



# REPORT TO COUNCIL

## City of Sacramento

915 I Street, Sacramento, CA 95814-2671  
www. CityofSacramento.org

STAFF REPORT  
**November 29, 2005**

Honorable Mayor and  
Members of the City Council

**Subject:** Review of Community Outreach Plan to Promote the City's Variable Can Rate (Smaller Trash Container) and Other Programs Residents Can Use to Reduce Monthly Utility Bill Costs for Garbage, Lawn and Garden and Recycling Services (Report Back).

**Location/Council District:** Citywide.

**Recommendation:**

Staff recommends the Mayor and City Council take the following actions:

Provide guidance to staff on which of the following option(s) the City Council would like staff to pursue to reduce monthly cost for Trash, Recycling, and Lawn and Garden collection services. The options are:

- A. Promotion of Variable Can Rate (smaller trash containers)
- B. Weekly Collection of Commingled Recycling
- C. Containerized Lawn and Garden Service
- D. Expansion of Appointment Based Neighborhood Cleanup

The programs above are either existing or staff recommended modifications to existing programs that were adopted by the City Council over the past decade.

**Contact:** G. Harold Duffey, Integrated Waste General Manager, 808-4932

**Presenters:** G. Harold Duffey, Integrated Waste General Manager

**Department:** Utilities

**Division:** Solid Waste

**Organization No:** 3141

**Summary:**

Over the past decade the City Council has approved a number of solid waste programs to allow citizens to customize their solid waste services. The byproduct of those policies, allow residents to reduce the solid waste services portion of their monthly utility bill by a maximum of 25% (Attachment I). Option A; switching to a smaller trash



container (variable rate based) represents an individual action residents can make to save over \$80.00 annually. Options B, C, and D, represent a system wide approach to saving and requires a policy change by Council.

Although the City Council requested a report back to focus on option A, options B, C, and D also allow the City Council to achieve their overall goal of reducing Residential Trash, Recycling and Lawn and Garden Fees. Options B, C, and D represent a comprehensive long-term solid waste strategy, which would result in more services while mitigating future rate increases.

**Committee/Commission Action:** None.

**Background Information:**

**Option A - Variable Can Rate**

On the surface, option A is an easy solution for residents to save as much as \$4.80 per month by switching to a smaller trash container (96-gallon to 32-gallon). However, it is very important that residents are presented the option in a way to insure they select the service to fit their needs versus selecting a program that may save them money up front but cost more in penalties and fees (over stacked container charge of \$26.00 for each time a resident's trash container is over stacked, after three warnings). Considering that approximately 50% of residents currently need a 96-gallon container, (based on average weight by route data for 2004 for residential trash collected in the City of Sacramento) residents could actually see penalties overshadow any future savings.

Although residents generate different quantities of waste individually, the overall solid waste rates are based on average disposal patterns. Rates for a 96-gallon trash container are based on a household disposing of one ton (2,000 lbs.) of trash annually (for approximately \$3.10 per month of the residential garbage rate). However, overall waste disposed in green garbage containers per household, per year in Sacramento ranges from as little as .65 tons (1,300 lbs) to as much as 1.5 tons (3,000 lbs). Due to the wide range in disposal patterns by individuals throughout the City, it is very important for staff to perform targeted public outreach to insure residents are provided with the correct information before they modify their solid waste services. Attachment II is a list of community outreach programs staff may use to inform the public of their options to select smaller containers.

**Option B - Weekly Commingled Recycling**

Although the City Council adopted the variable can rate program on April 21, 1998 (No. 98-133) and residents have an option to save money by reducing the size of their trashcan, this only became a reality for most families after the City Council approved the commingled recycling program in 2001. Prior to 2001 more than 95% of all customers had a large 96-gallon trash container. Once the City Council approved the commingled

recycling program and the volume of recyclables collected tripled from 12,000 tons annually to 36,000 tons in 2004, leaving more families with unused capacity in their 96-gallon trash container. Staff realized that residents had additional capacity and offered a container reduction awareness program, centered on a utility bill insert for existing customers (Attachment III).

In an article in April's 1992 BioCycle magazine titled "The State of Garbage in America" the author found that residential curbside recycling programs that mirrored garbage collection programs (more convenience, weekly collection) increased diversion by 20% (Attachment IV). In addition, Solid Waste Division staff recently completed several waste sorts of material found in residential garbage containers and discovered at least 12% (15,000 tons annually) of the material could easily be recycled from garbage containers (Attachment V). Based on visual observation of the waste sort, staff estimates that over 40% (50,000 tons) of residential garbage that is currently land filled could be recycled.

Based on the information above, if the City offered weekly recycling, more recyclables could be diverted, which would allow more residents to utilize smaller trash containers. The cost for weekly recycling as stated in the September 16, 2003 City Council Report is approximately \$1.00. However, the \$1.00 fee increase for recycling could be mitigated by the \$2.60 savings a resident would receive by changing to a smaller container (96 gallon to 64-gallon container).

### **64-Gallon Default Can Size Program**

Once the commingled recycling program began to take off, staff used a "64-Gallon Default Can Size Program". The program targeted all new homes to receive a smaller 64-gallon container as the standard garbage container. The occupant of a new residence could request a larger container, however most new homes developed over the last 4 years received the 64-gallon trash container, leading to more than 12,000 customers receiving smaller trash containers and ultimately reducing their overall monthly solid waste services costs. The increased capacity of commingled recycling allowed the City to actually supplant disposal space for recycling space.

### **Option C - Containerized Lawn and Garden Collection Program**

In August 2004, the City Council approved the Voluntary Containerized lawn and garden collection program, allowing residents to save 17% on the garden refuse component of their utility bill (increased to 22% in 2005) compared to costs for collecting lawn and garden material loose in the street. The program was quickly implemented in the newly developed homes in the North and the South areas of the City. Attachment VI provides a clear illustration as to how the 64-Gallon Default Can Size Program and containerized lawn and garden program allow residents to reduce their monthly City utilities costs. Residents can save up to \$83.16 per year by selecting a service that meets their household needs.

