

PROGRAM EFFICIENCY

GOING BULK FOR YARD TRIMMINGS COLLECTION



IN THE ten years since its collection program began, the city of San Jose, California has increased the amount of yard trimmings recycled from 66,500 tons in the first year to 130,000 tons/year currently. "Yard waste makes up the largest part of our diversion, contributing significantly to San Jose's overall diversion rate of 43 percent," explains Carl Mosher, director of the municipal Environmental Services Department (ESD). In addition to California's mandatory deadline for 50 percent diversion by the year 2000, the city is preparing for new garbage, recycling and yard trimmings contracts, which will take effect in 2002. As a result, program analysis is critical for achieving the final percentage points of diversion as well as directing necessary service changes for new contracts.

PROGRAM HISTORY

Curbside recycling began in San Jose with bottles, cans and newspaper in 1986, targeting 25 percent by 1990. In 1987, a waste composition study revealed that yard trimmings made up nearly 30 percent of the remaining residential waste stream. Bulk collection (versus bagged or in carts) of yard

Loose yard trimmings are gathered with a claw-like bucket attachment in San Jose's collection program (above).

**San Jose,
California
achieves
maximum
volume, minimal
contamination
and high
customer
satisfaction
through loose
collection of
residential yard
trimmings.**

Michele Young

trimmings began in a pilot area of 7,400 households in 1989 and has expanded city-wide to serve 181,000 single-family households, in addition to multifamily dwellings and city facilities such as parks and community gardens.

"ESD recommended the use of uncontainerized collection because residents can set out unlimited quantities of yard trimmings," explains Ellen Ryan, manager for San Jose's Integrated Waste Management Division. "Uncontainerized yard trimmings also have a lower contamination rate as drivers can see the materials in the pile."

Contracts were awarded to Browning Ferris Industries (BFI) and Greenwaste Recovery for collection in the northern and southern districts in the city. Similarly, processing contracts were signed with two processors, BFI and Zanker Road Resource Management. By using multiple contracts, San Jose expected to improve performance through competition, with the assurance that service could be carried out if one contractor was unable to continue.

In 1993, the city instituted a volume-based garbage rate system with unlimited recycling and yard trimmings collection. The new Recycle Plus program enabled residents to subscribe to the smallest garbage cart and experience the lowest rates by recycling more. As a result of the new system and increased education, yard trimmings re-



Residential yard trimmings are loaded into a truck (left) for delivery to one of two commercial composting sites (right).



cycling increased by 45 percent in one year, diverting an additional 30,200 tons.

Diversion rates for yard trimmings are high in San Jose because the program allows unlimited setouts of grass clippings, leaves, brush and small branches. The yard trimmings collected are approximately 83 lbs/month/participant with loose collection, compared to 54 lbs/month with containerized collection in the nearby town of Milpitas, according to Todd Storti, facilities manager with BFI, which collects green waste in both cities. The contamination rate of collected yard trimmings has stayed below one percent.

On the day before collection (the same one for garbage and recycling), yard trimmings can be set out in the street in five-by-five-foot piles placed one foot from the curb and five feet from garbage carts and cars. Residents can set out as many five-foot piles as they can fit in front of their property. A wheel loader with a claw-like bucket attachment surrounds and scoops up piles, emptying them into a rear loading truck. On streets where private roads, red curbs, bike lanes or congestion don't allow automated collection, residents must use tarps or cans, which are manually emptied into the truck. Material taken to Zanker Road Resource Management is ground, with approximately 70 percent composted and the rest used for fuel, animal bedding, or mulch. BFI also grinds its yard trimmings, 75 percent of which are composted and the remainder used for direct application as mulch.

COST COMPARISONS

Loose collection costs San Jose \$3.54/household/month. City officials estimate that would rise to an average of \$5/household/month with containerized collection due to cart costs and decreased route efficiency. It would cost approximately \$11 million to purchase 96-gallon containers for everyone, averaging \$1.50/household/month for cart purchase and maintenance. Route data show that one crew with the claw and a front loader can collect from 2,200 homes in a day, while two trucks collecting carts using an automated arm can only collect from 1,200 homes/day. San Jose uses 34 vehicles (17 loaders and 17 packer trucks) to collect yard trimmings, and would need to

add an estimated 50 vehicles for containerized collection.

San Jose's Streets and Traffic Department used to operate a fall leaf removal program to keep storm drains clear. The yard trimmings program is more effective at clearing leaves, resulting in fewer storm drains being blocked. As a result, the leaf program has been discontinued, saving about \$300,000/year.

MARKETING, CUSTOMER SERVICE

Although compost processors are responsible for marketing the finished products, the city wrote its contracts to encourage the "highest and best use." As a result, San Jose does not allow the use of yard trimmings as alternative daily cover, ensuring that it is processed into compost, mulch, wood chips or green soil amendment. Approximately 70 percent of the material is sold as finished compost to the landscaping and agricultural industries, as well as residents, who purchase the material directly from the processors. In addition, city parks receive 1,800 tons/year and 100 tons/year are given away at outreach events.

To continue making best use of all products, the city's Agriculture in Partnership program sponsors research on composted municipal yard trimmings. Trials have been carried out at commercial agricultural sites and research stations to determine compost benefits and potential applications. Findings are provided to the agricultural community through workshops, newsletters and the county agricultural commissioner.

In the 1999 annual customer survey, 75 percent of San Jose residents were satisfied with yard trimmings collection. The principal resident concerns included residue left in the streets following collection and the scraping of streets by the vehicle's claw.

To address these issues, the city ran a six-month pilot program in which 2,107 single-family households tested compostable plastic and kraft paper bags for yard trimmings collection. The resident volunteers could obtain as many bags as needed for free. Surveys at the end of the pilot indicated that bag use was only partially effective. Most residents who used a bag also put out a yard trimmings pile, so residue was not com-

pletely eliminated, and those interested in using the bags did not want to pay 75 cents to \$1 to purchase them.

An ongoing aspect of the yard trimmings program is outreach, which is carried out by city staff and as a part of hauler contracts. It includes education about program and code enforcement guidelines, compost give-away events, and annual Christmas tree collection. Notices are left by drivers whenever a pile can not be collected, informing residents of program parameters and directions for improving collection.

Two areas where increased education could make a difference in diversion are multifamily dwellings and the city's back-

yard composting program. There are 85,000 multifamily units in San Jose eligible for yard trimming collection under their current garbage contracts. However, the service is not being used to its full potential, as only 60 percent of the multifamily dwelling yard trimmings are being diverted. "As San Jose analyzes its yard trimmings program in terms of diversion, program cost and customer service, it is likely that collection of loose yard waste will continue to be the most effective choice," Mosher concludes. ■

Michele Young manages Residential Services for the San Jose, California Integrated Waste Management Division.

Approximately 70 percent of the material is sold as finished compost to the landscaping and agricultural industries, as well as residents. In addition, city parks receive 1,800 tons/year.

Reprinted From:
December, 1999

BIOCYCLE

JOURNAL OF COMPOSTING & ORGANICS RECYCLING

419 State Avenue, Emmaus, PA 18049-3097
610-967-4135 • www.biocycle.net