination rates, but over time the program has proven successful.
- Yard trimmings: collected weekly from single family homes, mobile home parks, and participating apartments and condos. Yard trimmings are collected at no charge when left loose on the street or for an additional fee if collected in a separate yard trimmings cart.
- Food scraps: food scraps collection pilot program for single-family residences began on September 2015, and has been extended through March 2018, and covered 6,500 houses. Food scraps are collected in kitchen pails and either a 20-gallon dedicated curbside cart for food scraps, or a split cart with a 48-gallon segment for garbage and a 16-gallon segment for food scraps.
- Collection frequency: weekly collection of garbage, recycling, and yard trimmings.
- Variable rate program (i.e. pay-as-you-throw (PAYT)): Yes, PAYT \$34.19 monthly rate for a 32-gallon garbage cart, \$68.38 monthly rate for a 64-gallon garbage cart, and \$102.57 monthly rate for a 96-gallon garbage cart. Collection of recycling and on-the-street yard trimmings are included with the garbage fee.
- Program Incentives (i.e. Recyclebank): the City has many incentive based programs for contractors, haulers, etc. One of the mechanisms used to encourage recycling in the San Jose residential system is a tiered incentive payment for levels of diversion achieved more than 40 percent. The recycling contractor receives approximately \$5.40/household for diversion between 40-42 percent, \$6.50/ household for diversion between 42-44 percent, \$8.30/ household for diversion between 44-46 percent, and \$9.20/household for diversion of at least 46 percent.

Commercial, Multi-Family and Institutional (C/MF/I) Programs

- C/MF/I diversion rate: greater than 70 percent.
- Collection services (private or jurisdiction provided): four private collection companies provide recycling and garbage services to both single-family and multi-family homes: California Waste Solutions (recycling hauler), Garden City Sanitation (garbage hauler), GreenWaste Recovery (yard trimmings and sweet sweeping) and GreenTeam of San Jose (garbage and recycling hauler). For MF specifically, GreenWaste Recovery handles yard trimmings collection and GreenTeam of San Jose handles recycling and garbage collection. In 2012,

the City awarded all commercial collection service for the garbage, recycling and organic waste to one exclusive contractor (Republic Services) to better measure and control collection and processing. None of the collected material from the commercial sector is taken to the landfill directly without preprocessing, in order to maximize waste diversion and material recovery.

- Regulations/ordinances requirements: California Mandatory Commercial Recycling Law.
- Commercial Franchising: San Jose has a 15-year exclusive franchise with Republic Services for recycling and organics collection from businesses in the downtown area to help meet its Zero Waste goals.
- City/County assistance (technical assistance): N/A

Program Outreach

- Website content: comprehensive information on the 2008 Zero Waste Plan and the 2017 update to the 2008 plan.
- Social marketing: people can follow San Jose Environmental Services on Facebook, Instagram, Twitter, and Flickr.
- Events/presentations: the City sent mailers to grocers and retailers about the bag law that educated them on the benefits and gave them information about giving feedback. The City made outreach materials and conducted outreach on reducing disposable packaging, plastic bags, generator mandates, green jobs, recycling, aerobic processes, biomass, school waste production, etc. In addition, per the San Jose Municipal Code, Section 9.10.1445, most public events held in San Jose with over 1,000 daily attendees are required to offer recycling and composting. Free assistance from the City is available, including recycling/composting/trash containers.

Organic Waste Management

- Residential collections: Green Waste Recovery collects yard trimmings weekly.
- C/MF/I collections: Republic Services collects organics from all businesses as part of the wet/dry collection program. GreenWaste Recovery provides yard trimming collection to multi family dwellers.
- Backyard composting: Santa Clara County provides Master Composter training courses and community classes for free. People can buy home composting bins at each workshop. Master Composters teach residents how to build compost piles and worm bins and how to use compost in their gardens. They also present at schools, community organizations, and events.
- Anaerobic digestion (AD): the organic portion of the commercial waste (wet fraction) is sent to the Zero Waste Energy Development Company (ZWED) facility to be processed into compost and energy. ZWED is the largest dry AD facility in the United States. This facility is privately owned and operated and receives organic materials from the mixed MRFs and processes it into compost and biogas. This AD facility has the capacity to process 90,000 tons of organic waste per year.
- Food waste including food waste prevention, donation support, etc.: plan highlights program of the convention center, children's museum, and other organizations working to reduce or compost food waste.

Waste Reduction and Product Bans

- Single-use bags ban/fee: San Jose's Municipal Code Chapter 9.10, Part 13 (Bring Your Own Bag Ordinance) prohibits grocery stores, retailers, and pharmacies from providing plastic bags to customers. Stores can still provide paper bags for a 10 cent fee per bag.
- Expanded polystyrene (EPS) bans/restrictions: San Jose's Municipal Code Chapter 9.10, Part 17 (Foam Food Container Ordinance) bans all food service establishments from using EPS.
- Waste reduction outreach: Bay Area Recycling Outreach Coalition (BayROC) promotes waste reduction and buy-recycled concepts through a variety of media campaigns focusing on personal action and behavior change.
- Product repair and reuse/ materials exchanges/ support for hard-to-recycle items: 1) Reuse: There are various reuse centers, such as thrift stores, around San Jose that encourage residents to donate their possessions for reuse, rather than throwing them out. Deconstruction & ReUse Network, is a non-profit in San Jose that takes surplus furniture, inventory or building materials from property owners who want to deconstruct or update their businesses or institutions and distributes salvaged items to local and international nonprofits for reuse. In 2013, San Jose's Department of Planning, Building, and Code Enforcement partnered with local recycling non-profits during its cyclical neighborhood clean-up projects to increase how much of the collected material is put to re-use. 2) Household hazardous waste: residents can make an appointment to drop off their household hazardous waste for free. Businesses that produce small quantities of hazardous waste may qualify to drop off their hazardous waste for a fee (which varies depending on material type and container type/size). 3) Bulky items (i.e. furniture) can be collected by appointment for free.

Construction and Demolition Debris (CDD)

- Is CDD counted as a solid waste? Yes.
- Is CDD recycling included in jurisdiction's plan? Yes. Under the San Jose Municipal Code Part 15, Chapter 9, the CDD program uses financial incentives to encourage recycling of CDD material and requires projects to achieve a 75 percent recycling rate.
- Misc. CDD programs/policies: Guadalupe Recycling and Disposal Facility processes concrete, asphalt, yard trimmings, clean soil, CDD debris and scrap metals and appliances, with a capacity of 3,650 tons per day. Nearly 50 percent of the materials brought to this facility are reused or recycled and untreated wood is ground to make mulch. Zanker Recycling Construction and Demolition Facility has been providing advanced resource recovery and processing services for CDD wastes from both residential and commercial sectors since 1985. The CDD processing areas are divided by the type of materials received, including mixed demolition debris, as well as separated deliveries for asphalt shingles, concrete, sheetrock and woody waste.

Other

- Are waste-to-energy (WTE) or alternative technologies considered in goals? Almost all the waste collected in San Jose is processed for material and/or energy recovery. San Jose recovers energy from the organic waste through biogas generated at the ZWED AD facility and the Newby Island Landfill. The biogas collected is more than 50 percent methane and is used for electricity generation. The City does not accept mass-burn (incineration) as an appropriate conversion technology.

