Memorandum

To: Pasadena City Council

CC: Pasadena City Manager

From: City of Pasadena Environmental Advisory Commission

Date: October 13, 2014

Re: Zero Waste Strategic Plan

Background

Earlier this year, the Environmental Advisory Commission created an ad hoc Zero Waste Subcommittee. At the EAC's September 16, 2014 meeting, the EAC delegated to the subcommittee the responsibility of reviewing the Draft Zero Waste Strategic Plan and authorized the subcommittee to send an advisory memorandum to the City Council on behalf of the Commission.

Zero Waste Strategic Plan

The Environmental Advisory Commission commends the Pasadena Department of Public Works for its diligence and efforts in developing the Zero Waste Strategic Plan. The Plan is comprehensive, well-researched, and easy to follow. It will help keep Pasadena at the front of waste reduction efforts in the state of California. We do ask that the Department of Public Works consider slight revisions we have recommended. With that in mind, the Environmental Advisory Commission urges Pasadena City Council to adopt the Zero Waste Strategic Plan.

Polystyrene Ban

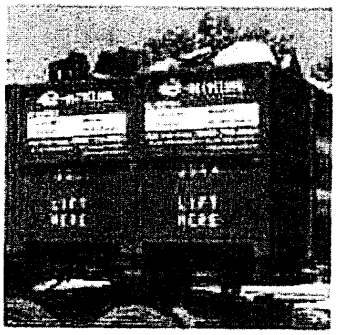
The Environmental Advisory Commission especially commends the Pasadena Department of Public Works for elevating a polystyrene ban following Council approval of the Zero Waste Strategic Plan. We too see the huge benefits of such a ban, and we look forward to working with and supporting the Department of Public Works in its efforts to research, write, and implement this ban. At least 88 other cities and municipalities in California have already enacted similar bans, and we would like Pasadena to be next.

Our Comments

Our comments are on the attached document; they mostly consist of asking clarifying questions and asking for more specific language. We ask that our comments be addressed after Council has approved the Zero Waste Strategic Plan. As with the polystyrene ban, we offer our support and expertise to the Department of Public Works in implementing this strategic plan.

ZERO WASTE
STRATEGIC PLAN

September 2014



DEPARTMENT OF PUBLIC WORKS PASADENA

Zero Waste Strategic Plan

Pasadena's Path Toward Zero Waste

September 2014

CITY OF PASADENA
DEPARTMENT OF PUBLIC WORKS

HDR

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EXECUTIVE SUMMARY

What is Zero Waste?

Zero Waste is a philosophy and design framework that promotes not only reuse, recycling, and conservation programs, but also, and more importantly, emphasizes sustainability by considering the entire life-cycle of products, processes, and systems. In this Zero Waste Strategic Plan (Zero Waste Plan), we will use the term "Zero Waste" to mean both reducing waste at the source and maximizing diversion from landfills, with the overall goal of striving for Zero Waste.

Zero Waste is not necessarily 100 percent recycling but it shifts the focus to waste reduction, product redesign and elimination of wasteful practices. It is a framework for reducing generation of waste and maximizing diversion, not a strict tonnage goal. By implementing the proposed policies and programs, Pasadena will be moving towards Zero Waste, even though there will still be some residual waste that will be disposed. please include prohibiting certain products, such as Polystyrene

Pasadena has already met and exceeded the State of California's ambitious 50 percent diversion goal and achieved 73 percent diversion in 2010. This Zero Waste Plan is anticipated to accomplish a minimum of 87 percent diversion, which sets Pasadena well on the path to Zero Waste. Pasadena is now poised to move beyond "waste management" to envisioning a world without waste.

Celebrating the 2013 Green City Awards

Why Zero Waste?

The City of Pasadena (City) began its journey on the road to Zero Waste in 2005 with the adoption of the United Nations Urban Environmental Accords, which include a goal of Zero Waste by 2040.

In fall 2011, the City began a planning process to identify the policies, programs, and facilities that will be needed to move as close to Zero Waste as possible by 2040. The Zero Waste Plan is the beginning of a long-term systematic effort to:

- Reduce the total amount of disposed materials originating within Pasadena
- Reduce the quantity of disposed materials generated per person within Pasadena
- Increase the quantity of recyclable and compostable materials as these items are diverted from landfills
- Support State and federal efforts to build the environmental and social costs into the price of products and packaging and require manufacturers to take back products at the end of their useful life.

In developing Pasadena's Zero Waste Plan, consideration was given to existing programs and the feasibility of undertaking additional initiatives. Community involvement was integral throughout the planning process.

Who is involved in the Development of this plan?

The plan was prepared by the City of Pasadena Department of Public Works with input from businesses, schools and community members, all included as stakeholders in the planning process. These stakeholders participated in the Zero Waste workshops that were held on February 2, May 24 and August 22, 2012. Details on the public participation process are included in Appendix E.

could the website "earth911.com" be included on the City's website?

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Number: 1 Author: Administrator Subject: Sticky Note Date: 9/25/2014 11:17:14 AM

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or banning certain products, such as polystyrene food and beverage containers (PFFC)

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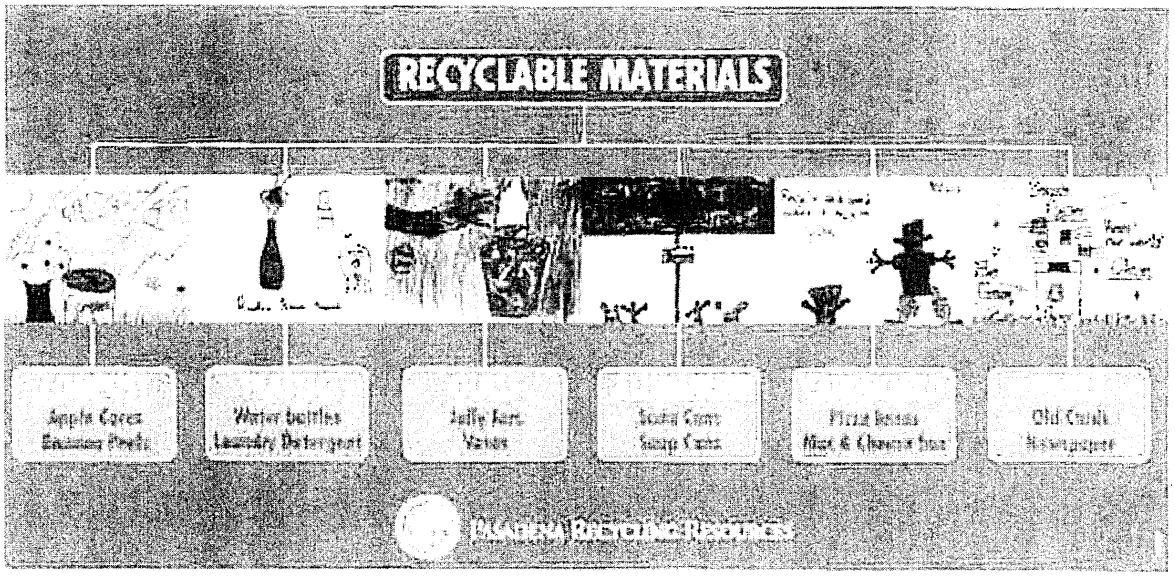
This plan describes the policies, programs and infrastructure that could be developed to achieve the City's goal of Zero Waste. To understand the effectiveness of the Zero Waste policies and programs identified through the Zero Waste planning process, the City refined and estimated the diversion potential of 19 Zero Waste initiatives which address each of the generator sectors in Pasadena:

- **Single-family residential** – single-family homes and multiplex residences up to four units
- **Commercial and multifamily** – businesses and institutions with cart service or bin service and multifamily complexes with five units or more
- **Other** – Pasadena residents or businesses (including landscapers and construction companies) hauling materials to a landfill or transfer station in their own vehicles

Table ES-1 lists the initiatives developed during the planning process.

Recommended Initiatives

Recommended Zero Waste Programs Initiatives
1. Adopt Zero Waste Plan/resolution
2. Implement product & disposal bans (e.g., polystyrene food packaging) [2] good that this is #2!
3. Enhance educational outreach
4. Promote junk mail blocking & catalog & phone book opt-out
5. Expand product stewardship efforts & extended producer responsibility (EPR) policies
6. Enhance enforcement of anti-scavenging ordinance
7. Foster development of local & regional infrastructure for processing food scraps & other organics & compostables
8. Provide business technical assistance
9. Expand school programs
10. Implement diversion programs for food scraps & other organics & compostables
11. Review Pay-As-You-Throw (PAYT) fee structure
12. Expand commercial & multifamily recycling
13. Optimize construction & demolition (C&D) waste diversion
14. Optimize waste diversion at City facilities
15. Implement diversion of food scraps & other organic & compostable materials at stadiums & other large events
16. Develop Zero Waste business partnership program
17. Expand recycling in public areas
18. Optimize self-haul reporting & waste diversion
19. Foster development of local & regional infrastructure for processing residual mixed waste (i.e., no market materials)



Recycling Tree created by Pasadena Unified School District students

One destination for Pasadena's waste is disposal in a landfill. Waste can also be redirected or 'diverted' from the landfill through activities such as recycling, beneficial reuse and composting. Please include product bans, such as for PFFBC

"Generation" is the sum of tons disposed plus tons diverted and it is used to determine the diversion rate. "Diversion Rate" is the percent of waste diverted from the landfill.

