



City of San Diego Zero Waste Plan

Road to Zero Waste,
next stop 75%



Environmental Services Department

June 2015

CITY OF SAN DIEGO ZERO WASTE PLAN (ZWP)

ACKNOWLEDGEMENTS

Thank you to the myriad of stakeholders that contributed an enormous amount of time and talent in providing critical input on this plan. The feedback was critical and resulted in a much more richly nuanced plan. It became apparent through this process that there is a significant network of existing businesses, community members and others that are ready and willing to assist the City in reaching this goal. The synergy that can be realized by working through this network as much as possible in reaching zero waste goals were evident and are incorporated into the Zero Waste Plan (ZWP).

The stakeholder process has been an integral part of developing the ZWP. Because this is a dynamic plan which will change and adjust over the years, the City will continue to engage stakeholders throughout the implementation process.

PURPOSE OF THE PLAN

Zero Waste is a principle that calls for handling discarded materials as commodities for reuse rather than for disposal, and conserving those commodities through waste prevention, recycling, composting, and other technologies. This “discards” management system emphasizes commodities can flow full circle focusing on conservation during the total life cycle of materials from product design, collection, and processing to the marketing of new products made from the material. The goals of this ZWP are:

- target 75% diversion by 2020, 90% diversion by 2035, and “zero” by 2040 by identifying potential diversion strategies for future action. To increase the City’s waste diversion rate to 75% will require an estimated additional 332,000 tons per year to be diverted from landfill disposal;
- demonstrate continuous improvement towards a goal of zero waste to landfills;
- emphasize education by renewing City public information efforts;
- promote local policies and ordinances and legislation at the state level that encourage manufacturers, consumers, and waste producers to be responsible for waste;
- investigate appropriate new technologies;
- re-emphasize market development at the local and state level.

SETTING

In the City, the People's Ordinance (San Diego Municipal Code §66.0127) requires the City to provide collection, transportation and disposal of residential refuse, which includes trash, recyclables and yard trimmings, at no cost. The City's inability to charge for residential refuse collection precludes the creation of the industry standard "pay as you throw" financial incentives for recycling and waste reduction. In addition, the residential recycling and trash service has a cost of approximately \$47 million dollars per year that is currently funded by the City's General Fund (GF) and fees collected from the commercial waste stream. Approximately 23 percent of disposed material in the City is collected under the People's Ordinance. As a result, funding current and future waste related programming involves an interwoven fee structure that presents several challenges for the City's discards management system.

Within this intricate structure are two enterprise funds (the Refuse Disposal Fund (RDF) and the Recycling Fund (RF)), and the GF. Tipping fees collected at the Miramar Landfill are almost evenly split between the cost of running the landfill and providing waste related programs that support the City. There are approximately \$14 million in services that are currently paid by the RDF through the collection of tipping fees at Miramar Landfill. As the amount of waste diverted increases, there may be GF impacts to sustain program operations at current funding levels. In addition, the cost of disposing City waste will significantly increase when the Miramar Landfill closes and the City must bear the additional costs for receiving, transferring and delivering waste to other local disposal facilities. Services that will become the responsibility of the GF include maintaining 16 closed landfills; recycling/diversion programs; illegal dump/litter abatements; community cleanups; homeless camp removal; dead animal collection; code and franchise agreement enforcement; and servicing of public waste containers in the public rights-of-way.

Current revenue streams are primarily received when materials are disposed in the landfill. Therefore as recycling increases, revenues from tipping fees and AB 939 recycling fees at the Miramar Landfill decrease. This is further complicated in the City because the Miramar Landfill is operating in a private market place. Fees must be kept competitive or the City may lose waste to the other landfills and facilities in the County.

The State legislature has enacted several bills intended to promote waste diversion. In 1986, Assembly Bill (AB) 2020, the California Beverage Container Recycling and Litter Reduction Act, established California Redemption Value, a refundable deposit on certain types of beverage containers. AB 939, the Integrated Waste Management Act of 1989, set forth a requirement that all local California jurisdictions achieve a rate of

50% diversion by the year 2000 and each year thereafter, and submit an annual update to CalRecycle for approval of programs designed to divert materials from disposal to the maximum extent feasible, or face fines of up to \$10,000 per day.

Under AB 939, each jurisdiction was required to develop a Source Reduction and Recycling Element (SRRE) demonstrating how they would achieve the mandated diversion goals. Each jurisdiction also developed a Household Hazardous Waste Element (HHWE), similar to the SRRE, which identified those programs the jurisdiction would implement to ensure the proper management and handling of household hazardous waste (HHW). Finally, each jurisdiction was required to prepare a Nondisposal Facility Element (NDFE), which identifies non-disposal facilities used by the jurisdiction to achieve the diversion goals (i.e., Material Recovery Facilities (MRFs), composting facilities, transfer stations recovering at least 5% of material). The Countywide Siting Element identifies disposal facilities used by all jurisdictions within the county and identifies at least 15 years of disposal capacity. The Countywide Summary Plan summarizes AB 939 planning documents for each county.

Additionally, the enactment of AB 341 in 2011 established a statewide goal of 75% diversion by 2020. It also created a mandatory commercial recycling requirement for businesses, public agencies, and multi-family properties; with implementation, outreach, monitoring and compliance being the responsibility of local jurisdictions.