- Environmentally preferable purchasing or green purchasing policies: the City is part of a Responsible Purchasing Network and in 2001, adopted the Environmentally Preferable Procurement Policy (EP3) to use environmentally preferable goods and services where possible to demonstrate leadership and help move the market toward more environmentally sound commerce.
- Producer responsibility goals and/or initiatives (at state or local level): the City supports the California Product Stewardship Council's efforts to implement EPR initiatives statewide. After considering the possible negative impacts of adopting local EPR regulations, the City opted to prioritize regional EPR efforts instead. Part of the City's climate mandate is to advocate for extended producer responsibility and environmentally preferable purchasing.
- Regional and/or state policies/initiatives, compacts, goals, etc.: California Climate Investments (CCI) is a statewide program that puts billions of cap-and-trade dollars to work reducing GHG emissions; it creates a financial incentive for industries to invest in clean technologies. The waste diversion programs CCI funds are the 1) Organics Grant Program, 2) Recycled Fiber, Plastic, and Glass Grants, 3) GHG Reduction Loan Program, and 4) Food Waste Prevention and Rescue Grant Program.

In addition to the Assembly Bill 341 and Assembly Bill 1826 (see statutory requirements earlier in the text) California has the following mandates that regulate waste diversion activities:

- SB 270/ Proposition 67 - in November 2016, CA voters approved the statewide Single-Use Carryout Bag Ban. Most grocery stores, retail stores

with a pharmacy, convenience stores, food marts, and liquor stores cannot provide single-use plastic carry-out bags to their customers. Instead, these stores may provide a reusable grocery bag or recycled paper bag to a customer at the point of sale at a charge of at least 10 cents.

- AB 1045 - requires state entities to work together for the development and deployment of composting.
- AB 876 - requires local governments to plan for the building of sufficient composting and anaerobic digestion infrastructure to process for a 15-year period in their jurisdictions.
- AB 199 - creates a sales-and-use tax exemption for businesses on purchases of equipment used for recycling and composting and equipment that processes recycled materials.
- Economic development policies or initiatives (recycling market zones, marketing cooperatives, business financing support, etc.): California Integrated Waste Management Board designated the City a Recycling Market Development Zone (RMDZ) to encourage market creation and development. The RMDZ program provides attractive loans to fund recycling-based manufacturing businesses.
- Triple Bottom Line impacts and goals: to achieve social, environmental, and economic sustainability, San Jose developed their plan with the three pillars of people, planet, and profit in mind.

Population (2017 Census update): 92,306

Plan

Zero Waste Strategic Plan

- Year plan adopted: 2014
- Statutory requirements for recycling goals, solid waste plans, etc.: two recent state policies that regulate waste diversion in California are:
 - Assembly Bill 341 – created a mandatory commercial recycling program, requiring businesses and multi-family homes to recycle, beginning in 2012, if they generated four cubic yards or more of organic waste per week. The purpose of this bill is to reduce greenhouse gas emissions by diverting commercial solid waste and increasing recycling efforts with the hope of expanding recycling services and recycling manufacturing facilities in California.
 - Assembly Bill 1826 – created a mandatory commercial organics recycling program. The program is being phased in according to how much waste a business generates over the period of 2016 through 2019. In addition, this bill requires that local jurisdictions implement outreach and education about how to recycle organic waste and develop systems to monitor businesses not complying with the organic recycling requirement. This bill includes businesses and multi-family residential dwellings that consist of five or more units.
- City/County code requirements/ ordinances: the City has implemented numerous policies and programs that support the City's resource recovery and sustainability efforts. Chapter 5.44 of the Santa Monica Municipal Code (SMMC) prohibits the distribution of disposable food service containers made of nonrecyclable plastic or expanded polystyrene foam from all food providers and at City events. Chapter 5.45 of the SMMC prohibits retail establishments, grocery stores, convenience stores, mini-marts, liquor stores, pharmacies, and any City events, from distributing petroleum and bio based single-use carryout plastic bags.
- Jurisdiction's definition of zero waste: achieving 95 percent diversion or a per capita disposal rate of 1.1 pounds per person per day.
- Plan's diversion goal timeline and milestones: 74 percent diversion rate in 2009; 80 percent diversion by 2015; zero waste goal of 95 percent diversion by 2030. Per capita disposal rate of less than 3.6 pounds/person/day by 2020; per capita disposal rate of less than 1.1 pounds/person/day by 2030.
- Other goals (i.e. greenhouse gas emission reductions):
 - Environmental goals: 50 percent contribution to GHG reduction goal by 2020; 100 percent of all City fleet vehicles to clean fuels by 2030.
 - Economic development goals: 20 percent increase in local jobs from waste prevention and recycling; 5 new local partnerships by 2020.
 - City leadership goal: 95 percent diversion rate at City facilities by 2030.
 - Zero waste culture change goal: 100 percent participation in City programs by 2025; 90 percent of residents and businesses aware of Zero Waste by 2020.
- Current (or most recent) diversion rates and goals: 78.9 percent diversion rate in 2017, zero waste goal of 95 percent diversion by 2030.

Residential Services

- Residential diversion rate: 78.9 percent overall diversion rate 2017.
- Recycling collection program: single stream. Residents can place the following items in their 95 gallon blue carts: bundled plastic bags, mail, newspapers, magazines, glass, bottles, jars, aluminum cans and foil, phonebooks, cardboard, plastic containers (#1-5, 7), food boxes, and paper packaging.
- Yard trimmings: residents can place the following items in their 95 gallon green carts: grass, leaves, weeds, tree trimmings, and small branches. Yard trimmings are composted at Community Recycling (Lamont, CA) for agricultural use.
- Food scraps: collected comingled with yard waste. All residents can place the following items in their green cart: bread scraps, pizza boxes, food soiled paper, coffee grinds, teabags, meat/bones/seafood scraps, egg/dairy scraps, fruit/ vegetable scraps, and waxed paper packaging (and yard trimmings).
- Collection frequency: trash, yard waste, and recycling containers are collected together on a weekly basis.
- Variable rate program (i.e. pay-as-you-throw (PAYT)): single-family residents pay for collection services bi-monthly, based on the frequency of service, the number of carts, and the size of the refuse cart (68 or 95 gallon). Pickup and processing of the recycling and yard trimmings containers are included in the bi-monthly fee.
- Program Incentives (i.e. Recyclebank): N/A

Commercial, Multi-Family and Institutional

- (C/MF/I) Programs C/MF/I diversion rate: 78.9 percent overall diversion rate (2017).
- Collection services (private or jurisdiction provided): jurisdiction provided by the City's Resource Recovery and Recycling Division provides collection services. The City provides comingled recycling collection services to all commercial customers at no additional charge.
- Regulations/ordinances requirements: California Mandatory Commercial Recycling Law.
- Commercial Franchising: N/A
- City/County assistance (technical assistance): N/A

Program Outreach Summary

- Website content: Santa Monica Public Works Resource Recovery and Recycling website has helpful information on collection services, contractor resources, hazardous materials, drop-off services, zero waste goals, planning zero waste events, and informational videos. There's also some relevant information on the Office of Sustainability and the Environment website. Additionally, the city's Seascape Community Newsletter often features information on zero waste.
- Social marketing: the City has Facebook accounts (Sustainable Santa Monica page, Santa Monica Resource Recovery and Recycling page) and a Twitter (Santa Monica Resource Recovery and Recycling) account that promote their program. The City also has a mobile app "My Waste" that lets Santa Monica residents know which items are recyclable.