Generation = Disposal + Diversion

Diversion Rate = (Generation – Disposal)/Generation x 100%

For 2010, the State estimated that Pasadena generated as a whole 584,840 tons of waste. Of this total, 152,881 tons were disposed in a landfill and 431,959 tons were diverted, yielding a diversion rate of just over 73 percent for Pasadena.

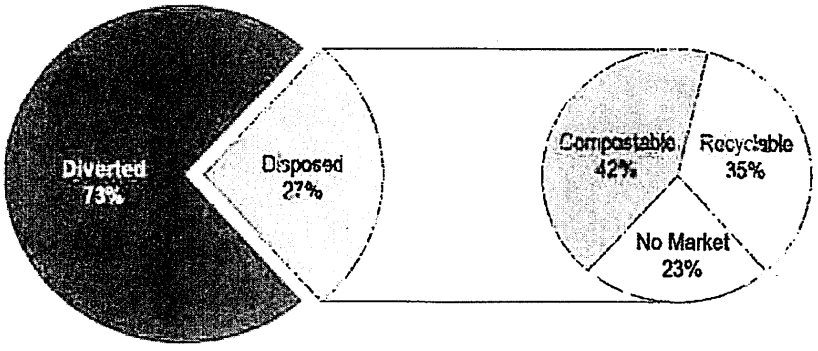
A portion of Pasadena's diverted material consisting of green waste, such as tree trimmings, grass clippings and other landscaping materials, is used as alternative daily cover (ADC) at Scholl Canyon landfill. However, based on legislative trends, diversion credit for ADC is likely to be discontinued. The City's diversion rate would be reduced by approximately 3 percent (or daily per capita disposal would be increased by 0.65 pounds per person per day) if this material is not diverted by other means such as composting. It is therefore in Pasadena's best interest to develop alternatives for diverting food scraps and other organic and compostable materials.

To plan for Zero Waste, we first need to understand what we throw away. **Exhibit ES-1** shows the composition of Pasadena's disposed materials based on the results of the 2008 Statewide Waste Characterization Study conducted by CalRecycle. Currently, 77 percent of what is disposed could be recycled or composted and the remaining 23 percent are "no market" materials that cannot be recycled or composted.

Recyclable materials include: paper, plastics, metals, glass, and construction and demolition materials. Compostable materials include: food scraps, yard trimmings, and compostable paper. No market materials (those that cannot be recycled) include treated wood, composite materials (things stuck to other things) and diapers.

Please include PFFBCs among products that cannot easily be recycled as less than 1% of PFFBC will be recycled

Waste Management Trends and Material Recovery Potential



Total Material Generated
(Diverted and Disposed)

Composition of Materials
Disposed in the Landfills

Source: CalRecycle 2008 Statewide Waste Characterization Study

Diversion estimates were prepared to identify the waste disposal reduction potential of each recommended policy and program. The diversion projections are based on comparable policies and programs implemented in other jurisdictions, research, and educated estimates. **Table ES-2** summarizes the diversion potential by sector for the proposed Zero Waste policies and initiatives. Based on this analysis, it is estimated that Pasadena can achieve over 87 percent diversion, a very high rate of diversion, by implementing the Zero Waste Plan.

Existing Generation and Potential Diversion

Zero Waste Plan Projected Diversion by Sector	
Sector	Projected Diversion %
Single-family Residential	3.4%
Multifamily Residential	0.4%
Commercial	6.6%
Other	3.7%
City's 2010 estimated diversion	73 %
Total Projected Diversion with Zero Waste Initiatives	**87.1%**

In developing the program implementation schedule, the City grouped initiatives into short-term, medium-term and long-term categories. Factors considered in categorizing the initiatives were available resources and technology, performance of current programs and existing infrastructure. Short-term was defined as being from the present to 2017, medium-term as 2017 to 2020, and long-term as 2020 to 2040. The Zero Waste Strategic Plan implementation schedule is shown in **Table ES-3**.

Many of the policies and programs recommended in this plan can be implemented by the City without increasing resources.

Zero Waste Strategic Plan Implementation Schedule

Term	Initiative
	Adopt Zero Waste Plan/resolution
	Implement product & disposal bans (e.g., polystyrene food packaging) 2015
	Enhance educational outreach
	Promote junk mail blocking, catalog & phone book opt-out
	Expand product stewardship efforts & EPR policies
	Enhance enforcement of anti-scavenging ordinance
	Foster infrastructure development for processing food scraps & other organics & compostables
	Provide business technical assistance
	Expand school programs
	Implement diversion programs for food scraps & other organics & compostables
	Review Pay-As-You-Throw fee structure
	Expand commercial & multifamily recycling
	Optimize C&D waste diversion
	Optimize waste diversion at City facilities
	Implement composting programs at stadiums & other large events
	Develop Zero Waste business partnership program
	Expand recycling in public areas
	Self-haul reporting & waste diversion
	Foster infrastructure development for processing residual mixed waste (i.e., no market materials)

However, additional resources may be needed to fully implement initiatives such as compostable materials collection and processing. The majority of the planned initiatives will be funded through Public Works' approved annual budget. Any unbudgeted costs will be presented to City Council for approval.

Many cities across the country are adopting Zero Waste Plans to optimize resources and meet ever higher waste diversion goals. In considering Pasadena's Zero Waste Plan, it is helpful to look at other California cities to gain perspective. Plans vary depending on the initiatives selected, infrastructure available, waste processing opportunities and levels of service provided. Highlights of Zero Waste Plans are shown for the Cities of

Alameda, Los Angeles, Pasadena and Santa Monica in **Table ES-4.** Based on this comparison, Pasadena's Zero Waste Plan initiatives are very similar to those of other cities.

Comparison to Other California Cities

City	Baseline Diversion Rate	Zero Waste Diversion Goal	Key Initiatives of Zero Waste Plan	
Alameda	67%	89%	• Process mixed waste prior to landfilling (i.e., dirty MRFing) • Add materials to recycling & green carts, both residential & commercial • Provide commercial technical assistance • Advocate for producer responsibility	• Increase take back programs with local retailers • Increase C&D Ordinance requirements • Develop social marketing campaign targeting all generator sectors
Los Angeles	76%	90%	• Implement Pay-As-You-Throw • Implement bulky item reuse • Process compostables • Develop social marketing campaign targeting all generator sectors • Provide recycling in public areas • Increase C&D Ordinance requirements	• Develop recycling markets • Implement environmental purchasing policy • Implement LAUSD Zero Waste Curriculum • Advocate for producer responsibility • Implement multifamily recycling rollout
Pasadena	73%	87%	• Collect & process residential & commercial food scraps, organics & other compostable materials • Implement product & disposal bans (e.g., polystyrene food packaging) • Advocate for producer responsibility • Enhance waste reduction programs	• Increase C&D Ordinance requirements • Enhance education & outreach • Provide recycling in public areas • Provide commercial technical assistance • Expand mandatory commercial recycling
Santa Monica	77%	95%	• Collect residential & commercial food scraps • Foster behavior change • Switch to bi-weekly refuse collection	• Start wet/dry collection • Process residual wastes • Expand mandatory commercial recycling

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City of Alameda - Enacted January 2008

- Prohibits vendors from providing disposable food service ware made of EPS and requires disposable food service ware to be biodegradable or compostable.
- All City facilities are prohibited from using polystyrene foam disposable food service ware and all city departments and agencies will not purchase or acquire polystyrene foam disposable food service ware for use at city facilities.
- Food vendors are strongly encouraged to provide reusable food service ware in place of disposable food service ware. In instances where food vendors decide to use a biodegradable or compostable disposable food service ware product to hat is not affordable, a food vendor may charge a "take out fee" to customers to cover to he cost difference (enforced on July 1, 2008).

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City of Los Angeles, CA - Adopted July 22, 2008,

- EPS ban at all city facilities and ban on plastic carryout bags.

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City of Santa Monica - Adopted February 2007

- Prohibits food providers from dispensing prepared food to customers made from non-recyclable plastic and expanded polystyrene (EPS).
- Prohibits all City facilities, City-managed concessions, and City sponsored and permitted events from non-recyclable plastic and EPS food service containers.
- Penalty: first violation = written warning; second violation = $100 fine; to third and subsequent violations = $250 fine; fines are cumulative and each day to hat a violation occurs shall constitute a separate violation.