The enactment of AB 1826 on September 29, 2014 required jurisdictions to develop plans to divert additional organic materials from landfill disposal; and will require businesses, public agencies, and multi-family properties to arrange for recycling of organic materials. Beginning April 1, 2016 those who generate eight cubic yards or more of organic waste will be required to separate and pay for the collection of their organic wastes. By January 1, 2019, those with more than four cubic yards of solid waste will be required to separate and pay to have organics materials collected. The bill did not specify who was responsible for development of the facilities accepting these organic wastes. Another organic materials related bill that was passed at the same time is AB 1594, which removed the diversion credit associated with using yard trimmings to cover waste in landfills.

On December 16, 2013, the City Council adopted a Zero Waste Objective that established the targets for this ZWP of 75% diversion of waste from landfills by 2020 and Zero Waste by 2040. Staff is additionally targeting the goal of 90% diversion by 2035 as currently proposed in the City's draft Climate Action Plan.

The City Auditor's Performance Audit of the Environmental Services Department's Waste Reduction and Recycling Programs, issued in August 2014, and titled:

“Opportunities Exist to Improve Recycling Rates and Reduce Adverse Impacts Generated by Waste Hauling,” contained 12 recommendations. Key recommendations include:

- amend franchise agreements to include minimum diversion requirements, with liquidated damages for non-compliance, annually review the minimum required diversion rate and determine whether an increase is needed, and for haulers to provide all customers with a minimum level of recycling service or submit documentation to the City justifying any exceptions that are granted;
- allocate additional resources to City Recycling Ordinance (CRO) enforcement for City-serviced residential properties;
- maximize opportunities for education and outreach; and
- monitor City departments' performance with the CRO, report to the City Council on the status annually, and educate and assist other City departments in meeting recycling requirements.

In 1992, the City Council approved a General Development Plan for the Miramar Landfill, which specified the development of a suite of waste management facilities, including a HHW facility which has been built, a Materials Recovery Facility (MRF), resource recovery facility, and related facilities.

To plan for the City's future facility needs, the Long-Term Resource Management Options (LTRMO) Strategic Plan was accepted by the City Council on November 13, 2012. The Plan provided an analysis of regional demand and landfill capacity; identified options for solid waste reduction, recycling, reuse, and disposal. Options to maximize the capacity and extend the life of Miramar Landfill were identified, including: zero waste programs, a Resource Recovery Center at Miramar Landfill, West Miramar Landfill expansions, permitting and expanding North Miramar Landfill, and a Transfer Station at Miramar Landfill.

Waste from the City is disposed in the Miramar, Sycamore, and Otay Landfills. Facilities used for diversion purposes are described in the City's Nondisposal Facility Element, and include several transfer stations; three mixed C&D processing facilities; the Miramar Greenery and other composting and mulching facilities; several clean MRFs; a substantial number of source separated recycling facilities for materials such as concrete, asphalt, rock, dirt, metal, cardboard, paper, and other materials; and a HHW facility for residents. However, the facilities identified in the NDFE will not be adequate to achieve 75% diversion. Infrastructure to address specific waste streams, like food waste, will need to be built to meet the required diversion goals.

Existing Diversion Programs and Diversion Rates

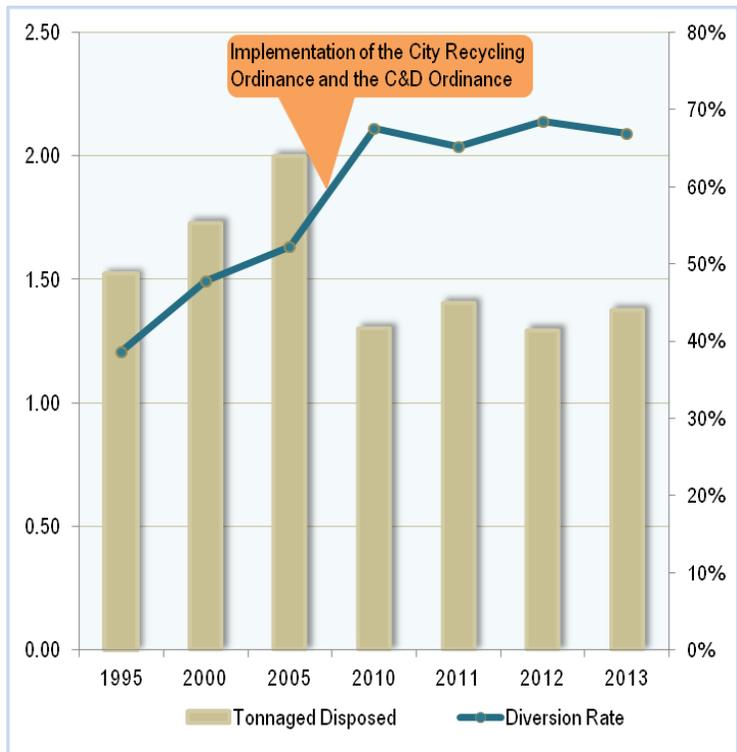
San Diego has made significant strides in diverting waste from the landfill by increasing its diversion rate by more than 20% in the last decade (see Exhibit 1 (below)). The adoption and implementation of the City Recycling Ordinance (CRO) and Construction and Demolition (C&D) Debris Deposit Ordinance (C&D Ordinance) and a variety of other waste diversion programs have been crucial in positioning the City on the road to Zero Waste.

