

Zero Waste USA

Eight Steps on the Path to Zero Waste for Communities, Businesses, and Institutions



Moving Toward Zero Waste

The path to Zero Waste for communities, businesses, and institutions can be divided into eight steps: Assess, Define, Frame, Engage, Design and Plan, Implement, Administer, and Reassess.

Starting Point and Tasks

Most routes to Zero Waste follow a similar trajectory, yet the point of entry and task order will differ based on who initiates the conversation.

For communities – staff, elected officials, and advocates, along with the community's

size, political culture, policies, programs, and infrastructure, affect the approach. The path will be very different for a small rural town with two employees, one service provider, and a 20-year disposal contract than for a well-staffed metropolis with six service providers, two transfer stations, and no landfill.

For businesses and institutions - staff or students may initiate or advocate with upper management, or the action may come from a change in corporate culture. Marketing advantages or sustainability goals may also play a role.

When to Set a Goal

Adopting a Zero Waste goal is essential, but it could be done at the onset of the planning process or as a key outcome of the stakeholder outreach. Once adopted, a Zero Waste goal will lead to further innovations supporting that goal.

STEP 1. ASSESS

Investigate: Begin by scrutinizing the current system. What types of programs are already in place? What is missing? What is the life of the existing landfill, and what are the tipping fees? What are the drivers for pursuing Zero Waste - Climate Change? Jobs? High costs for the current system? End of life of facilities or contracts? Concerns about the proposed infrastructure?

The key to this effort is reaching out to potential allies and influential community members. This could include elected officials, board or commission members, municipal staff, service providers, local business and community leaders, nonprofit

organizations, conservation and environmental groups, civic associations, and service organizations. These stakeholders should be included in the Zero Waste planning process. In addition, businesses, high school teachers, professors, and college/university clubs are often among the first to embrace the Zero Waste concept. Therefore, they may be a key driving force to identify in the assessment step.

Discuss: Create a Zero Waste discussion group, hold public forums, and set up electronic groups (e.g., a group on Google, LinkedIn, and/or Facebook) and a document-sharing service (e.g., Google Drive, DropBox). Invite people familiar with the concept and are willing to participate. Start by discussing well-known Zero Waste communities or organizations and inventive case studies, then move on to researching and reporting on communities or organizations of comparable size, structure, and resources. Note innovative strategies, relevant best practices, policies, and new rules.

Assemble: Assemble the collected information in an organized fashion. Some groups mentioned above or individuals may be well suited to package this information for distribution to stakeholders, the general public, elected officials, or upper management.

Understand: Understand the discard management system, local and regional resources, and upcoming key decisions. Essential considerations include cost per ton for discard collection, processing, disposal, and diversion; whether prices are rising faster than inflation; relevant laws and rates; the status of contracts, facilities, landfills, and incinerators and any existing proposals for new waste or recycling-related facilities. Substantiate early on if new laws or incentives are needed to provide more impetus.

EXPECTED OUTCOMES:

- Local Zero Waste drivers identified and quantified
- Identify and engage with stakeholders
- Website and electronic discussion group set-up
- Summary of local and regional issues, best practices, and links prepared
- Collected information posted and also available off-line at libraries

STEP 2. DEFINE

Zero Waste USA is a National Affiliate of the Zero Waste International Alliance ([ZWIA](#)) and supports the [Definition of Zero Waste](#) and Community and Business Principles.

How a community, business, or institution defines its guiding principles, the priorities they adopt, and the process they develop, are crucial considerations. These details may seem trivial to some, but words can inspire and hold people and agencies accountable. For example, see the sample Guiding Principles Chart below.

Organize: Prepare a structured process for public involvement to establish the guiding principles, drivers, and goals. Develop a timeline of meetings, draft agendas, possible

activities, existing activities, and relevant deadlines. Try to anticipate all possibilities. The plan will evolve as you go; be prepared to adjust and readjust.

Select: After getting a handle on the tasks above, select a few descriptions and principles as starting points. Next, brainstorm with the discussion group. When ready, test the process on a larger group of allies. If all goes well, it is time to launch the public discussion.

