

Agenda Report

October 20, 2014

TO: Honorable Mayor and City Council
THROUGH: Municipal Services Committee (October 7, 2014)
FROM: Department of Public Works
SUBJECT: ZERO WASTE STRATEGIC PLAN

RECOMMENDATION:

It is recommended that the City Council:

1. Find that the Zero Waste Strategic Plan is exempt from the California Environmental Quality Act (CEQA) pursuant to State CEQA Guidelines Section 15061 (b) 3 (General Rule);
2. Adopt the draft Zero Waste Strategic Plan which describes 19 initiatives that will increase Pasadena's waste diversion from area landfills to over 87 percent by the year 2040; and
3. Adopt the Zero Waste Resolution to commemorate the City's commitment to striving toward Zero Waste.

MUNICIPAL SERVICES COMMITTEE RECOMMENDATION:

On October 7, 2014, the Municipal Services Committee (MSC) unanimously recommended that the City Council approve the recommendations contained in this report and moved the item forward to the City Council for consideration. The Committee also requested that the Department of Public Works prioritize and provide timing information for the short-term Zero Waste Initiatives, as well as identify high cost Zero Waste Initiatives and that this information be incorporated into the final Draft Zero Waste Strategic Plan presented for consideration by the City Council.

ENVIRONMENTAL ADVISORY COMMISSION RECOMMENDATION:

On September 16, 2014, the Department of Public Works presented the updated Draft Zero Waste Strategic Plan to the Environmental Advisory Commission (EAC) and

recommended that the EAC: 1) receive and file the Draft Zero Waste Strategic Plan Summary; 2) recommend that the City Council adopt the Zero Waste Strategic Plan; and 3) recommend that the Department of Public Works provide regular updates to the Commission regarding implementation of the Plan. The EAC approved recommendations 1 and 3 and delegated the responsibility of reviewing the draft Zero Waste Strategic Plan (recommendation 2) to its ad hoc Zero Waste Subcommittee and authorized the Subcommittee to send an advisory memorandum to the City Council on behalf of the Commission. On October 14, 2014, the Environmental Advisory Committee transmitted the attached memorandum to the City Council urging the City Council to adopt the Zero Waste Strategic Plan with minor revisions suggested including elevating the exploration of a polystyrene ban and use of more specific language, which are reflected in the Zero Waste Strategic Plan.

EXECUTIVE SUMMARY:

The final Draft Zero Waste Strategic Plan is based on community input received at the start of the process through a series of community meetings, an open house, social media, and an on-line survey followed by mid-point input from the Municipal Services Committee, Environmental Advisory Commission, and the public. The Department of Public Works presented the initial Draft Zero Waste Strategic Plan to the Municipal Services Committee on August 13, 2013 and to the Environmental Advisory Commission on September 17, 2013 as an informational item and received input from the Committee, Commission, and the public.

In the intervening months, the Department incorporated the feedback received into the updated Draft Zero Waste Strategic Plan. The Department presented the updated Draft Zero Waste Strategic Plan to the Environmental Advisory Commission on September 16, 2014, and to the Municipal Services Committee on October 7, 2014. The Commission, Committee, and public provided additional input, which is reflected in the final Draft Zero Waste Strategic Plan being considered by the City Council this evening.

Zero Waste is a philosophy and design framework that promotes reuse, recycling, and conservation programs and more importantly, emphasizes sustainability by considering the entire life-cycle of products, processes, and systems. As a signatory to the United Nations Urban Environmental Accords, the City of Pasadena is committed to the goal of achieving Zero Waste to landfills by the year 2040. Toward that end, the Pasadena Department of Public Works contracted with HDR Engineering, Inc. to facilitate the development of Pasadena's draft Zero Waste Strategic Plan. The planning process involved collaboration between the City and the community to design a plan tailored to Pasadena's unique environment. The Zero Waste Strategic Plan describes 19 program initiatives that will increase Pasadena's waste diversion from area landfills from the current level of 73 percent diversion to more than 87 percent by 2040. The Zero Waste Strategic Plan details short-term, medium-term and long-term implementation schedules for the 19 initiatives.