The CRO was adopted in 2007 and phased into effect between 2008 and 2010. It requires recycling of recyclable materials generated from residential facilities (both single family and multi-family), commercial facilities (including City buildings), and special events. As a result of the implementation of the CRO, haulers are required to report the volume (not the *weight*) of refuse and recycling services provided. Those reports show that the volume of recycling service to commercial and multi-family customers increased by 90% between 2008 and 2012. In 2012, the exemption threshold for commercial and multi-family properties was lowered to largely coincide with the requirements of the State's

mandatory commercial recycling requirement under AB 341. Already having the CRO in place put the City in a very good position for complying with this new requirement.

The C&D Ordinance took effect in July 2008. It requires certain building and/or demolition project applicants to post a refundable deposit to ensure compliance with the ordinance which requires diversion of at least 50% of the C&D debris generated by the project. Diversion credit is counted for debris that is recycled, reused, or donated for reuse. Based upon deposit refund requests, the overall recycling rate under the Ordinance is 85% for projects asking for and receiving a refund. Larger projects typically send much of their waste to recycling facilities with 100% diversion rates, whereas smaller projects often co-mingle waste and use a mixed C&D processing facility with a lower diversion rate. The average recycling rate for all projects is 71%.

Exhibit 1: Disposal and Diversion in San Diego



The City also provides curbside yard trimmings and recycling collection; waste reduction, recycling, composting education in schools, City departments, and the community; a compost bin voucher program to residents which discounts three styles of compost bins; a commercial food scrap composting program; public space recycling programs; and an environmentally preferable purchasing program (EP3). Additionally the City requires franchise waste haulers to provide recycling services as a requirement of their franchise agreements. Currently, the City's diversion rate is 67% but has remained relatively constant since 2010. There is still significant room for improvement. The City's single family curbside recycling and yard trimmings collection programs divert 23% of the waste generated by that sector; commercial and multi-family facilities divert 26% of the waste they generate; and the City facility diversion rate is 27%. Most mature curbside recycling programs achieve at least a 40% rate of diversion and commercial rates can often be significantly higher than that.

Waste Composition

The overall composition of discarded material that is landfilled is tracked by composition as seen in Exhibit 2. When tracked by generating sector, the disposed tonnage is shown in Exhibit 3. It can be seen in Exhibits 4-6 that all sectors have almost equal opportunity to enhance their diversion rate for all the major recyclable streams.

The total annual discards generated by San Diego residents and businesses is approximately 4.15 million tons, of which 2.78 million tons is recycled. In order to determine what further diversion opportunities are available, the City conducted a Waste Characterization Study in 2012-2013 which evaluated the composition of materials being disposed. The following tonnages and tables were assembled using data from this study. Results

Exhibit 2: Composition of Materials Landfilled & What They Can Be Recycled Into



Exhibit 3: Disposed Tons by Generating Sector

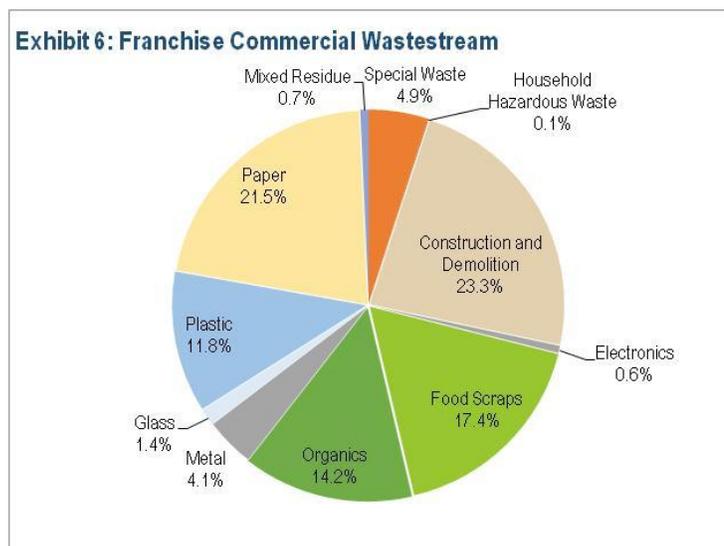
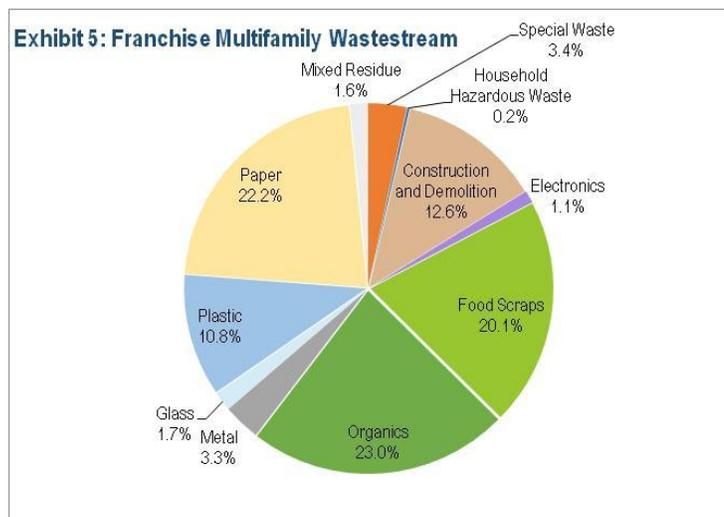
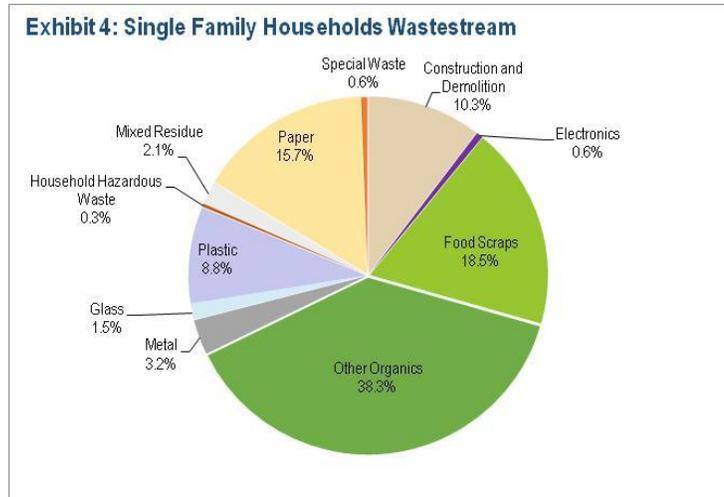
Sector	CY 2013 tons
Single-Family	381,000
Multi-Family	266,000
Commercial	645,000
Military	27,000
City Departments (self-haul)	51,000
Total	1,370,000

