
DENVER RECYCLES

2014 ANNUAL REPORT



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 2014.

Services Offered

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

- Recycling and diversion related education Citywide
- 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

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, or institutional generators.

2014 Highlights

- ❖ *Denver Recycles diverted **39,200 tons** of materials from disposal in the landfill in 2014, an all time high for the City.*
- ❖ *Participation in the City's residential recycling program **increased to 74.7%** of all eligible households.*
- ❖ *The number of households enrolled in the Denver Composts program nearly doubled and the **tons of organic materials composted increased by 63%**.*
- ❖ *Solid Waste Management converted **21,949 Denver households to cart-based trash service.***
- ❖ *Established a new public area **recycling program in Denver's Parks.***

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DENVER'S RECYCLING RATE

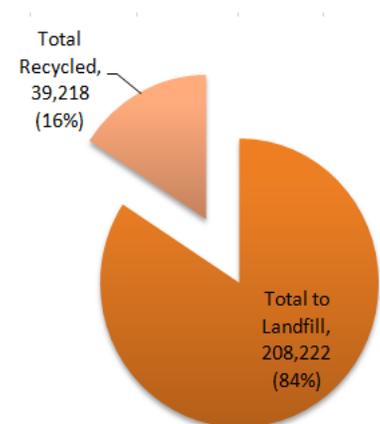
Solid Waste Management / Denver Recycles tracks the tons of materials landfilled, recycled, composted, and otherwise diverted through all of the Solid Waste Management offered programs. The City does *not* track disposal or diversion in the commercial and multi-family sectors, nor do we track source reduction efforts, scrap metal recycling, or construction and demolition debris diversion. In 2014 the City achieved a 15.8% recycling rate¹; this is a 5.4% percent increase over the 2013 recycling rate and a 14.5% increase since 2012. In 2014 Denver diverted a total of 39,218 tons of materials through all of the City's programs and efforts. Each eligible household generated an average of 2,869 total pounds of materials, diverted 455 pounds of materials, and threw 2,415 pounds of materials away in the trash in 2014.

Figure 1 displays the detailed breakdown of tons landfilled and diverted in 2014 and Figure 2 displays the overall recycling rate in 2014.

Figure 1: Tons Generated, Diverted, and Landfilled in 2014

Categories	Tons
Residential Trash Disposed	208,222
Residential Recycling	34,350
Residential Composting	1,915
Ecycle events	34
Ecycle coupons	12
Leafdrop	363
Appliance Collection	59
HHW Collections	62
Treecycle ²	185
Backyard Compost ³	1,270
'Other' recycling	968
Totals	
Total Landfill	208,222
Total Recycled	39,218
Total Generated	247,440
Percentages	
% Landfilled	84.2%
% Recycled	15.8%

