



# Memorandum

**TO:** TRANSPORTATION AND ENVIRONMENT COMMITTEE

**FROM:** John Stufflebean

**SUBJECT:** SAN JOSE'S ZERO WASTE STRATEGIC PLAN

**DATE:** 11-17-08

Approved

Date

11/19/08

## RECOMMENDATIONS

Place the following recommendations on the December 16, 2008, Council Agenda for discussion:

1. Accept the attached Zero Waste Strategic Plan which outlines strategies the City is considering to achieve zero waste to landfill by 2022 and convert waste to energy; and
2. Approve the Proposed 2009 Zero Waste Workplan.

## OUTCOME

Approval of the recommendations would establish a roadmap to dramatically increase recycling and waste diversion in the City. The Zero Waste Strategic Plan (Plan) primarily addresses San Jose's Zero Waste Goal of 75% diversion by 2013 and Zero Waste by 2022 and Goal 5 of the Green Vision, to divert 100% of waste from our landfills and convert waste to energy. The Plan also supports several other Green Vision goals, including: Goal 1 – create green jobs; Goal 2 – reduce energy use; Goal 3 – generate renewable energy; Goal 4 – construct and retrofit green buildings; and Goal 7 – plan for sustainable development. In addition, the funding alternatives component of the plan identifies ways to stabilize, and potentially increase, revenues for the General Fund and Integrated Waste Management programs.

## BACKGROUND

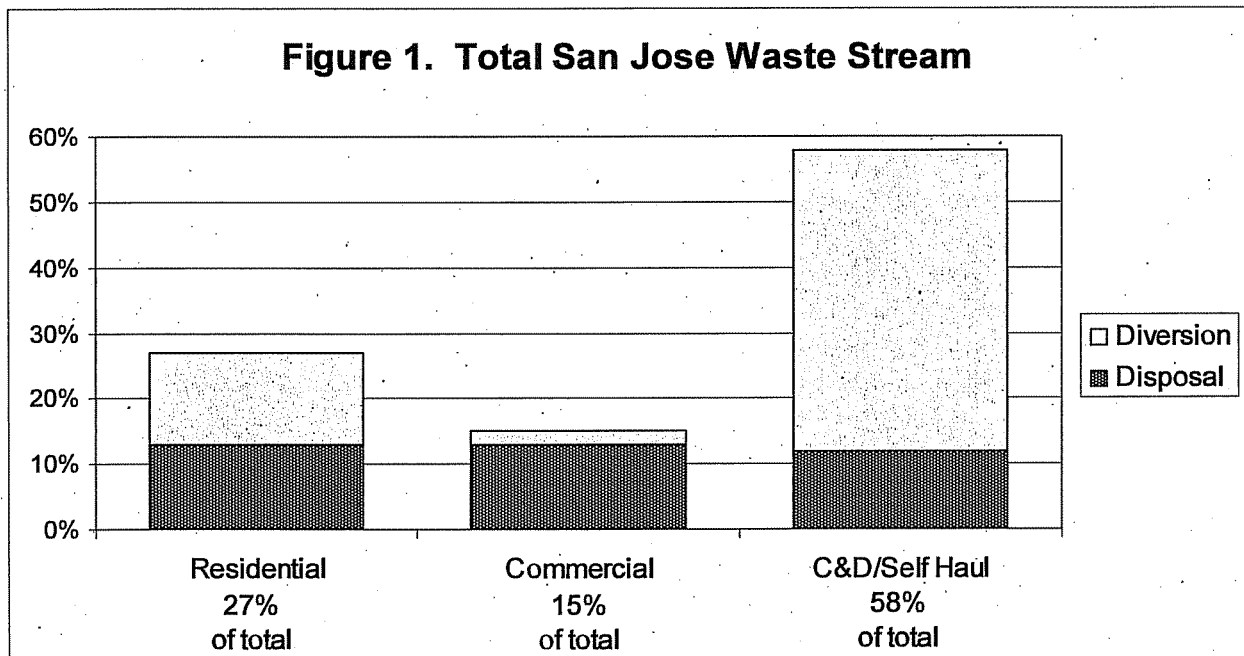
On October 30, 2007, Council established a goal of 75% waste diversion by 2013, and zero waste by 2022; directed staff to complete waste characterization studies and return to Council with those results; and directed staff to present a plan to achieve these goals for consideration by the end of 2008. At the same October meeting, Council also adopted the City's Green Vision