indicated that 76% of materials being disposed City-wide are recyclable and that the value of the disposed recyclables is approximately \$54M (see Exhibit 2 for commodities and markets for those commodities). The ZWP strategies will address and focus on the most prevalent recyclable materials.

When broken down by material class, organics and C&D waste are the largest components. One-third of all landfilled materials are organics, and food scraps alone accounting for 15% (or approximately 200,000 tons) of the materials discarded. C&D Waste accounts for one-quarter of the waste stream.

Challenges

There are many challenges to increased diversion, foremost development of new infrastructure. AB 1826 requires the collection of organic materials including yard trimmings and food scraps, but adequate infrastructure does not currently exist in California to handle the processing of these additional materials. The City operates the Greenery at the Miramar Landfill, but this facility will not be adequate for the projected increase in organic material requiring processing. Therefore, additional infrastructure must be developed. To help in expanding infrastructure, this ZWP includes



adding additional composting infrastructure at the Miramar Greenery. The development of mixed recycling/ anaerobic digestion facility(ies) by private stakeholders, will be monitored, and use of existing facilities, like the anaerobic digesters used for the decomposition of sludge from the sewer system will be evaluated for inclusion of food scraps. If the construction of necessary facilities to achieve the goals do not materialize, evaluation of other options will be proposed. Other options would include implementation of exclusive franchises that require the franchisee to develop appropriate infrastructure or development of a City operated facility for example.

The mandatory commercial recycling programs established under AB 341 and AB 1826 are examples of state mandated local programs. These bills have established aggressive goals for organics diversion but do not address the lack of existing infrastructure to process the diverted organics/recyclables.

Another challenge to diversion is the requirement to divert materials requiring special handling. Difficult to manage items including sharps, batteries, bulbs, and pharmaceuticals present large challenges to jurisdictions as the responsibility to manage these materials has fallen on jurisdictions, with no funding provided to aid in the management of these wastes. Management of these items is highly regulated, and very costly to the City and other jurisdictions. Further, these items are dangerous and problematic if/when placed in refuse and recycling containers, or otherwise improperly/illegally disposed. When producers and consumers share responsibility for costs of disposal, it is easier to achieve waste reduction targets.

Stakeholder Recommendations

The City identified a broad list of stakeholders. Stakeholders were primarily alerted via email or through the City website. Exhibit 7 shows the diversity of participation and Exhibit 8 lists individual participants by stakeholder interest.

Eight meetings were open to the whole community and there were also numerous individual presentations to a wide range of groups and individuals, which were provided upon request.

The stakeholders recommended the City should:

- increase the responsibility to recycle in the CRO;
- expand curbside green waste collection;
- enhance public education, outreach, collaboration and enforcement;
- correct inequities associated with the People's Ordinance;
- develop new diversion strategies;
- potentially make policy changes; and
- lead by example.

Stakeholders also discussed financing mechanisms. They suggested a shift away from financing based on waste disposal to funding that is sustainable and resource based. A detailed Stakeholder Participation Report is provided as Attachment 1.