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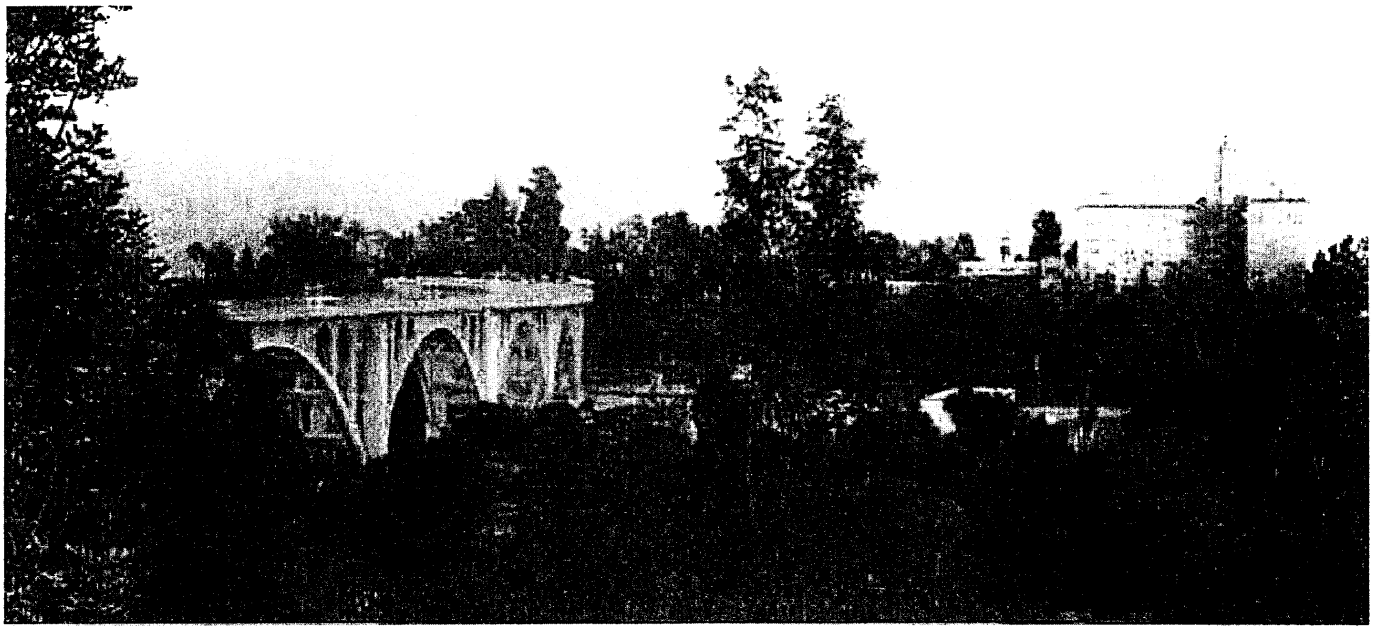
please indicate time period

Pasadena began the transition from a consuming to a conserving society when the Integrated Waste Management Act (Assembly Bill 939) passed in 1989. From the initial blue box curbside recycling pilot through implementation of a fully automated Pay-As-You-Throw variable rate system, Pasadena's diversion rate has increased from 37 percent to 73 percent in FY2010. Partnering with the City are the franchise haulers who divert 60 percent of mixed waste and 75 percent of Construction and Demolition Materials from the landfill. Although Pasadena diverted 73 percent of materials from landfills in fiscal year 2010, further diversion is possible. Based on a waste characterization study conducted by CalRecycle in 2008, nearly 77 percent of Pasadena's disposed materials are reusable, recyclable or compostable. To move beyond the current level of diversion toward the goal of Zero Waste, a plan and implementation schedule is needed. This is no small task. The City and its partners will need to increase diversion through existing programs and develop new, more aggressive programs.

The City conducted workshops and solicited input from stakeholders throughout Pasadena and among different generator sectors to elicit feedback on the interests and preferences of the community to implement Zero Waste programs and policies. Based on this feedback, the City has developed a 26-year program which is expected to increase Pasadena's diversion rate to a minimum of 87 percent by 2040.

The Zero Waste Plan is a working document. It represents what the Department of Public Works believes to be the best initiatives at this point in time to achieve maximum diversion. In developing this plan, careful consideration was given to the potential effectiveness, feasibility and level of community support for each initiative proposed. In order for this to be the best possible plan for Pasadena to approach Zero Waste, it will be necessary to review and update this plan as new technologies, opportunities, and challenges arise. City staff will review and update the plan every three years.



View of the Colorado Street Bridge

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shouid "do the right thing" be a consideration?

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ZERO WASTE STRATEGIC PLAN

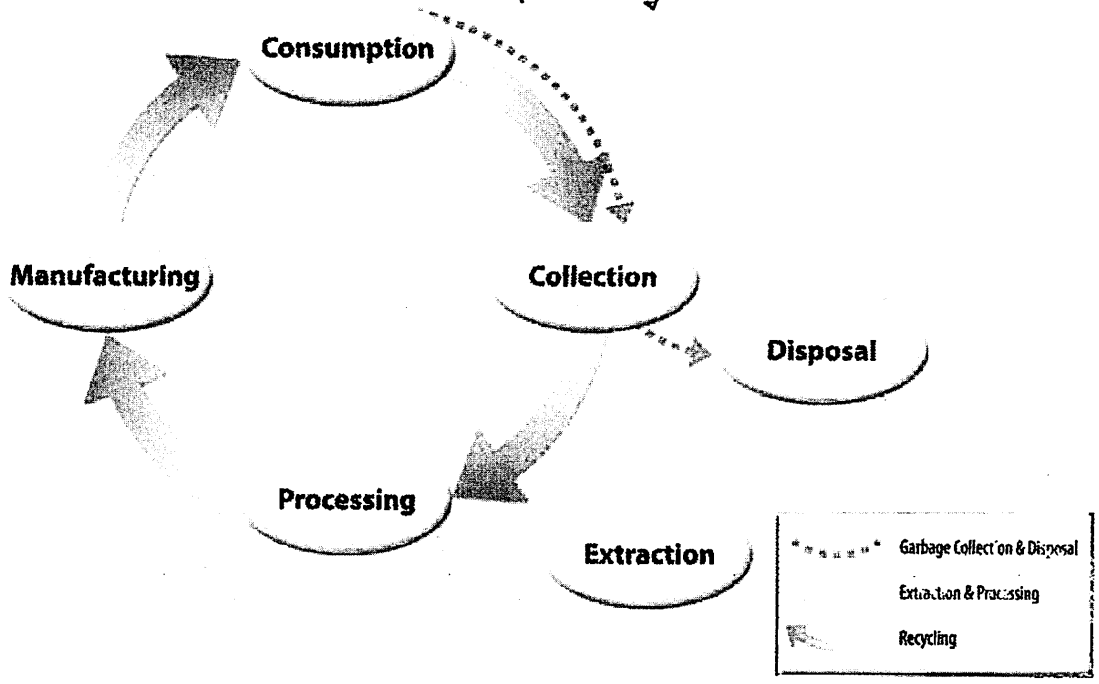
Pasadena is part of a worldwide movement which began in the mid-1990s as communities recognized that "waste" was not inevitable. The City is a Green City leader and has made an effort to reduce its carbon footprint and help conserve natural resources by implementing programs and policies, offering educational outreach, and committing to environmental initiatives such as the United Nations Urban Environmental Accords. The Zero Waste Strategic Plan (Zero Waste Plan) is intended to supplement these efforts by further minimizing disposal and increasing diversion as much as possible.

As defined by the Grassroots Recycling Network[1], Zero Waste is a design principle that goes beyond recycling and focuses first on reducing waste, reusing and recycling products, and then composting the rest. Zero Waste promotes not only reuse, recycling, and conservation programs, but also, and more importantly, emphasizes sustainability by considering the entire life-cycle of products, processes, and systems. As illustrated in **Exhibit 1**, Zero Waste systems strive to eliminate waste by reducing consumption and getting products and packaging redesigned for reuse and repair, and then recycled back into the marketplace or composted back into soil.

The Zero Waste International Alliance has developed a peer-reviewed, internationally accepted definition of Zero Waste[2]: Zero Waste is a goal that is both pragmatic and visionary, to guide people to emulate sustainable natural cycles, where all discarded materials are resources for others to use. Zero Waste means designing and managing products and processes to reduce the volume and toxicity of waste and materials, conserve and recover all resources, and not burn or bury them. Implementing Zero Waste will eliminate all discharges to land, water, or air that may be a threat to planetary, human, animal or plant health.

In Exhibit 1, please clarify meaning of first sentence

The Zero Waste Loop



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One way to reduce waste is not allowing it to enter into the waste stream in the first place, such as a PFFBC ban.

In this plan, we will use the term "Zero Waste" to mean both reducing waste at the source and maximizing diversion from landfills, with the overall goal of striving for Zero Waste.