	Alameda, CA	Austin, TX	Boulder County, CO	County of Hawaii	Irvine, CA	Los Angeles, CA	Oakland, CA	Palo Alto, CA	San Bernardino County, CA	San Jose, CA	Seattle, WA	Boston, MA
TRIPLE BOTTOM LINE												
Environmental Protection						•						
Social Justice						•						•
Economic Viability						•						
UPSTREAM												
Lead By Example		•		•		•	•	•				•
Sustainable Design		•	•		•	•	•		•	•	•	•
Extended Producer Responsibility	•	•		•	•	•			•	•		•
Environmentally Preferred Purchasing		•			•					•		•
Product and/or Disposal Bans	•						•					
DOWNSTREAM												
Lead By Example		•		•		•	•	•		•		•
Incentives/Outreach/Tech Asst	•	•	•		•	•	•	•	•	•	•	•
Resource Maximization & Recycling	•	•	•	•	•	•	•	•	•	•	•	•
Reuse/Repair		•		•	•				•	•		•
Residuals Management	•											
GREEN BUSINESS/GREEN JOBS												
Green Business Promotions			•		•			•		•		•
Business Certification												
Green Job Development			•		•					•		•
Count	5	8	5	5	9	8	7	7	5	8	5	8

EXPECTED OUTCOMES:

- General agreement with all involved about community guiding principles, drivers, goals, and possible challenges
- Structured process for stakeholder involvement

STEP 3. ENGAGE

Awareness: In the months before a community Zero Waste effort, plan and implement a public awareness and education campaign - for all stakeholders that culminate in public support for Zero Waste. Be sure to involve stakeholder groups identified in Step 1 Assess.

Send the local paper and radio stations stories and press releases about Zero Waste businesses and events. Show videos - like “Story of Stuff,” “Garbage Dreams,” or “Trashed” at community meetings or during a short discussion.

Invite Zero Waste experts to present at a local council session or community “town hall” workshop. Often, the most powerful examples come from businesses, where one can illustrate that Zero Waste saves money and reduces their potential liability and carbon footprint. And it often creates jobs.

Conduct events with a documented Zero Waste goal or convert a major venue into a local Zero Waste pilot project. Successful Zero Waste school projects can also be very inspiring.

Create a Buzz

- Educate the community, staff, decision-makers, and advisory boards.
- Write articles and press releases.
- Offer presentations, videos, films, and awards.
- Ask! Somebody must ask for a Zero Waste future.
- Solicit input from the entire community: staff, decision-makers, advisory boards, stakeholders, and the public.
- Formally request the adoption of the Zero Waste goal.

For businesses and institutions, engage all departments in Zero Waste (procurement, production, management, administration, faculty, and facilities). Form a working group and make assignments among the specialists. Post information about the Zero Waste process in employee newsletters or internal websites. Ensure everyone knows that the organization is pursuing Zero Waste strategies that create efficiency and can save money.

EXPECTED OUTCOMES:

- Public Awareness and Education Campaign
- Local blogs, newspaper, radio, and TV coverage
- Public forums on Zero Waste
- Public input gathered for use in Zero Waste planning
- Public events celebrated for reaching Zero Waste or darn close

STEP 4. FRAME

Do your homework, be inclusive, and avoid stepping on toes. Be sensitive to the chain of command; senior staff, local elected officials, and upper management should be briefed before publicly requesting a Zero Waste initiative. Then, perhaps one or more will be willing to support the effort formally.

Ask: At an appropriate public meeting, request a Zero Waste goal and a plan to implement it. Also, be sure to request that it be added to sustainability and climate action plans and general plans.

Carefully frame the planning process and its goals. For example, you could start with the solid waste management plan update and include an analysis recommending a Zero Waste goal or strategy. City staff may consider writing the Zero Waste plan if resources are unavailable to hire a consultant.

Once you receive a green light, a resolution should be drafted with appropriate Zero Waste goals and timelines. Then, be available to answer questions and concerns.

Training: Before the design/plan step, study sessions or training should be arranged for everyone potentially involved in the Zero Waste efforts in the community and at the business or institution. If that's not practical, select individuals should be trained as Zero Waste trainers who teach others.

EXPECTED OUTCOMES:

- Resolution adopting a Zero Waste goal and agreement to develop a Zero Waste plan.
- Hold study sessions and/or training.

STEP 5. DESIGN/PLAN

Once a Zero Waste goal, resolution, or commitment has been established, a Zero Waste plan is essential to reaching the goal. The plan contains the roadmap to

achieving Zero Waste, and it's crucial for success. In addition, the Zero Waste plan should contain information about the current situation, policy, program, and infrastructure recommendations to get to Zero Waste and a timeline.