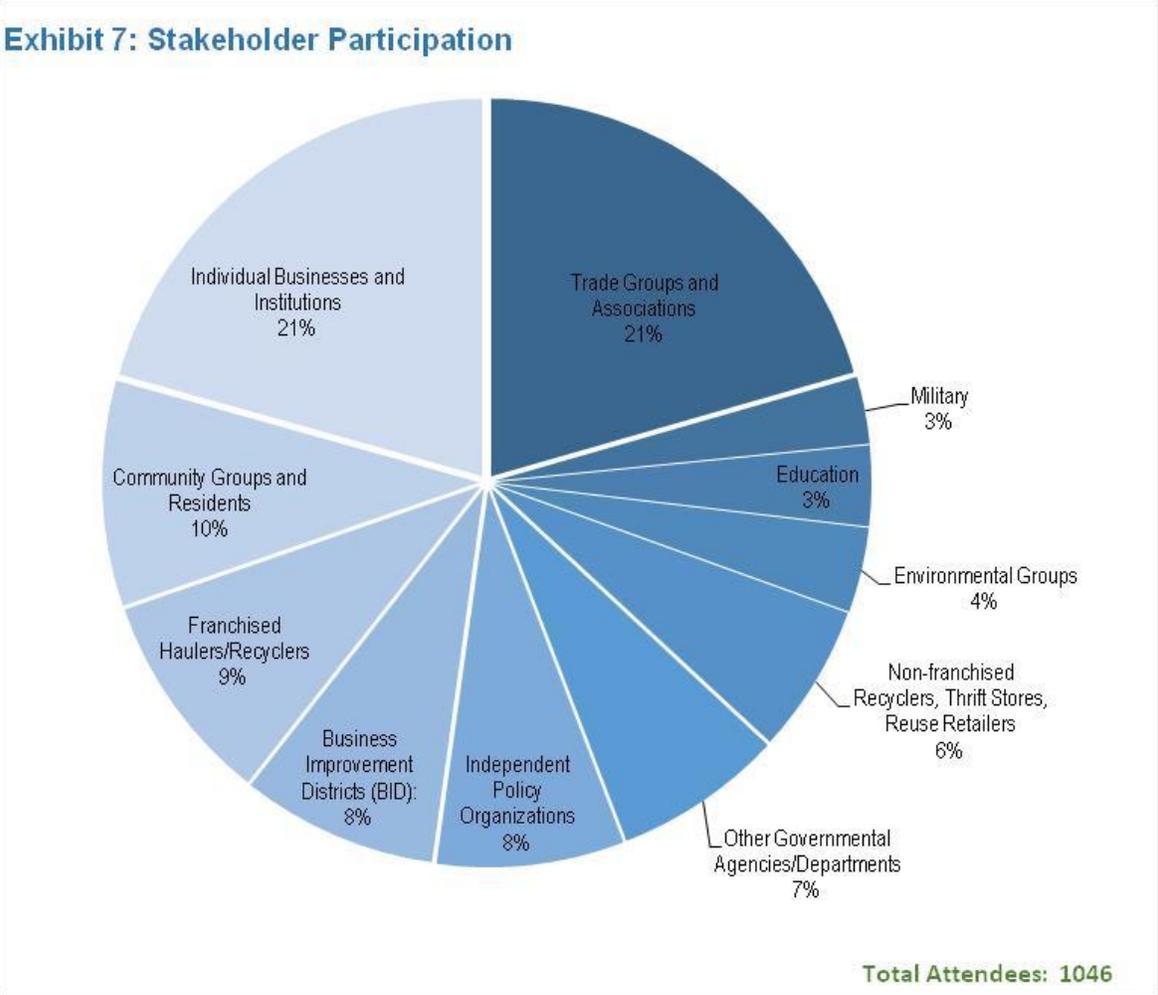


Exhibit 8: Stakeholder Participants		
Business Improvement Districts (BID)	Individual Businesses and Institutions	Trade Groups and Associations
Adams Avenue BID	Bigsly Enterprises	American Forest and Paper Association
BID Council Board of Directors	Bridgepoint Education & Ashford University	Associated General Contractors of America San Diego Chapter
Gaslamp Quarter Association	California Strategies	Balboa Park Cultural Partnership
College Area Business District	CP Manufacturing	Building Industry Association
North Park BID San Diego	Crowne Plaza Hanalei San Diego	Building Owners and Managers Association
Community Groups and Residents	Evans Hotels	Food and Beverage Association of San Diego County
	EWR	IFMA
College Neighborhood Foundation	Feeding America San Diego	NAIOP
Community Planners Committee	Mesa College	San Diego Regional Chamber of Commerce
Individual Residents (18)	Omnire	San Diego County Apartment Association
Kensington Garden Club	PK Holdings, LLC.	San Diego County Disposal Association
San Diego River Park Foundation	Point Loma Nazarene University	San Diego Green Building Council
Scripps Miramar Ranch Planning Group	Recycle San Diego	San Diego League of Women Voters
Sustainable Scripps Ranch	San Diego Zoo	SD County Taxpayers Association
Public Education and Outreach	SeaWorld San Diego	Zero Waste San Diego
	Sharp Healthcare	Non-franchised Recyclers, Thrift Stores, Reuse Retailers
I Love A Clean San Diego	Solar Turbines	
Inika Small Earth	Sony	Boxed Green
San Diego County Office of Education	Tap and Press	EcoParts
Solana Center for Environmental Innovation	The Lodge at Torrey Pines	Goodwill Industries
The 1:1 Movement	UCSD Sustainable Solutions	IMS Recycling
Environmental Groups	United Cerebral Palsy San Diego	On Site Waste Solutions
	WAXIE	Recon Recycling
Audubon Society	WES	Ripple Textile Recycling
OB Green Gold	WISH	San Diego Fibers
Sierra Club	Governmental Agencies and Departments	Urban Corps
Surfrider Foundation		CalRecycle
The Green Store	City Auditor	Sustainable Surplus
EcoVerse	City of Chula Vista	Franchised Haulers/Recyclers
Phoenix Foods	City of Encinitas	
Zero Waste San Diego	City of Oceanside	Allan Company
Ssubi is Hope	City of Poway	Daily Disposal Services
Independent Policy Organizations	City of San Diego Parks and Recreation Department	Debris Box
	Center on Policy Initiatives	Dependable Disposal
CRRA	City of San Diego Public Utilities	Diamond Solid Waste Services
Equinox Center	County of San Diego	EDCO
Integrated Waste Management Citizens Advisory Committee	LEA	Express Waste and Recycling
Integrated Waste Management Technical Advisory Committee	MetroTransit System	John Smith Earthworks
	Military	Republic Services
MCAS Miramar		Tayman Industries
World Resource SimCenter (WRSC)	Naval Region Southwest	Ware Disposal
		Waste Management