The Zero Waste Strategic Plan represents the framework for initiatives/programs that the Department foresees today as being necessary for the City to meet its sustainability and conservation policy goals, State waste diversion mandates, and anticipated future legislation, while moving the community toward zero waste. Additionally, adoption of the Zero Waste Strategic Plan will benefit Pasadena by:

1. Reducing greenhouse gas emissions;
2. Maintaining Pasadena's position as a role model in resource management;
3. Enhancing local quality of life;
4. Preparing for environmental effects of growth and economic prosperity;
5. Meeting public expectations for a sustainable community;
6. Extending the life of local landfills; and
7. Preparing for the potential loss of disposal options.

In developing the Zero Waste Strategic Plan, careful consideration was given to the potential effectiveness, feasibility and level of community support for each initiative/program concept proposed. Since the solid waste industry is so dynamic, as reflected for example by the new laws requiring commercial organics recycling (AB 1826) and discontinuation of diversion credit for material used as alternative daily cover (ADC) at landfill (AB 1594), just signed into law by Governor Brown, it will be necessary to revise this Plan as new requirements, technologies, opportunities, and challenges arise. The Department of Public Works will review and update the Plan every three years and adjust the implementation timeframes and/or introduce new initiatives as needed. Updates regarding progress on implementation of the Zero Waste Strategic Plan will be provided to MSC and EAC on a regular basis and as requested.

Adoption of a formal commitment to achieving Zero Waste in the form of a Zero Waste Resolution will help communicate the importance of the Zero Waste goal to the Pasadena community.

BACKGROUND:

The City of Pasadena began its journey on the road to Zero Waste in 2005 by becoming a signatory to the United Nations Urban Environmental Accords and continued with the development and adoption of the Green City Action Plan in 2006. The Accords are a declaration by participating City governments to build ecologically sustainable, economically dynamic, and socially equitable futures for their citizens. Action 4 of the Urban Environmental Accords sets a goal of achieving zero waste to landfills and incinerators by 2040.

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

- Reduce the amount of disposed materials generated within Pasadena;

- Reduce the quantity of disposed materials generated per person within Pasadena;
- Increase the quantity of recyclable and compostable materials diverted from landfills; and
- 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.

On June 6, 2011, the City Council awarded a contract to HDR Engineering, Inc. to assist with the development of the Zero Waste Strategic Plan. The consultant's Scope of Work included:

- Reviewing existing City programs and resources associated with the City's waste reduction efforts;
- Conducting a waste characterization study of the types and quantities of disposed materials;
- Assisting with the development of guiding principles for the plan;
- Incorporating stakeholder participation in the decision-making process by conducting six widely-publicized business and residential community workshops as well as an electronic survey to gauge community feedback on proposed program initiatives;
- Identifying policy, program and infrastructure options to address Pasadena's needs; and
- Working collaboratively with City staff to evaluate and select initiatives to meet goals and objectives.

The initial draft Zero Waste Strategic Plan was developed based on input received from a cross-section of the Pasadena community which included: businesses; schools; waste haulers; and community members. The Department of Public Works then presented the initial draft Zero Waste Strategic Plan to MSC on August 13, 2013, and the EAC on September 17, 2013. In the intervening months, the Department of Public Works incorporated the feedback received from MSC and EAC into the updated draft Zero Waste Strategic Plan, which was reviewed by EAC on September 16, 2014, and recommended for City Council approval by the MSC on October 7, 2014.

DISCUSSION:

Zero Waste Defined

Zero Waste is a philosophy and design framework that promotes reuse, recycling and conservation programs, and more importantly, emphasizes sustainability by considering the entire life-cycle of products, processes, and systems. Zero Waste means both reducing waste at the source and maximizing diversion from landfills, with the overall goal of striving for Zero Waste.