and the goal to implement at least 19 of the Urban Environmental Accords in order to achieve Global Sustainable City status. The Accords address energy and climate change, waste reduction, urban design, urban nature, transportation, environmental health, and water quality. The Green Vision, Urban Environmental Accords, and Zero Waste Goals all interrelate and require complementary strategies over the next 14 years. Many of the actions recommended in the proposed Zero Waste Strategic Plan can be initiated in 2009, while others are included for future implementation. For the purposes of this initiative, "zero waste" means promoting the highest and best use of materials to eliminate waste and pollution, with an ultimate goal of reducing waste generation by more than 90%.

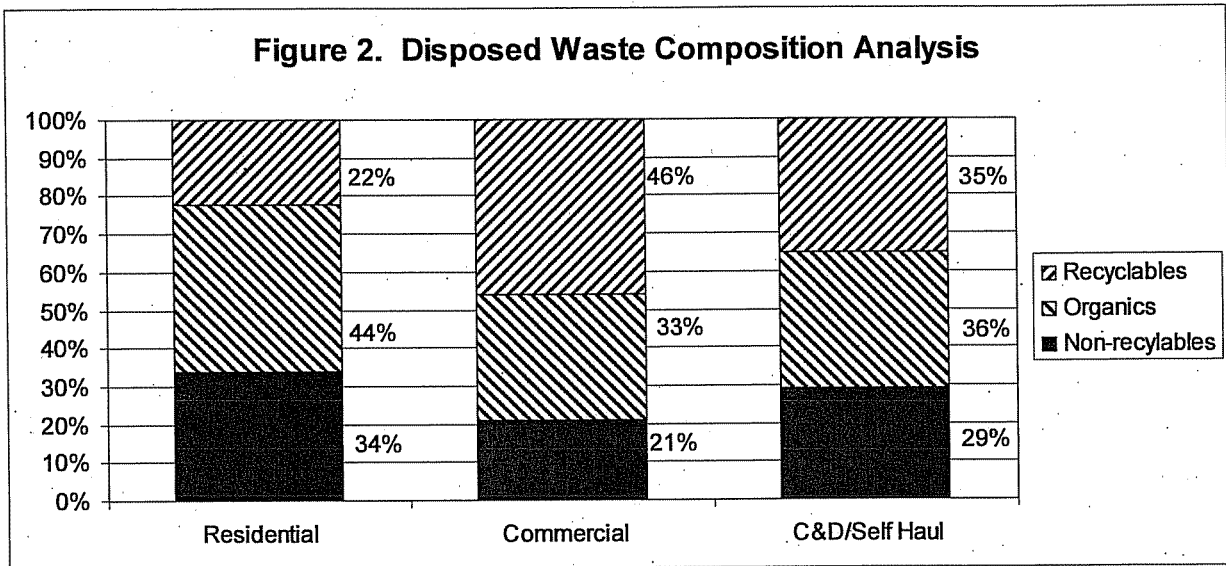
### ANALYSIS

#### *San José's Waste Stream Today*

To develop strategies for achieving San José's zero waste and waste to energy goals, it was necessary to understand the current waste stream. Although the City's programs have led to a 62% diversion rate, San José still disposes of a large percentage of its waste. Figure 1 shows the total San José waste stream (material currently diverted from landfill as well as disposed) by the City's primary waste generating sectors: 1.) Residential, 2.) Commercial, and 3.) Construction and Demolition (C&D) and Self-haul. Disposal and diversion for these sectors are shown as a part of the total City waste stream and the associated percentages are impacted by the heavy weight of C&D materials.



Interestingly, as shown in Figure 1, the amount of waste disposed in each sector (by weight) is approximately equal. Figure 2 provides more detail about the disposed waste for each sector.