POTENTIAL DIVERSION STRATEGIES

In order to develop sustainable funding mechanisms, the City worked in collaboration with stakeholders to develop strategies that will allow for the continuance of existing programs while also increasing funding to a level that will support new programming. The following potential strategies are possible future actions to achieve the additional 332,000 tons of diversion needed to achieve 75% recycling. These mechanisms can also be used to further enhance recycling beyond 2020 in order to achieve the goals of 90% diversion by 2035 and zero waste by 2040. Many of the potential programs that have been included are direct recommendations from stakeholders received during the outreach effort. Staff will bring specific components forward to City Council for approval as the ZWP is implemented. The ZWP attempts to maintain as much equity as possible across the various segments of the community.

1. Establish AB 1826 infrastructure: Additional organics recycling infrastructure will be needed to comply with AB 1826. The City plans to encourage the private sector development of facilities that will reduce and reuse this waste stream. These facilities will be a key strategy to increasing the City's diversion rate. This is projected to result in 120,000 tons of additional diversion by 2020.

2. Establish diversion requirements in franchise agreements: Franchised haulers collect from commercial and multi-family properties and their diversion rate is 26%. There are approximately 15,000 commercial and multi-family properties that are serviced by the franchised haulers. Experience in other jurisdictions shows that by including recycling benchmarks into franchise agreements, significant progress can be made and many impediments to waste reduction and recycling removed, including the difficulty measuring waste reduction. It has been determined that the *minimum* diversion requirements should be 50% to ensure that the City can achieve 75% by 2020. Staff plans to propose this new target at the next franchise renewal and anticipates bringing the renewals forward to City Council in Fall 2015. Staff plans to review the target annually at the time of renewal of franchise agreements. This is projected to result in 93,500 tons of additional diversion.

3. Provide enhanced technical assistance for commercial and multi-family: to increase their current 26% diversion rate to 50% and materials are added to the CRO, a train the trainer model will be applied to ensure that haulers are adequately prepared and their staff is adequately trained. This does not result in a specific diversion quantity, but would support diversion efforts conducted by the haulers.

4. Allow fibrous yard trimmings at the Miramar Greenery: As a result of a recent acquisition of a new grinder and the modification of the conditions in the composting permit, staff will now be phasing in the acceptance of fibrous yard trimmings at the Miramar Landfill Greenery. Staff anticipates phased acceptance of fibrous yard

trimmings at the Greenery to begin in January 2016. This is projected to result in 18,000 tons of new diversion.

5. Develop a Resource Recovery Park (RRP): As originally proposed in the Miramar Landfill General Development Plan, staff plans to construct a RRP at Miramar Landfill, which could include a Resource Recovery Center (RRC), additional composting infrastructure, and mixed recycling infrastructure, as are described below. The initial step will be evaluating potential partnerships for the creation of the RRP. The RRC would likely be the first component of the RRP to be built.

a. Develop a Resource Recovery Center (RRC): The RRC would be at the entrance to the Miramar Landfill and would service all 200,000 transactions from non-franchised haulers delivering wastes in small vehicles, including home owners, contractors, and businesses. This would be constructed using funds in an existing Capital Improvement Project and would result in the diversion of an additional 80,000 tons from disposal, and is a model that could eventually be replicated on a smaller scale throughout the City. Staff anticipates bringing a proposal forward to City Council to develop a RRC in July 2017.

b. Develop an aerated static pile system composting system: The City currently composts using long windrows that are mixed and watered. A portion of this operation is proposed to be modified to an aerated static pile system. This type of technology conducts composting in a controlled environment under a cover in the outdoors. Computer systems monitor and regulate oxygen, temperature and moisture to ensure ideal conditions for rapid and nuisance free composting. This change would enable the City to better process clean separated food scraps that would come to the Greenery as a result of increased collection efforts. Diversion associated with this system would be part of the overall AB 1826 infrastructure.

Exhibit 9: Aerated Static Pile System



c. Encourage the development of additional composting and mixed recycling infrastructure: There is currently insufficient infrastructure in the City of San Diego to process all of the organics that will need to be diverted to meet the AB 1826 mandate and the 75% diversion goal. The expectation is for the City's franchised haulers to develop the infrastructure they need to achieve the diversion requirements for their customers, and the requirements that will be incorporated into their franchise agreements as a result of the AB 1826 mandates.