Zero Waste is neither 100 percent recycling nor total elimination of waste disposal, yet it focuses on reduction, 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 initiatives and programs, Pasadena will be moving towards Zero Waste, even though there will still be some residual waste that will be disposed.

Pasadena is meeting and exceeding the State's ambitious 50 percent diversion goal and achieved a citywide 73 percent diversion rate in 2010, the year the Plan was started. This Zero Waste Plan is anticipated to accomplish 87 percent diversion, which sets Pasadena well on the path to Zero Waste.

Existing Waste Generation

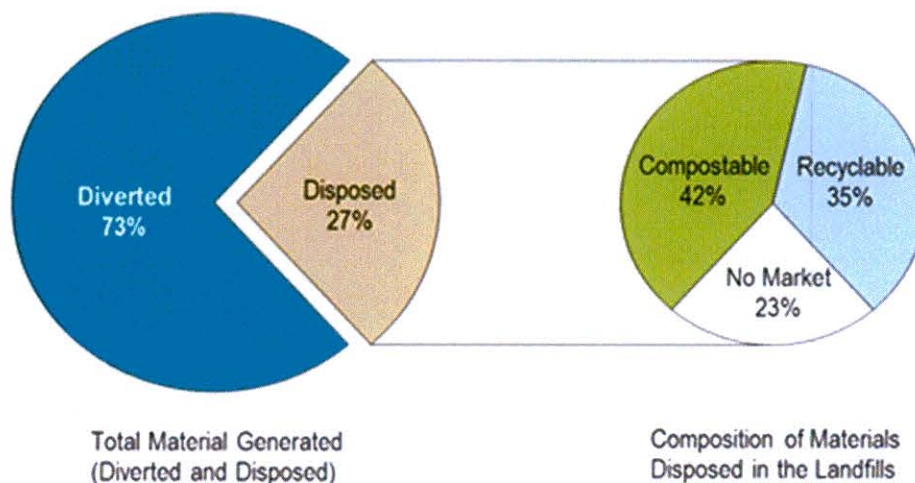
Baseline Year 2010

Analyzing the City's waste generation provides an understanding of which areas to target in the Zero Waste Strategic Plan. Waste generation is the sum of the tons diverted (i.e. recycled, composted, reused) plus the sum disposed in a landfill or waste-to-energy facility. The year 2010 was selected as the baseline year for comparing future waste diversion performance. In 2010, Pasadena's waste generation was approximately 584,840 tons of material. Out of the total tons generated, a little over 73 percent was diverted through waste prevention, reuse, recycling, and composting. The remaining 27 percent consisted of 152,882 tons of material disposed in landfills or processed at waste-to-energy facilities.

Further analysis of the types and quantities of materials disposed in the City was important in developing the Zero Waste Strategic Plan. This data helped guide the development and selection of potential diversion programs and initiatives and to target specific waste material types and/or products. Since discarded material may vary by user, it was helpful to analyze the materials generated by each waste generation sector: single-family residential; commercial; multifamily; and other.

The 2008 Statewide Waste Characterization Study showed that in Pasadena 35 percent of the material sent to the landfill consists of recyclable materials and 42 percent consists of compostable materials. The remaining 23 percent has no market and cannot be recycled nor composted. Recyclable materials include: paper; plastic; metals; glass; and construction and demolition materials. Compostable materials include: food scraps; yard trimmings; and other materials that are accepted at a permitted composting facility. No market materials (those that cannot be recycled) include: treated wood; composite materials (things stuck to other things); and diapers. Exhibit 1 illustrates the composition of Pasadena's waste materials.

Exhibit 1 - Waste Management Trends & Material Recovery Potential



Guiding Principles

The Department of Public Works developed guiding principles that would ensure that waste reduction policies and programs would be consistent with the goals of the City's Green City Action Plan, Environmental Charter, and General Plan. The following six guiding principles were the result of this process:

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; and
6. Increase the diversion of compostable materials and promote development of local infrastructure.

These six guiding principles were referenced throughout the development of the Zero Waste initiatives.