**Residential**

The residential sector includes both single-family and multi-family households. As shown in Figure 2, the largest portion of waste landfilled is organic material (44%), and a significant amount of recyclables remain in the disposal stream (22%). San José can capture more recyclables through increased education and program enforcement and/or mixed waste processing. San José currently sends all waste placed in multi-family garbage containers to a mixed waste processing facility where workers remove recyclables and organics from the garbage. Non-recyclable material from the residential sector (defined as material not currently recyclable, currently 34%) must ultimately be addressed through new strategies, such as extended producer responsibility, developing new recyclables markets, and developing new processing and conversion technologies.

**Commercial**

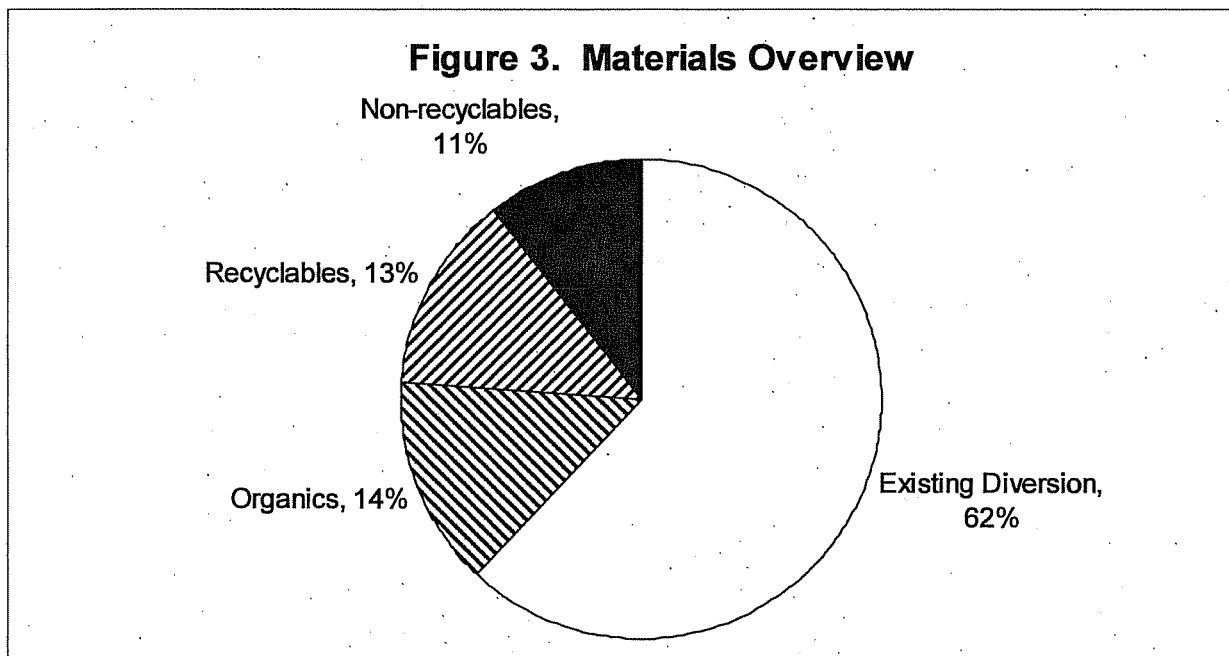
Coupling the information revealed in Figure 1, (that only a small portion of commercial waste is currently diverted) with the information revealed in Figure 2, (that 79% of disposed commercial waste can be recycled or composted), makes this sector a priority for diversion program enhancements. The December 2007 Commercial Redesign White Paper outlined components of the current program that cause the low diversion rates: limited recycling services available to most customers, limited hauler investment in infrastructure, and inconsistent and hard-to-enforce hauler agreements resulting in varied customer service. Program enhancements through the commercial redesign process will address these issues and target materials identified in the waste characterization. Separate waste diversion strategies for schools, city facilities, public areas, and special events are also being implemented. These efforts include technical assistance, increased

outdoor recycling, tool-kits for zero waste events, composting of food waste, and the use of compostable service ware.

