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# DENVER RECYCLES

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2013 ANNUAL REPORT

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**DENVER**  
PUBLIC WORKS



DENVER RECYCLES



## INTRODUCTION

Denver Recycles is a program of Denver Public Works, Solid Waste Management. Denver Recycles staff assists Solid Waste Management in overseeing the City's recycling and composting services. Denver Recycles is funded primarily through the city's General Fund. The following report summarizes the recycling, composting, and other diversion activities in Denver for 2013.

### Services Offered

Denver Recycles offers no fee opt-in recycling services to all resident living in buildings with seven or fewer units and a fee-based compost service to a portion of the city's residential units. Denver Recycles contracts with Denver Public Schools to offer recycling services to all DPS schools and composting service to a portion of DPS schools. Denver Recycles also provides recycling collection to City and County facilities and compost collection to a small portion of these facilities. Denver Recycles provides, coordinates, contracts, or manages the following diversion related services in the City:

- Recycling and diversion related education City-wide
- Annual LeafDrop
- Electronics recycling events and drop-off discounts
- Household hazardous waste collection and drop-off
- Appliance collection and recycling
- Treecycle
- Mulch Giveaway & Compost Sale
- Master composter training and learn to compost classes
- Public recycling drop-off site

Denver Arts and Venues, Denver International Airport, and the Denver Coliseum are not serviced by Denver Solid Waste Management. Additionally, Denver Solid Waste Management does not provide services to multi-family units

with 8 or more units, commercial generators, or institutional generators.

## 2013 Highlights

- ❖ *Denver recycles diverted **36,455 tons** of materials from disposal in the landfill in 2013*
- ❖ *Denver Recycles programs saved the equivalent of **87,800 barrels of oil** and reduced the equivalent amount of Greenhouse Gasses as **removing 23,000 cars** off Denver streets (109,383MTCO<sub>2e</sub>).*
- ❖ *Increased participation in the City's residential recycling program to **71.5%** of all eligible households*
- ❖ *Switched **7 recycling collection trucks** to efficient and clean-burning **compressed natural gas (CNG)***
- ❖ *Secured funding to **expand the Denver Composts program** in 2014*
- ❖ *Composted a **record amount of leaves (518 tons)** in the LeafDrop program and collected a **record number of trees (185 tons)** in the TreeCycle program.*

## DENVER'S DIVERSION RATE

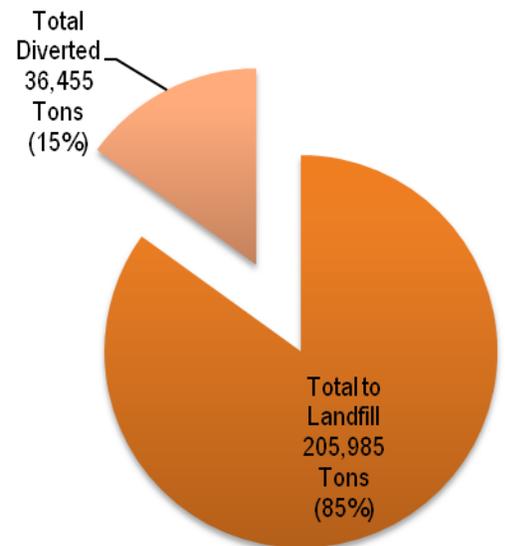
Solid Waste Management / Denver Recycles tracks the tons of materials landfilled, recycled, composted, and otherwise diverted through all of the Solid Waste Management offered programs. The City does *not* track disposal or diversion in the commercial and multi-family sectors, nor do we track source reduction efforts, scrap metal recycling, or construction and demolition debris diversion. In 2013 the city achieved a 15.0% diversion rate; this is a 9% percent increase over the 2012 diversion rate of 13.8%. In 2013 Denver diverted a total of 36,463 tons of materials through all of the City's programs and efforts. Each eligible household generated an average of 2,862 total pounds of materials, diverted 431 pounds of materials, and threw 2,432 pounds of materials away in the trash.

Figure 1 displays the detailed tons landfilled and diverted in 2013 and Figure 2 displays the overall diversion rate in 2013.

