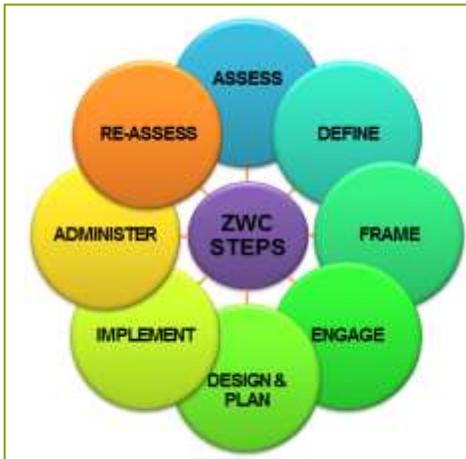


## Zero Waste Brain Trust

# Eight Steps To Becoming A Zero Waste Community



### Moving Toward Zero Waste

To encourage all communities to move toward high diversion and Zero Waste, the Zero Waste Brain Trust broke the process into the eight steps represented at right – Assess, Define, Frame, Engage, Design and Plan, Implement, Administer and Re-Assess.

Written in 2013 and refreshed in 2015, this 11-page handout lays the steps out with subtasks and possible outcomes plus a few examples. It is a standalone section of the **How To Become A Zero Waste Community**, a resource guide prepared by the Zero Waste Brain Trust

Core Team in 2013. It is a living document and we welcome your input. For more information visit the [zerowasteusa.org](http://zerowasteusa.org) website and select Tool Kit.

### Starting Point And Tasks

Most routes to zero follow a similar trajectory, yet the point of entry and task order will differ based on who initiates the conversation – staff, elected or advocate, and the jurisdiction's size, political culture, policies, programs and infrastructure. The path will be very different for a small rural town of two employees, one service provider and a 20-year disposal contract, than for a well-staffed metropolis with 6 service providers, 2 transfer stations and no landfill.

Many Zero Waste communities around the world started their journey by signing the [UN Urban Accords](#). Initiated in 2005, there were 116 signatories as of 2011 including 36 US cities. Zero Waste by 2040 is #4 of the 21 Accords.

### When To Set A Goal

Adoption of a Zero Waste goal is essential, but it could be done at the onset of the process or as a key outcome of a planning process. Once adopted, a Zero Waste goal will lead to further innovations throughout the community in support of that goal.

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### The Zero Waste Brain Trust Tool Kit

This handout is a standalone section of the **How To Become A Zero Waste Community**, a resource guide prepared by the Zero Waste Brain Trust Core Team in 2013. The Guide is part of series of documents and tools developed by the Zero Waste Brain Trust to help communities move toward higher diversion and Zero Waste. Their purpose is to stimulate community discussion and help initiate the planning process. They are not intended to be used as formal planning tools.

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## Eight Steps To Becoming A Zero Waste Community

### 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 current landfill and what are the tipping fees? What are the drivers for pursuing Zero Waste - Climate Change? Jobs? High costs for current system? End of life of facilities or contracts? Community concerns about proposed facilities?

Key to this effort is reaching out to potential allies and influential community members - or perhaps they have already come to you! This group could include elected officials and board or commission members, municipal staff, service providers, local business and community leaders and nonprofit organizations as well as conservation and environmental groups, civic associations, service organizations. Keep in mind that businesses, high school teachers, professors and college/university clubs are often among the first to embrace the Zero Waste concept.

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

**Assemble:** Assemble the collected information in an organized fashion. Perhaps some of the above mentioned groups or individuals may be well suited to package this information for distribution to officials and the general public.

**Understand:** Whether staff, elected or advocate, develop a basic understanding of the discard management system, local and regional resources and upcoming key decisions. Important considerations include: cost per ton for discard collection, processing, disposal and diversion; and whether costs 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
- Potential allies organized and influential community members briefed
- 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

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### STEP 2. DEFINE

The Zero Waste Brain Trust and Zero Waste USA subscribe to the Zero Waste International Alliance ([ZWIA](#)) Definition of Zero Waste and Community Principles.

How a community defines high diversion and Zero Waste, the priorities they adopt and the process they develop are crucial considerations. To some these details may seem trivial, but words have the power to inspire as well as hold people and agencies accountable. For examples see the **draft** Guiding Principles Chart at right.

**Organize:** Prepare a structured process for public involvement. Develop a timeline of meetings, draft agendas, possible activities and existing activities, task-holders – facilitators, note takers, timekeepers, etc. 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. Brainstorm with the discussion group. When ready, test the process on a larger group of allies. If all goes well, it is now time to launch the public discussion.