Construction and Demolition and Self Haul

As shown in Figure 1, C&D and Self-haul debris is the largest component of the overall City waste stream. This is somewhat deceptive since this comparison is based on weight rather than volume, and C&D waste is composed of heavy materials (concrete, asphalt, etc.). Actual landfill space is consumed based on the volume of compacted material. C&D waste characterization shows that approximately 71 % of the disposed material can be recycled or reused (Figure 2). This opportunity led the City to initiate a comprehensive C&D evaluation in 2008, which encompasses best practice surveys of other jurisdictions, and an assessment of policies, requirements, procedures, and reporting systems. The evaluation could lead to recycling incentives for permittees, building contractors, and deconstruction sites.

Figure 3 shows the current status of all materials in the San José waste stream. To achieve zero waste, City policies, programs, and infrastructure must (1) continue diverting all of the materials (62%) that are currently being recycled and composted, (2) target the recoverable recyclables and organic waste (27%) that are still being landfilled, and (3) address the 11% of materials that are currently non-recoverable.



***Implementation Progress for Strategic Plan Goals***

The year 2008 was significant for San José's Integrated Waste Management programs. After successfully implementing the Recycle Plus transition, the City reasserted its national leadership with several projects, including implementing progressive waste diversion programs for multi-

family residences, City facilities, special events and venues, and schools. Council also approved two significant studies of the City's largest (heaviest) waste streams (the Commercial and Construction and Demolition (C&D) sectors), to determine how to maximize recycling. Finally, San José significantly enhanced its influence in developing regional and State-wide environmental policy with such initiatives as: sponsorship and passage of SB 1357 which will authorize up to \$20 million in unclaimed California Redemption Value (CRV) funds for community recycling efforts, staff appointment to the board of the California Product Stewardship Council, a leadership role in developing regional options for reducing single-use carryout bags, and staff appointment to the California Integrated Waste Management Board (CIWMB)'s Organics Roadmap Taskforce.

### ***Key Zero Waste Strategies***

The Zero Waste Strategic Plan provides an overview of key zero waste initiatives and describes policies, programs, and facilities that will be needed within the next 14 years in order to realize the City's vision of achieving zero waste. A snapshot of the top ten actions staff recommends the City take to achieve zero waste is listed below:

- **Pursue opportunities to support Extended Producer Responsibility initiatives**
- **Enhance Residential recycling**
- **Redesign the Commercial waste system**
- **Enhance C&D recycling**
- **Support the development of the waste management infrastructure, especially mixed waste processing**
- **Develop and strengthen markets for recoverable and reusable materials**
- **Evaluate anaerobic digestion of food scraps at the San José/Santa Clara Water Pollution Control Plant**
- **Promote and pursue the future development of energy conversion technologies**
- **Modify existing revenue streams to mitigate funding lost from zero waste efforts**
- **Educate the public about the benefits of reducing wasteful consumption**

### ***Proposed 2009 Zero Waste Workplan***

The Zero Waste Strategic Plan represents the first major assessment and comprehensive overview of the City's Integrated Waste Management system since the City's 1991 Source Reduction and Recycling Element required by the California Integrated Waste Management Act of 1989 (AB939). The Plan is a dynamic document, and the current version captures the best information available to date on waste generation, solid waste facilities, waste processing technologies, and approaches for increased diversion. Updates and progress on the Plan will be reported to Council through the existing Green Vision process.

The Zero Waste Strategic Plan includes proposals to evaluate several policies including: extended producer responsibility, environmentally preferable procurement, landfill regulations, generator mandates, reducing single-use packaging lower carbon emissions, recycling market development zones, green jobs creation, and financial and funding policies. San José will support the development of waste processing and waste conversion infrastructure, as well as continuing its partnerships with the Santa Clara County Recycling and Waste Reduction Commission, Keep It Clean Cities Partnership, Green Cities California, and the Bay Area Climate Collective, among others, to promote active and significant zero waste initiatives. In addition, staff will initiate or continue the following significant program improvements and system redesigns in 2009:

#### Residential Recycle Plus Program Improvements

Staff will be evaluating pilot programs to test new collection and processing methods, including the collection and composting of residential food waste. An extensive outreach campaign will be developed to reduce the amount of contamination in the recycling carts. Enforcement and incentive programs may be implemented to encourage proper recycling. Staff will also be evaluating the list of materials collected in the Recycle Plus program. New materials may be added, while difficult to recycle materials may be removed from the program.