Figure 2: Denver Overall Recycling Rate



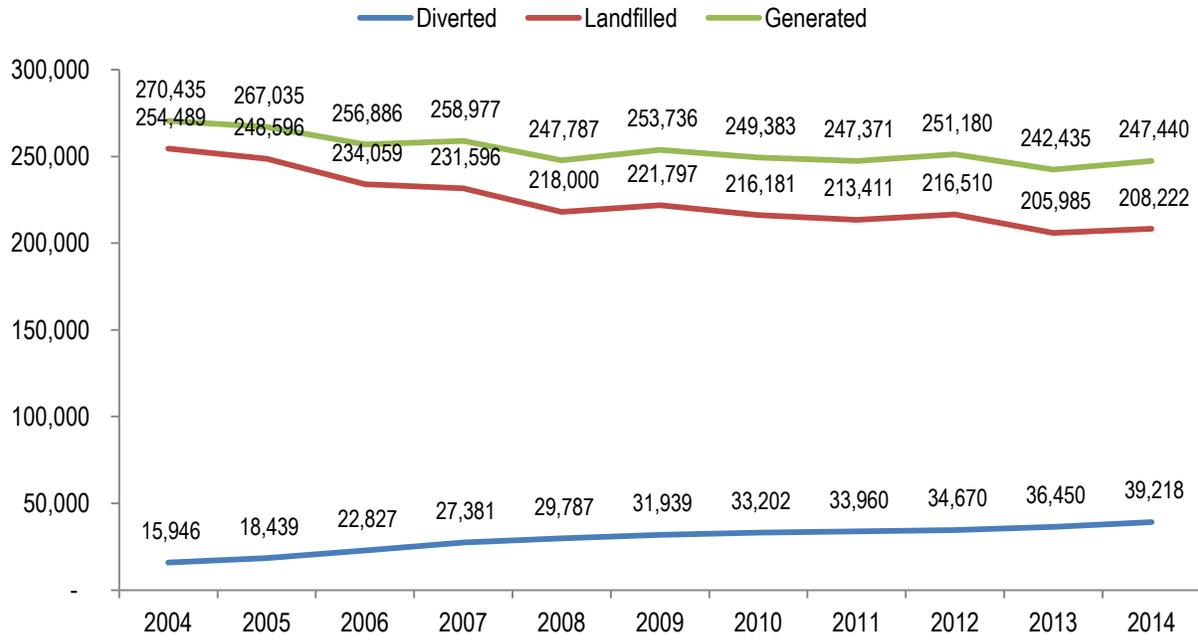
¹ The term 'Recycling Rate' includes *all* landfill diversion in the City of Denver, not just recycling. Figure 1 displays all of the materials included in the Recycling Rate calculation.

² Estimate based on number of trees collected and average dry weight of a Christmas tree.

³ Estimate based on number of Denver households assumed to be backyard composting.

Figure 3 displays the historic tons landfilled, generated and diverted in Denver.

Figure 3: Denver's Generation, Disposal, and Diversion Rate 2004 - 2014



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 system⁴. The city operates 16 recycling routes on a 5 day a week schedule. There were a total of 172,475 eligible households in the City and 128,853 households were signed up for recycling service by December 2014. This is a 74.7% participation rate. *Participating* households set out an average of 508 pounds of recycling in 2014, or 20 pounds per collection.

Denver Composts

By the end of 2014 Denver Composts was providing service to 4,100 households with two composting routes. Compost collection includes yard debris, non-recyclable paper and food scraps. Organics are collected in 65 or 95 gallon carts in a fully automated system. 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 1,915 tons of organic materials in 2014. Households *participating* in the program diverted an average of 934 pounds of organics in 2014; this is an average of 18 pounds of organics per week.



Denver Public Schools

Denver Solid Waste Management has an intergovernmental agreement (IGA) with Denver Public Schools (DPS) to collect trash, recycling, and compost from eligible schools. The City provides recycling services to 152 different school sites, campuses, and administrative offices. Denver Recycles staff offer assemblies and trainings to DPS students and staff and provides in classroom containers and posters for the school programs. Denver Recycles estimates that 7,942 tons of trash were collected from DPS in 2014, 1,283 tons of recyclables were diverted⁵, and 65 tons of organics were diverted⁶. Figure 4 displays the DPS diversion rate for 2014.

Figure 5: Denver Public Schools 2014 Diversion Data

Category	Tons	Pounds per Student per Year
Landfilled	7,942	200
Recycled	1,283	32
Composted	65	2
Diversion rate	15%	n/a

⁴ One of Denver's recycling routes is operated with a semi-automated rear load truck.

⁵ 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.

⁶ There were 19 schools participating in the 2014 Denver Composts program.

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 City⁷⁸. In 2014 Denver Recycles, with support from Denver Environmental Health, established the City's first Zero Waste⁹ facility at 2000 West 3rd Avenue (Public Works). While the facility has yet to reach the goal recycling rate of 75% or above, the program was able to increase diversion at the facility from an average of 35% to over 65% in the first six months of the program. An estimated recycling rate from Denver facilities for 2014 is not available due to the way materials are collected and data is recorded.