- Events/presentations: to promote and implement recycling, reuse and composting practices at special events, the Resource Recovery and Recycling Division helps organizations implement Zero Waste events. The assistance includes a planning guide with information and recommendations on vendor involvement, food service, site planning, decorations and giveaways, education, volunteers, signage, and collection containers. The City schedules a variety of waste reduction, re-use, recycling and composting events on a quarterly basis. Additionally, the City hosts a variety of environmental events throughout the year. These events provide the City an opportunity to directly reach out to community members, support local businesses, and promote sustainability efforts.

Organic Waste Management

- Residential collection: yard clippings/compost collection is free and weekly (coincides with garbage and recycling collection). Residents can compost the following: food soiled paper, bread scraps, pizza boxes, waxed paper packaging, yard trimmings, fruit and vegetable scraps, eggs and dairy scraps, meat, bones, and seafood scraps, coffee grinds, and teabags.
- C/MF/I collection: food scraps recycling collection is available to restaurants, grocery stores and other establishments with food services. Participants are required to source separate all food scraps and place them into designated containers provided by the City. Partnering with GeoGreen Biofuels, the City offers a fats, oil, and grease (FOG) collection program that is free of charge. Collection containers are located downtown. In addition, while compost collection isn't currently available as a formal City service for multifamily buildings, the nonprofit Global Green is working with the city to implement an organics collection service for multifamily buildings. Yard trimmings collection is not available for the C/MF/I sector.
- Backyard composting: City offers home composting and vermicomposting bins at a subsidized price to single-family and multi-family residences and supports this program with instructions.
- Anaerobic digestion (AD): In March 2018, the City released an RFI to help the city assess options for processing organic materials. The City of Santa Monica, Public Works Department, is seeking a contractor to provide information to help the City assess options for processing organic materials at the current site versus the construction of a new organics facility and/or through decentralized anaerobic digestion to meet future diversion demands.
- Food waste including food waste prevention, donation support, etc.: N/A

Waste Reduction and Product Bans

- Single-use bags ban/fee: Chapter 5.45 of the Santa Monica Municipal Code (SMMC) prohibits retail establishments, grocery stores, convenience stores, mini-marts, liquor stores, pharmacies, and any City events, from distributing petroleum and bio based single-use carryout plastic bags. The code imposes a \$0.10 fee for each paper bag that is distributed and requires paper bags to be 100% recycled content paper, with a minimum of 40% post-consumer, recycled content.
- Expanded polystyrene (EPS) bans/restrictions: Chapter 5.44 of the SMMC prohibits the distribution of disposable food service containers made of nonrecyclable plastic or expanded polystyrene foam from all food providers and at City events. The ban applies to single-use disposable containers intended for serving or transporting prepared, ready-to-eat food or beverages.
- Waste reduction outreach: the City provides updates and information on its programs, policies, and events through a variety of outreach tools. Information is dispersed online (City websites and emails), via mail, television

programming, workshops, advertisements in public spaces, and through citywide events.

- Product repair and reuse/ materials exchanges/ support for hard-to-recycle items: the City's Share a Bag Program enables the community to donate extra, reusable bags at designated locations throughout the City for those who cannot afford reusable bags or for those who forget their reusable bags. There are 10 Share a Bag Program locations citywide. Electronic waste (E-waste), such as computers and televisions, is collected through a drop-off program for residents and businesses. The drop-off program is free to residents and fee-based for businesses. Additionally, the City contracts with Stericycle Environmental Solutions to provide residents with a curbside pickup program for household hazardous waste; this service is free to homeowners and renters. the City has a Swap or Share program, which invites residents to reduce waste by swapping and sharing items with their neighbors.

Construction and Demolition Debris (CDD)

- Is CDD counted as a solid waste? Yes.
- Is CDD recycling included in jurisdiction's plan? On site reuse is allowed on a case-by-case basis, as approved in the Waste Management Plan. Materials that are source separated on site, such as wood, concrete, or asphalt, can be sent to an approved CDD facility for reuse or recycling. All mixed CDD is required to be sent to an approved mixed CDD recycling facility.
- Misc. CDD programs/policies: Construction and Demolition Ordinance, Chapter 8.108, Subpart C, requires all City-sponsored construction and demolition (CD) projects, as well as private CD projects that are \$50,000 or greater in value, or are 1,000 square feet or greater, to meet a minimum 70 percent diversion rate. Covered projects must submit a waste management plan (WMP) for City approval that includes the tonnages of materials that are disposed and diverted, and the methods implemented to reuse and/or recycle the materials.

Other

- Are waste-to-energy (WTE) or alternative technologies considered in goals? Some type of future alternative technology is anticipated to be developed that will help meet Zero Waste goals. Several emerging technologies are currently under consideration or in development with the potential to provide substantial increases in diversion rates. Examples of these emerging technologies include thermal and biological processes, including anaerobic digestion, gasification, and pyrolysis. Mass burn WTE is not included in the recommendations even though the City currently sends certain amount of the MSW to WTE.
- Environmentally preferable purchasing or green purchasing policies: Recycled Products Procurement Policy was developed in 1991 to help the City make responsible decisions in purchasing products with recycled content.
- Producer responsibility goals and/or initiatives (at state or local level): State legislation or City ordinance to address pharmaceuticals, sharps, batteries, fluorescent bulbs by 2020. Resolution 10412, signed on June 23, 2009, documents the City's support for an extended producer responsibility (EPR) framework in State legislation by way of urging the League of California Cities, the California State Association of Counties, and CalRecycle to advocate for more EPR policies. The resolution states that the City will encourage all manufacturers to take part in the responsibility of their products, from the processing, collection, recycling, and disposal of the materials.
- Regional and/or state policies/initiatives, compacts, goals, etc.: California Climate Investments (CCI) is a statewide program that puts billions of cap-and-trade dollars to work reducing GHG emissions; it creates a financial incentive for industries to invest in clean technologies. The waste diversion programs

CCI funds are the 1) Organics Grant Program, 2) Recycled Fiber, Plastic, and Glass Grants, 3) GHG Reduction Loan Program, and 4) Food Waste Prevention and Rescue Grant Program.