The Zero Waste Plan is the culmination of a planning process that began in 2005, when the City became a signatory to the United Nations Urban Environmental Accords and continued with the development and adoption of the Green City Action Plan in 2006. As part of its Green City Action Plan, the City has established the following solid waste targets:

- Increase waste diversion to 75 percent by 2015
- Move as close to Zero Waste as possible by 2040

The Zero Waste Plan is designed to help Pasadena reduce waste, increase diversion, and build a greener and more sustainable local economy. The plan will serve as a broad environmental and policy framework and will guide the future development of the City's Zero Waste policies, programs, and infrastructure. The Zero Waste Plan is anticipated to accomplish a minimum of 87 percent diversion, which sets Pasadena well on the path toward Zero Waste. Pasadena has already met and exceeded the State of California's ambitious 50 percent recycling goal and achieved 73 percent diversion in 2010 based on calculations provided by the California Department of Resources Recycling and Recovery (CalRecycle), which is in step with the statewide goal of achieving 75 percent waste diversion by 2020 as set in Assembly Bill 341.

The Zero Waste Planning process included the following tasks:

- Evaluating Pasadena's needs
- Conducting a waste characterization study of the types and quantities of disposed materials generated in Pasadena
- Developing guiding principles for the plan
- Incorporating stakeholder participation in the decision-making process
- Identifying policy, program, and infrastructure initiatives to address Pasadena's needs
- Evaluating and selecting initiatives to meet the City's Zero Waste goals and objectives
- Developing and adopting a Zero Waste Plan

The year 2010 is used as the baseline year for the Zero Waste Plan. Most of the data developed for the plan uses information from fiscal year 2010 (July 1, 2009 to June 30, 2010).

The City of Pasadena's Zero Waste Plan is based on six guiding principles that provide a framework for the policies, programs and actions identified for implementation in the plan. These Zero Waste Guiding Principles are consistent with the goals of the City's Green City Action Plan and the City's Environmental Charter:

1. Develop sustainable policies and programs that are equitable, environmentally responsible, and economically sound
2. Maintain Pasadena's position as a leader in innovation and a role model in resource management
3. Pursue "upstream" strategies that prevent and reduce waste and encourage the transition from a consuming to a conserving society
4. Improve "downstream" reuse and recycling programs to ensure the highest and best use of end-of-life products and materials
5. Lead by example at all City operations and City-sponsored events and activities
6. Increase the diversion of compostable materials and promote development of local infrastructure

To develop the Zero Waste Plan, it is important to understand the demographic makeup of Pasadena. Information on population, age distribution, housing, and employment are important for identifying the types of policies and programs that best meet the needs of Pasadena, its residents, institutions, and businesses.

Pasadena stretches across 23 square miles and is one of the ten largest cities in Los Angeles County. In 2010, the population of Pasadena was 137,122. **Exhibit 2** shows the historical growth in

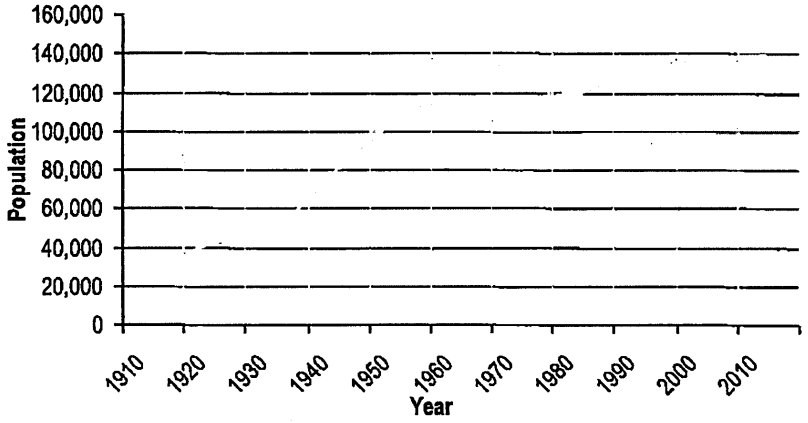
population. From 2000 to 2010, Pasadena experienced a population increase of 2.4 percent[3].

Exhibit 3 provides a graph of the age distribution of Pasadenans in 2010; the median age was 37 years old. In 2010, there were 59,551 housing units within Pasadena; 49 percent were multifamily units. Currently, there are approximately 15,000 businesses in Pasadena. Restaurants, medical/health facilities, and other professional businesses are some of the largest employers. The age distribution, housing and business data offers information the City can use to help tailor outreach to targeted groups of people.

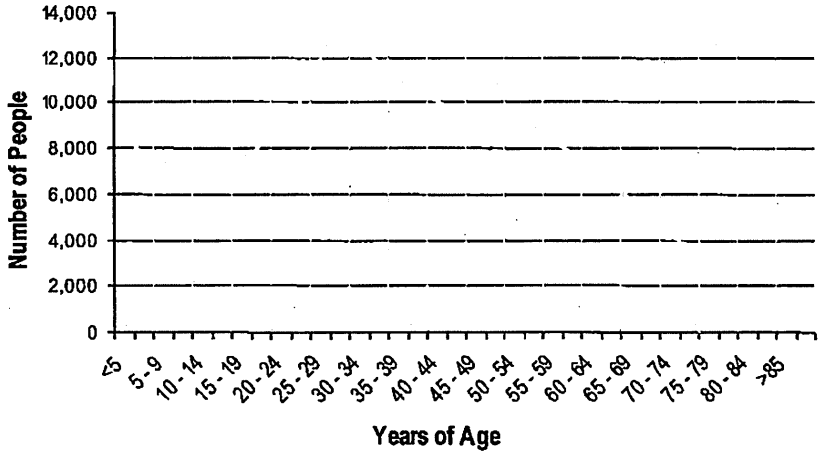
For 2010, the State estimated that Pasadena generated as a whole 584,840 tons of waste. Of this total 152,881 tons were disposed in a landfill and 431,959 tons were diverted, yielding a diversion rate of 73 percent for Pasadena.

The City tracks waste data for City-controlled programs, which include all curbside services as well as the franchise hauler

Population Growth 1910-2010



Age Distribution of Population in 2010

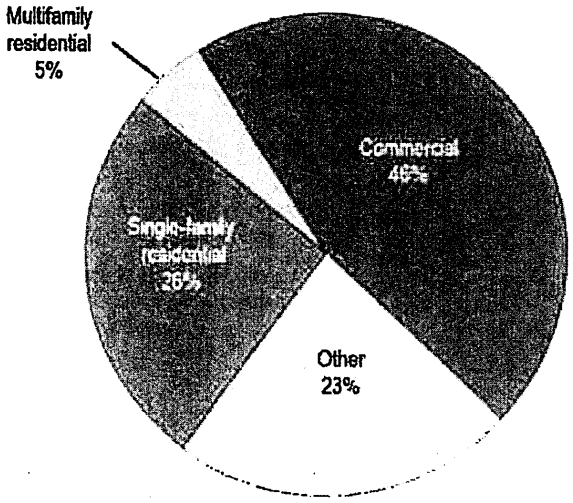


system. In fiscal year 2010, City controlled waste accounted for over 255,000 tons of materials that were either diverted or disposed. Nearly 153,000 tons were disposed in landfills, more than 8,000 were treated at waste-to-energy facilities, and over 94,000 tons were diverted from disposal through waste prevention, recycling, and composting.

Approximately 60,000 tons of materials were disposed by "self-haulers," including residents and businesses who haul their materials directly to landfills or transfer stations. The amount of materials disposed by self-haulers makes up almost 25 percent of the materials that are attributed to Pasadena, which is greater than expected for an urban city. This may be due to self-haulers from adjacent unincorporated areas incorrectly reporting their loads as being from "Pasadena" and inaccurate record keeping by scale house employees[4]. **Exhibit 4** shows the percentage of materials generated by Pasadena's single-family residential, commercial and multifamily, and other/self-haulers sectors.

Single-family homes and multiplex residences up to four units comprise 60 percent of all households (30,310 housing units) in Pasadena and multifamily complexes with five units or more comprise 40 percent of all households (23,863 housing units)[5]. However, the multifamily residential sector generates only five percent of the total amount of discarded materials in Pasadena. Although this is consistent with both statewide and national data, this chart likely underestimates the multifamily waste generation in Pasadena. The franchise haulers report waste collected from multifamily/retail mixed use properties as commercial tonnage. This tonnage, however, includes waste from approximately 4,000 multifamily units, which represents 16.8 percent of the multifamily units. Also, this chart likely overestimates the waste generated in the Other sector due to inaccurate reporting of waste originating from Pasadena at the Scholl Canyon Landfill. The disproportionally large Other sector throws all the relative percentages off somewhat.

Materials Generated in Pasadena by sector in Fiscal Year 2010



Single-family residential *– single-family homes and multiplex residences up to four units*

Multifamily residential *– multifamily complexes with five units or more*

Commercial *– businesses and institutions with cart service or bin service. Includes multifamily/retail mixed use properties.*

Other *– residents or businesses (including landscapers and construction companies) from Pasadena that bring materials to a landfill or transfer station in their own vehicles*

Table 1 provides a summary of the data including tons disposed, diverted (recycled, composted, etc.), and transformed (processed at a waste-to-energy facility). In order to calculate the total materials managed through programs operated by the City in fiscal year 2010, the project team obtained hauler tonnage data for residential and commercial mixed waste, recyclables, and yard trimmings. The City documents municipally collected tonnage by day and by route type (recycling, yard trimmings, residential mixed waste, and commercial mixed waste). The City collects tonnage data from the non-exclusive haulers and enters this data into a database by sector and material type. The data was then segregated by the residential, multifamily, and commercial sectors for fiscal year 2010. The segregation of the municipal data was determined by descriptions provided by the City. The self-haul tonnage was estimated by gathering disposal data from CalRecycle's Disposal Reporting System and the landfill tonnage reports from the Counties of Los Angeles, Orange and Riverside, and subtracting the municipal and non-exclusive hauler tonnage provided by the City.