#### EXPECTED OUTCOMES:

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

### 3. ENGAGE

**Awareness:** In the months prior to a Zero Waste effort, plan and implement a public awareness and education campaign - of residents, businesses and stakeholders, that culminates in public support for Zero Waste. Be sure to involve local bloggers as well as the individuals and 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 on Earth Day or America Recycles Day. Follow each with

Zero Waste Guiding Principles *	Alameda, CA	Austin, TX	Boulder County, CO	County of Hawaii, HI	Irvine, CA	Los Angeles, CA	Oakland, CA	Palo Alto, CA	San Bernardino County, CA	San Jose, CA	Seattle, WA
Prepared by the Zero Waste Brain Trust, 2013											
<b>TRIPLE BOTTOM LINE</b>											
Environmental Protection											
Social Justice											
Economic Viability											
<b>UPSTREAM</b>											
Lead By Example	*	*	*	*	*	*	*	*	*	*	*
Sustainable Design	*	*	*	*	*	*	*	*	*	*	*
EPR	*	*	*	*	*	*	*	*	*	*	*
EPP	*	*	*	*	*	*	*	*	*	*	*
Bans	*	*	*	*	*	*	*	*	*	*	*
<b>DOWNSTREAM</b>											
Lead By Example	*	*	*	*	*	*	*	*	*	*	*
Incentives/Outreach/Tech Asst	*	*	*	*	*	*	*	*	*	*	*
Resource Maximization & Recycling	*	*	*	*	*	*	*	*	*	*	*
Reuse/Repair	*	*	*	*	*	*	*	*	*	*	*
Residuals Management	*	*	*	*	*	*	*	*	*	*	*
<b>GREEN BUSINESS/GREEN JOBS</b>											
Business	*	*	*	*	*	*	*	*	*	*	*
Business Certification	*	*	*	*	*	*	*	*	*	*	*
Jobs	*	*	*	*	*	*	*	*	*	*	*
Count	5	9	5	5	9	5	7	7	5	8	4

#### Create a Buzz

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

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a short discussion.

Invite Zero Waste experts to present at a local council session or community “town hall” workshop. Oftentimes the most powerful examples came from businesses, where one can illustrate that Zero Waste not only saves money, but also reduces their potential liability and their 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.

### **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

## 4. FRAME

Do your homework, be inclusive and avoid stepping on toes. Be sensitive to the chain of command; decision makers - senior staff and local elected officials, should be briefed in advance before publically requesting a Zero Waste initiative. Perhaps one or more will be willing to formally support the effort.

Carefully frame the planning process and its goals. It may be that you start with the solid waste management plan update and include an analysis that recommends a Zero Waste goal or strategy. It may be that you don't have the resources to hire a consultant but want to figure out how staff could do the Plan.

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

**Resolve:** Once you receive a green light, a resolution should be drafted with appropriate diversion goals as well as the Zero Waste goal and timelines. Nurture the resolution to approval by responding candidly to questions and concerns.

**Train:** Prior to the design/plan step, study sessions or trainings should be arranged for all involved in promotion, rulemaking and enforcement. If that is not practical, selected individuals should be trained as Zero Waste trainers and in turn train others.

### **EXPECTED OUTCOMES:**

- Resolution adopting Zero Waste goal and calling for plan to be developed
- Study sessions and/or trainings held

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### 5. DESIGN/PLAN

Once a Zero Waste goal, strategy or philosophy has been officially embraced, an action plan is essential to make it a reality. Effective efforts require careful consideration of the existing system, changes that could/should be made and developing a strategic vision of how to get there incrementally. Last but certainly not least, are outreach programs by sector and green certification programs.

The appropriate level of detail required depends on the jurisdiction and the dynamics between the public, staff and elected officials therein. Where there is a lot of trust among those stakeholders, a brief plan may suffice.

The plan should contain key findings and conclusions and recommendations - propositions for policies, programs and facilities and timelines to enact the propositions.

**Summarize:** Start by summarizing existing systems, data, policies, ordinances and contracts:

- An analysis of demographic data (e.g., population, businesses by sector)
- Current tonnages of waste generated, diverted, disposed and—if available—the latest waste characterization or composition data.
- Where each type of waste is being generated (e.g., in production, getting products to market, local consumption, end-of-life disposal),
- Existing services for reuse, recycling, composting and solid waste (provided by garbage franchisee, other city-contracted service providers, other businesses and service providers).
- Any current policies with respect to waste should also be included in this summary.