### **Option D - Appointment Based Neighborhood Cleanup**

Residents of Sacramento pay approximately \$2.00 each month (part of garbage fees) for once a year annual collection of bulky item material (Neighborhood Cleanup). The actual cost for collection varies based on the method used to collect the material. Material collected by appointment costs \$1.75 per month vs. \$2.00 per month for services rendered via the traditional neighborhood cleanup based program (collection by neighborhood).

The savings is derived from 40% reduction in total weight collected. The City Council could make a policy decision and direct staff to start charging residents in the appointment based program a lower fee (reduction in garbage fee fiscal year 2006/07) than those residents in the traditional Neighborhood Cleanup program (Attachment VII). However unlike the Variable Can Rate program, residents do not make individual decisions to be included in the appointment-based program. Both collection methods include a cost of approximately \$1.00 for removal of illegally dumped material throughout the City. However, illegal dumping is still a significant issue and staff will return in the near future with a comprehensive strategy that focuses on apprehension and deterrence over collection.

### **Long Term Implementation of Today's Policies**

In 2006/07 staff expects to have over 50,000 homes on the containerized Lawn and garden collection program and over 20% of all residents with a smaller 64-gallon container. In addition, staff believes that weekly collection of recyclables will further increase capacity space in residential trash containers, allowing even more residents to move to smaller trash containers. The increased cost of recycling can be mitigated by residents switching to a smaller trash container and increasing costs for larger trash containers (another option).

If the City Council directs staff to return with a plan for weekly recycling, staff would also like to return with a plan to implement a targeted smaller container replacement program in targeted areas based on weight by route data collected by the Department. The targeted replacement program would replace 96-gallon containers, new and used with 64-gallon containers on routes that currently produce the least amount of waste. The used containers would be used as temporary replacements in other areas.

**Financial Considerations:** It is estimated that 5 additional trucks would be needed to implement weekly recycling for an overall capital improvement cost of \$1,500,000 or less than \$1.00 per month per single family residential unit (one time costs). Ongoing annual cost of approximately \$.55 to \$.75 would be needed for weekly collection of recycling. Ultimately, those residents switching to a smaller trash container would see no increase in their monthly garbage fees as they capture the savings from switching to a smaller trash container. If City Council wanted to accelerate the targeted replacement program to allow more citizens to save money, or the department received additional requests for smaller containers beyond the existing container replacement budget,

Review of Community Outreach Plan to Promote the City's Variable Can Rate (Smaller Trash Container) and Other Programs Residents Can Use to Reduce Monthly Utility Bill Costs for Garbage, Lawn and Garden and Recycling Services (Report Back). November 29, 2005

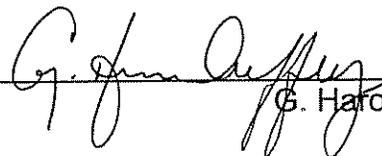
additional revenue would be needed to meet those demands. If City Council directed staff to implemented weekly recycling, it is staff's professional opinion that every home in the City could meet their solid waste service needs with a 64-gallon trash container and a 96-gallon recycling container.

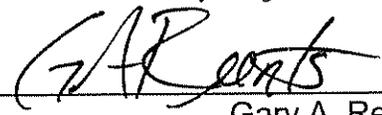
The Community Outreach program can be handled within this years' fiscal budget and requires no additional resources.

**Environmental Considerations:** The consideration and planning of new solid waste services is exempt from CEQA pursuant to Section 15262, Feasibility and Planning Studies.

**Policy Considerations:** City Council giving direction to the Solid Waste Division to pursue a long-term program for residents to reduce their monthly utility bill will support the City's policy of achieving sustainable and livable communities.

**Emerging Small Business Development (ESBD):** Not Applicable.

Respectfully Submitted by:  \_\_\_\_\_  
G. Harold Duffey

Approved by:  \_\_\_\_\_  
Gary A. Reents  
Director of Utilities

Recommendation Approved:

  
FOR ROBERT P. THOMAS  
City Manager

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# SOLID WASTE DIVISION

## FY05/06 Container Size Rates

With loose in street garden refuse

	96- Gallon	64- Gallon	32- Gallon
Trash	14.95	12.35	10.15
Garden Refuse	9.07	9.07	9.07
Recycling	2.55	2.55	2.55
Sweeping	1.10	1.10	1.10
<b>TOTAL</b>	<b>\$27.67</b>	<b>\$25.07</b>	<b>\$22.87</b>

10% Savings

17% Savings

# **SOLID WASTE DIVISION**

## **FY05/06 Containerized Green Waste Rates**

	<b>96- Gallon</b>	<b>64- Gallon</b>	<b>32- Gallon</b>
<b>Trash</b>	<b>14.95</b>	<b>12.35</b>	<b>10.15</b>
<b>Garden Refuse</b>	<b>6.90</b>	<b>6.90</b>	<b>6.90</b>
<b>Recycling</b>	<b>2.55</b>	<b>2.55</b>	<b>2.55</b>
<b>Sweeping</b>	<b>1.10</b>	<b>1.10</b>	<b>1.10</b>
<b>TOTAL</b>	<b>\$25.50</b>	<b>\$22.90</b>	<b>\$20.70</b>

## Solid Waste Rate Reduction Outreach Plan

### Reducing Your Can Size Makes Dollars and Sense

Many Sacramento utility customers fail to realize that by using a smaller trash can, they can reduce their monthly garbage bills by up to 32%. Smaller garbage cans can be obtained by calling the City's Department of Utilities.

The outreach effort would be mostly community based- relying on primarily on grass root efforts including but not limited to community events, mailing to community leaders, and displays. Other elements of the campaign include advertising in neighborhood publications and placement of stories in neighborhood association newsletters and local newspapers.