Table 2 and Table 3 summarize, respectively, the disposal and diversion tonnages of the materials collected by the City and by the non-exclusive haulers (including commercial and multifamily residential service provided by the City). These tables do not include diversion activities conducted by residents and businesses that fall outside of the collections performed by the City and the franchised haulers. These diversion activities include source reduction, backyard composting, and other waste prevention or recycling activities that contribute to the City's overall 2010 estimated diversion rate of 73 percent.

Tons of Materials Generated in Pasadena (Fiscal Year 2010)

Sector	Disposal	Diversion	Transformation	Total[1]
[illegible][2]	28,273	37,163	239	65,675
[illegible][2]	5,595	6,372	967	12,934
[illegible][2]	59,069	50,410	6,985	116,464
[illegible][3]	59,945	-	-	59,945
TOTAL GENERATED WASTE	**152,882**	**93,945**	**8,191**	**255,018**

Note: Totals may not add up due to rounding.

[1]Table 1 does not include diversion activities conducted by residents and businesses that fall outside of the collections performed by the City and the franchised haulers. These diversion activities include source reduction, backyard composting, and other waste prevention or recycling activities that contribute to Pasadena's overall 2010 estimated diversion rate of 73 percent.

Sources:

[2]City of Pasadena Collection Reports and Non-exclusive Franchised Hauler Reports, Fiscal Year 2010

[3]CalRecycle Disposal Reporting System, 2010-2011

Materials Collected by the City (Fiscal Year 2010)

Material	Total Disposal (Tons)	Total Diversion (Tons)	Total (Tons)
RESIDENTIAL TOTAL	**27,138**	**28,088**	**55,226**
[illegible]	0	8,348	8,348
[illegible]	25,747	0	25,747
[illegible]	9,011	0	
[illegible]	10,814	0	
[illegible]	5,922	0	
[illegible]	6	0	6
[illegible]	110	0	110
[illegible]	1,275	0	1,275
[illegible]	0	19,687	19,687
[illegible]	0	53	53
COMMERCIAL TOTAL	**11,112**	**1,154**	**12,266**
[illegible]	11,112	0	11,112
[illegible]	0	1,154	1,154
TOTAL	**38,250**	**29,242**	**67,492**

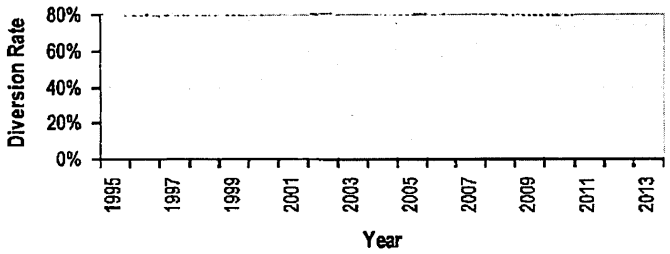
Source: City of Pasadena Collection Reports, Fiscal Year 2010.
Quantities in italics represent components of total mixed waste composition
No Market materials are those that cannot be recycled, such as treated wood, composite materials and diapers.

Materials Collected by Non-Exclusive Haulers (Fiscal Year 2010)

Sector	Total Disposal (Tons)	Total Diversion (Tons)	Total (Tons)
RESIDENTIAL – SINGLE-FAMILY TOTAL	**1,134**	**9,314**	**10,448**
RESIDENTIAL – MULTI-FAMILY TOTAL	**5,595**	**7,338**	**12,934**
COMMERCIAL TOTAL	**47,957**	**56,241**	**104,199**
[illegible]	32,694	25,151	57,845
[illegible]	0	17,625	17,625
[illegible]	8,197	4,771	12,968
[illegible]	1,216	8,692	9,908
[illegible]	5,850	0	5,850
[illegible]	0	2	2
TOTAL	**54,686**	**72,893**	**127,581**

Source: City of Pasadena Non-Exclusive Hauler Reports, Fiscal Year 2010.
Note that some single-family materials are collected by franchised haulers from construction & demolition projects.

Pasadena 1995 – 2010 Diversion Rate



Pasadena's diversion rate for fiscal year 2010 was 73 percent[6]. **Exhibit 5** shows the City's historic diversion rates from 1995-2010, based on the data available from CalRecycle. The slight decline in the diversion rate from 2009 to 2010 may be indicative of the economic challenges experienced throughout the State.

Pasadena's per capita disposal rate, which is used as another indicator to determine a jurisdiction's diversion accomplishments, was 5.8 pounds per person per day (PPD) in 2010. Compared to Pasadena's per capita disposal target of 10.9 PPD, the City easily surpassed the targeted disposal rate. The targeted per capita disposal rate is based on a 50 percent diversion rate requirement that was calculated from waste generation and population data for 2003-2006.

It is important to identify the types of materials disposed in order to identify new diversion opportunities. For this plan, the waste composition percentages contained in the California 2008 Statewide Waste Characterization Study were used to identify the types and quantities of disposed materials[7]. The specific data used for Pasadena was taken from the "Overall Disposed Waste Composition: Southern Region."

The overall waste characterization for Pasadena is indicated in **Table 4**. Recyclable materials are highlighted in blue, compostable materials are highlighted in green, and materials that cannot currently be recycled or composted are in white/no color cells.

Exhibit 6 shows the composition of Pasadena's disposed materials and the following key findings regarding disposal trends and recovery potential can be made:

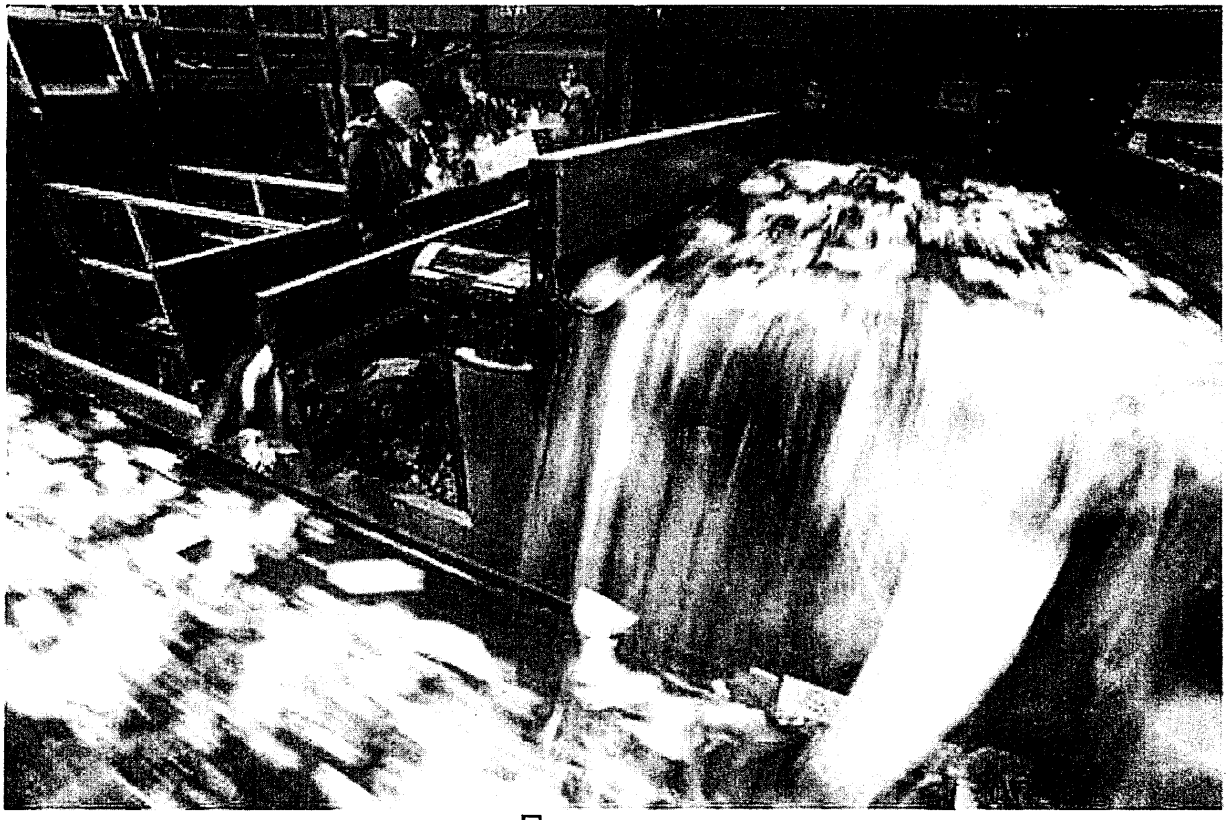
- Approximately 77 percent of disposed materials could be diverted from the landfill
  - Approximately 42 percent of this material is compostable, including food scraps, compostable paper, leaves, grass, wood chips and branches, stumps and trimmings
  - Approximately 35 percent of this material is recyclable, including recyclable paper, plastic, glass, metals, and inert materials such as concrete and asphalt
- The remaining 23 percent of disposed materials are "No Market Materials" for which there is no existing market and which cannot be recycled or composted. The three largest categories of these materials by weight are: painted wood or wood treated with chemicals, diapers, and composite bulky items, such as furniture or equipment