Zero Waste Planning: The following should be included in the Zero Waste planning process.

1. Demographic data (e.g., population – community, number of employees – business or institution) and a list of stakeholders.
2. Summarize existing data, systems, policies, and contracts (e.g., services for reuse, recycling, and composting, solid waste collection system, and identify service providers).
3. Information on the materials being diverted and the flow of materials. If materials don't have a diversion route, note that as well. That's an opportunity for a Zero Waste policy or program.
4. Baseline material data, including tons diverted, disposed, and total generation. For communities, these data should be by sector (single-family, multifamily, construction and demolition, and industrial, commercial, and institutional).
 - a. Other data needed are material characterization data. Ask the municipality for business/institution for the most recent report.
5. Information on where materials are being generated (i.e., which sector – single-family, multifamily, or commercial – for communities or production, processing, retail, cafeteria for businesses or institutions)
6. Engage with stakeholders throughout the planning process to get buy-in for the Zero Waste plan and to help establish the list of policies, programs, and infrastructure needed to reach Zero Waste.
7. Establish the list of initiatives (policies, programs, and infrastructure) needed for the community, business, or institution to get to Zero Waste.
8. Conduct any technical analyses to estimate metrics for the chosen initiatives.

Current Situation: Understanding the current community, business, or institution situation is vital in the Zero Waste planning process. This means understanding the existing policies, programs, and infrastructure related to Zero Waste. It also includes knowing how materials flow (e.g., single-family residents have weekly curbside service for trash, recycling, and yard debris, or the institution has recycling bins at some buildings, but it only services bottles and cans). Finally, the current situation includes gathering data on the materials generated and where those tons are going. Establishing this baseline information will frame the rest of the planning process.

Here are some examples of items that should be established to know the current situation:

- Policies on materials (e.g., a ban on single-use plastics).
- The current collection system for single-family residents, multifamily units, and commercial businesses and institutions.
- Incentives to reduce materials sent to disposal.
- Programs like Fixit clinics.

Those are just a few examples of many items that should be identified to establish the current situation in a community, business, or institution.

Stakeholders: The best Zero Waste plans are plans that are stakeholders driven. That means the stakeholders in the community or at the business or institution are involved in shaping the initiatives in the Zero Waste plan.

Many stakeholders are listed in Step 1 and Step 3 of this document. Their importance in the Zero Waste plan phase is crucial. For the plan to be successful, it should be stakeholder-driven, and there should be buy-in from the community, business, or institution stakeholders.

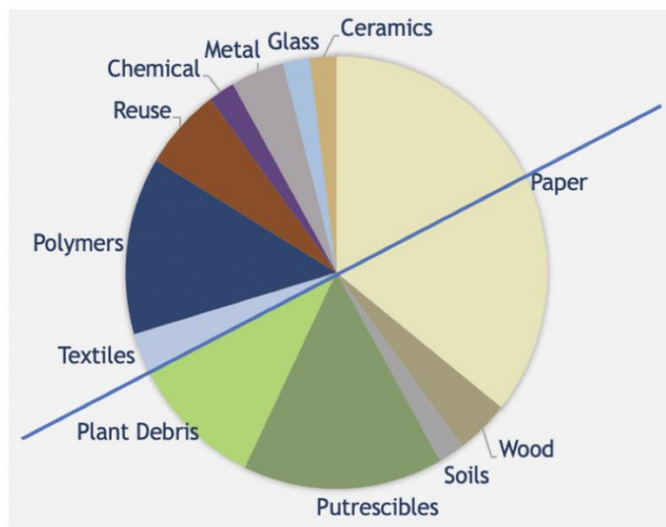
Stakeholders get involved in planning through surveys, phone calls, small focus group meetings, or larger town hall workshops. This allows the stakeholders to give suggestions for the plan, express barriers and opportunities when working towards Zero Waste, and feel they are part of the planning process. The Zero Waste plan is the result of the planning process, and the stakeholders should consider it theirs because they played a significant role in the planning process.

Materials Going to Destructive Disposal: Knowing how many tons of materials go to destructive disposal (landfill or incineration) is essential. In addition, knowledge about the material characterization of those tons, local markets available to divert those materials from destructive disposal, and the estimated value of the materials are all essential to identify.