6. Modify CRO: ESD staff is planning on bringing forward two modifications to the CRO and this is projected to result in 13,000 tons of new diversion. Additional outreach will be required. Staff anticipates bringing CRO revisions forward to City Council in January 2016.

a. Reduce exemptions in the City Recycling Ordinance (CRO): Approximately 3,500 of the nearly 6,000 commercial and multi-family properties that are currently exempt do not have recycling. The exemption threshold is for facilities that generate less than four cubic yards of refuse and recycling per week. Eliminating the four cubic yards exemption would increase the number of multi-family properties subject to the CRO by almost 40% and in so doing, further help to spread the burden of additional zero waste programs across the whole community.

b. Add materials to the City Recycling Ordinance (CRO): The CRO language was developed such that additional materials can be added as markets become available. To comply with state law, two key commodity areas are proposed to be added to the CRO: organics (yard trimmings and food scraps) and reusable items. Currently only single family residents that have the greenery collection program are required to recycle their yard trimmings and unpainted wood waste. Yard trimmings, unpainted wood, and food scraps diversion requirements will be phased in for commercial and multifamily waste generators. Reuseable items are a more general, and subjective, category and it is anticipated by adding this category to the CRO requirements, the reuse opportunities that currently exist will be used with more frequency by the community.

7. Modify C&D Ordinance: increase diversion requirement to 65%: Construction and demolition debris constitutes more than 23% of the commercial waste stream. Increasing the C&D Ordinance requirement from 50% to 65% diversion appears to be a readily reachable goal, given that mixed C&D recycling facilities servicing the City of San Diego have been certified at 65% by staff for at least the past two years. This is projected to result in 2,000 tons of additional diversion. Staff anticipates bringing C&D Ordinance revisions forward to City Council in January 2016.

8. Develop a recycling reporting by neighborhoods and City departments program: While reporting programs are not generally associated with a specific number of tons diverted, studies show that participation increases when metrics are recorded and reported. Capturing metrics and then sharing that information with program participants is expected to enhance participation. Quarterly trends in City serviced single family recycling participation for over 110 individual single family residential communities will be publicized. For the City departments, a scorecard has been incorporated into the City facility refuse and recycling collection contract to provide

direct feedback to all departments. Coupled with enhanced education and outreach to departments, the City departments program could result in 1,500 tons of diversion.

9. Require City Recycling Ordinance (CRO) compliance as part of City leases of commercial office space: Staff is working with the Real Estate Assets Department staff to develop CRO compliance language to be incorporated into future leases of commercial office space. This will help increase diversion for franchised haulers, as they service buildings where the City leases space.

10. Provide enhanced education about and enforcement of City serviced residences recycling programs: While education programs are not generally associated with a specific number of tons diverted, they are considered essential to increasing the efficiency of existing collection programs. Staff plans to develop additional outreach and increase the frequency of residential recycling and trash cart inspections. Staff anticipates enhanced education and enforcement related to City serviced residences recycling programs to begin in Fiscal Year 2017. Coupled with enforcement efforts focused on City serviced residences, this could result in 4,000 tons of diversion.

11. Draft and propose policies:

a. Support local, state and federal producer responsibility policies and laws: Although it is difficult to determine an exact number of tons that would be diverted, producer responsibility is a key strategy. Because an effective Zero Waste approach considers that the producers of waste should be responsible for costs of disposal, and indeed for the total life cycle of a product, the ZWP advocates support of education, policies and laws that promote the sharing of the financial responsibility for hard to handle materials with the product manufacturers and their distributors. Target materials include but are not limited to:

- Plastic film, packaging materials
- Paint, stains, varnishes
- Carpet
- Mattresses, couches, furniture, appliances
- Electronics, batteries, compact fluorescent light bulbs (CFLs), universal waste
- Sharps, pharmaceuticals, medical waste
- Motor oil, antifreeze, lubricants, home chemicals

b. Further promote reuse policies: The City will continue to support and promote reuse policies such as distribution events for reuseable bags, use of reuseable water bottles, cups, flatware, etc. as appropriate.

12. Develop “Zero Waste Star” recognition program to encourage diversion: This recognition program will recognize local businesses, properties, non-governmental organizations, and City departments, for their zero waste efforts. It will expand on the current Waste Reduction and Recycling Awards Program that has primarily been targeting businesses and multi-family complexes, to include residents, education providers, policy groups, non-profits, etc.

13. Reuse/repair resource directories and community reuse programs: While resource directories and community reuse programs are not generally associated with a specific number of tons diverted, they are considered essential to increasing the use of existing facilities and events. Providing funding is available, staff plans to promote existing repair workshops, online resources, and reuse businesses.

14. Develop and continue community partnerships: By enhancing existing and developing new partnerships with non-profits, local green businesses, and franchise haulers, existing resources can be leveraged to reduce, reuse, recycle and compost material while minimizing duplication of effort between the City and the efforts already underway in the community.

15. Fully implement public space recycling at parks, beaches, recreation centers, transit centers, and libraries: Public space recycling is a key public education component that supports behavior change, where recycling away from home leads to increased recycling at both home and work. ESD staff will work with other departments to identify opportunities to expand recycling service in new and existing public facilities. The City will continue to expand public space recycling opportunities with its own funds as available and also seek grants and other opportunities to allow for public space adoption programs that help with capital funding and maintenance costs.