**Figure 1: Tons Generated, Diverted, and Landfilled in 2013**

Categories	Tons
Residential MSW	205,985
Residential Recycling	33,193
Residential Organics	1,168
Ewaste events	97
Ecycle coupons	9
Leafdrop	518
Appliance Collection	67
HHW Collections	58
Treecycle <sup>1</sup>	185
Backyard Compost <sup>2</sup>	1,160
<b>Totals</b>	
Total Landfill	205,985
Total Diverted	36,455
Total Generated	242,439
<b>Percentages</b>	
% Landfilled	85.0%
% Diverted	15.0%

**Figure 2: Denver Diversion Rate**

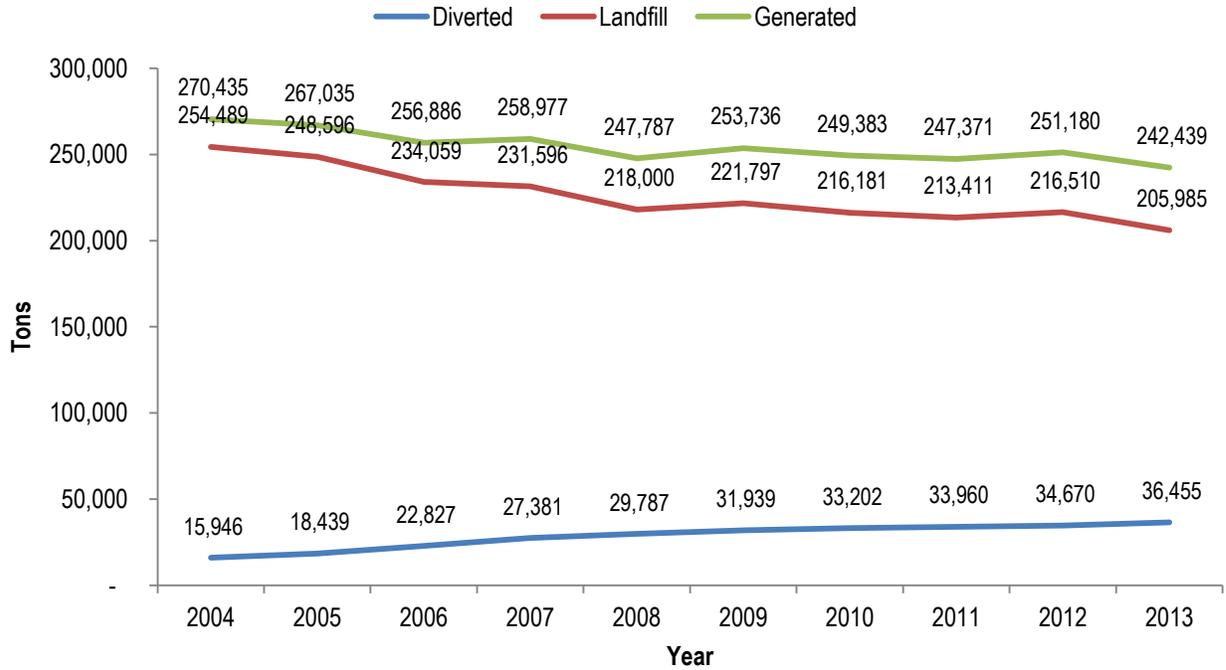


<sup>1</sup> Estimate based on number of trees collected and average dry weight of a Christmas tree.

<sup>2</sup> Estimate based on assumed percentage of households backyard composting.

Figure 3 shows that both the total tons generated and landfilled have been decreasing since 2004 while the tons of materials diverted has been increasing.

**Figure 3: Denver’s Generation, Disposal, and Diversion Rate 2004 - 2013**



## COLLECTION PROGRAMS

### Denver Recycles

Denver Recycles collects single stream recycling from eligible Denver households on an every-other-week basis. Recyclables are collected in a 65 or 95 gallon cart in a nearly fully automated system<sup>3</sup>. The city operates 16 recycling routes on a 5 day a week schedule. There were a total of 170,475 eligible households in the City and 121,107 households were signed up for recycling service. This is a 71.5% participation rate. Participating households set out an average of 548 pounds of recycling in 2013, or 21 pounds per collection.