Switch to Compressed Natural Gas Vehicles

In 2014 the City continued its switch to a compressed natural gas fuel (CNG) for a portion of its fleet. A CNG filling station was built at the Central Platt Campus (1271 W. Bayaud) and 17 CNG trucks were added to the fleet. This brings the total number of CNG trucks in the fleet to 24. The CNG trucks release less pollutants into the atmosphere than conventional trucks and the switch has helped to reduce the operational and maintenance costs of the fleet.

Parks Recycling

Denver Recycles partnered with Denver Parks and Recreation to pilot a new dumpster-based recycling program in three of Denver's parks. The parks included City Park, Washington Park, and Cheesman Park. The 6 month pilot was determined to be a success as the program was able to divert over 40 tons of recyclables, or about 1.2 tons per collection. More importantly, the contamination rate in the stream¹⁰ was calculated to be less than 5%.



On-Line Schedule Look-up and Reminder Service

In April 2014 Denver Recycles entered into a contract with ReCollect Inc. to add a schedule look-up widget to the City website. The contractor also improved the City's electronic and phone service reminders and created a free phone app that allows customers to look up their schedules and set reminders. More than 39,000 active reminders have been set-up through the system and greater than 3,000 phone apps have been downloaded. The widget has been viewed more than 180,000 times since April 2014.

⁷ The facilities include the Wellington Webb Building, Wastewater building, Price Building, and the City and County building.

⁸ Art & Venues main facilities along with Denver International Airport and the Denver Coliseum have recycling and composting services provided through a private contractor.

⁹ For the purposes of the facility recycling initiative Zero Waste is defined as obtaining a greater than 75% diversion rate. The more generally accepted definition aims for a 90% or greater diversion rate.

¹⁰ Contamination rate is the percentage of the collected recycling stream that is non-recyclable (plastic bags, trash, food waste, etc.)

Cart Conversion

Denver Recycles staff assisted Solid Waste Management in the planning, outreach, and implementation of the conversion to cart-based trash service in 2014. The conversion is part of the City's Master Plan for Managing Solid Waste and has helped to decrease illegal dumping, increase collection efficiency, increase recycling participation, and decrease trash disposal. In areas impacted by the cart conversion, recycling subscription rates increased by 13%. In 2014 21,949 household were switched from manual or dumpster based trash service to cart based trash collection. Denver Recycles staff attended more than 40 public meetings to help promote the transition and DR staff continues to be a resource for the community to help answer questions and concerns about the program. In 2014 Denver Solid Waste Management began offering both 35 and 65-gallon carts for trash collection in addition to the default 95-gallon size. In the cart conversion areas, 3% of the households opted for either 35 or 65 gallon trash carts.



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 and other programs available to residents. The newsletter was also used to promote the '2 More Pounds' education campaign aimed at encouraging residents to recycle 2 more pounds of materials a week. The Denver Recycles Facebook page has more than 1,500 'likes', the Denver Recycles Twitter account has over 400 followers, and the recycling web page had over 1.1 million page views. DR staff continued to give scores of presentations in DPS schools to both students and teachers and conducted employee engagement and education workshops, training sessions, and presentations for City employees. DR continued to send out the monthly *Recycling Roundup* newsletter to over 100 registered neighborhood organizations, local papers, city council offices, and newsletters.
- **Electronics Recycling:** In 2014, 267 E-cycle Coupons were redeemed for use. The coupon gives a 75% discount to residents who wish to drop-off electronics for recycling at Metech recycling, a private vendor. A total of 24,319 pounds of old electronic material was diverted through the e-coupon program. Additionally, DR hosted two electronic collection events in 2014, one in June and one in November. Combined, the two events accounted for recycling 68,540 pounds of electronics with 515 residents participating in the events, the materials were processed by Metech Recycling. Denver Recycles partnered with Denver Environmental Health to sponsor the events. Metech Recycling is a certified e-steward.
- **Mulch Giveaway & Compost Sale:** Denver Recycles hosts this annual event each spring. In 2014 the main event was hosted at the Havana Nursery site and four satellite "dig-your-own" mulch sites. In total, an estimated 4,606 yd.³ of mulch was distributed out to residents for free and 5,145 ft.³ of compost was sold (1,200bags, 135 yd.³ bulk) with approximately 659 vehicles visiting the Havana site on the event day.
- **Treecycle:** During the first 2 weeks of 2014 Denver SWM customers are instructed to set their Christmas trees out for collection and mulching as part of the Annual Treecycle event. In 2014, 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 six sites on Saturdays and Sundays in November of 2014. Collections also occurred at two weekday sites from October through December. In total, 363 tons of leaves were composted with an