Market Values: Most discarded materials fit into the twelve market categories that [Urban Ore](#) and Richard Anthony established. Also, roughly half of the materials from destructive disposal will be organic. This shows that most materials going to destructive disposal have diversion opportunities. A Zero Waste plan will identify those opportunities.

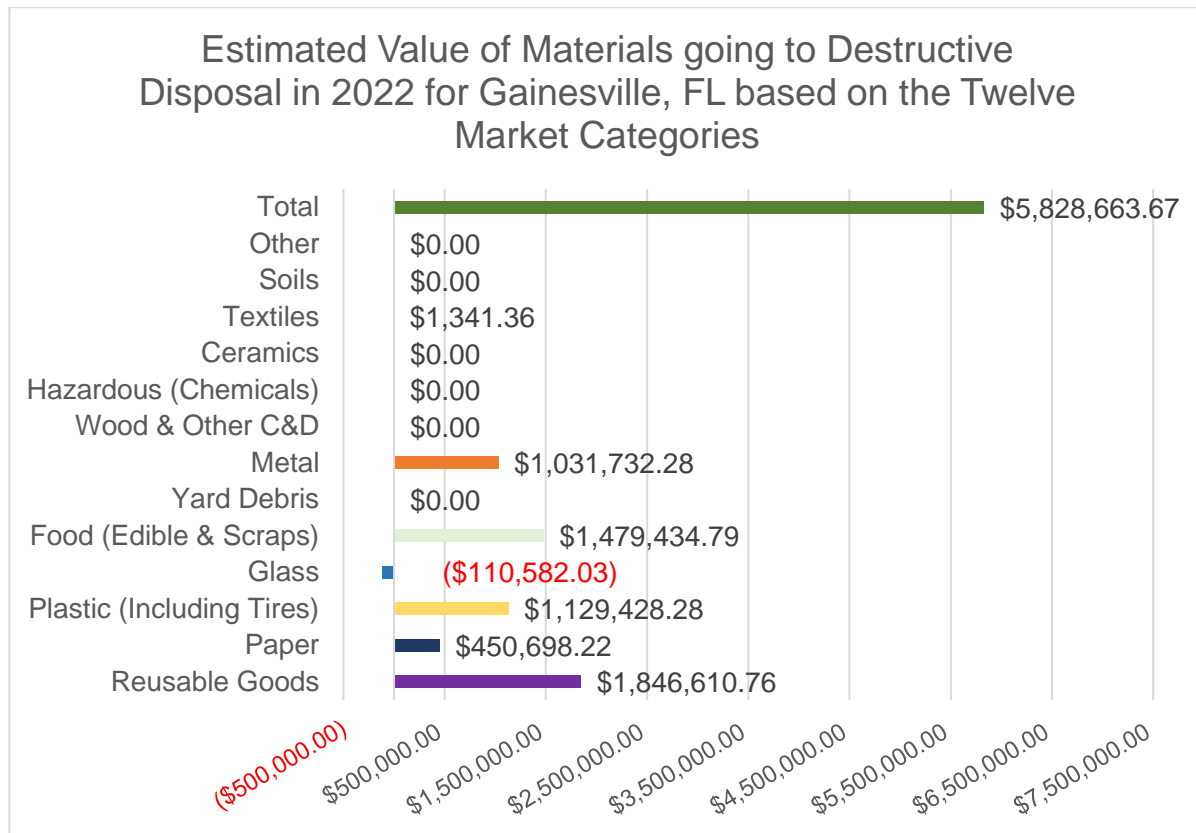
During the planning process, identify the percent of materials from the tons going to destructive disposal that fit into each of the 12 market categories. Also, estimate the value of those materials per ton. Estimating the value is a great way to communicate that these materials have value and that there are better pathways for them.

12 Market Categories of Materials



Codified by Urban Ore and Richard Anthony Associates
Note that 50% of discarded materials are compostable

Below is an example of the estimated value of materials going to destructive disposal for a community. The total estimated value is over \$5.8 million. Notice that some materials have no value, but many do, including reusable items. This analysis is completed by knowing the total tons going to destructive disposal, the composition of those materials, and the market price for many common commodities that have diversion opportunities, such as traditional recyclables materials (glass, paper, metal, and plastic), reusable goods (furniture, household items, deconstruction materials), textiles, food scraps, and more.



The takeaway from this analysis is that there is value in the materials going to destructive disposal. Therefore, the community, business, or institution should begin establishing initiatives to divert the materials. The next step is to think about opportunities to work towards Zero Waste.