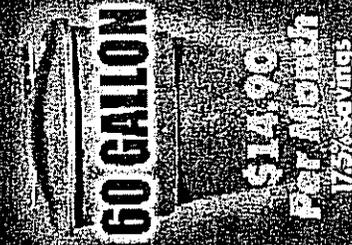
### Elements of the Campaign

- **Reducing Your Can Size Makes Dollars and Sense Brochure.** Designed to be the size of a bill stuffer so that it can be adapted for multiple uses, the "Reducing Your Can Size Makes Dollars and Sense" brochure will contain information about the financial and environmental benefits of using a smaller garbage can. The brochure can be distributed as a future bill stuffer, distributed at community events attended by the Department of Utilities, mailed to interested parties and community leaders, and placed for pick up at display areas.
- **Reducing Your Can Size Makes Dollars and Sense Display.** A display featuring real size cans with price tags will be created and placed at Community Centers and other public locations throughout the City. There will also be a brochure holder placed on the display to provide information regarding the cost and environmental benefits of the program.
- **Community Leader Mailing.** Using a list of neighborhood associations and community leaders, the Department of Utilities will mail a letter describing the cost saving and environmental preservation opportunities. Also offered in the letter will be the opportunity to have a Department of Utilities staff member come to speak to their group. The letter will also include a copy of the brochure for their review.
- **Neighborhood Relations.** Working with Neighborhood Services and Neighborhood Associations, City staff will present information to the community in neighborhood meetings and at community events. A list of 2005 Community Events to be attended by the Department of Utilities is attached.
- **Story Placement.** While the campaign contains information that is of benefit to all Sacramento Utility Customers, the likelihood of the story being picked up by large TV, radio, and print outlets is fairly small. It is suggested that efforts be made to place the story in smaller, more community based outlets. These include but are not limited to local cable, neighborhood publications (including newsletters and newspapers), and ethnic media outlets.
- **Saving Money on Your Utility Bill Stuffer.** Many customers can qualify for additional savings on their Utility bills through a variety of programs. These programs include the Solid Waste Rate Reduction Program, Utility Tax Rebate Program, the Utility Customer Assistance Program and SRCSD's Sewer Lifeline Rate Assistance Program. An additional element to this plan may include a bill stuffer with a brief description of each program and the contact information for each program.

**Keep Sacramento Clean!  
Doing More  
Recycling?  
Switch to a smaller  
garbage container!**

Printed on 100% recycled paper.

**R**educing the size of your garbage container makes dollars and sense. Switching to a smaller size can save up to 38% on your monthly trash and recycling bill.

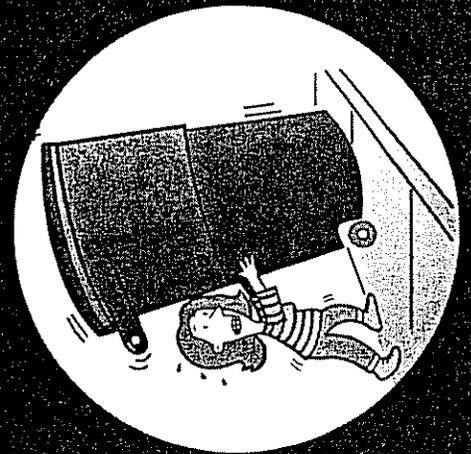


38% savings

17% savings

A quick test to help you determine the right can size for your family: look in your can on trash collection day. If the can is consistently 2/3 full or less, consider switching to a 60-gallon can. If the can is consistently 1/3 full or less, consider switching to a 32-gallon can. Call (916) 808-4800 to order a smaller trash can.

**Garbage Can Too Big?**



Keep Sacramento Clean! For more information on reducing your trash can size, proper recycling, or other ways to save money on your monthly utility bill, please call (916) 808-4800, visit [www.cityofsacramento.org/utlities](http://www.cityofsacramento.org/utlities), or look in the SBC SMART Yellow Pages under "Garbage."



**Switch To A Smaller One!**



Waste Prevention, Recycling, and Composting Options: Lessons from 30 U.S. Communities

## Chapter Five

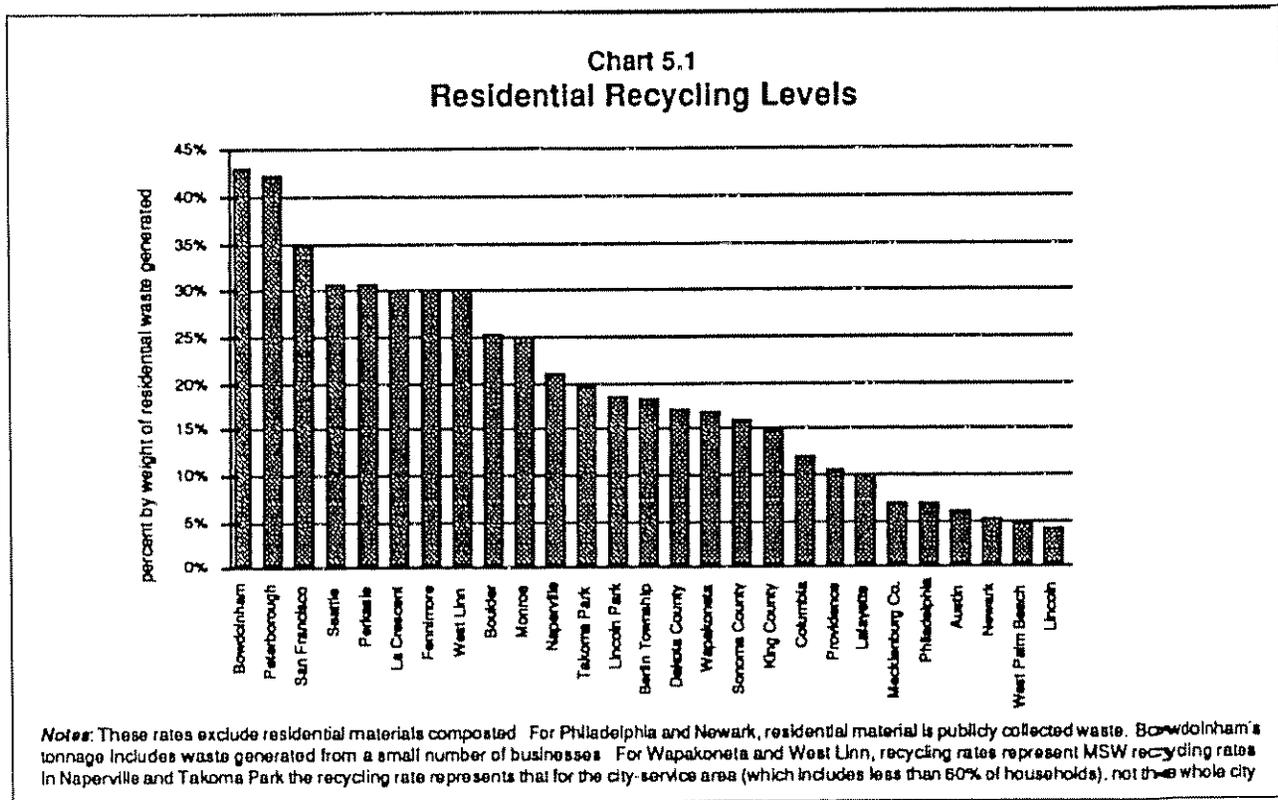
# Improving Residential Recycling Levels