#### Characterizing Your Community's Waste

Traditionally, waste characterization or composition studies – generally sorting, weighting and recording representative random samples and comparing the results with past studies, are an important aspect of solid waste planning.

Instead of conducting these expensive and time consuming studies, some jurisdictions create a desktop analysis utilizing a neighboring jurisdiction's data, state or national data, or even select a jurisdiction similar to theirs in another state or region. It is recommended to double check their selection by conducting volume estimations of representative random samples.

**Market Values:** Next, identify potential revenue by determining the market value of waste currently being disposed, understanding where more services are needed and assessing the best options for filling those gaps. For example, on the next page find the City of Oceanside, CA's Disposal Data in 12 Market Categories, 2010 followed by Oceanside's Commodities Market Analysis, 2012. Market values should be clearly stated, whether they are for source separated clean materials received by users or brokers, or if processing costs are included when materials are collected together. For organic products, the value could be clarified whether it is based on the tons of incoming feedstock or finished products after deducting for moisture, overs and residue and whether the value is for bulk or bagged.

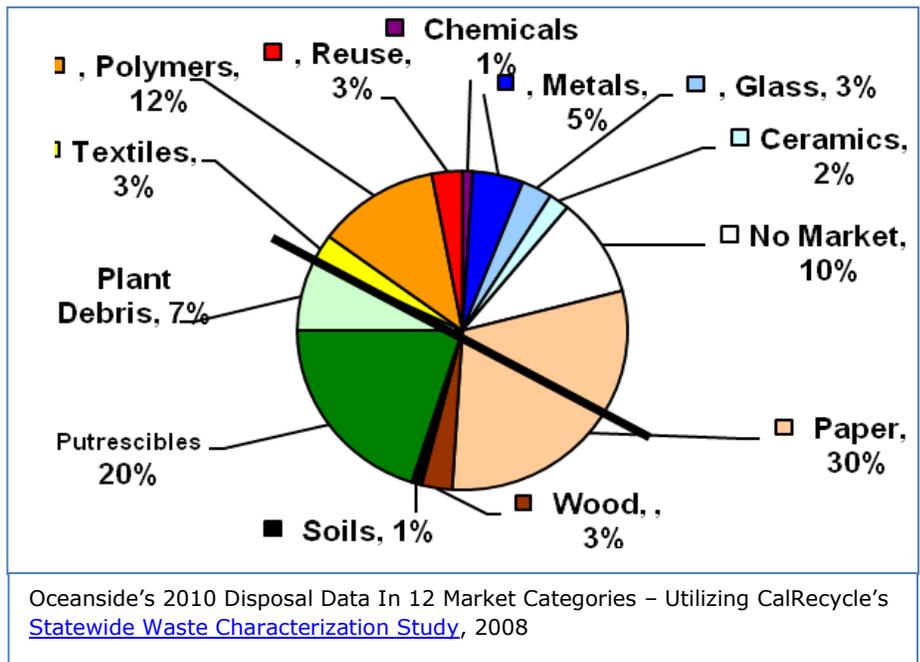
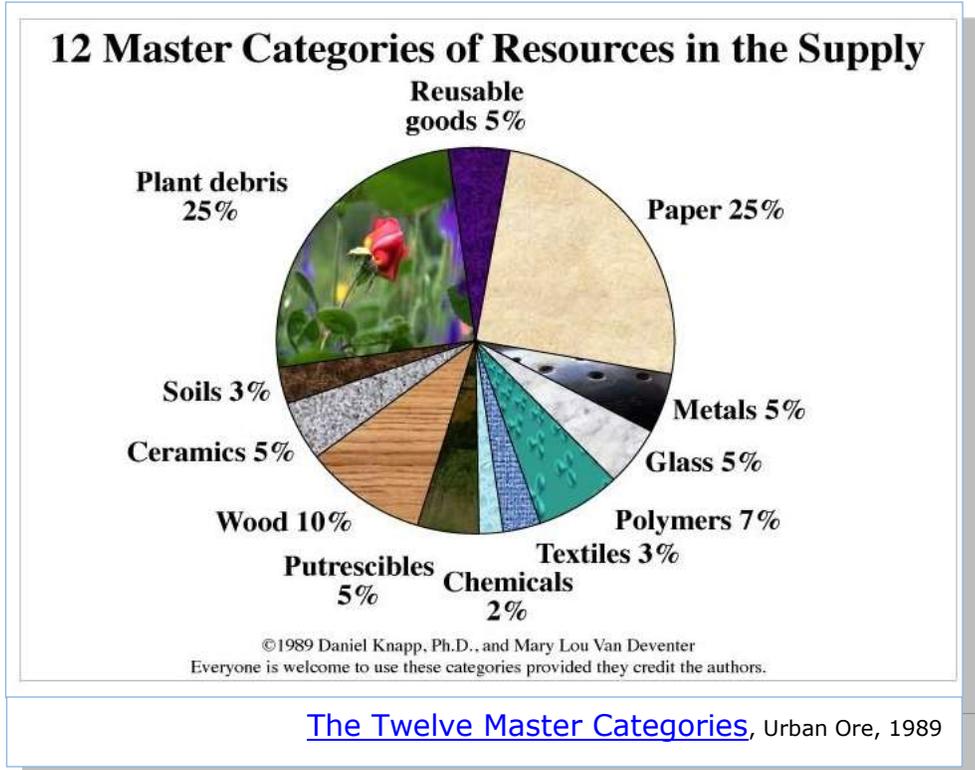
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It is important to classify the discards into the 12 Market Categories to define different markets. If a city or region is not able to conduct their own waste composition study, an excellent option is borrowing an already-completed analysis from another city, the state or region with a similar profile.