#### Evaluation of Term for Current Recycle Plus Agreements

The agreements to provide Recycle Plus services to residential properties (single-family and multi-family) end in June 2013. While there is an option to extend the term for two of the five agreements to June 2015, staff must evaluate whether having two different programs would be in the City's best interest. The evaluation of an extension would include cost considerations, program and service needs, and current contractor performance. When the June 2013 contract termination dates were originally established in 2001, the City had not yet adopted the Green Vision or Zero Waste Goals. To meet these policy priorities, the City must evaluate all existing programs (as it is doing with the redesign of the commercial solid waste system), in order to determine how programs can be improved to better meet zero waste goals.

If the City can extend the terms for all contractors until June 2015, staff would have the necessary time to thoroughly plan and implement pilot programs which are needed to evaluate alternative collection techniques and evolving processing technologies. A term extension would also allow more time to best redesign the residential program to meet the zero waste goals and to integrate residential redesign with the commercial and CDDD program efforts currently underway.

If new residential contracts are to begin in July 2013, staff must implement pilots in early 2009, and then initiate preparation of Request for Proposal (RFP) documents in late 2009, before a thorough evaluation of the pilots can be completed. Under this shorter timeframe, new residential contracts would need to be in place by summer of 2011 to allow for the two-year transition period. Unlike the transition in 2007 which did not involve significant program changes, staff anticipates the new residential solid waste program would require a longer

transition period to fully implement the programs for meeting zero waste goals. A 2013 timeline would require staff to implement major changes to both the residential and commercial systems at the same time. The same hauling community that would be implementing one of the largest contracts in California for new and innovative recycling services to businesses would also be participating in the new residential RFP. San José's residential program is the largest privatized solid waste system in the country. This scenario would place significant strain on the resources of both the hauling community and the City and could limit the number of haulers willing to participate in both the residential and commercial RFP processes.

#### Las Plumas Final Site Development Plan

Even though Household Hazardous Waste (HHW) is a small percentage of waste, maintaining a robust HHW program is essential to protect public health and safety, and to allow safe processing of the residential waste stream. The new permanent HHW drop-off site in central San José is scheduled to open in the summer of 2009. In addition to greatly enhancing the HHW program, this facility will be part of a larger environmental resource center for the public and local businesses which will provide additional C&D recycling services and environmental education and programming. Las Plumas is being designed as the first City-owned LEED Platinum building and is anticipated to open in 2011. Staff will return to Council in June 2009 with recommendations for programming, tenants, and funding the future facility build-out.

#### Commercial Solid Waste System Redesign

On September 16, 2008, Council approved redesigning the commercial system to an exclusive franchise system where two or three waste hauling companies would be awarded a franchise to provide waste and recycling collection services in specified geographic areas of the city. The scope of the system, with certain exemptions, will include solid waste, recyclables, and organics collected in bags, carts, front-load bins, roll-off boxes, and compactors. Staff plans to release a RFP in late spring/early summer 2009. Staff would return to Council with recommendations to award a franchise to successful proposers in 2010, with start of service scheduled for 2012. Currently, the most significant opportunity to meet the City's overall waste reduction goals is through the commercial solid waste system redesign.

#### Zero Waste Pilot Programs for Schools, City Venues and Special Events

In November 2007, Council approved special event permit requirements and pilot programs for the 2008 event season. This project was very successful: staff worked with event organizers to divert up to 93% of waste from the five largest events in San José, and the City developed a one-of-a-kind collaborative partnership with the San José Conservation Corps. Staff is gathering stakeholder feedback and evaluating the first year of the program. Recommendations for the 2009 event season will be presented to Council in early 2009.

Staff also implemented significant improvements to City facilities recycling, including sorting and recycling of all city facility garbage. These efforts resulted in a 75% recycling rate for City operations, including the Airport, Convention Center, libraries, and City Hall. For 2009, staff plans to initiate an evaluation of options to recycle inert waste still landfilled from City corporation yards and contractors. In addition, staff is planning food scrap composting pilots at City Hall and the Airport. Finally, in 2008 the City launched a composting and recycling pilot

with the Union School District at all of its six elementary schools, two middle schools, and the district office. An important element of the program is the replacement of traditional Styrofoam food service ware with compostable plates, cups, and utensils which can be transformed into compost at an off-site commercial facility. Staff will evaluate the pilot's success and opportunities for expansion in 2009.