### Overview

The nation has experienced tremendous growth in residential recycling opportunities in the last few years. In 1988 there were a little over 1,000 curbside recycling programs (full-scale and pilot) operating; by 1991 there were nearly 4,000--a growth of more than 250 percent in 3 years.<sup>1</sup> Drawing on the experience of the 30 communities studied, as well as model initiatives both in the United States and abroad, this chapter describes how municipalities are achieving high residential recycling levels (composting programs, which are also critical to reaching high levels of materials

recovery in the residential sector, are discussed in Chapter 4.) This chapter discusses the range of design options (including set-out method, frequency of collection, containers, and materials targeted), and outlines the features that increase participation and the amount of material collected for recycling.

Tables 5.1 and 5.2 list residential recycling, composting and recovery rates, and select program characteristics for the 30 communities studied. As indicated in these tables and Chart 5.1, communities are recycling up to 42 percent of their residential waste?



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Table 5.1  
Residential Materials Generated and Recovered

Community	Year Data Collected	Residential Waste Generated (TPY)	Residential Materials Recycled (TPY)	Residential Materials Composted (TPY)	Residential Materials Recovered (TPY)	% Residential Materials Recycled (By Wt.)	% Residential Materials Composted (By Wt.)	% Residential Materials Recovered (By Wt.)	Residential Materials Recycled (lbs/HH/yr.) (a)	Residential Materials Composted (lbs/HH/yr.) (a)	Residential Materials Recovered (lbs/HH/yr.) (a)
Austin, TX	FY89	254,464	13,387	4,186	17,573	5	2	7	135	42	177
Berkeley, CA	FY81	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Berlin Township, NJ	1990	6,035	1,053	2,339	3,392	17	39	56	1,170	2,599	3,769
Boulder, CO	1990	29,204	7,265	2,300	9,565	25	8	33	415	131	547
Bowdoinham, ME	FY90	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Columbia, MO	FY90	30,857	3,242	NA	3,242	11	NA	11	252	NA	252
Dakota County, MN	1990	113,487	18,976	14,113	33,089	17	12	29	380	282	662
Fennimore, WI	1990	648	164	169	333	25	26	51	337	348	686
King County, WA	1990	646,109	77,328	48,058	125,386	12	7	19	408	254	662
La Crosse, WI	1990	1,109	309	144	453	28	13	41	394	184	578
Lafayette, LA	FY90	34,651	2,440	2,211	4,651	7	6	13	165	150	315
Lincoln, NE	1990	135,390	4,081	467	4,548	3	0	3	103	12	115
Lincoln Park, NJ	1990	7,750	1,409	2,387	3,796	18	31	49	662	1,121	1,782
Mechanicsville, VA	1990	292,897	20,171	0	20,171	7	NA	7	186	0	186
Monroe, WI	1989	3,802	804	417	1,221	21	11	32	376	195	572
Naperville, IL	1990	39,020	7,617	4,901	12,518	20	13	32	491	316	808
Newark, NJ (b)	1989	146,654	6,823	7,435	14,258	5	5	10	133	145	278
Parkville, PA	1990	3,133	964	654	1,618	31	21	52	494	335	829
Peterborough, NH	1990	2,003	847	0	847	42	0	42	941	0	941
Philadelphia, PA (b)	FY90	928,054	56,264	1,871	57,855	6	0	6	167	5	172
Portland, OR	1990	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Providence, RI	1990	80,677	8,191	0	8,191	10	0	10	267	0	267
San Francisco, CA	1990	308,099	106,712	7,027	113,739	35	2	37	650	43	693
Seattle, WA	1990	258,219	78,911	36,780	115,691	31	14	45	634	285	929
Sonoma County, CA	1990	124,845	18,571	402	18,973	15	0	15	232	5	237
Takoma Park, MD	1990	6,889	1,269	1,206	2,475	18	18	36	361	343	703
Upper Township, NJ (b)	1990	6,879	2,527	884	3,411	37	13	50	1,309	458	1,767
Wapakoneta, OH	989-990	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
West Linn, OR	1990	NA	1,507	1,474	2,981	NA	NA	NA	489	478	967
West Palm Beach, FL	490-991	69,713	2,809	12,434	15,243	4	18	22	230	1,017	1,247

Key:  
FY = Fiscal Year HH = Household NA = Not Available TPY = Tons Per Year Wt = Weight

Note:  
Residential tonnages above may exclude some waste generated by the residential sector, such as waste generated by apartment buildings (e.g. in Takoma Park, Philadelphia, Providence and Newark), and self-haul waste (e.g. Seattle and Austin). For community-specific explanation of waste generation see Appendix C.