### Denver Composts

In 2013 Denver Composts provided service to 2,125 households with a single composting route. Compost collection includes yard debris, non-recyclable paper and food scraps and like recycling, organics are collected in 65 or 95 gallon carts in a fully automated system. Unlike

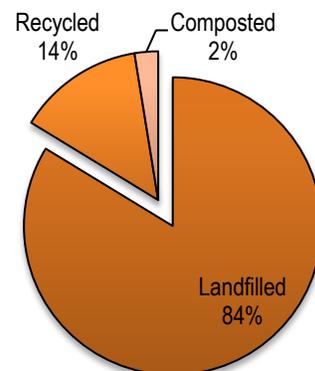
Denver Recycles, Denver Composts is a fee-based service (the fee for service is \$9.75 per month paid quarterly or annually by residents) and organics are collected on a weekly basis. Denver Recycles staff are responsible for the billing and invoicing of Denver Composts customers. Denver Composts collected 1,168 tons of organic materials from Denver residents in 2013. Households *participating* in the program diverted an average of 1,100 pounds of organics in 2013, this is an average of 21 lbs of organics per week.



### Denver Public Schools

Denver Solid Waste Management is contracted by Denver Public Schools (DPS) to collect trash, recycling, and compost from eligible schools. The City provides fee-based recycling services to 152 different school sites, campuses, and administrative offices. Denver Recycles staff offer assemblies and trainings to DPS students and staff and provide in classroom containers and posters for the school programs. In 2013 Denver Recycles staff gave 45 presentations to DPS staff and students. Denver Recycles estimates that 4,283 tons of trash were collected from DPS in the 2012/ 2013 school year and 700 tons of recyclables were diverted<sup>4</sup>. Figure 4 displays the DPS diversion rate for 2013.

Figure 4: DPS Diversion Rate



In addition to the recycling program, 18 schools participated in the Denver Composts organics collection program in 2012/2013 school year. An estimated 128 tons of organic materials were diverted through

<sup>3</sup> One of Denver's recycling routes is operated with a semi-automated rear load truck.

<sup>4</sup> Estimates based on the size of the trash, recycling, and organics containers, the average weight for the container, and the number of tips per year.

the program. For comparison, at the end of the 2011-2012 school there were only 9 schools participating, diverting an estimate 42 tons of compostables. The estimated tons diverted and landfilled are displayed in Figure 5.

**Figure 5: Denver Public Schools 2012- 2013 Diversion Data**

Category	Tons	Pounds per Student per Year
Landfilled	5,910	149
Recycled	970	24
Composted	180	5
Diversion rate	16%	n/a

### Denver Facilities

Denver Recycles provides single stream recycling services to 218 city occupied buildings. In addition to recycling service, the City provides organics collection to 4 facilities in the City<sup>56</sup>. In 2013 Denver Recycles began a Facility Recycling Initiative aimed at understanding the current generation and disposal patterns in Denver facilities and for making the business case for increased diversion across the City’s facilities. While facility specific tonnage data is not available for this report the data collected for the Facility Recycling Initiative indicates that Denver facilities generated between 3,350 tons and 5,500 tons per year of total materials in 2013. The City diverted between 285 and 400 tons of recyclables and organics, and achieve a diversion rate of between 7% and 9%. These data do not include DIA, Red Rocks, or other Arts and Venues materials.

### Switch to Compressed Natural Gas Vehicles

In 2013 the City began the process of switching its Solid Waste Management fleet to compressed natural gas trucks. Denver Recycles switched out 7 of its conventional fuel recycling trucks in 2013 for clean burning compressed natural gas vehicles. The CNG trucks release less pollutants in to the atmosphere than conventional trucks and the switch is expected to reduce the operational and maintenance costs of the fleet.

<sup>5</sup> The facilities include the Wellington Webb Building, Wastewater building, Price Building, and the City and County building.