Opportunities: Through the Zero Waste planning process, materials currently going to destructive disposal pose an opportunity to either be reduced, reused, recycled, or composted through new policies, programs, and infrastructure. Here are some options to consider:

- Prioritizing materials with the greatest volume, the greatest value, the most toxic, the greatest potential for jobs, and the greatest potential for greenhouse gas (GHG) emissions reduction in the Zero Waste plan.

- Identifying policies and incentives such as mandatory source separation, food scrap collection programs for composting, a construction & demolitions (C&D) material reuse and recycling ordinance, product policy (bans), extended producer responsibility and product stewardship (including local retailer take-backs), business recognition programs, and elimination of any existing subsidies for wasting materials (garbage rates, contracts, permitting of facilities) for the Zero Waste plan.
- Identifying incremental rate structure incentives that compensate service providers appropriately and send a signal to generators to reduce waste.
- Identifying programs and infrastructure that will help achieve the Zero Waste goal. These include a resource recovery park, source reduction programs, and Zero Waste education and outreach.

EXPECTED OUTCOMES:

- Summary of the existing system
- Service Analysis
- Stakeholder Involvement
- Detailed information about the materials going to the landfill or incinerator.
- Market Analysis
- List of policy, program, and infrastructure recommendations
- Zero Waste plan

STEP 6. IMPLEMENT

Execution: Once a plan is adopted, ensuring funding and allocating staff and contract resources is critical. Additional early tasks include:

- Adoption of strategic policies and ordinances.
- Working with all departments to review their responsibilities outlined in the plan.
- Developing awareness and education campaigns to communicate what the plan says and to support the rollout of new policies and programs.
- Procurement of contractors to assist in implementing plan recommendations.

Once Zero Waste is the goal in communities that provide their collection services, they should shift from picking up trash to reducing generation and collecting recyclables and compostables. Rate and service analyses are needed to support the new Zero Waste initiatives. Processing arrangements are still needed. Landfill or incinerator put-or-pay¹ obligations should be avoided.

Procurement involves soliciting proposals for new services, evaluating submissions, selecting a contractor, and developing the contract or agreement. Your approach can be proscriptive or more open-ended and collaborative, based on the style of your community, business, or institution. Many communities benefit from the insights and knowledge of their local service providers. By allowing innovation and negotiation as a

¹ Requirement to deliver a set amount of material or pay for the shortfall

part of the procurement process, you can benefit from the expertise and resources in your community.

USEPA's Managing and Transforming Waste Streams website include [Contracts and Franchise Agreements for Waste Haulers](#). It was designed to assist local governments in procuring Zero Waste and high diversion collection, processing, and disposal services and help service providers respond to requests for proposals. The web guide includes a simple, straightforward series on Zero Waste contracting basics, best practices, and case studies illustrating the best practices, sample contracts, and resources.

Best practices for Zero Waste program management include aligning incentives between the local governments, contractors, and generators to:

- Pay for New Diversion Programs and Facilities
- Provide Price Signals to Encourage Participation
- Incentivize Generators and Contractors
- Balance Rate Incentives and Cost of Service
- Provide the Context for Universal Recycling and Composting Collection

Scope elements could include:

- Comprehensive recycling programs: multi-material, as convenient as trash, available to all generators
- Organics diversion: yard trimmings, food scraps, and compostable paper
- C&D diversion: generator-based, hauler-based, facility-based
- Policies: "new rules," disposal bans, mandatory recycling, product stewardship, and comprehensive outreach and technical assistance
- Infrastructure: neighborhood scale, reuse and recycling, materials recovery, construction material processing, organics processing, and residual management (identifying the appropriate management approach for materials not designed for Zero Waste and cannot be reused, recycled, or composted).

Require all commercial generators to recycle and require franchisee(s) or permittees to offer recycling services to all customers. Local government or franchisee may need to be a "recycler of last resort" (provide recycling collection services to small volume generators who cannot attract an independent recycler). Alternatively, consider a "universal roll-out" of services (provide recycling services to all customers rather than have them subscribe to recycling collection separately from trash collection). Local governments can also require service providers to offer recycling services to all trash customers as a condition of providing services.

In communities where local governments are precluded from negotiating services on behalf of residents or commercial businesses, decision-makers can assert a "circle of influence" through local bylaws or ordinances.