(a) Based on total households in the community.

(b) All tonnage figures are recycling, composting, and recovery rates represent materials handled by the public sector. Because public sector material in Upper Township includes recyclables collected from 222 businesses, which is over 5% of households served, figures for Upper Township are excluded from all graphs in this chapter. See Appendix A for definition of public sector waste.

## Waste Prevention, Recycling, and Composting Options: Lessons from 30 U.S. Communities

Table 5.5  
Seattle's Curbside Recycling Program By Section

Material	North Section (Tons, 1990)	South Section (Tons, 1990)	Total (Tons, 1990)
Newspaper	9,057.2	8,315.8	17,373.0
Mixed Paper	9,687.8	7,514.0	17,201.8
Glass	4,874.2	4,222.7	9,096.9
Aluminum	358.5	236.6	595.1
Tin	745.3	561.4	1,306.7
PET	64.0	99.0	163.0
Total	24,787.0	20,949.5	45,736.5
Frequency of Collection	Weekly	Monthly	—
Recycling Containers	Three 12-gallon stacking containers	One 60- or 90-gallon toter	—
Material Set-out	Commingled glass, aluminum, and ferrous cans, and PET containers in one bin; mixed waste paper in a second bin; newspaper in a third bin; corrugated cardboard on side	All glass, PET containers, aluminum and tin cans, newspaper, and mixed waste paper in one container	—
Collection Vehicle(s)	Compartmentalized Recycling Trucks	Rear-loading Packers	—
Avg. No. of HH Served (a)	60,256	61,290	121,546
Participation Rate (b)	89.6%	77.3%	83%
Avg. Pounds per HH per Year	822.7	683.6	752.6
Avg. Pounds per HH per Week	15.8	13.1	14.5

**Notes:**

Seattle believes that socioeconomic factors (in addition to collection frequency) may contribute to the difference in participation. The north end of Seattle is considered the University section, and, in general, is a higher income area than the south end.

(a) Seattle records the number of households signed up for the curbside program on a monthly basis. The average number of households served is the average of these numbers over 12 months of the year.

(b) Participation rate is defined as the sign-up rate--the ratio of the number of households registered for the program to the number of households eligible. As of June 1991, the participation rate increased to 92.3 percent in the north and 80.4 percent in the south section. In 1989, 89.3 percent of households in the north section and 67.3 of the households in the south section were registered.

Wapakoneta does not provide the option of receiving curbside recycling service.<sup>3</sup>

### \* Collection Frequency

The majority of communities in this study with curbside recycling programs have weekly collection (see Table 5.4).<sup>4</sup>

In fact, most of the programs with high participation and recovery rates have weekly collection of recyclables. In communities with both weekly and monthly collection of recyclables, neighborhoods with weekly collection have higher

participation rates. Participation in Portland's monthly collection programs averages 2.3 percent, while participation in its weekly programs averages 57 percent. In 1990 the north end of Seattle achieved a 90 percent participation rate in its weekly program, while the south side experienced only a 77 percent participation rate in its monthly program (Table 5.5 compares participation rates, tonnage data, and program characteristics for Seattle's two curbside programs).<sup>5</sup> Similarly, in communities that have switched from monthly to weekly collection, participation rates have increased. When Naperville switched from

*Waste Prevention, Recycling, and Composting Options: Lessons from 30 U.S. Communities*

biweekly to weekly collection in May 1990, overall monthly program participation increased from 54 percent in 1989, to 75 to 80 percent in 1990

When participation increases, the amount of materials collected tends to increase. The tonnage of recyclables collected in Naperville after its switch from biweekly to weekly collection increased from an average of 436 tons per month (for the first 4 months of 1990) to an average of 750 tons per month (for the subsequent 5 months)--an increase of 72 percent. The same number of households were serviced and the same types of recyclables were collected. When Berkeley, California switched from monthly to weekly curbside collection during 1988 and 1989, curbside tonnages jumped significantly, from 2,044 total tons collected at curbside in FY 88 to 5,984 tons in FY 90. The same materials and households were targeted both years. Newark switched from biweekly to weekly collection of recyclables in October 1991; 20 percent more material was recovered in November 1991 than in November 1990.

More frequent collection can also increase the set-out rate and reduce the amount of material set out per household per collection day. This requires a collection vehicle to make more stops before filling up, thus decreasing collection efficiency. With the switch from biweekly to weekly service in Naperville, for example, the number of set-outs per collection day increased by 152 percent, while the weight of each set-out decreased by an average of 25 percent. (The total amount of material recovered from each household grew from 61 pounds per month to 71 pounds per month.) Additionally, the amount of certain materials recovered, including corrugated cardboard and HDPE plastic containers, increased disproportionately. The Naperville Area Recycling Center (NARC) explains that the bulkiness of these materials makes them inconvenient to store. When recycling collection became more frequent, storage was no longer a problem and setting out such materials for recycling collection became as convenient as setting them out for refuse collection.

Weekly collection of recyclables appears to be especially important in communities with weekly or twice weekly collection of refuse, since residents may be inclined to dispose of recyclable materials with refuse, particularly if storage is a problem.

## Collection Day

Collecting recyclables on the same day as refuse does not necessarily increase participation rates or residential recycling rates. Establishing a consistent recycling collection day, and conducting an effective promotional program that instructs residents to set out recyclables on the designated day, appears to be more important than collecting recyclables on the same day as refuse. The cities of Perkasie, Seattle, and Fennimore, which collect recyclables on a different day from refuse, all record high participation and recycling rates. The City of Portland has concluded that its low participation rates result from confusion regarding the collection day as much as from infrequent (monthly) collection of recyclables in some parts of the City. While the fact that recyclables are not collected on the refuse collection day in parts of the City contributes to this confusion, a more substantial cause is the lack of a routine collection day within neighborhoods. Households on the same block may have different haulers and therefore different recycling collection schedules. Thus, setting out recyclables on collection day is not reinforced by the observed behavior of one's neighbors.