In addition to the Assembly Bill 341 and Assembly Bill 1826 (see statutory requirements earlier in the text) California has the following mandates that regulate waste diversion activities:

- SB 270/ Proposition 67 - in November 2016, CA voters approved the statewide Single-Use Carryout Bag Ban. Most grocery stores, retail stores with a pharmacy, convenience stores, food marts, and liquor stores cannot provide single-use plastic carry-out bags to their customers. Instead, these stores may provide a reusable grocery bag or recycled paper bag to a customer at the point of sale at a charge of at least 10 cents.
- AB 1045 - requires state entities to work together for the development and deployment of composting.
- AB 876 - requires local governments to plan for the building of sufficient composting and anaerobic digestion infrastructure to process for a 15-year period in their jurisdictions.
- AB 199 - creates a sales-and-use tax exemption for businesses on purchases of equipment used for recycling and composting and equipment that processes recycled materials.
- Economic development policies or initiatives (recycling market zones, marketing cooperatives, business financing support, etc.): the City, the Convention and Visitors Bureau, the Chamber of Commerce, and the Sustainable Works non-profit organization have joined together to certify and recognize green businesses in the community through the Green Business Certification Program. The Program recognizes and certifies businesses that have taken steps to incorporate sustainable practices into their operations.
- Triple Bottom Line impacts and goals: in order to reach true sustainability, the strategies identified in the Zero Waste Strategic Operations Plan must consider “People, Planet, and Profit” as the triple bottom line achieving social, environmental, and economic sustainability.

COMPARATIVE TABLE

	Arlington, VA	Austin, TX	Boulder, CO	Fort Collins, CO	Montgomery County, MD
Population (2017 Census update)	225,200	950,715	108,090	165,080	1,058,810
Plan					
Type (zero waste, sustainable materials management, solid waste)	Zero Waste Resolution	Austin Resource Recovery's Master Plan (the Master Plan)	Zero Waste Strategic Plan	Road to Zero Waste Plan	Solid Waste Management Plan
Year plan adopted	2015	2011	2015	2013	2012
Statutory requirements for recycling goals, solid waste plans, etc.	Yes	Yes	Yes	Yes	Yes
City/County code requirements; ordinances	Yes	Yes	Yes	Yes	Yes
Jurisdiction's definition of zero waste	Reusing or recycling 90 percent of discarded materials rather than burning or burial; and while striving to attain higher waste reduction goals, the County acknowledges that a certain amount of residual waste is inevitable, and thus will continue to give preference to waste-to-energy technology as the primary means of disposal rather than landfilling. (Zero Waste International Alliance Definition)	Reducing the generation of wasted materials at the source and maximizing diversion methods to avoid landfills and incinerators. The overall goal is to strive for no waste burned or buried.	Each sector of the Boulder community, including single-family residential, multi-family residential, and commercial should each achieve 85% waste diversion by 2025.	"Zero Waste is a goal that is ethical, economical, efficient and visionary, to guide people in changing their lifestyles and practices to emulate sustainable natural cycles, where all discarded materials are designed to become resources for others to use. Zero Waste means designing and managing products and processes to systematically avoid and eliminate the volume and toxicity of waste and materials, conserve and recover all resources, and not burn or bury them. Implementing Zero Waste will eliminate all discharges to land, water or air that are a threat to planetary, human, animal or plant health."	N/A
Plan's diversion goal timeline and milestones	Diversion to at least 90 percent by 2038	<ul style="list-style-type: none"> Diversion goals: • 50 percent by 2015 • 75 percent by 2020 • 85 percent by 2025 • 90 percent by 2030 • 95+ percent, working toward zero waste by 2040 • Restorative Economy by FY 2050 	Generate new materials from 85% of our waste by 2025 rather than send that waste to the landfill.	2020 Goals: 75% diversion, 3.5 pounds / day / capita of waste generation 2025 Goals: 90% diversion, 2.8 pounds / day / capita of waste generation 2030 Goal: Zero Waste	Achieve, maintain or exceed 70% source reduction and recycling of municipal solid waste by the end of 2020. This includes the State's 5% diversion credit.
Other goals (i.e. greenhouse gas emission reductions)	Yes	Yes	Yes	Yes	Yes
Current (or most recent) diversion rates and goals	47% (2017)	42% (2015)	40%	32% (2017)	54.8 % recycling rate as of the end of 2012
Residential diversion rate	61% in 2017 (includes Covanta ferrous metal recovery allocations and source reduction credits per DEQ report)	44% recycling rate, (2015)	53% residential diversion rate (2017)	30% residential diversion rate (2017)	recycling rate: 61.6% single family, 27.7% multifamily
Single-stream or dual stream recycling	Single stream	Single-stream	Single-stream	Single-stream	Dual-stream
Yard trimmings	Curbside collection from single-family homes, duplexes, and some townhomes in the County	Curbside collection from single-family homes, duplexes and triplexes in Austin.	Drop-off centers	Planned to implement over the next two years	Curbside collection
Food scraps	Food Scrap drop-off center	Commingled with yard waste started June, 2018	Drop-off centers	Curbside collection for commercial and residential customers	No food waste collection program in place;
Collection frequency	Weekly collection of garbage, recycling, and yard trimmings.	Trash and yard waste weekly; recycling bi-weekly.	Trash weekly; Recycling on alternating weeks	Weekly	Weekly collection of garbage, recycling, and yard trimmings.
Variable rate program (i.e. pay-as-you-throw)	N/A	Pay-As-You-Throw since 1997	Pay-As-You-Throw disposal pricing tags since 2016	Pay-As-You-Throw since 1995 for single-family residents	N/A
Program Incentives (i.e. Recyclebank)	N/A	WasteSMART	Toolkit for do-it-yourself	Yes	N/A
Commercial, multi-family summary and institutional (C/MF/I) programs summary					
C/MF/I diversion rate	MF/C 41.5% in 2017 Public School 2018 Recycle rate 23.2%	N/A	37% (2017)	34% (2017)	61% total waste diversion rate in 2017.
Collection services (private or jurisdiction provided)	Private haulers	Nonprofit and private haulers	Private haulers	Private haulers.	Private and jurisdiction collection
Regulations/ordinances requirements	1994-ARLINGTON COUNTY CODE CHAPTER 10 GARBAGE, REFUSE AND WEEDS;	Universal Recycling Ordinance	<ul style="list-style-type: none"> • Disposable bag fee • Trash Tax • Universal Zero Waste Ordinance 	Universal Recycling Ordinance	Follow all state laws. Abide by all zoning and water quality ordinances. - Title 9 of the Environment Article - The County's multi-family recycling program is set forth in Section 3(b) of Executive Regulation 15-04AM, "Residential and Commercial Recycling" (See Appendix I to this Plan), and is fully compliant with Sections 9-1703(b), (12) and (13) of the Environmental Article, Annotated Code of Maryland.
Commercial Franchising	No	No	No	No	No
City/County assistance (technical assistance)	Yes from residential.	Yes	Yes	Yes	Yes
Program Outreach Summary					
Website Content	Yes	Yes	Yes	Yes	Yes
Social Marketing	Yes	Yes	Yes	Yes	Yes
Events/presentations	Yes	Yes	Yes	Yes	Yes
Organics Management Summary					
Residential collections	Yard waste curbside collection for single-family homes, duplexes, and some townhomes in the County; Vacuum Leaf Collection Nov 13- Dec 22	Curbside composting collection of food scraps, yard trimmings and food soiled paper, for composting.	Food Scrap Drop-Off Center for residents. Many of the sites offer free mulch and other compost materials to residents of the County or particular City.	Common Good Compost (private company) offers residential food scrap collection.	Yard waste curbside collection only, no food scraps collection.
C/MF/I collection	Drop-off	Since October 1, 2016, food permitted facilities are required to establish programs to divert organic material (such as food or yard trimmings), phased in by size: properties over 15,000 sq. ft. – Oct. 2016; properties over 5,000 sq. ft. – Oct. 2017; and all properties – Oct. 2018.	See residential collections above ^	Alpine Waste & Recycling offers organics collection services for commercial customers.	Yard waste collection available, and food scraps collection also available thru some haulers. Businesses are required to develop food scraps recycling programs.
Backyard composting	Currently the County does not provide support for backyard composting.	Home Composting Rebate Program with online classes. By 2015 2,564 households completed the backyard composting rebate program, and composted estimated 282 tons of organic waste in 2015.	The plan is to support development of backyard composting. Work with local partners to create local opportunities to collect, process, and disseminate compost and build local soils.	N/A	Continue aggressive promotion, education and training for grass cycling and backyard or on-site composting.
Anaerobic digestion	N/A	N/A	N/A	In 2013, the City started a pilot program of waste-to-energy working with Colorado State University; pulped food scraps from the university's cafeterias are taken to be "digested" at the Drake Water Reclamation Facility (DWRF).	Anaerobic digestion units under development or planning at the WWTP but no plans to include food waste as feedstock except for fats, oils and grease.
Food waste including food waste prevention, donation support, etc.	Residential food scraps drop-off at Trades Center launched in August; also receiving food scraps from Columbia Pike Farmer's Market.	2017: The City of Austin's Break It Down partnered with Copia to bring a tech-based solution to end hunger and food waste in Austin.	With the Universal Zero Waste Ordinance: Research ways to encourage and incentivize edible food waste donations.	Assist the Larimer County Food Bank in diverting a higher percentage of its existing food waste from the landfill with the addition of another truck and driver, food-safe tins and lids and staff time for donor relations.	N/A