estimated 5,648 vehicles visiting the weekend collection sites. As part of the 2014 LeafDrop program, Denver Recycles once again partnered with Rocky Mountain Ace Hardware stores to promote the use of brown paper lawn & leaf bags. In total, 16,000 paper bags (3,200 packs) were given away.

- **Master Composter:** In 2014 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 24 people took the class in 2014 and the Master Composters donated 1,577 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 2014, 507 people attended the learn to compost classes, this is a 12% increase in attendance over 2013.
- **Household Hazardous Waste** –In 2014, 145,228 pounds of household hazardous waste was collected from Denver residents by the City’s contractor, WM Curbside of which 72% was recycled. For the year, home collection appointments totaled 1,239 and facility drop off appointments totaled 111.
- **Appliance Collection:** The City contracts with a private firm to provide a ‘no cost’ appliance collection and recycling service to eligible residents. In 2014, the program collected 1,145 appliances and diverted an estimated 59 tons of materials from the landfill.

PLANS FOR 2015 AND BEYOND

Denver Recycles will continue to follow the strategies outlined in the 2010 Master Plan for Managing Solid Waste in the Mile High City in the coming year. Specific initiatives planned for 2015 include:

- **Trash Cart Conversion:** Denver Recycles will once again assist Denver Solid Waste Management in converting dumpster and manual trash customers to cart-based trash collection. In 2015 an estimated 23,100 households will be transitioned to cart based trash service. By the end of 2015, over 100,000 Denver households will have cart based trash service.
- **Expanding Organics:** In 2015 the Denver Composts program will double in size. The program is slated to go from 2 routes to 4 routes and will provide service between 9,000 and 9,500 Denver households. The program will continue to be fee-based.
- **Expanded and Improved Employee Recycling Programs:** In 2015 Denver Recycles plans to add composting to all floors of the Wellington Webb Municipal Building in which over 10% of all Denver employees work. Denver Recycles will also establish 4 ‘high diversion’ facilities in the City including 200 W 14th Ave (Department of Environmental Health), one recreation center, and one branch library.
- **Expanding Recycling in Denver’s Parks:** The parks recycling program will be tripling in size in 2015. The program will be expanded to cover 8 new parks and the number of recycling dumpsters will be increasing from 13 to 49. The program will be expanding to the following parks: Congress Park, Kennedy Ball Fields, Kennedy Soccer Complex, Cook Park, Lowry Sports Complex, Sloan’s Lake Park, Berkeley Park, and Rocky Mountain Lake Park. Additional recycling containers will also be placed in City Park, Washington Park, and Cheesman Park.
- **Drop-Off Recycling Center:** Denver Recycles will open its first ever fully staffed free public drop-off recycling center in 2015. The facility, dubbed the Cherry Creek Recycling Drop-Off, will be co-located at the Cherry Creek transfer station (7301 E. Jewell) and will accept single stream recyclables, yard waste, food scraps, and other organic materials. The facility will be open to all Denver residents.
- **Denver Public Schools, Environmental Capital Fund Grant Program:** Denver Recycles secured a small grant from the Department of Environmental Health (DEH) in 2014 to increase diversion in Denver Public Schools. The goals of the grant include; conduct local and national research to uncover the best strategies to increase K-12 diversion, develop new tools and strategies for DPS, test the tools and strategies at several pilot schools, measure the impacts, and develop a toolkit and guidebook to help increase diversion at all of DPS.