## Offer Service to All Households

The more households that receive curbside collection of recyclables, the more residential materials a community will recover. Many of these communities with the highest residential recycling levels, such as Berlin Township, New Jersey; Fennimore and Monroe, Wisconsin; La Crescent, Minnesota; Perkasie, Pennsylvania, and West Linn Oregon, collect recyclables from at least 90 percent of their households. (See Table 5.3.) Many of the communities with lower residential recycling rates collect recyclables from a limited number of households. In 1990 Philadelphia serviced only 28 percent of households in its public service area, and recycled only 6 percent of its publicly collected waste.

Communities wishing to raise recycling levels not only target all households with recycling collection, but also secure the participation of serviced households. Chart 5.2 compares net participation rates (the percent of total households serviced multiplied by the participation of serviced households) with residential recycling rates. Austin serviced only 55 percent of households with recycling collection in FY 1989; of these, only 40

*Waste Prevention, Recycling, and Composting Options: Lessons from 30 U.S. Communities*

capacities of existing markets. For example, when traditional paper outlets are filled, Green County, in which Monroe is located, shreds and bales its paper for sale as animal bedding.

Peterborough, New Hampshire, is very active in the New Hampshire Resource Recovery Association (NHRRA). Begun in Peterborough in 1979, NHRRA helps to develop new markets for recyclable materials. Peterborough collectively markets some materials, such as glass, corrugated cardboard, newspaper, and plastic containers, through the NHRRA. Member communities are

charged a fee of \$0.03 per capita for this service plus a fee for brokering specific material; in return they receive revenue from the sale of certain materials. The NHRRA markets about 50 percent of all recyclables collected in the State of New Hampshire.

In addition to seeking markets for recyclables, a number of our case-study communities have implemented policies such as recycled-content product procurement to encourage further market development. See Appendix D for a list of these communities.

## Notes

<sup>1</sup>Jim Glenn, "The State of Garbage in America," *BioCycle*, April 1992.

<sup>2</sup>For the communities of Philadelphia and Newark, residential material is publicly collected waste. Bowdoinham, West Linn, and Wapakoneta's MSW recycling rates are utilized in Chart 5.1 as their MSW is largely residential. The Cities of Berkeley and Portland have been excluded from Chart 5.1 as residential rates are not available. Upper Township has also been excluded as its publicly collected waste contains recyclables (although not refuse) from 222 businesses. Residential recycling rates are based on data provided by municipal officials and the private sector. Recycling rates are based on marketed tonnages in the few communities where such information was available; in most cases, however, recycling rates are based on collected tonnages. See Appendix A for methodology and data definitions, and Appendix C for waste calculations.

<sup>3</sup>Wapakoneta recycled 16 percent of its municipal solid waste in fiscal year 1990, while residents in the rural community of Wapakoneta receive curbside collection of refuse; they must drive to the privately run recycling drop-off site to participate in the City's voluntary recycling program. The Wapakoneta Recycling Center is operated by 19 Girl and Boy Scout troops and 1 volunteer recycling coordinator. In order to increase its recycling rate, Wapakoneta will institute weekly curbside collection of recyclable materials in spring 1992, based on a plan designed by the City's volunteer Waste Minimization Committee. In Lincoln Park, New Jersey, newspaper is the only material collected at curbside; all other recyclables are collected at the Borough's drop-off yard. Drop-off is the primary method of recyclable and refuse collection in the rural communities of Bowdoinham, Maine, and Peterborough, New Hampshire. However, private haulers in both cities offer limited curbside recycling opportunities. In Bowdoinham, one-third of the City receives curbside service.

<sup>4</sup>There are some exceptions. Columbia, Missouri; Lincoln Park, New Jersey; the south side of Seattle; parts of Portland, Oregon; and King County, Washington, have monthly collection. Perkaskie has weekly collection of glass and aluminum, and monthly collection of newspaper, junk mail, and corrugated cardboard. During the base year of study, Newark collected commingled recyclables and newspaper on alternate weeks. Residents of Lincoln Park receive monthly collection of newspaper only; all other recyclables in Lincoln Park are collected through drop-off. Residents of Fenimore receive collection of recyclables every other week.

<sup>5</sup>Communities measure program participation differently. In most cases, the participation rate is the number of households setting out recyclable materials at least one time per month divided by the total number of households served. In Seattle, participation is the sign-up rate—the ratio of the number of households registered for the program to the number of households eligible. See *In-Depth Studies of Recycling and Composting Programs: Designs, Costs, Results* (Washington, DC: ILSR, 1992) for information on how communities determine participation rates.

<sup>6</sup>NARC also discovered that biweekly collection saw a greater variation (plus or minus 40 percent) in the size of daily collection. With weekly collection, variation in tonnage decreased (to plus or minus 18 percent), which made scheduling easier and reduced the need for workers to put in overtime hours. Miriam Foshay and Anne Aitchison, "Factors Affecting Yield and Participation in Curbside Recycling Program," *Resource Recycling*, March 1991.

*Waste Prevention, Recycling, and Composting Options: Lessons from 30 U.S. Communities*

<sup>1</sup>In the base year of study (1990), only 20 percent of San Francisco's residential recyclables were collected at curbside. With the curbside program fully phased in, the City estimates that it is recovering 55,000 tons per year at curbside, two and one-half times the amount recovered at curbside in 1990. In Boulder, the University, which comprises approximately 25 percent of the City's population, has 225 drop-off sites for recyclables on campus.

<sup>2</sup>Generally a household is considered a participant in a recycling program even if it sets out only one or two materials. Thus, participation rates do not indicate if all materials are set out.