	Arlington, VA	Austin, TX	Boulder, CO	Fort Collins, CO	Montgomery County, MD
Waste reduction & product bans:					
Single-use bags ban/fee	No ban, but the County suggests to re-use them or give them to a local grocery store.	Outlined in plan: the City will consider developing ordinances with the goal of reducing or eliminating consumption and generation of the following products: Single-use bags; Non-recyclable, non-compostable take-out containers; and Single-use beverage containers. 2013: Austin's Single Use Bag Ordinance, known as SUBO, bans single use bags outright and regulates what qualifies as a reusable bag. There is no bag fee in the Austin bag ban. June 22, 2018: Texas Supreme Court Rules cities can't ban plastic bags.	In November 2012, City Council adopted a Disposable Bag Fee Ordinance requiring a 10-cent fee for disposable plastic and paper checkout bags at all grocery stores in Boulder. The bag fee does not apply to restaurants, bulk or produce bags, newspaper bags, or any other kind of food packaging bags.	Recommendation in waste plan: Adopt fees on products or packaging sold in Fort Collins that are hard to reuse, recycle or compost. For example, enact a litter fee on single-use paper or plastic bags and fee or ban on expanded polystyrene take-out containers. Fees could be invested in a Recycling Education and Investment Fund.	5 cent bag fee
Expanded polystyrene (EPS) bans/restrictions	No ban, but the County reminds citizens to choose recyclable items over polystyrene and other containers that must go into the trash.	N/A	Boulder encourages residents to donate polystyrene materials such as styrofoam peanuts and bubble wrap for reuse. There's a Plastic Loose Fill Council's Peanut Hotline to help residents find a "peanut" reuser.	See Single-use bags ban/fee above ^	Council Bill 41-14: Expanded polystyrene (#6-PS) products, such as foam containers, bowls, plates, trays, cartons, cups, egg cartons, etc. are not recyclable in Montgomery County, Maryland. This legislation effectively bans the use and sale of this material in the County.
Waste reduction outreach	Host forums, events, and sponsored projects to engage the public.	The Department will research and publicize best practices for waste reduction at home, including methods such as those promoted by the EPA. The City's website offers Waste Reduction Tip Sheets for hotels/motels, junk mail, offices, paper, restaurants, starting a recycling program, and waste assessment.	Door-to-door outreach and training for residents. See Program Outreach Summary	Work with ClimateWise and the City's Waste Reduction and Recycling Assistance Program (WRAP) to conduct outreach to businesses and multi-family complexes about how to reduce wasting and eliminate wasteful practices	The County Executive will evaluate the opportunities for waste reduction and conduct education and outreach programs to explain the need and opportunities for waste reduction.
Product repair and reuse; materials exchanges; support for hard-to-recycle items	Comprehensive index of where to donate items from books to bikes to electronics to packing peanuts.	The City currently has various recycle and reuse drop off centers for household hazardous waste, electronics and appliances, clothing and housewares, other recyclables, tires, and brush and yard trimmings. On their website, they also have information on reuse stores	Eco-Cycle CHaRM (Center for Hard-to-Recycle Materials)	Adopt fees on products or packaging sold in Fort Collins that are hard to reuse, recycle or compost. Ban hard to recycle products (e.g., reusable and recyclable durable goods) and packaging from landfilling.	Every day drop-off services; one-day drop-off recycling and donation events, electronics recycling program. County cooperates with two part salvage companies to recycle automobiles; scrap tire program.
Construction & demolition debris (CDD)					
Is CDD counted as a solid waste?	No	Yes	Yes	Yes	Only from residential, when consolidated from a construction or demolition site, these materials are not MSW.
Is CDD recycling included in jurisdiction's plan?	No	Yes	Yes	Yes	Yes
Misc. CDD programs/policies	N/A	Austin City Council approved the Construction and Demolition Recycling Ordinance (November 2015) and administrative rules to increase reuse and recycling of materials from construction and demolition projects.	Plans to increase diversion of Construction and Demolition (C&D) materials across Boulder.	On January 1, 2012, Fort Collins' building code was updated to require a construction waste management plan acceptable to the building official that includes recycling of concrete and masonry, wood, metals and cardboard, at the time of application for a building permit.	N/A
Other					
Are waste-to-energy (WTE) or alternative technologies considered in goals?	Currently Arlington County sends the trash to the Alexandria WTE facility and other alternative technologies are considered in future opportunities.	Yes	Yes	Yes	Yes. The County will operate, or cause to be operated, a waste-to-energy Resource Recovery Facility (RRF) to burn the combustible solid waste remaining after reduction and recycling.
Environmentally preferable purchasing or green purchasing policies	Green Contracts Database to assist with local green purchasing efforts.	N/A	Boulder County is committed to Sustainability and has created Green Purchasing and Zero Waste policies to ensure all our efforts are sustainable.	Currently, the City's purchasing division advocates sustainable purchasing and has a Purchasing Guide available on their website which helps city departments determine what "sustainable purchases" are. Further options under consideration.	Montgomery County prioritizes purchasing green products and services. The Office of Procurement, in partnership with the Montgomery County Interagency Purchasing Committee, developed a comprehensive web tool to help County staff select green products and services.
Producer responsibility goals and/or initiatives (at state or local level)	Under development	The city plans to adopt an EPR policy, support the Texas Product Stewardship Council, support the development of EPR framework legislation for state agencies, consider a local EPR Ordinance and participate in state and national EPR advocacy.	Producer responsibility is a goal/benefit of the City's Zero Waste Plan.	Continue to be a strong advocate for Extended Producer Responsibility (EPR) legislation and programs regionally, statewide and nationally (as supported in the Fort Collins City Plan). Continue to support the Colorado Product Stewardship Council of the Colorado Association for Recycling to assist in that effort, particularly to drive improvements in product design that are environmentally sustainable.	The Zero Waste Plan explores the possibility of Enhanced Producer Responsibility (EPR) for packaging, including plastic bottles, mattresses and other difficult-to-manage materials.
Regional and/or state policies/initiatives, compacts, goals, etc.	Under discussion	N/A	Boulder County has similar goals to the City of Boulder. 50% or better reduction in Boulder County waste by 2010 and a threshold of Zero Waste "or darn near" by 2025.	Develop public/private and intergovernmental partnerships (Larimer County, City of Loveland, Colorado State University and Poudre School District) to help identify locations and develop needed facilities (e.g., composting, C&D debris recycling, additional Resource Recovery Parks).	Maryland Recycling Act for measuring its recycling rate, and includes the Source Reduction Credit used to calculate the Waste Diversion Rate by the State. County recycling efforts exceed the MRA goal of 40 percent diversion rate.
Economic development policies or initiatives (Recycling market zones, marketing cooperatives, business financing support, etc.)	N/A	The Department will provide funding for a new staff member in the Economic Growth and Redevelopment Services Office (EGRSO) who will be responsible for retaining and attracting reuse and recycling industries to Austin. Austin offers businesses a rebate of up to \$1,800 to go Zero Waste. Austin offers an Enterprise Resource Guide which helps new enterprises enter the recycling and reuse sector by providing information on local programs, services, resources, community groups, and regulations. The city also has a Materials Marketplace which is an online platform that allows businesses and organizations to connect and find reuse and recycling solutions for waste and by-product materials.	N/A	Approved by City Council in November 2011 and completed in 2012, the City of Fort Collins finalized a reorganization that combined the Economic Health, Environmental Services, and Social Sustainability departments under one umbrella—the Sustainability Services Area. The City of Fort Collins is among the first, if not the first municipality, to structure all three components under one service area.	Refuse Tipping Fee avoidance, system benefit charge financing method.
Triple Bottom Line impacts and goals	N/A	Mentioned but not clearly articulated.	Sustainability Framework categories: Livable Community, Environmentally Sustainable Community, Economically Vital Community	Application of Triple Bottom Line (TBL) evaluations, life-cycle analyses, and greenhouse gas emissions calculations to develop and prioritize implementation strategies.	N/A