Zero Waste Planning Process

Public Participation

Community Workshops

A series of stakeholder workshops and an open house forum 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 Zero Waste Strategic Plan's process and development. Each workshop included a presentation from the Department of Public Works 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 Strategic Plan. The input from the workshops was considered during development of the program initiatives.

Stakeholder Survey

In addition to attending the workshops, interested community members and stakeholders were also given the opportunity to complete an online survey on the City's proposed program initiatives. Community outreach for the stakeholder survey was conducted through placement of flyers at public counters, e-mail notices via City Council Field Representatives, Citywide e-mails, the City Manager's Weekly Newsletter, and a media release. Information about the survey was also posted on the City's website and the Department of Public Works responded to numerous telephone and e-mail inquiries. There was a direct link to the survey on the City's website. The majority of respondents were in favor of all of the potential initiatives.

Social Media

A Facebook page, *Zero Waste Pasadena*, was created to maintain a dialogue with stakeholders and workshop participants. Information on Zero Waste meetings, topics, and information is uploaded regularly. Twitter was also utilized by the City's Public Information Officer to announce the public workshops.

Evaluation

The next step in the planning process was an evaluation of the potential initiatives that resulted from the public participation process. Waste diversion estimates were developed for each of the potential initiatives.

Diversions Estimates

Diversions estimates were prepared to quantify the waste reduction potential of each proposed policy and program. The diversion estimates are based on comparable policies and programs implemented in other jurisdictions, research, and educated estimates. Table 1 below shows the 2010 generation, projected Zero Waste diversion rate, and summarizes the diversion potential by generator sector for the proposed Zero Waste policies and programs. Based on this analysis, it is projected that Pasadena can achieve a minimum of 87 percent diversion, a very high rate of diversion, by implementing the policies and programs identified.

The diversion rates are presented as a snapshot in time assuming full implementation of all programs. Many of the programs will be developed over time in a step by step fashion through additional research, testing, and pilot programs before full implementation. Some initiatives may involve new ordinances and regulations which will require City Council action.

Table 1
 City-Controlled Waste and Potential Diversion
 (City controlled waste – waste collected by City of Pasadena & franchised haulers)

Zero Waste Plan Projected Diversion			
Sector	2010 Baseline Waste Generation (tons)	Projected Diversion (tons)	Projected Diversion Increase (%)
Single-family Residential	65,674	8,788	3.4%
Multifamily Residential	12,934	1,047	0.4%
Commercial	116,464	16,785	6.6%
Other *	59,945	9,390	3.7%
TOTAL	255,017	36,010	14.1%
Pasadena's 2010 overall diversion			73.0%
TOTAL PROJECTED DIVERSION WITH ZERO WASTE INITIATIVES			87.1%

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

Estimated Greenhouse Gas Emissions Reductions

Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006, requires the California Air Resources Board to develop regulations and market mechanisms to reduce California's greenhouse gas emissions to 1990 levels by 2020. The City of Pasadena is committed to reducing greenhouse gas emissions to comply with legislation such as AB 32 and achieve goals outlined in the City's various policies such as the Climate Action Plan.

The Zero Waste initiatives recommended in this plan can reduce Pasadena's greenhouse gas emissions. Based on the estimated diversion rates, Table 2 presents the greenhouse gas reduction potential of the scenarios using the U.S. Environmental Protection Agency (EPA) Waste Reduction Model (WARM) to estimate greenhouse gas reduction based on material types and amounts diverted. WARM calculates and totals greenhouse gas emissions of baseline and alternative waste management practices including: source reduction; recycling; composting; and landfilling. The model calculates emissions in metric tons of carbon equivalent (MTCE), metric tons of carbon dioxide equivalent (MTCO₂E), and energy units (million BTU) across a wide range of material types commonly found in municipal solid waste. Calculation of carbon equivalency allows for comparison of sectors contributing to the reduction of greenhouse gases.