<sup>3</sup>Glass breakage occurs on the collection vehicle as well as in the processing center. For example, the operators of the facility that processes Providence's commingled recyclables report that approximately 20 percent of glass entering the plant arrives broken.

<sup>4</sup>Before Monroe implemented its citywide curbside program in 1986, it conducted a study to gauge residents' participation rates and the suitability of recycling containers. The City observed that the type of collection container used had a direct effect on the amount of recyclables collected. During the pilot study, households that received a reusable plastic recycling bin set out an average of 4.94 pounds of recyclables each week. Households that received a plastic bag set out an average of 2.18 pounds per week.

<sup>5</sup>In order to increase participation rates, Newark distributed an additional 5,000 8-gallon bins in 1990, and budgeted for 12,000 bins to be distributed in 1991. The City is requiring its new recycling contractor, who services one-third of the City, to supply residents with recycling bins.

<sup>6</sup>Jennifer S. Gitlitz, "Curbside Collection Containers: A Comparative Evaluation," *Resource Recycling*, January/February 1989.

<sup>7</sup>Tom Outerbridge (Recycling Programs and Planning Division, New York DEP), personal communication, February 1992. Alicia Culver (Center for the Biology of Natural Systems, Queens College), personal communication, March 1992.

<sup>8</sup>Two private haulers in Peterborough collect recyclables and refuse at curbside from 100 to 200 households requesting this service, and bring materials to the Town drop-off center.

<sup>9</sup>In 1991 Bowdoinham closed the landfill drop-off site in order to avoid transporting materials the 6 miles from the landfill to the processing center. The City now collects most of the Town's recyclables at the processing center.

<sup>10</sup>General Accounting Office, "Solid Waste: Trade-offs Involved in Beverage Container Deposit Legislation," November 1990, 34.

<sup>11</sup>The number of materials targeted for collection may under represent the actual number of material types collected. Mixed paper, for example, contains several types of materials. Perkasié, for example, collected two types of mixed paper—magazines and advertising mail. Recycling rate excludes tonnages recovered through composting activities. Including composting, 11 communities are recovering 35 percent of their residential waste, and 9 of these are recovering more than 40 percent.

<sup>12</sup>Other factors responsible for the jump in curbside tonnages collected in Naperville, from an average of 750 tons per month from April to August 1990, to an average of 940 tons per month from April to August 1991, were the increased publicity for recycling as a result of the City's securing a new recycling hauler, and the change in set-out requirements, from eight sorts under the old system to three sorts under the new contract.

<sup>13</sup>Urban Ore, Inc. (salvage/reuse business), Berkeley, California, personal communication, June 1991.

<sup>14</sup>The Institute for Local Self-Reliance's 1990 publication *Beyond 40 Percent: Record-Setting Recycling and Composting Programs*, documents 17 materials recovery programs recovering between 32 and 57 percent of their solid waste.

<sup>15</sup>Cities may choose to give residents a grace period before beginning enforcement measures, to allow residents time to adjust to recycling requirements.



DEPARTMENT OF  
UTILITIES

CITY OF SACRAMENTO  
CALIFORNIA

2812 Meadowview Road  
Sacramento CA 95832

SOLID WASTE DIVISION

Phone 916-808-4900  
Fax 916-808-4999

## MEMORANDUM

**TO:** Mayor Heather Fargo  
Councilmember Ray Tretheway, District 1  
Councilmember Sandy Sheedy, District 2  
\*Councilmember Steve Cohn, District 3  
Councilmember Robert Fong, District 4  
Councilmember Lauren Hammond, District 5  
\*Councilmember Kevin McCarty, District 6  
Councilmember Robbie Waters, District 7  
Councilmember Bonnie Pannell, District 8

**FROM:** G Harold Duffey, Integrated Waste General Manager 

**SUBJECT:** Report Back on Percentage of Recyclable Material in Residential Garbage Containers

**DATE:** November 10, 2005

During the June 7, 2005 City Council meeting, Council requested staff to report back on what percentage of recyclable material is found in the residential garbage containers. In response to this request, staff worked with the Sacramento Recycling and Transfer Station to sample residential garbage loads and sort the recyclable materials from each sample. The quick answer to the Council's question can be summed up in the following manner:

- Visual observation by staff of recyclable materials found in the garbage container ranged from 40-60%. Of that 40-60% of recyclables mixed in with residential garbage, 12% of the material can be recovered through the normal sorting process.
- The City disposes of approximately 120,000 tons of residential garbage annually, based on staff's visual observations of the samples, approximately 45,000 to 70,000 tons of material currently land filled by the City is recyclable material. Statistical information indicates that based on the sample sorts, a minimum of 15,000 tons of recyclables could be recovered after it was commingled in garbage containers.



DEPARTMENT  
OF UTILITIES

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The sample loads sorted were taken from routes that range from an average of .65 tons per year per household to the heaviest routes that average 1.32 tons per year per household. The sorts were conducted on August 31, September 1 and October 21, 2005.

The following methodology was used to sample the identified garbage loads

1. A total of eight trucks were identified over the two-day period for August 31<sup>st</sup> and September 1<sup>st</sup>. Six trucks were identified on October 21, 2005.
2. The trucks were identified at the scale house when entering the Sacramento Recycling and Transfer Station with their first load of the day and directed to where they were to tip their load.
3. A 908 loader removed one scoop of garbage from the identified load of each truck participating in the sampling and deposited it into a roll off box. All loads sampled on the same day were stored in the roll off box.
4. The material from the loads and roll off box were weighed.
5. The material was sorted separating out the garbage and recyclable materials.
6. The recyclable materials were weighed.

Attachment 1 shows the findings by material type

The Solid Waste Services staff will continue to address the need to improve recycling through the public outreach programs now implemented and future programs to improve recycling throughout the city.