Exhibit 10: Public Recycling Containers



16. Add materials to the City serviced single family recycling stream as markets develop: The number of additional tons diverted will vary depending on what materials can be added to the program. Staff routinely reassesses market conditions and periodically adds materials to the curbside recycling program for City serviced residences. Staff recently identified dimensional Styrofoam, the material used in consumer goods and other packaging, to be added to the curbside recyclable materials collection program. This commodity was added in December 2014. Although not a significant tonnage, it removes a problematic component of the wastestream that cause

blown litter issues at the Miramar Landfill. In addition, staff is currently researching to determine the benefits and identify any possible concerns if polystyrene foodservice containers are added. Staff anticipates completing the research within six months.

17. Investigate expanding and automating single family yard trimmings collection to include all City single family residential customers: Strategies for increasing the City's diversion rate must focus on organics. Currently only 190,000 of the 289,000 City customers have greenery collection and of that only 30,000 have automated carts. Expanding yard trimmings collection to all City serviced residential customers and switching to automated carts, would divert 20,000 tons. This is key to achieving ZWP goals. Use of automated carts will allow for the potential addition of food scraps to the greenery collection program.

18. Investigate providing weekly greenery collection with food scraps and every other week trash collection: The City will monitor and evaluate ongoing pilot programs in other jurisdictions where yard trimmings collection combined with food scraps is offered weekly and trash services are offered bi-weekly. If success is apparent in these other jurisdictions, staff will determine feasibility of conducting a similar pilot in San Diego.

19. Establish an outreach program that emphasizes the food scraps hierarchy: reduce, reuse/rescue, compost: This approach place the first emphasis on working with the food industry to reduce waste. It is difficult to estimate how many tons of food scraps could be diverted from disposal. Staff will assist in publicizing best practices. Staff will also promote the next step in the hierarchy, diverting unwanted food before it spoils, by promoting facilities where it can be used, such as the food bank, shelters, etc. Staff will investigate options for food scraps as animal feed. The City will also continue its food scraps program, which currently diverts approximately 10,000 tons from disposal.

20. Promote on-site food scraps processing and/or composting where consistent with stormwater objectives: Staff already coordinates on Master Composter training programs. In addition to on site composting in containers, there are other technologies, such as food dehydrators that electrically heat and dry food scraps for sanitary storage and transportation to a composting location.

21. Develop a community composting program: Staff plans to encourage the establishment of additional composting sites throughout the community. It is envisioned that sites such as community gardens, which are currently limited by state and local law to composting vegetative waste generated on site, could expand the source of organics to include food scraps, coffee grounds, etc. from off-site locations. The City plans to further study such successful models as are being developed in other jurisdictions and

work with stakeholders to develop a solution for San Diego. Potential tonnage will be determined if/as a program is developed.

CONCLUSION

This ZWP and the programs described herein provide a framework of potential strategies to increase the City's diversion rate over the next 25 years and ensure compliance with current state diversion requirements. Potential strategies would be phased in over multiple years with implementation of specific components brought forward for City Council consideration and approval. It is anticipated that staff will expand on the potential strategies contained herein, and develop additional ideas to take the incremental steps to 75% diversion by 2020 and the 90% goal currently proposed in the City's draft Climate Action Plan. Further diversion to Zero Waste by 2040 is achievable given the rapid development of technologies and methods to reduce reuse and recycle all materials. Each set of incremental increases to the City's diversion rate will be developed by considering the opportunities, technologies, and associated costs that are available at that time. It is anticipated that staff will remain engaged with stakeholders as all phases of this plan are implemented to ensure that the City's future diversion strategies are an expression of the interests of all segments of the San Diego community.

ATTACHMENTS:

- 1) City of San Diego Zero Waste Plan (ZWP) Stakeholder Participation Report

REFERENCES:

- 1) Compilation of Zero Waste Plan Stakeholder Feedback Correspondence
- 2) City of San Diego Long-Term Resource Management Options (LTRMO) Strategic Plan
 - a. LTRMO Phase II Report to City Council
 - b. LTRMO Webpage from February 2015
 - c. LTRMO Final Report Phase II
 - d. LTRMO Tables and Figures Phase II
 - e. Resolution Number R-307836
- 3) Miramar Landfill General Development Plan
- 4) City of San Diego Nondisposal Facility Element
- 5) Countywide Siting Element and Summary Plan (updates)
- 6) City of San Diego 2012 – 2013 Waste Characterization Study Final Report
- 7) Zero Waste Objective
 - a. Proposed Zero Waste Objective for the City of San Diego Report to City Council
 - b. Zero Waste Plan Vision Document
 - c. Resolution Number R-308657
- 8) City Auditor's Report: "Opportunities Exist to Improve Recycling Rates and Reduce Adverse Impacts Generated by Waste hauling"
- 9) Zero Waste Stakeholder Meeting Presentation Slides (four meeting sessions):
- 10) CalRecycle Landfill Tipping Fees in California February 2015 Report
- 11) CalRecycle State of Disposal in California March 2015 Report
- 12) CalRecycle State of Recycling in California March 2015 Report