#### Evaluation of the Construction and Demolition Recycling Program

In July 2008, the City initiated a comprehensive evaluation of current C&D recycling in San José and the City's Construction and Demolition Debris Deposit (CDDD) program. A fall 2008 study analyzed C&D debris delivered to landfills, material recovery facilities, and transfer stations in the City. The study showed that as much as 71% of C&D material is recoverable. Staff is now surveying C&D programs in other jurisdictions to evaluate program features that may be incorporated into the San José program. Staff plans to develop new program requirements by the summer of 2009 based on information from C&D markets, C&D facilities operations and infrastructure, and a review of other successful C&D programs. The transition to any new program requirements would occur in 2010 and would include stakeholder engagement, outreach, and re-certification of all existing and new C&D facilities participating in the CDDD program.

#### Analysis of Waste Conversion Technology

Staff is coordinating with the San José/Santa Clara Water Pollution Control Plant Master Plan which is currently in development, to find opportunities for collaboration in meeting mutual goals. Plant lands could be suitable for development of zero waste infrastructure, and there are opportunities for synergy with the programs at the Plant, including biosolids management, food scrap diversion, and processing of fats, oils and grease. Staff is analyzing energy conversion technologies such as gasification, incineration and pelletizing for refuse derived fuel, as well as implementation of a food waste digestion pilot.

#### Solid Waste Fee and Revenue Review

Currently two sources of General Fund revenue, the Commercial Solid Waste Franchise Fee and the Disposal Facility Tax, are based on the quantity of garbage going to landfill. In addition, Recycle Plus rates and AB 939 fee revenue which fund the City's integrated waste management programs are also based on the collection and disposal of garbage. Both the General Fund and the Integrated Waste Management Fund face declining revenues as waste diversion increases unless the basis for these revenues is modified and/or new revenue sources are implemented. The Zero Waste Strategic Plan includes a survey of existing and alternate funding sources to initiate this revenue review.

#### Reduction of Single-Use Carryout Bags

San José staff is providing key support for countywide efforts to reduce disposable bag usage. In October 2008, the Recycling and Waste Reduction Commission of Santa Clara County proposed a regional solution to litter and other issues associated with disposable single-use carryout bags. The Commission's Technical Advisory Committee is drafting a model countywide ordinance to implement the proposal. Staff from the Environmental Services Department and the Office of Economic Development are facilitating stakeholder efforts and policy development with staff

from the County and other cities, including Palo Alto, Sunnyvale, Mountain View, Morgan Hill, Santa Clara, and Milpitas. A model ordinance will be submitted to the Santa Clara County Cities Association, the Board of Supervisors, and all local jurisdictions for consideration in winter and spring of 2009. Staff also plans to implement a "Bring Your Own Bag" outreach campaign in the same timeframe in partnership with regional Bay Area efforts, helping to fulfill Urban Environmental Accords Action 5.

### ***Key Supporting Documents and Studies***

Several studies and evaluations were used to create the strategies and next steps outlined in the Plan. Some studies have already been presented and others are published in the Plan appendices for the first time. The following describes each of these documents and how they contributed to development of the Plan. Plan appendices will be posted on the City website, linked to the December Transportation and Environment Committee Agenda for this item.

#### City Waste Characterization Study: May 5, 2008 Transportation & Environment Committee

On October 30, 2007, Council directed staff, as part of the Zero Waste resolution, to complete a waste characterization study and report the results to the Transportation and Environment Committee in 2008. The study targeted single-family dwellings and regular subscription waste service for commercial businesses. The study took place between March 17 and 28, 2008. Staff worked with a consultant to establish more than 50 types of waste and recyclable materials for the study.