The waste characterization study also profiled Pasadena's disposed materials based on four generator types. Waste characterization data for specific generator types is included in **Appendix A**. The following generator types were characterized:

- **Single-family residential** – single-family homes and multiplex residences up to four units (30,310 housing units)
- **Multifamily residential** – multifamily complexes with five units or more (23,863 housing units)
- **Commercial** – businesses and institutions with cart service or bin service (includes 4,000 multifamily units in residential/retail mixed use properties)
- **Other** – residents or businesses (including landscapers and construction companies) from Pasadena that bring materials to a landfill or transfer station in their own vehicles[8]

Exhibit 7 and **Exhibit 8** detail the materials disposed for each sector and recovery potential, by tons and percentages, respectively. The percentages displayed in **Exhibit 8** indicate that 81-83 percent of the single-family and multifamily disposed materials are recyclable or compostable, 80 percent of the commercial disposed materials are recyclable or compostable, and 72 percent of the self-haul disposed materials are recyclable or compostable. Based on this understanding, the City can develop targeted programs for each generator sector.

A Pasadena neighborhood



Paper sort line at a Material Recovery Facility

Overall Disposal Composition

CATEGORY	TYPE	TONS	PERCENT
Paper		**21,300**	**14%**
	Uncoated Corrugated Cardboard	6,207	4%
	Paper Bags	460	0%
	Newspaper	1,596	1%
	White Ledger Paper	901	1%
	Other Office Paper	1,403	1%
	Magazines and Catalogs	802	1%
	Phone Books and Directories	57	0%
	Other Miscellaneous Paper	3,479	2%
	Remainder/Composite Paper	6,395	4%
Glass		**1,699**	**1%**
	Clear Glass Bottles and Containers	566	0%
	Green Glass Bottles and Containers	225	0%
	Brown Glass Bottles and Containers	313	0%
	Other Glass Colored Bottles and Containers	108	0%
	Flat Glass	149	0%
	Remainder/Composite Glass	338	0%
Metals		**6,410**	**4%**
	Tin/Steel Cans	696	0%
	Major Appliances	76	0%
	Used Oil Filters	17	0%
	Other Ferrous	2,814	2%
	Aluminum Cans	138	0%
	Other Non-Ferrous	326	0%
	Remainder/Composite Metal	2,344	2%
Electronics		**361**	**0%**
	Brown Goods	99	0%
	Computer-related Electronics	219	0%
	Other Small Consumer Electronics	42	0%
	Video Display Devices	-	0%
Plastics		**12,793**	**8%**
	PETE Containers	612	0%
	HDPE Containers	445	0%
	Miscellaneous Plastic Containers	493	0%
	Plastic Trash Bags	1,192	1%
	Plastic Grocery and Other Merchandise Bags	385	0%
	Non-Bag commercial and Industrial Packaging Film	652	0%
	Film Products	865	1%
	Other Film	1,506	1%
	Durable Plastic Items	3,260	2%
	Remainder/Composite Plastic	3,384	2%
Other		**40,513**	**26%**
	Food	17,372	11%
	Leaves and Grass	4,257	3%
	Prunings and Trimmings	**4,686**	**3%**
	Branches and Stumps	1,561	1%
	Manures	21	0%
	Textiles	2,234	1%

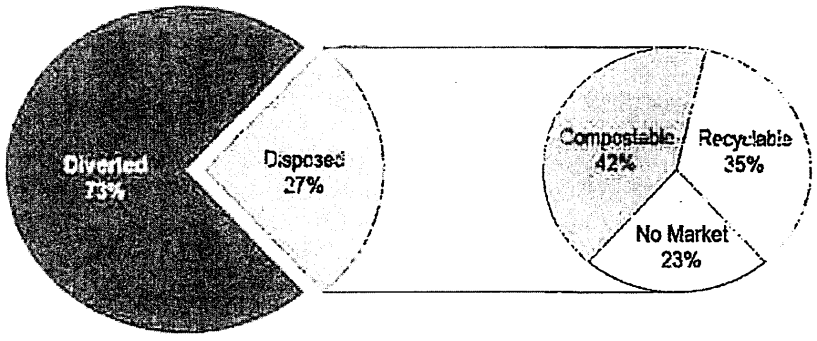
Overall Disposal Composition

CATEGORY	TYPE	TONS	PERCENT
	Carpets	5,800	4%
	Remainder/Composite Compostables	4,582	3%
		59,472	**39%**
	Concrete	2,420	2%
	Asphalt Paving	1,312	1%
	Asphalt Roofing	4,986	3%
	Lumber	28,036	18%
	Gypsum Board	3,568	2%
	Rock, Soil and Fines	8,355	5%
	Remainder/Composite Inert and Other Materials	10,797	7%
		332	**0%**
	Paint	183	0%
	Vehicle and Equipment Fluids	16	0%
	Used Oil	23	0%
	Batteries	35	0%
	Remainder/composite Household	76	0%
		1,059	**1%**
	Mixed Residue	1,059	1%
		152,881	**100%**

☐ **Blue** = recyclable material
☐ **Green** = compostable material
☐ **White/no color** = no market material

**Due to rounding the percentages may not total 100 percent*

Waste Management Trends and Material Recovery Potential

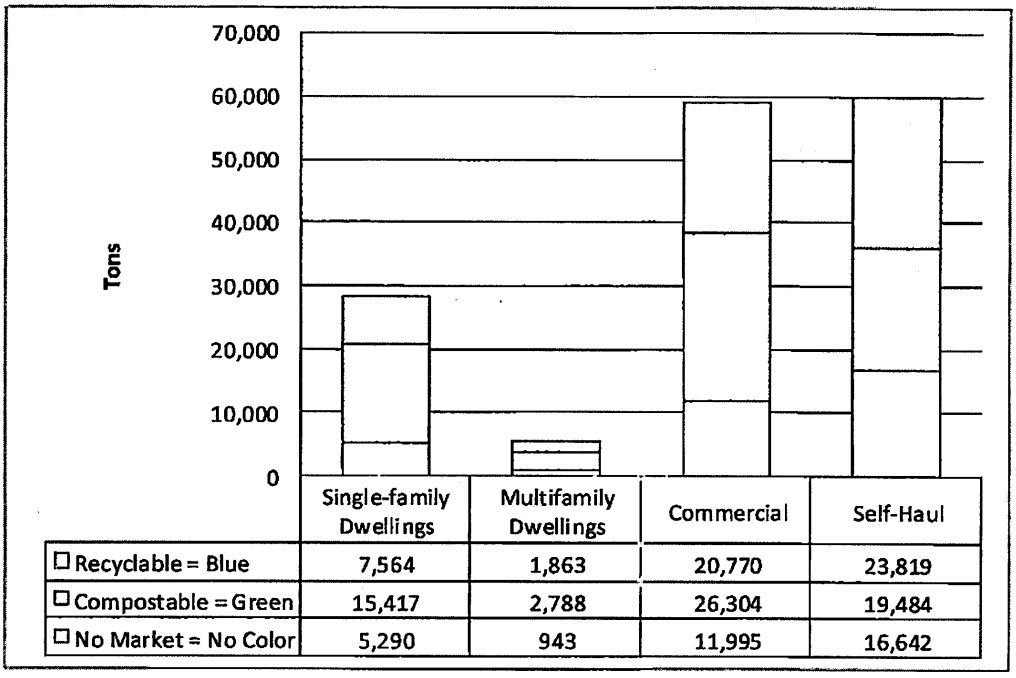


Total Material Generated
(Diverted and Disposed)