As an alternative to franchising or contracting, set the base service level all service providers must offer. Require a minimum standard of service is available to all generators regardless of size or the profitability of the required services. To avoid higher rates, customers can utilize waste minimization practices, such as reducing the use of non-recyclable materials. Service providers can carefully design collection routes and implement other efficiencies, such as “right-sizing” (providing the size and frequency of collection based on actual generation levels).

If directly contracting for services, consider renegotiating with the current contractor to amend the existing contract if current and projected prices are competitive, services are regularly updated, and the relationship is collaborative and communicative.

EXPECTED OUTCOMES:

- New and improved policies, programs, and facilities
- New and improved outreach, education, and training programs
- Funding arranged, including shifting of trash rates and compensation of contractors to foster Zero Waste

STEP 7. ADMINISTER

Implement: Once a new ordinance and infrastructure are in place, a comprehensive education program will be necessary to inform the public or employees of the new rules and how to use the new system. This program should include all schools. In addition, public buildings and parks should be the first to convert to the program to set an example for the public. The government must be a role model.

Just as it is essential for all public buildings to have convenient recycling and composting services, the government needs to lead by adopting a green purchasing program. This would include specifications for purchasing environmentally friendly products, such as those that are easy to recycle or compost and made from recycled materials.

Recycling education can be accomplished through an aggressive media campaign - using ongoing newspaper ads and radio and local TV spots. Business recycling can be promoted through employee training sessions and media campaigns. Signage and demonstration sites should be developed for all transfer stations, convenience centers, and landfills.

Monitor: For any contract or program - regardless of type - to reach its intended purpose, it must be monitored and enforced. Regular meetings with service providers and reviewing program achievements can facilitate problem-solving, spark innovative solutions, and help in program redesign and negotiations for new, improved services.

For example, San Francisco program managers meet weekly with their counterparts at Recology (the City’s private sector service provider) to review progress towards

milestones and identify new initiatives. In addition, the City of Napa waste management staff is co-located in the same building as the service provider. Thus, as colleagues, they work together every day on projects and priorities.

Understanding the relationship between the contractor and its workforce is also essential. Labor contracts can contain provisions that are a barrier to Zero Waste. Consider requiring contractors to compensate, train, and manage workers to reward material diversion. Recycling technical assistance personnel, drivers, and customer service representatives can all be incentivized to increase recycling and reduce wasting.

EXPECTED OUTCOMES:

- Frequent communication with staff and contractors to properly implement the plan.
- Reports on outcomes from contractors shared with elected officials and the public.
- Monitor and enforce policies and contracts.

STEP 8. REASSESS

Completing a Zero Waste plan and procuring and managing contractors are milestones for Zero Waste. Communities, businesses, and institutions must also ensure all stakeholders stay involved and support long-term efforts.

On-going Engagement: The Zero Waste plan includes baseline data, detailed implementation steps, and a timeline. Annual program updates based on Zero Waste successes and challenges should be produced for elected officials and other stakeholders. In addition, every five years, the Zero Waste plan should be updated to keep it relevant and update progress toward the goal. The updated Zero Waste plan will also focus on what new or adjusted initiatives are needed to reach the goal.

On-going Engagement

The planning process is on-going. Communities may not have all of the information needed order to move forward in developing specific policies and programs.

For example, the City of Dallas recognized that it had very little information about recycling rates and services for multifamily and commercial generators. As a part of its plan, the City initiated a stakeholder process to engage commercial generators, private sector service providers, the building owners and managers association, restaurant association and apartment owners association. The City will work with this stakeholder group to quantify existing recycling rates, maximize voluntary programs, identify barriers to recycling and composting, and develop the parameters of a mandatory or “universal” recycling ordinance.

Study: To understand the effectiveness of the Zero Waste initiatives, communities can undertake studies to estimate total generation and characterization. These studies may target specific materials streams such as Construction and Demolition materials or target specific generators such as restaurants, retailers, and manufacturers. The results of the studies can help identify new policies and programs needed to reach Zero Waste.

EXPECTED OUTCOMES:

- Provide an annual report on successes and challenges to elected officials and other stakeholders.
- Continually refine direction based on actual results and respond to opportunities.
- Encourage residents and businesses to improve programs and recognize and reward improvements continuously.
- Update plan every five years.

Thank you for utilizing this resource. Updated 3.1.2023. For more information, visit the [Zero Waste USA](#) website.