Some may prefer to classify discards into more market commodities than the 12 Market Categories to capture more discreet value. That is helpful for analytical work, but the 12 Market Categories have proven to be particularly effective in communicating the overall value of materials discarded in a way that is simple enough for the average reader to get it.

Be sure to also identify discards that have no market - i.e., diapers, treated wood, composites...

The critical take-away considerations might be valuable for choosing public or private services, as well as the potential for expanding upon existing facilities and/or developing new facilities.



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<b>Oceanside Zero Waste Strategic Resource Management Plan 2012 Commodities Market Analysis</b>				
2010 MSW disposal data broken out per CalRecycle's Statewide Waste Characterization Study, 2008			Based on trade magazine current market value data	
<b>Market</b>	<b>%</b>	<b>Tons</b>	<b>\$/Ton</b>	<b>Value \$</b>
1. Reuse	3%	3,750	\$550	\$2,062,500
2. Paper	30%	37,500	\$50	\$1,875,000
3. Plant Debris	7%	8,750	\$7	\$61,250
4. Putrescibles	20%	25,000	\$7	\$175,000
5. Wood	3%	3,750	\$8	\$30,000
6. Ceramics	2%	2,500	\$4	\$10,000
7. Soils	1%	1,250	\$7	\$ 8,750
8. Metals	5%	6,250	\$50	\$312,500
9. Glass	3%	3,750	\$10	\$37,500
10. Polymers	12%	15,000	\$100	\$1,500,000
11. Textiles	3%	3,750	\$100	\$375,000
12. Chemicals	1%	1,250	\$15	\$18,750
No Market (e.g. diapers, treated wood)	10%	12,500	\$0	-----
<b>Total</b>	<b>100</b>	<b>125,000</b>		<b>\$6,466,250</b>

**Opportunities:** Policies, incentives, programs and/or facilities to address discards that have no local market, are sometimes called "service opportunities."

- Prioritizing materials with the greatest volume, the greatest value, the most toxic, the greatest potential for jobs and/or the greatest potential for greenhouse gas (GHG) reduction.
- Identifying policies and incentives that should be considered: mandatory source separation; compostable organics out of landfills/incinerators; a C&D debris reuse and recycling ordinance; product and disposal bans; extended producer responsibility and product stewardship (including local retailer take-backs); waste-reducing green building codes; and elimination of any existing subsidies for wasting (garbage rates, contracts, permitting of facilities).
- Identifying incremental rate structure incentives that compensate services providers appropriately and send a signal to generators to reduce waste.
- Identifying facilities and programs that close the gaps to achieve Zero Waste: resource recovery parks—a one-location, catch-all facility to handle all discards; source reduction programs; Zero Waste education and outreach; highlighting local Zero Waste businesses and the saving they've achieved through the transition.