	Palo Alto, CA	Portland, ME (based on a capstone project)	Prince George's County, MD	Santa Monica, CA	San Jose, CA
Population (2017 Census update)	67,178	66,882	909,535	92,306	1,035,317
Plan					
Type (zero waste, sustainable materials management, solid waste)	Zero Waste Plan	Capstone Project- Why Waste Waste?- A strategic plan to Achieve Zero Waste in Portland, Maine	Zero Waste Initiative	Zero Waste Strategic Plan	Integrated Waste Management Zero Waste Strategic Plan
Year plan adopted	2007	2015	2018	2014	2008
Statutory requirements for recycling goals, solid waste plans, etc.	Yes	Yes	Yes	Yes	Yes
City/County code requirements; ordinances	Yes	Yes	Yes	Yes	Yes
Jurisdiction's definition of zero waste	"Virtually no waste burned or buried."	Waste diversion rate of at least 90% from residential municipal solid waste (MSW), businesses and industry.	The vision of Zero Waste is to strive for sustainability through the following key zero waste initiatives: Whole System Approach, Reducing Consumption, Minimize Waste and Maximize Recycling.	Achieving 95% diversion or a per capita disposal rate of 1.1 pounds per person per day	Landfilling no more than 10% of waste, or recycling 90%.
Plan's diversion goal timeline and milestones	63% diversion in 2007, 73% diversion by 2011, 90% diversion or zero waste by 2021	divert 90% or more	Maryland Waste Diversion Goals: 2015-54%, 2020-65%, 2025-70%, 2030-75%, 2040-85%	74% diversion rate in 2009; 80% diversion by 2015; Zero Waste goal of 95% diversion by 2030. Per capita disposal rate of less than 3.6 pounds/person/day by 2020; per capita disposal rate of less than 1.1 pounds/person/day by 2030.	64% diversion rate in 2000, zero waste by 2022
Other goals (i.e. greenhouse gas emission reductions)	Yes	N/A	Yes	Yes	Yes
Current (or most recent) diversion rates and goals	82% (2016)	Portland seeks to surpass a 50% diversion rate	64.59% (2015)	78.9% (2017)	66% recycling rate (2015)
Residential diversion rate	N/A	N/A	34% diversion rate in 2015 (MRA rules)	78.9%, overall diversion rate (2017)	estimated at 45% in 2015
Single-stream or dual stream recycling	Single-stream	Single stream	Single stream	Single stream	Single stream
Yard trimmings	Curbside collection	Curbside seasonal yard waste and leaf collection.	Curbside collection	Curbside collection in green carts	Curbside collection from single family homes, mobile home parks, and participating apartments and condos.
Food scraps	Curbside collection available to residents.	No food waste collection program in place.	Pilot curbside collection of food scraps in a project funded by an EPA grant.	Comingled collection in the green cart for all residents.	A food scraps collection pilot program.
Collection frequency	Weekly collection of garbage, recycling, and yard trimmings.	Weekly collection of garbage, recycling, and yard trimmings (when in season).	Weekly collection of garbage, recycling, and yard trimmings.	Weekly collection of garbage, recycling, and yard trimmings.	Weekly collection of garbage, recycling, and yard trimmings.
Variable rate program (i.e. pay-as-you-throw)	Pay-As-You-Throw	Pay-As-You-Throw since 2015	N/A	Pay-As-You-Throw	Pay-As-You-Throw
Program Incentives (i.e. Recyclebank)	N/A	N/A	N/A	N/A	Yes, many incentive based programs for contractors, haulers, etc.
Commercial, multi-family summary and institutional (C/MF/I) programs summary					
C/MF/I diversion rate	N/A	N/A	77% diversion rate in 2015 (MRA materials)	78.9%, overall diversion rate (2017)	>70%
Collection services (private or jurisdiction provided)	Private haulers	Private and jurisdiction collection	Private haulers	Jurisdiction collection services	Private haulers
Regulations/ordinances requirements	California Mandatory Commercial Recycling Law	Policy Priority: Industrial ecology approaches to reuse and remanufacture, particularly in the form of eco-industrial parks in which businesses with complementary inputs and outputs co-locate to leverage their complementarity into higher profits and waste diversion.	N/A	California Mandatory Commercial Recycling Law	California Mandatory Commercial Recycling Law
Commercial Franchising	Yes	No	No	No	Yes
City/County assistance (technical assistance)	Yes	N/A	N/A	N/A	N/A
Program Outreach Summary					
Website Content	Yes	No	Yes	Yes	Yes
Social Marketing	Yes	No	Yes	Yes	Yes
Events/presentations	Yes	No	Yes	Yes	Yes
Organics Management Summary					
Residential collection	Green Waste of Palo Alto provides organics collection for composting of food scraps, food soiled paper, compostable plastic.	Yard waste curbside collection	Curbside collection	Curbside collection for composting of the following: food soiled paper, bread scraps, pizza boxes, waxed paper packaging, yard trimmings, fruit and vegetable scraps, eggs and dairy scraps, meat, bones, and seafood scraps, coffee grinds, and tea bags.	GreeWaste Recovery collects yard trimmings on the curb.
C/MF/I collection	Collection is available up to 6 times a week.	N/A	Offered by some commercial haulers.	Separate food scraps recycling collection is available to restaurants, grocery stores and other establishments with food services. Partnering with GeoGreen Biofuels, the City offers a fats, oil, and grease (FOG) collection program that is free of charge. Nonprofit Global Green is working with the city to implement an organics collection service for multifamily buildings. Yard trimmings collection is not available for the C/MF/I sector.	Republic Services collects organics from all businesses as part of the wet/dry collection program. Green Waste Recovery provides yard trimming collection from multi-family dwellers.
Backyard composting	City-sponsored free 2 hour long compost workshops ("Compost Basics" and "Worm Composting Basics"). Residents can receive a free compost bin or worm bin by attending a compost workshop.	Some residents chose to do backyard composting over contracting for yard waste collection services due to the price.	N/A	City offers home composting and vermicomposting bins at a subsidized price to single-family and multi-family residences and supports this program with instructions.	Santa Clara County provides Master Composter training courses and community classes for free. People can buy home composting bins at each workshop. They also present at schools, community organizations, and events.
Anaerobic digestion	Organics collected in Palo Alto are sent to the Zero Waste Energy Development Company anaerobic digestion facility in San Jose.	Farms would be prime sites for the location of AD systems. In this way, farms already participating in the management of Portland's food waste would be able to maintain a similar role by a combination of the animal waste and food waste delivered by municipal collections vehicles.	Currently not available but included in the perspective options.	In March 2018, the City released an RFI to help the City assess options for processing organic materials	Zero Waste Energy Development Company (ZWEDC) is the largest dry AD facility in the United States. This AD facility has the capacity to process 90,000 tons of organic waste per year.
Food waste including food waste prevention, donation support, etc.	The city website provides food waste facts, tips/videos for businesses and residents on how to reduce food waste, and information on local food donation sites. The city also led a broad-scale media campaign aimed at reducing household food waste from June 2013 to 2016.	Mayor's Initiative for a Healthy Sustainable Food System.	The law currently states that the event organizers for large events (200+ people at public facilities) may assess the availability of food scraps recycling services for the event.	N/A	Plan highlights program of the convention center, children's museum, and other organizations working to reduce or compost food waste.