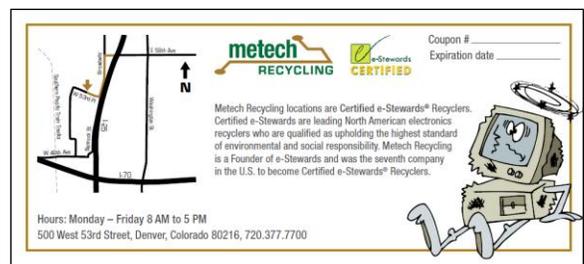
<sup>6</sup> Art & Venues main facilities along with Denver International Airport and the Denver Coliseum have recycling and composting services provided through a private contractor.

## OTHER COLLECTIONS, SPECIAL EVENTS, AND NEW INITIATIVES

Denver Recycles provides a number of services beyond the residential, school, and facility collection programs. The services, events, and programs are described briefly below:

- Education and Outreach:** Denver Recycles sent the annual WasteWise Denver publication to all eligible households in the City in December 2013. The publication promoted the recycling and diversion programs available to residents as well as outlined service guidelines, calendars, graffiti, large item collection, overflow, and other programs available to residents. In 2013 Denver Recycles ran the 2<sup>nd</sup> annual 'I Heart my Purple Cart' promotional campaign and continued to publish the Denver Recycles Roundup (a monthly newsletter) aimed at education residents. The Denver Recycles Facebook page has more than 1,400 'likes' and the Denver Recycles Twitter account has 341 followers.

- Electronics Recycling:** Denver Recycles managed the year round E-cycle Coupon program and co-hosted two electronic recycling collection events in 2013. In 2013, 169 E-cycle Coupons were redeemed for use, recycling 8.7 tons of e-waste. Two electronic collection events were held in 2013, one in April and one in August. Combined the two events accounted for recycling 97.3 tons of electronics with 1,583 residents participating in the events. Denver Recycles partnered with Arrow and Comcast to sponsor the events. Metech Recycling, a certified e-steward, processed all of the electronic waste collected through the Denver Recycles programs.



- Mulch Giveaway & Compost Sale:** Denver Recycles hosts this annual event each Spring. In 2013 the main event was hosted at the Havana Nursery site and four satellite "dig-your-own" mulch sites. In total, an estimated 2,786 yd.<sup>3</sup> of mulch was distributed out to residents for free and 4,439 ft.<sup>3</sup> of compost was sold (1,175 bags, 110 yd.<sup>3</sup> bulk) with approximately 540 vehicles visiting the Havana site on the event day.

- Treecycle:** During the first 2 weeks of 2013 Denver SWM customers set their Christmas trees out for collection and mulching as part of the Annual Treecycle event. In 2013, a total of 20,502 trees were diverted through the program. The estimated weight of the mulched trees was 185 tons.

- LeafDrop:** LeafDrop weekend collections were held at five sites on Saturdays and Sundays in

LOCATION	AREA	WEEKDAYS	SATURDAYS	SUNDAYS
		Oct. 7 – Dec. 4 8 AM – 2 PM	Nov. 9, 16 & 23 11 AM – 3 PM	Nov. 10, 17 & 24 11 AM – 3 PM

November of 2013. Collections also occurred at two weekday sites from October through December. In total, 518 tons of leaves were composted with an estimated 7,361 vehicles visiting the weekend collection sites. As part of the 2013 LeafDrop program, Denver Recycles partnered with Rocky Mountain Ace Hardware stores to promote the use of brown paper lawn & leaf bags. Residents could print a coupon from the Denver Recycles LeafDrop web page that entitled them to one free pack of paper yard debris bags (5 bags) at one of seven Denver area Ace Hardware Stores. In return, Ace helped to promote the LeafDrop program in their stores and on their website. In total, 12,750 paper bags (2,550 packs) were given away.