### **EXPECTED OUTCOMES:**

- Summary of existing system
- Market Analysis
- Service Opportunity Analysis
- Summary of Needed Policies, Programs and Facilities
- Zero Waste Plan Preparation and Adoption

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### 5. IMPLEMENT

**Execution:** Once a Plan is adopted, ensuring funding and allocation of staff and contract resources is critical. Additional early tasks include:

- Adoption of strategic policies and ordinances.
- Working with many City departments to review their responsibilities outlined in the Plan and schedule and budget for that participation.
- Developing the awareness and education campaigns to communicate what the Plan says and to support rollout of new policies and programs.
- Procurement of contractors to assist in implementing Plan recommendations.

In communities that provide their own collection services, once Zero Waste is the goal, they should shift the focus 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-pay obligations should be avoided.

**Procurement** involves the task of 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. Many communities benefit from the insights and knowledge of their local service providers. By allowing innovation and negotiation as a part of the procurement process, you can benefit from the knowledge and resources in your community.

USEPA's new Managing and Transforming Waste Streams website (9/2015) includes [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.

**Incentives and Disincentives:** To help businesses, communities and service providers share in the savings from waste reduction and recycling, the EPA's WasteWise Program promotes [Resource Management Contracting](#). Unlike traditional solid waste service contracts, resource management (RM) compensates contractors on performance rather than the volume of waste disposed.

Many Zero Waste procurement best practices are demonstrated and exemplified by RM case studies such as Clark County NV, General Motors, West Des Moines Public School District and numerous Nebraska entities including ConAgra, Metro Community College, Omaha Public Power and Omaha Public Works Department Single-Stream Recycling Implementation. Visit [EPA's WasteWise](#) website for details.

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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, CD&D processing, organics processing, residuals management (identifying the appropriate management approach for materials that have been designed for the dump and cannot be recycled and 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 "recycler of last resort" (provide recycling collection services to small volume generators who cannot attract an independent recycler). Alternatively, consider "universal roll-out" of services (provide recycling services to all customers, rather than have them subscribe for 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 be available to all generators regardless of size or the profitability of the services that they require. To avoid higher rates, customers can utilize waste minimization practices, such as reducing use of non-recyclable materials; and service providers can carefully design collection routes and implement other efficiencies, such as "right-sizing" (provide the size and frequency of collection based on actual generation levels).

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

### **EXPECTED OUTCOMES:**

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- 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

### 7. ADMINISTER

**Implement:** Once a new ordinance and infrastructure is in place, a countywide education program informing the public of the new rules and how to use the new system will be necessary. This program should include all schools. Public buildings and parks should be the first to convert to the program to set an example for the public. It is critical for the government to be a role model.

Just as it is important for all public buildings to have convenient recycling and composting services, it is important for the government 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 further be accomplished by 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 reviews of program achievements can facilitate problem-solving and 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. City of Napa waste management staff are co-located in the same building as the service provider. Thus, as colleagues, they work together every day on the projects and priorities.

It is also important to understand the relationship between the contractor and its workforce. Labor contracts can contain provisions that are a barrier to Zero Waste. Consider requiring contractors to compensate, train and manage workers to reward waste 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 Plan
- Reports on outcomes from contractors shared with elected officials and public
- Monitor and enforce policies and contracts

## Eight Steps To Becoming A Zero Waste Community

### 8. RE-ASSESS

Completion of a Zero Waste plan and procuring and managing contractors are just milestones on the road to Zero Waste. Communities must also ensure that all stakeholders stay involved and support the community.

**On-going Engagement:** A living document, a Zero Waste plan includes detailed implementation steps, annual program updates and strict re-assessments every five years. The plan should quantify a community's diversion and disposal rates based on tonnage information from all sectors, programs, facilities and contractors.

#### 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.

[Dallas, TX](#)

Most communities have very good information about the diversion and disposal tons within their "circle of control" – the programs that they manage through their own operations and contracts. However, some have very limited information about its "circle of influence" – commercial, industrial and self-haul generators.

**Study:** In order to understand the effectiveness of the Zero Waste initiatives, communities can undertake studies to estimate total generation and characterization, targeting specific materials streams - such as CD&D and specific generator sectors - such as restaurants, retailers and manufacturers. Establishing a more complete baseline can assist communities in tracking the new tons diverted through new Zero Waste initiatives. It can also help identify needed new policies and programs and develop future plan updates.

#### EXPECTED OUTCOMES:

- Provide annual report to elected officials and public on successes and challenges
- Continually refine direction based on actual results and respond to opportunities that arise
- Encourage residents, businesses to continuously improve programs and recognize and reward improvements
- Update Plan every 5 years

**Thank you for utilizing this resource.** For more information visit the [zerowasteusa.org](http://zerowasteusa.org) website and select Tool Kit.