Table 2
Greenhouse Gas Emissions Reduction Potential

Zero Waste Emissions Reduction	
Sector	Emissions Reduction (MTCO₂E)
Single-Family Residential	2,428
Multifamily Residential	468
Commercial	6,870
Other	1,925

Feasibility Evaluation

Armed with diversion estimates, the Department of Public Works evaluated the feasibility of the potential initiatives. A list of criteria was established to review the policy, programs and infrastructure options under consideration by the City. The criteria categories included environmental benefits, impact on services, ability to implement, support of local and state policies and fiscal impacts. Based on discussions and rankings, the City refined the potential initiatives into 19 program initiatives.

For implementation purposes, the initiatives were classified into four timeframes: short-term, which is considered to be the present to 2017; short to medium-term, which is considered to be years 2014 to 2020; medium-term, which is considered to be years 2017 to 2020; and long-term, which is years 2020 to 2040. The recommended program initiatives and associated timeframes are shown in Table 3. In fiscal year 2014, the Construction and Demolition (C&D) Waste Management Ordinance was amended to comply with the State's updated California Green Building Standards Code (CALGreen) requirements. Covered projects' square footage thresholds were lowered and the diversion requirements were increased to 75 percent to support the City of Pasadena's Zero Waste goal. Also in 2014, the City secured contracts with material recovery facilities that included services to process and recycle waste generated from the Rose Parade and Rose Bowl events.

Table 3
 Recommended Initiatives

Term	Initiative
Short-term 2014 - 2017	1. Adopt Zero Waste Plan/resolution
	2. Implement product & disposal bans (e.g., polystyrene food packaging)
	3. Enhance educational outreach
	4. Promote junk mail blocking, catalog & phone book opt-out
	5. Expand product stewardship efforts & EPR policies
	6. Enhance enforcement of anti-scavenging ordinance
	7. Foster infrastructure development for processing food scraps & other organics & compostables
	8. Provide business technical assistance
	9. Expand school programs
Short to Medium-term 2014 - 2020	10. Implement diversion programs for food scraps & other organics & compostables
	11. Review Pay-As-You-Throw fee structure
	12. Expand commercial & multifamily recycling
Medium-term 2017 - 2020	13. Optimize construction & demolition (C&D) waste diversion
	14. Optimize waste diversion at City facilities
	15. Implement composting programs at stadiums & other large events
	16. Develop Zero Waste business partnership program
Long-term 2020 - 2040	17. Expand recycling in public areas
	18. Self-haul reporting & waste diversion
	19. Foster infrastructure development for processing residual mixed waste (i.e., no market materials)

Discussion of Zero Waste Initiatives

Attachment A to this report contains the Zero Waste Plan Timeline and Attachment B outlines the description, objective, approach, and implementation timeframe for each of the 19 initiatives.

COUNCIL POLICY CONSIDERATION:

The Zero Waste Strategic Plan is consistent with the City Council's goal to increase conservation and sustainability. It also supports the United Nations Urban Environmental Accords of 2005 Action four of achieving zero waste to landfills and incinerators by 2040. Additionally, it supports the Open Space and Conservation Element of the General Plan by increasing the diversion of waste materials from landfills through the reduction, reuse and recycling of wastes to the highest and best use.


ENVIRONMENTAL ANALYSIS:

This activity is covered by the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA.

FISCAL IMPACT:


Adoption of this plan does not result in a financial commitment at this time. Existing resources will be utilized to the extent possible for program development and implementation. As major programs requiring additional funding are developed or if changes in the Pay-As-You-Throw (PAYT) fee structure are identified, the Department of Public Works will present plans along with estimated costs, related benefits, and potential funding sources to City Council for consideration.

Respectfully submitted,



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Approved by:



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Attachments:

- Attachment A – Zero Waste Plan Timeline
- Attachment B – Zero Waste Initiatives
- Attachment C – Draft Zero Waste Strategic Plan
- Attachment D – Zero Waste Resolution
- Attachment E – October 14, 2014 Environmental Advisory Commission Memorandum to City Council