#### Attachments

- cc. Robert Thomas, City Manager  
 Cassandra Jennings, Assistant City Manager  
 Gary Reents, Director, Department of Utilities  
 Grace Garcia, Utilities

ATTACHMENT 1

RECYCLABLE MATERIALS FOR THIS SAMPLE  
OCTOBER 21, 2005

- 1 Green Waste
- 2 Wood
- 3 Mixed Paper
- 4 OCC
- 5 Flint Glass
- 6 Amber Glass
- 7 Green Glass
- 8 Aluminum
- 9 All Plastics
- 10 Film Plastic
- 11 Tin/Metal
- 12 CRTs

ATTACHMENT 1

Sacramento Recycling & Transfer Station  
31-Aug-05

City of Sacramento - Wednesday Trash

	Bale Avg.	Bins/Bales	lbs.	tons	Apr 26th		Mar 29th	
					% of Total	% of Total	% of Total	% Change
Total Inbound Tons				7.83	100.00%			
				0	0.00%			
Net Tons for Processing-				7.83	100.00%			
Recovered Materials:								
Green Waste	0	0	280	0.14	1.79%	35.74%	-33.95%	
Wood			180	0.09	1.15%			
Mixed Paper-	0	0	440	0.22	2.81%	30.54%	-27.73%	
OCC-	0	0	520	0.26	3.32%	10.64%	-7.32%	
Flint Glass-	0	0	-	0.00	0.00%	2.98%	-2.98%	
Amber Glass-	0	0	-	0.00	0.00%	1.51%	-1.51%	
Green Glass-	0	0	146	0.07	0.93%	1.05%	-0.12%	
Aluminum-	0	0	24	0.01	0.15%	0.42%	-0.26%	
HDPE Color-	0	0	100	0.05	0.64%	0.81%	-0.18%	
HDPE Natural-	0	0	40	0.02	0.26%	1.45%	-1.19%	
PET-	0	0	80	0.04	0.51%	1.49%	-0.98%	
Tin/Metal	0	0	490	0.25	3.13%	1.79%	1.34%	
<b>Total-</b>			2,300.00	1.15	14.69%	88.42%	-73.74%	
Trash		13,360.00	13,360	6.68	85.31%	10.90%	74.41%	
Shrink - Unaccounted				0.00	0.00%	0.67%	-0.67%	
<b>Total Residual</b>				<u>6.68</u>	<u>85.31%</u>	11.58%	73.74%	
<b>Diversions Percentage-</b>					<b>14.69%</b>	88.68%	-73.99%	

Sacramento Recycling & Transfer Station  
01-Sep-05

ATTACHMENT 1

City of Sacramento - Thursday Trash

	Bale Avg.	Bins/Bales	lbs.	tons	Apr 26th % of Total	Mar 29th % of Total	% Change
Total Inbound Tons				5.12	100.00%		
				0	0.00%		
Net Tons for Processing-				5.12	100.00%		
<b>Recovered Materials:</b>							
Green Waste	0	0	100	0.05	0.98%	35.74%	34.76%
Wood			-	0.00	0.00%		
Mixed Paper-	0	0	340	0.17	3.32%	30.54%	-27.22%
OCC-	0	0	140	0.07	1.37%	10.64%	-9.28%
Flint Glass-	0	0	160	0.08	1.56%	2.98%	-1.42%
Amber Glass-	0	0	-	0.00	0.00%	1.51%	-1.51%
Green Glass-	0	0	-	0.00	0.00%	1.05%	-1.05%
Aluminum-	0	0	31	0.02	0.30%	0.42%	-0.11%
HDPE Color-	0	0	60	0.03	0.59%	0.81%	-0.23%
HDPE Natural-	0	0	24	0.01	0.23%	1.45%	-1.22%
PET-	0	0	60	0.03	0.59%	1.49%	-0.90%
Tin/Metal	0	0	140	0.07	1.37%	1.79%	-0.42%
<b>Total-</b>			1,055.00	0.53	10.30%	88.42%	-78.12%
Trash		9,185.00	9,185	4.59	89.70%	10.90%	78.80%
Shrink - Unaccounted				0.00	0.00%	0.67%	-0.67%
<b>Total Residual</b>				<u>4.59</u>	<u>89.70%</u>	11.58%	78.12%
<b>Diversion Percentage-</b>					<u>10.30%</u>	88.68%	-78.38%

Sacramento Recycling & Transfer Station  
21-Oct-05

City of Sacramento Residential MSW

Total Inbound Tons	10.33	100.00%
Oil & Filters	0	0.00%
Net Tons for Processing-	10.33	100.00%

Recovered Materials:	Bale Avg.	Bins/Bales	lbs.	tons	% of Total
Newspaper-	0	0	240	0.12	1.16%
Mixed Paper-	0	0	320	0.16	1.55%
DOC-	0	0	280	0.14	1.36%
Metal	0	0.00	250	0.13	1.21%
Green Waste	0	0.00	380	0.19	1.84%
Glass	0	0.00	140	0.07	0.68%
Aluminum-	0	0	40	0.02	0.19%
HDPE Color-	0	0	260	0.13	1.26%
HDPE Natural-	0	0	20	0.01	0.10%
PET-	0	0	180	0.09	0.87%
E-Waste	0	0	180	0.09	0.87%
Tin Cans-	0	0	40	0.02	0.19%
<b>Total-</b>				<b>1.1650</b>	<b>11.28%</b>

Truck # 9583 = 7.51 Tons  
 Truck # 9592 = 8.96 Tons  
 Truck # 10053 = 9.11 Tons  
 Total = 5.16 Tons

Truck # 8218 = 10.53 Tons  
 Truck # 9594 = 11.38 Tons  
 Truck # 9582 = 9.38 Tons  
 Total = 5.17 Tons

Grand Total = 10.33 Tons

Trash	16,900	8.45	81.80%
Shrink - Unaccounted		0.72	6.92%
Total Residual		<u>9.17</u>	<u>88.72%</u>

Diversion Percentage- 11.28%

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