Composition of Materials
Disposed in the Landfills

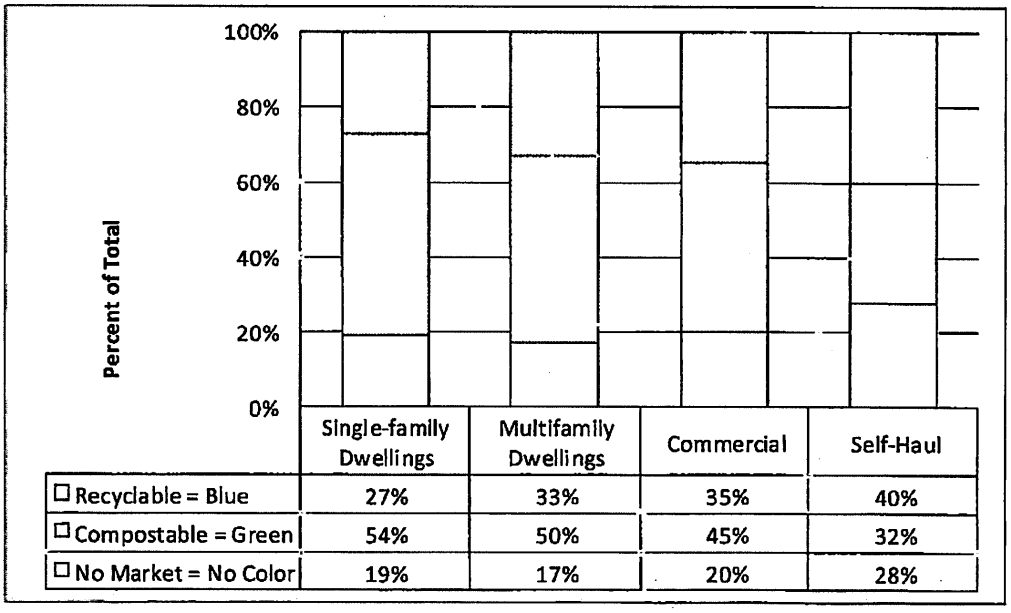
Source: CalRecycle 2008 Statewide Waste Characterization Study

Materials Recovery Potential by Sector (tons)



	Single-family Dwellings	Multifamily Dwellings	Commercial	Self-Haul
Recyclable = Blue	7,564	1,863	20,770	23,819
Compostable = Green	15,417	2,788	26,304	19,484
No Market = No Color	5,290	943	11,995	16,642

Materials Recovery Potential by Sector (percent)



	Single-family Dwellings	Multifamily Dwellings	Commercial	Self-Haul
Recyclable = Blue	27%	33%	35%	40%
Compostable = Green	54%	50%	45%	32%
No Market = No Color	19%	17%	20%	28%

Source: CalRecycle 2008 Statewide Waste Characterization Study;
City of Pasadena Non-exclusive Franchised Hauler Reports; City of Pasadena Collection Reports Fiscal Year 2010

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Number: 1 Author: Administrator Subject: Sticky Note Date: 9/25/2014 2:42:51 PM

FYI- I called (9/25/14) the Puente Hills LACounty MRF and asked: "Do you recycle styrofoam cups and plates? The answer was: "No. We don't recycle that stuff."
I also called the MRF Allan Company in Baldwin Park, where Pasadena's hauls their "recyclables." I asked: "Do you recycle "styrofoam cups and plates"?
I was told" "No. We do not."

Number: 2 Author: Administrator Subject: Highlight Date: 9/25/2014 2:40:29 PM

Number: 3 Author: Administrator Subject: Highlight Date: 9/25/2014 12:33:57 PM

A series of stakeholder workshops were held during the initial project planning period to introduce the Zero Waste concept to the community and to gather input from residents and businesses on the plan's process and development. The workshops included a presentation from City staff and consultants (project team) and breakout sessions where community members were provided the opportunity to share their input about existing City policies and programs and suggestions for the Zero Waste Plan. The input from the workshops was incorporated into the key policy, program, and infrastructure needs that are discussed in this plan. Details on the stakeholder workshops are included in **Appendix E.**

During the Zero Waste planning process, the City developed a number of initiatives for reducing waste generation and increasing recycling and composting. The initiatives incorporate stakeholder suggestions and address opportunities for both the residential and commercial sectors. The following pages outline the description, objective, approach and timeframe for each of these initiatives. For purposes of this plan, the short-term is considered to be the present to 2017, the medium-term is years 2017-2020, and the long-term is years 2020-2040. Although research and preparatory work will begin immediately for many of the initiatives, timeframes reflect the intervals during which active program development and implementation are anticipated. Most initiatives will be ongoing after they are fully implemented. The City will review and update the Zero Waste plan every three years. The next steps for the first three year period are detailed for each initiative.

1. **Adopt a Zero Waste Plan and Resolution**

   Objective: Adopt a Zero Waste Plan and resolution that establishes the City's commitment to achieving Zero Waste by 2040

   Approach: The City will prepare a Zero Waste Plan and resolution for presentation to the City Council for consideration. The plan will outline the City's goals and objectives for achieving Zero Waste and will align with current City policies, including but not limited to the Pasadena Municipal Code, the California Green Building Standards Code, the United Nations Urban Environmental Accords and Green Cities Declaration, the Green City Action Plan, the U.S. Conference of Mayors' Climate Protection Agreement, the Green Cities California Sustainability Resolution, the Extended Producer Responsibility Resolution and the Pasadena Plastic Bag Ban Ordinance. The Zero Waste resolution would set the City's intentions for achieving Zero Waste by 2040 and its commitment to implementing the Zero Waste Plan.

   Next Steps:

   - Adopt Zero Waste Strategic Plan and Zero Waste Resolution

   Timeframe: 2014

2. **Implement product and disposal bans (e.g., polystyrene food packaging)**

   Objective: Reduce the disposal of reusable, recyclable, organic and other compostable materials at landfills

   Approach: The City will support product and disposal bans for environmentally problematic materials by supporting legislation at the State level and implementing local bans and ordinances as appropriate. Building on the success of the local plastic bag ban, an example of another product that should be banned is expanded polystyrene (Styrofoam) take-out food containers and cups. Examples of direct landfill disposal bans include C&D debris, food scraps, and yard trimmings.

Next Steps:

- Research other California cities that have successfully adopted polystyrene food packaging bans
- Research compostable alternatives to polystyrene food containers and insure compatibility with current organics processing systems
- Organize stakeholder meetings with local food vendor representatives, franchise haulers, the Pasadena Public Health Department and other potentially affected parties to collaborate on eliminating the use of polystyrene food packaging and ensuring a smooth transition to compostable packaging replacements
- Compile a list of appropriate compostable packaging options and provide to local restaurants and food service establishments including EAC
- Work with stakeholders to determine specifics of a polystyrene food packaging ban
- Prepare draft polystyrene food packaging ban ordinance for presentation to appropriate City committee(s) and the City Council for consideration
- Upon adoption of the polystyrene food packaging ban ordinance, move forward with implementation, education, technical assistance to businesses and compliance monitoring
- Monitor State legislation regarding product and disposal bans and provide letters of support as appropriate

Timeframe: 2014 – 2017 2015

3. Enhance educational outreach

Objective: Increase community awareness and participation in Zero Waste efforts

Approach: The City has a goal of increasing participation in existing diversion activities and improving marketing to targeted groups. The City will partner with community groups to increase the visibility of the recycling program and use social marketing techniques to reach populations that have not responded to traditional outreach methods. The City will build on its school recycling program to provide outreach and education to the school community as a conduit to the greater community. Generators in the City need to be educated on the connection between waste prevention and recycling to other environmental impacts as well as economic impacts.

Next Steps:

- Inventory existing educational outreach tools and programs and increase the types of outreach methods and frequency of distribution
- Establish a regular schedule for updates, circulation, and announcements
- Review needs/interests of stakeholders, including commercial businesses and restaurant groups
- Develop a Zero Waste marketing plan to increase awareness of the Zero Waste Plan
- Develop an information packet for new customers or residents
- Increase usage of refuse truck signage for messaging and explore utilizing other types of fleet vehicles
- Explore utilizing existing neighborhood newsletters as outlets for publishing information about waste reduction initiatives
- Explore additional outreach opportunities through community events and the City's Neighborhood Connections programs
- Enhance City website and explore increased use of social media
- Increase English/Spanish bilingual outreach materials and explore the need for translation of materials into additional languages
- Utilize resources for outreach and advertising such as the City's Arts buses, Metro buses, bus stops, billboards and other media opportunities

Timeframe: 2014 – 2017

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Number: 1 Author: Administrator Subject: Highlight Date: 9/25/2014 12:56:14 PM

Number: 2 Author: Administrator Subject: Sticky Note Date: 9/25/2014 12:59:45 PM
This work has been done, in large part. Here is the link to the 88 California cities and counties:
http://www.cleanwateraction.org/feature/phase-out-foam-additional-information-foam

Number: 3 Author: Administrator Subject: Highlight Date: 9/25/2014 1:00:10 PM

Number: 4 Author: Administrator Subject: Sticky Note Date: 9/25/2014 1:00:55 PM
Suggest modifying it to
"Research compostable and biodegradable"

Number: 5 Author: Administrator Subject: Highlight Date: 9/25/2014 1:01:11 PM

Number: 6 Author: Administrator Subject: Sticky Note Date: 9/25/2014 1:02:37 PM
Recommend adding "Pasadena's Environmental Advisory Commission and other environmental organizations"
Recommend adding:
"smooth transition to compostable or biodegradable"

Number: 7 Author: Administrator Subject: Sticky Note Date: 9/25/2014 1:03:26 PM
"compostable and biodegradable"

Number: 8 Author: Administrator Subject: Highlight Date: 9/25/2014 1:02:41 PM

Number: 9 Author: Administrator Subject: Sticky Note Date: 9/25/2014 12:51:43 PM

Number: 10 Author: Administrator Subject: Highlight Date: 9/25/2014 12:50:06 PM

4. **Promote junk mail blocking, catalog and phone book opt-out**

Objective: Reduce the generation and disposal of junk mail, catalogs and phone books

Approach: Expand awareness and adoption of methods to prevent the automatic delivery of junk mail, catalogs and phone books by centralizing pertinent information on the City's website and increasing the availability of information on a regular basis. The City currently promotes participation in Catalog Choice, a mail preference service administered by TrustedID© to help residents reduce unwanted junk mail. The City will build on this successful program and provide information about reducing all types of unwanted junk mail through electronic newsletters, newspapers, City websites, and City events.