#### Needs Assessment for the Zero Waste Plan Development: November 2008

This report projects City waste generation, disposal, and diversion tonnages through the year 2040, including flow estimates and characterization by generator sector. This assessment provides projected quantities and characterization of disposed waste, and recommendations for program enhancements to address this waste.

#### Infrastructure Assessment: November 2008

This study summarizes the City's existing waste management system including all landfills, transfer stations, and waste processing facilities used by the City. It identifies the need for future facilities based on a review of the current waste management system and information from the Needs Assessment Report, referenced above. Finally, the study addresses land use needs for solid waste management infrastructure.

#### Opportunities for Alternative Revenue Generating Mechanisms: November 2008

This report contains the following components: a summary of the fees and taxes related to solid waste and recycling, a review of how the current fees and taxes will change due to increased disposal related to population changes and to reductions to the waste stream as the Zero Waste Strategic Plan is implemented (i.e., decreases in fees at landfills as landfill tonnages decrease, and decreases in franchise fees as landfilled waste decreases), and identification of alternative fees and taxes that should be explored in order to replace existing revenues.

Energy Conversion Technologies and Facilities: November 2008

This report includes surveys and reviews of conversion technologies that the City should consider for future implementation to achieve zero waste. Next steps to evaluate new and existing technology are also discussed in the report.

**EVALUATION AND FOLLOW-UP**

Updates and progress on the Zero Waste Strategic Plan will be reported to Council through the existing Green Vision process.

**POLICY ALTERNATIVES**

N/A

**PUBLIC OUTREACH/INTEREST**

Public engagement for zero waste initiatives is a fundamental and iterative process. As portions of the Plan are developed, stakeholders are solicited for input on future plans and changes under consideration. The Commercial Redesign process is the first large scale action of the Plan. Businesses have been engaged since February 2008 as described in the Stakeholder Engagement Process section of the Plan. This section also describes outreach actions related to reducing the use of single-use carryout bags which have involved retailer and grocery store stakeholders since February of 2008. Community engagement efforts will be designed for appropriate audiences as each element of the Plan comes under consideration. The criteria below do not apply to the recommendations in this report.

- Criteria 1:** Requires Council action on the use of public funds equal to \$1 million or greater. **(Required: Website Posting)**
- Criteria 2:** Adoption of a new or revised policy that may have implications for public health, safety, quality of life, or financial/economic vitality of the City. **(Required: E-mail and Website Posting)**
- Criteria 3:** Consideration of proposed changes to service delivery, programs, staffing that may have impacts to community services and have been identified by staff, Council or a Community group that requires special outreach. **(Required: E-mail, Website Posting, Community Meetings, Notice in appropriate newspapers)**

11-17-08

Subject: San Jose's Zero Waste Strategic Plan

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### **COORDINATION**

This memorandum has been coordinated with the Department of Finance, and the City Attorney and City Manager's Budget Office. The attached Zero Waste Strategic Plan has been coordinated with the Departments of Finance; Parks, Recreation and Neighborhood Services; Planning, Building, and Code Enforcement; Airport; General Services; Transportation; and the Offices of Economic Development, Cultural Affairs, City Attorney, Intergovernmental Relations, and City Manager's Budget Office.

### **COST SUMMARY/IMPLICATIONS**

Staff will submit budget proposals needed for implementing the Zero Waste Strategic Plan to Council for consideration as part of the annual budget process. Staff does not anticipate any additional funding needed to implement the 2009 Zero Waste Workplan in the remainder of 2008-2009.

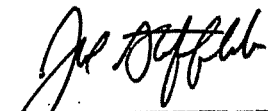
### **BUDGET REFERENCE**

N/A

### **CEQA**

Exempt File No PP08-254

Council's acceptance of the Zero Waste Strategic Plan and adoption of the 2009 Zero Waste Workplan, as described in this memo, is categorically Exempt from CEQA. Once specific components of this plan have been drafted for Council consideration, it will be subject to CEQA review, including any required public outreach and inter-agency coordination prior to a decision by Council to approve and implement the specific plan components.



JOHN STUFFLEBEAN

Director, Environmental Services

For questions, please contact Jo Zientek, Deputy Director, Integrated Waste Management, at 408-535-8557.

Attachment: City of San José Zero Waste Strategic Plan