- Master Composter:** In 2013 Denver Recycles once again partnered with Denver Urban Gardens (DUG) to run the Master Composter training classes. The training includes 10 weeks of hands on classes and a tour. In return for the class, Master Composters are required to spend time volunteering at various events to encourage and teach others about composting and diversion related issues. A total of 29 people took the class in 2013 and the Master Composters donated 1,474 volunteer hours.
- Learn to Compost Classes:** Denver Recycles partners with Denver Urban Gardens to host free learn to compost classes during the Spring and Summer. In 2013, 451 people attended the learn to compost classes.
- Household Hazardous Waste** –In 2013, 151,420 pounds of household hazardous waste was collected from Denver residents by the City’s contractor, Waste Management/Curbside of which 77% was recycled. For the year, home collection appointments totaled 1,332 and facility drop off appointments totaled 183. Denver Recycles promoted the HHW collection program with print advertisements in neighborhood publications and as a printed insert distributed with Wastewater’s annual billings mailed throughout the year.
- Appliance collection:** The City contracts with a private firm to provide a ‘no cost’ appliance collection and recycling service to eligible city residents. In 2013, the program collected 376 Freon containing appliances and 559 non-refrigerant containing appliances. The appliance collection program diverted an estimated 67 tons of materials from the landfill in 2013.



## PLANS FOR 2014

Denver Recycles will continue to follow the strategy outlined in the 2010 Master Plan for Managing Solid Waste in the Mile High City in the coming year. Specific initiatives planned for 2014 include:

- **Trash Cart Conversion:** Starting in 2014 Denver Recycles staff will assist Solid Waste Management staff in transitioning 20,603 households from manual or dumpster based trash collection to cart based trash collection. The transition is outlined in the 2010 Master Plan for Managing Solid Waste in the Mile High City. The transition to carts will improve collection efficiency, decrease illegal dumping, help clean up alleys, and drive increased participation in the Denver Recycles program.
- **Universal Recycling in the Elyria Swansea and Globeville Neighborhoods:** As part of the 2014 cart conversion process all of the households in the neighborhoods of Elyria-Swansea and Globeville will be provided recycle carts. This is a departure from the traditional opt-in approach the City has taken for recycling sign-ups in the past. The program is expected to significantly increase diversion in neighborhoods with some of the lowest levels of recycling participation in the City. This program is being made possible through a Department of Environmental Health (DEH) grant.
- **Expanding Organics:** In December of 2013 Denver Composts embarked upon a long term expansion of the compost program. Starting in January 2014 Denver Recycles will double the size of the composting program to approximately 5,000 households through the addition of a new composting route. The program is scheduled to double in size again in 2015 with 2 more composting routes. Subsequent years will see additional program growth. The program will continue to be fee-based for the foreseeable future.
- **Revisiting the Master Plan for Managing Solid Waste in the Mile High City:** Starting in January 2014 a task force including council representatives, city staff, and citizens will take a critical look at the 2010 Master Plan. The goal of the task force is to look at ways the City can speed the implementation of the 2010 plan and to prioritize the city's efforts moving forward.
- **Recycling in Denver's Parks:** In March 2014 Denver Recycles will partner with the Denver Parks Department to launch a pilot dumpster based recycling program in Washington Park and Cheesman Park. If successful, the park recycling program may be able to spread to additional parks in 2015.



- **Facilities Recycling Initiative:** Building on the work that began in 2013; Denver Recycles will continue to examine options for increasing recycling in Denver Facilities.
- **Address Look-up and Service Reminder Tool:** Denver Recycles will contract with a specialized web-based software application vendor to build a service look-up and reminder tool. The vendor will build a widget that allows visitors to the Denver Recycles web page to easily look up their solid waste and recycling services and get service calendars, email reminders, and phone call reminders of their set out and collection days. The City will also add a 'free' phone application that allows customers to update their electronic calendars with their collection days, look up their services, and get service reminders.
- **The '2 More Pounds' campaign:** Starting with the 2014 Denver WasteWise, Denver Recycles will encourage all Denver Residents to reduce their 'wasteline' in 2014 by recycling '2 More Pounds'. The education campaign will include TV, print and social media components.
- **Transition to a Compressed Natural Gas Powered Fleet:** Solid Waste Management / Denver Recycles will continue the transition to compressed natural gas trucks in 2014. The agency is building a natural gas fueling station at the Central Platt Campus at (1271 Bayaud Street) and anticipates purchasing 17 additional CNG fueled vehicles in 2014.