Next Steps:

- Raise awareness of junk mail opt-out program on City website, City's Twitter messages, and email news blasts
- Promote program through print ads in local newspaper and include in seasonal notifications

Timeframe: 2014 – 2017

5. **Expand product stewardship efforts and extended producer responsibility (EPR) policies**

Objective: Implement policies for producers to take responsibility for the end of life management of products and packaging they generate and/or sell. Educate consumers on alternative purchasing practices that support product stewardship.

Approach: Develop EPR policies within Pasadena that build on the existing EPR resolution adopted by the City. Policies could include mandatory take back for problem products, such as pharmaceuticals, batteries, or fluorescent bulbs. Provide education and outreach to consumers on purchasing practices that support product stewardship. The City can support State and federal efforts to build the environmental and social costs into the price of products and packaging and then require manufacturers to take back products at the end of their useful life. The City can do this by supporting groups such as the California Product Stewardship Council. The mission of the California Product Stewardship Council is to shift California's product waste management system from one focused on government funded and ratepayer financed waste diversion to one that relies on producer responsibility in order to reduce public costs and drive improvements in product design that promote environmental sustainability.

Next Steps:

- Keep City staff, elected officials and the community abreast of product stewardship legislation and support legislation as appropriate
- Compile and publicize a list of all local retailers who are willing to take back items such as dry cleaner hangers, batteries, mattresses, carpet and paint
- Publish this list of retailers in City communications and on the City's website

Timeframe: 2014 – 2017

6. **Enhance enforcement of anti-scavenging ordinance**

Objective: Reduce theft of recyclables from the City's carts and bins, receive full credit for diversion tonnage, and increase the revenue generated from the sale of the recyclables from the City's residential curbside collection program

Approach: The City will commit staff resources to enforce the existing anti-scavenging ordinance. Public Works staff will work with the Pasadena Police Department to identify and cite scavengers. Public Works staff will meet with the Police Department staff to identify strategies for reducing scavenging. These could include: increasing police or code enforcement presence in neighborhoods where scavenging has been significant, conducting public education to raise

refer to comments on Programs 7, 9, and 10 on the following page

awareness and help prevent scavenging, advertising a call-in number for residents who observe scavenging, and training collection truck drivers to identify and report scavenging activities they observe on their routes.

Next Steps:

- Review best practices for preventing scavenging throughout the state and across the country
- Formulate strategies for reducing scavenging
- Develop a scavenging prevention educational campaign targeted to residents
- Increase frequency of periodic, coordinated enforcement sweeps

Timeframe: 2014 – 2017

7. **Foster development of local and regional infrastructure for processing food scraps and other organic and compostable materials**

Objective: Increase the diversion of organic and compostable materials, including yard trimmings and food scraps. Develop regional processing capacity for organics and compostable materials near Pasadena.

Approach: Using information from the waste characterization study on the types and quantities of organics and other compostable materials generated in Pasadena, identify needs and available processing capacity. (Compostable materials must be confirmed in writing as compostable by a certified processing facility.) Consider partnering with neighboring municipalities that are pursuing facilities for compostable materials processing, such as the Cities of Los Angeles and Glendale. Some of the City's commercial haulers, including Athens Services and Crown Disposal Company, operate composting facilities within the region. The City of Glendale is pursuing expansion of compostable materials processing capacity at the Scholl Canyon Landfill. There may be an opportunity for a potential partnership between the Cities of Pasadena and Glendale. The City of Glendale is also evaluating building an anaerobic digestion facility at Scholl Canyon Landfill.

A portion of the material the City of Pasadena is currently diverting consists of green waste made up of tree trimmings, grass clippings and other landscaping materials that are used as alternative daily cover (ADC) at Scholl Canyon landfill. Diversion credit for ADC is likely to be discontinued based on legislative trends and the City's diversion rate would be reduced by approximately 3 percent (or daily per capita disposal would be increased by 0.65 pounds per person per day) if this material is not diverted by other means such as composting.

Next Steps:

- Evaluate the potential for transporting materials to existing organics processing facilities and conduct a formal Request for Proposals
- Support appropriate legislation that facilitates the development of local composting capacity
- Stay abreast of developing technologies and facilities for food waste processing within the vicinity of Pasadena
- Pursue partnerships with other jurisdictions as opportunities arise
- Explore funding opportunities for developing new or expanding existing organics processing infrastructure

Timeframe: 2014 – 2017

8. **Provide business technical assistance**

Objective: Increase understanding of Zero Waste and the ability to reduce waste generation and increase reuse, recycling, and composting

Approach: Offer free technical assistance to businesses to transition to new programs such as food waste composting and comply with potential mandatory measures such as a polystyrene food packaging ban. Conduct outreach to educate businesses about requirements and ensure their

Regarding development of local and regional infrastructure for processing food scraps (#7), we would like to see a greater emphasis on developing local infrastructure rather than regional. It increases our carbon footprint if we haul food scraps to Victorville. We would like to close the loop as much as possible by localizing the process as much as possible.

Regarding school programs (#9), it is excellent that a GLC curriculum is being taught at PUSD schools. We know, however, that a tremendous amount of food, plastic, and polystyrene waste is generated at schools each time a meal is served. We would like to see a program designed to eliminate that waste, preferably one that mirrors the curriculum being taught in the classrooms.

Regarding diverting food scraps and other organics (#10), we would like to see more clarity by what is meant with the term "regional." The EAC would like to see more of an effort to compost within the city, rather than increasing our carbon footprint by hauling organic waste to facilities in Victorville. We would also like to see language regarding the diversion of tree trimmings produced by private arborists.

compliance through site visits. City staff will be available to visit businesses, assess existing conditions, provide training materials and make recommendations for enhancements to waste reduction, reuse, recycling, composting and other Zero Waste initiatives.

Next Steps:

- Develop an outreach plan to work collaboratively with businesses in developing new programs and to prepare for mandates such as food waste composting and a polystyrene food packaging ban
- Develop a Zero Waste Pasadena website with information for businesses, schools and institutions to keep them informed of waste diversion options and new initiatives
- Promote the lending of City recycling equipment for all large business events

Timeframe: 2014 – 2017

9. Expand school programs

Objective: Expand waste reduction, reuse, and recycling at Pasadena schools to help the City meet its Zero Waste goals

Approach: During the 2012/2013 school year, the City and the Pasadena Unified School District (PUSD) collaborated to develop a Green Living Curriculum (GLC) and recycling program for Pasadena schools. The City and PUSD jointly created a curriculum and designed a school recycling program. The Pasadena Department of Public Works and Pasadena Water and Power provided funds to cover 100 percent of the GLC educator's costs.

The GLC educator provides instruction on the 3Rs (Reduce, Reuse, Recycle) and resource conservation (energy and water). The educator also assists with establishment of student "Green Teams" for student run recycling programs and leads field trips.

The first year of the program, the GLC was taught to second and third grade classes in ten schools. The second year, the GLC was taught to only the second grade classes to avoid repeating the lessons to the same children in 13 schools. In 2013/2014, the GLC was taught to 1,003 second graders in 13 PUSD elementary schools. The program is ongoing.

The City also obtained a State grant to purchase recycling equipment for all PUSD schools. A recycling team made up of Public Works staff, the GLC educator and the PUSD science contractor was formed to design a recycling program tailored to each school. The team strived to develop a convenient, long term, stable recycling program. Although the two year grant period has ended, the City will continue to monitor and support the recycling program by maintaining high awareness, addressing any problems that arise and expanding to other areas such as composting.

Next Steps:

- Investigate the waste diversion efforts at private schools and college campuses and encourage the development of new programs and expansion of existing programs
- Create "Go Zero" challenge for school campuses
- In conjunction with the Pasadena Education Foundation, develop a Zero Waste course to add to the summer enrichment program
- Explore collaborative projects with local colleges to develop engaging Zero Waste videos tailored to students in specific age groups

Timeframe: 2014 – 2017

10. Implement diversion programs for food scraps and other organic and compostable materials

Objective: Divert food scraps and other organic and compostable materials for beneficial use

Approach: Currently there is limited local infrastructure and experience in food waste collection and processing, though