	Palo Alto, CA	Portland, ME (based on a capstone project)	Prince George's County, MD	Santa Monica, CA	San Jose, CA
Waste reduction & product bans:					
Single-use bags ban/fee	Implemented in 2013, the Palo Alto Disposable Checkout Bag Ordinance bans all retail and food service establishments from distributing single-use plastic checkout bags. The establishments must charge a minimum of 10 cents for paper/reusable bags.	Single use bag fee	The County is considering a 5 cent bag tax after seeing the success of the program in Montgomery County. As of January 2018, a MD House Bill aims to grant the County authority to enact a bag fee.	Chapter 5.45 of the SMMC prohibits retail establishments, grocery stores, convenience stores, mini-marts, liquor stores, pharmacies, and any City events, from distributing petroleum and bio based single-use carryout plastic bags. The code imposes a \$0.10 fee for each paper bag that is distributed, and requires paper bags to be 100% recycled content paper, with a minimum of 40% post-consumer, recycled content.	San Jose's Municipal Code Chapter 9.10, Part 13 (Bring Your Own Bag Ordinance) prohibits grocery stores, retailers, and pharmacies from providing plastic bags to customers. Stores can still provide paper bags for a 10 cent fee per bag.
Expanded polystyrene (EPS) bans/restrictions	The City's Polystyrene Restriction Ordinance, implemented in 2009, prohibits restaurants from distributing plastic foam food ware. The 2016 update to the ordinance also prohibits retailers from selling or distributing plastic foam packaging materials, egg cartons, food ware, and ice chests. Furthermore, the City encourages citizens to not use polystyrene and all of the material must go in the trash (not recycling) facilities.	Ban on the use of polystyrene "clamshell" takeout containers in restaurants and eateries in the city.	Subtitle 21 of the County Code establishes material bans such as polystyrene for food packaging.	Chapter 5.44 of the Santa Monica Municipal Code (SMMC) prohibits the distribution of disposable food service containers made of nonrecyclable plastic or expanded polystyrene foam from all food providers and at City events. The ban applies to single-use disposable containers intended for serving or transporting prepared, ready-to-eat food or beverages	San Jose's Municipal Code Chapter 9.10, Part 17 (Foam Food Container Ordinance) bans all food service establishments from using EPS
Waste reduction outreach	The City has many campaigns and educational materials to reduce food waste and divert items that can be recycled or composted.	ecomaine gives tours of its facilities (waste-to-energy, landfill, and recycling center) as well as other educational outreach like presentations and handout materials.	Yes through education, marketing, and events	The City provides updates and information on its programs, policies, and events through a variety of outreach tools. Information is dispersed online (City websites and emails), via mail, television programming, workshops, advertisements in public spaces, and through citywide events.	Bay Area Recycling Outreach Coalition (BayROC) promotes waste reduction and buy-recycled concepts through a variety of media campaigns focusing on personal action and behavior change.
Product repair and reuse; materials exchanges; support for hard-to-recycle items	1) Repair Café 2) The organization Transition Palo Alto runs Share Fairs, 3) Drop off toxic household items at the Household Hazardous Waste Station. 4) City residents can pick up free, usable household products (i.e. unused motor oil, cleaners, paints) from Reuse Cabinets, which are located inside the Household Hazardous Waste Station.	Policy Priority: Inadequate support of reuse enterprise, in both its small and large-scale forms, is a priority directly derived from a strict interpretation of the waste hierarchy. The reuse industry is a well-established tradition in Maine and Portland is no exception. Nine annual household hazardous waste collection events and bulky waste disposal services through the e-card program and collection services.	Considering modeling a program after successful projects in other cities such as City of Santa Monica, California which hosts regular Repair Cafés. The City arranges for volunteer "fixers" to help residents repair items such as lamps, toasters, clothes, toys, bikes, and hair dryers. Also considering, developing a comprehensive database of reuse programs, repair services, and donation centers.	Share a Bag Program; drop-off program for electronic waste (E-waste), partnership with Stericycle Environmental Solutions for a curbside pickup program for household hazardous waste;	1) Encouraging and supporting re-use; 2) Household hazardous waste drop-off services; 3) Bulky items (i.e. furniture) can be collected by appointment for free.
Construction & demolition debris (CDD)					
Is CDD counted as a solid waste?	Yes	No	No	Yes	Yes
Is CDD recycling included in jurisdiction's plan?	Yes	Yes	Yes	Yes	Yes. Under the San Jose Municipal Code Part 15, Chapter 9, the CDD program uses financial incentives to encourage recycling of C&D material and requires projects to achieve a 75% recycling rate.
Misc. CDD programs/policies	Construction and Demolition Debris Diversion Ordinance in first passed in 2004 and updated it in 2009 and 2016.	Restore targets CDD, just as Riverside Recycling does, but diverts it at a much higher point on the waste hierarchy.	Nonprofit Community Forklift collect unwanted building materials throughout the DC Metro Region and make these materials available to the public at low-cost.	Chapter 8.108, Subpart C, requires all City-sponsored construction and demolition (C&D) projects, as well as private C&D projects that are \$50,000 or greater in value, or are 1,000 square feet or greater, to meet a minimum 70% diversion rate. Covered projects must submit a waste management plan (WMP) for City approval that includes the tonnages of materials that are disposed and diverted, and the methods implemented to reuse and/or recycle the materials.	Guadalupe Recycling and Disposal Facility and Zanker Recycling Construction and Demolition Facility provide advanced resource recovery and processing services for C&D wastes from both residential and commercial sectors
Other					
Are waste-to-energy (WTE) or alternative technologies considered in goals?	Yes (only alternative technologies, not mass burn WTE)	ME prefers waste-to energy facilities over landfills. Ecomaine has a waste-to-energy (WTE) facility, built in 1988, and a material recovery facility (MRF) that opened in 1990.	Yes (only alternative technologies, not WTE)	Yes (only alternative technologies, not mass burn WTE)	Almost all the waste collected in San Jose is processed for material and/ or energy recovery. San Jose recovers energy from the organic waste through biogas generated at the ZWEDC AD facility and the Newby Island Landfill. The biogas collected is more than 50% methane and is used for electricity generation. The City does not accept mass-burn WTE as an appropriate conversion technology.
Environmentally preferable purchasing or green purchasing policies	The City has a Recycled Content Purchasing Policy, setting standards for the City to purchase environmentally preferable recycled content products.	Working on voluntary EPP Policy—reliant on the merits of external economic forces.	Environmentally Preferable Procurement, signed into law as Chapter 604 on May 15, 2014.	The Recycled Products Procurement Policy was developed in 1991	In 2001, the City adopted the Environmentally Preferable Procurement Policy (EP3) to use environmentally preferable goods and services where possible
Producer responsibility goals and/or initiatives (at state or local level)	The City is a founding member of the Bay Area Zero Waste Communities, with a current focus on Extended Producer Responsibility (EPR).	Maine's Framework Legislation for Producer Responsibility has set the stage for one of the nation's most comprehensive take back programs.	Promote EPR Policies by taking an active role in advocating for this legislation.	State legislation or City ordinance to address pharmaceuticals, sharps, batteries, fluorescent bulbs by 2020. Resolution 10412, signed on June 23, 2009, documents the City's support for an extended producer responsibility (EPR) framework in State legislation by way of urging the League of California Cities, the California State Association of Counties, and CalRecycle to advocate for more EPR policies.	The City supports the California Product Stewardship Council's efforts to implement EPR initiatives statewide. After considering the possible negative impacts of adopting local EPR regulations, the City opted to prioritize regional EPR efforts instead. The City is part of a Responsible Purchasing Network.
Regional and/or state policies/initiatives, compacts, goals, etc.	California Climate Investments (CCI) is a statewide program that puts billions of cap-and-trade dollars to work reducing GHG emissions; it creates a financial incentive for industries to invest in clean technologies. <ul style="list-style-type: none"> Assembly Bill 341 – created a mandatory commercial recycling program Assembly Bill 1826 – created a mandatory commercial organics recycling program. SB 270/ Proposition 67 - statewide Single-Use Carryout Bag Ban. AB 1045 - requires state entities to work together for the development and deployment of composting. AB 876 - requires local governments to plan for the building of sufficient composting and anaerobic digestion infrastructure to process for a 15-year period in their jurisdictions. AB 199 - creates a sales-and-use tax exemption for businesses on purchases of equipment used for recycling and composting and equipment that processes recycled materials. 	Maine bottle bill and bag taxes exist in several Maine counties.	Green House Gas Reduction Plan	California Climate Investments (CCI) is a statewide program that puts billions of cap-and-trade dollars to work reducing GHG emissions; it creates a financial incentive for industries to invest in clean technologies. <ul style="list-style-type: none"> Assembly Bill 341 – created a mandatory commercial recycling program Assembly Bill 1826 – created a mandatory commercial organics recycling program. SB 270/ Proposition 67 - statewide Single-Use Carryout Bag Ban. AB 1045 - requires state entities to work together for the development and deployment of composting. AB 876 - requires local governments to plan for the building of sufficient composting and anaerobic digestion infrastructure to process for a 15-year period in their jurisdictions. AB 199 - creates a sales-and-use tax exemption for businesses on purchases of equipment used for recycling and composting and equipment that processes recycled materials. 	California Climate Investments (CCI) is a statewide program that puts billions of cap-and-trade dollars to work reducing GHG emissions; it creates a financial incentive for industries to invest in clean technologies. <ul style="list-style-type: none"> Assembly Bill 341 – created a mandatory commercial recycling program Assembly Bill 1826 – created a mandatory commercial organics recycling program. SB 270/ Proposition 67 - statewide Single-Use Carryout Bag Ban. AB 1045 - requires state entities to work together for the development and deployment of composting. AB 876 - requires local governments to plan for the building of sufficient composting and anaerobic digestion infrastructure to process for a 15-year period in their jurisdictions. AB 199 - creates a sales-and-use tax exemption for businesses on purchases of equipment used for recycling and composting and equipment that processes recycled materials.
Economic development policies or initiatives (Recycling market zones, marketing cooperatives, business financing support, etc.)	Business financing support and tax incentives for any business that has to do with waste reduction, donation services, etc.	As Zero Waste certifications and labels expand in the future, the City can establish a support fund to help Portland businesses afford the certification costs.	Port Towns of Bladensburg, Colmar Manor, Cottage City, and Edmonton form the Port Towns EcoDistrict. The EcoDistrict project has two chief goals: <ul style="list-style-type: none"> To be a regional leader in recycling, reuse and repurposing of building and organic waste by transforming industrial space and creating a leading edge facility and To help incubate and accelerate the development of green goals 	The City, the Convention and Visitors Bureau, the Chamber of Commerce, and the Sustainable Works non-profit organization have joined together to certify and recognize green businesses in the community through the Green Business Certification Program. The Program recognizes and certifies businesses that have taken steps to incorporate sustainable practices into their operations.	The California Integrated Waste Management Board designated the City a Recycling Market Development Zone (RMDZ) to encourage market creation and development.
Triple Bottom Line impacts and goals	There is no direct acknowledgement of the triple bottom line approach in the development of the Zero Waste Plan.	There is no direct acknowledgement of the triple bottom line approach in the development of the plan.	In order to reach true sustainability, the strategies identified in this Zero Waste Strategic Plan must consider "People, Planet, and Profit" as the triple bottom line achieving social, environmental, and economic sustainability.	In order to reach true sustainability, the strategies identified in the Zero Waste Strategic Operations Plan must consider "People, Planet, and Profit" as the triple bottom line achieving social, environmental, and economic sustainability.	To achieve social, environmental, and economic sustainability, San Jose developed their plan with the three pillars of People, Planet, and Profit in mind.