
DENVER RECYCLES

2015 ANNUAL REPORT



DENVER
PUBLIC WORKS



DENVER RECYCLES



INTRODUCTION

Denver Recycles is a program of Denver Public Works, Solid Waste Management. Denver Recycles staff assists Denver Solid Waste Management (DSWM) 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 2015.

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. DSWM has an intergovernmental agreement with Denver Public Schools (DPS) to offer trash and 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, compost collection to a small portion of these facilities and supports Parks and Recreation's recycling program. Additionally, Denver Recycles provides, coordinates, contracts, or manages the following services in the City:

- Recycling education and communication
- Recycling drop-off center
- Appliance collection and recycling
- Electronics recycling events and drop-off discounts
- Household hazardous waste collection and drop-off
- LeafDrop
- Learn To Compost classes
- Master Composter Training program
- Mulch Giveaway & Compost Sale
- Treecycle
- Waste hauler licensing (2016)

Denver Arts and Venues and the Denver International Airport are not serviced by DSWM. Additionally, DSWM does not provide services to multi-family units with 8 or more units, commercial businesses/properties or institutional generators.

2015 Highlights

- ❖ *Denver Recycles diverted **44,590 tons** of materials from disposal in the landfill in 2015 - an all-time high for the City.*
- ❖ *Participation in the City's residential recycling program **increased to 77%** 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 101%**.*
- ❖ *Solid Waste Management **converted an additional 23,250 Denver households to cart-based trash service.***
- ❖ *The number of **city parks** participating **in the Denver Recycles program nearly tripled.***

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DENVER'S RECYCLING RATE

DSWM/Denver Recycles tracks the tons of materials landfilled, recycled, composted, and otherwise diverted through all of DSWM's programs. In 2015, the City did not track disposal or diversion in the commercial or multi-family sectors; nor did the city track source reduction efforts, scrap metal recycling or construction and demolition debris diversion.

In 2015, Denver diverted a total of 44,590 tons of materials through all of the City's programs and efforts; achieving a 17.7% diversion rate¹. Each eligible household generated an average of 2,860 total pounds of materials, diverted 507 pounds of materials away from disposal and threw 2,354 pounds of materials in the trash. The diverted tonnage in 2015 was a 14% percent increase from 2014 and a 22% increase from 2013.

Figure 1 displays the detailed breakdown of tons of material landfilled and diverted in 2015.

Figure 1: Tons Generated, Diverted and Landfilled in 2015

Categories	Tons
Residential Trash Disposed	207,132
Residential Recycling	37,318
Residential Composting	3,843
E-cycle Events	132
E-cycle Coupons	27
Leafdrop	323
Appliance Collection	103
HHW Collections	68
Treecycle ²	198
Backyard Compost ³	1,400
'Other' Recycling	1,178
Totals	
Total Landfill	207,132
Total Diverted	44,590
Total Generated	251,722
Percentages	
% Landfilled	82.3%
% Diverted	17.7%

¹ The term 'Diversion Rate' includes *all* material diverted from the landfill in the City of Denver. Figure 1 displays all of the materials included in the Diversion 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 2 displays waste tonnages from residential homes (7 units or less) in 2015.

Figure 2: Denver Residential Waste Generation in Tons

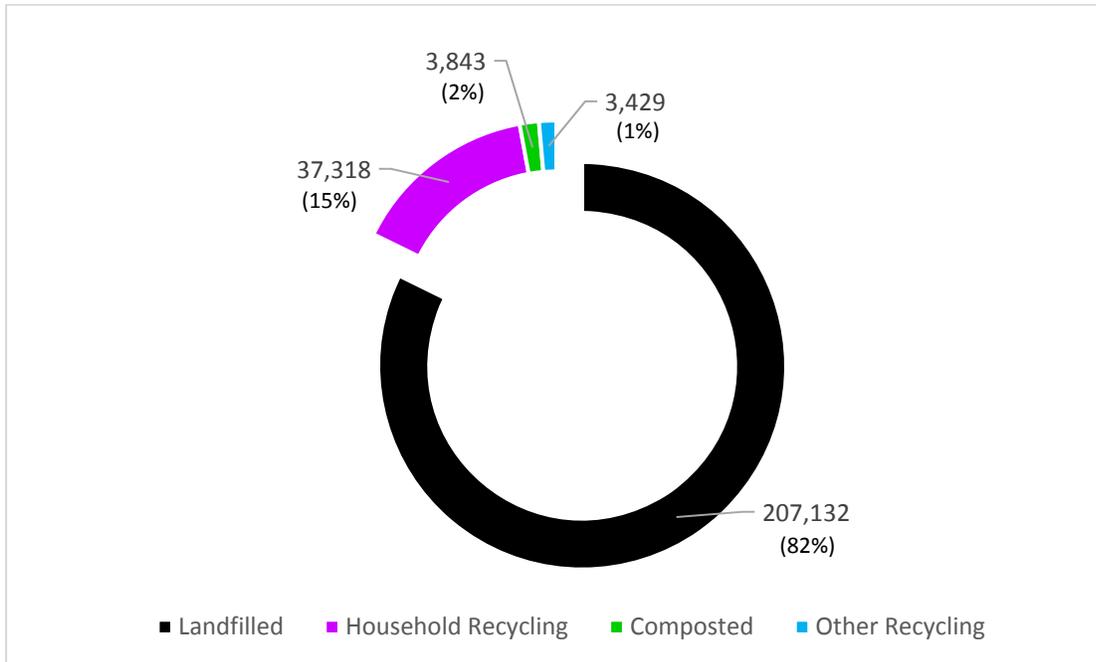
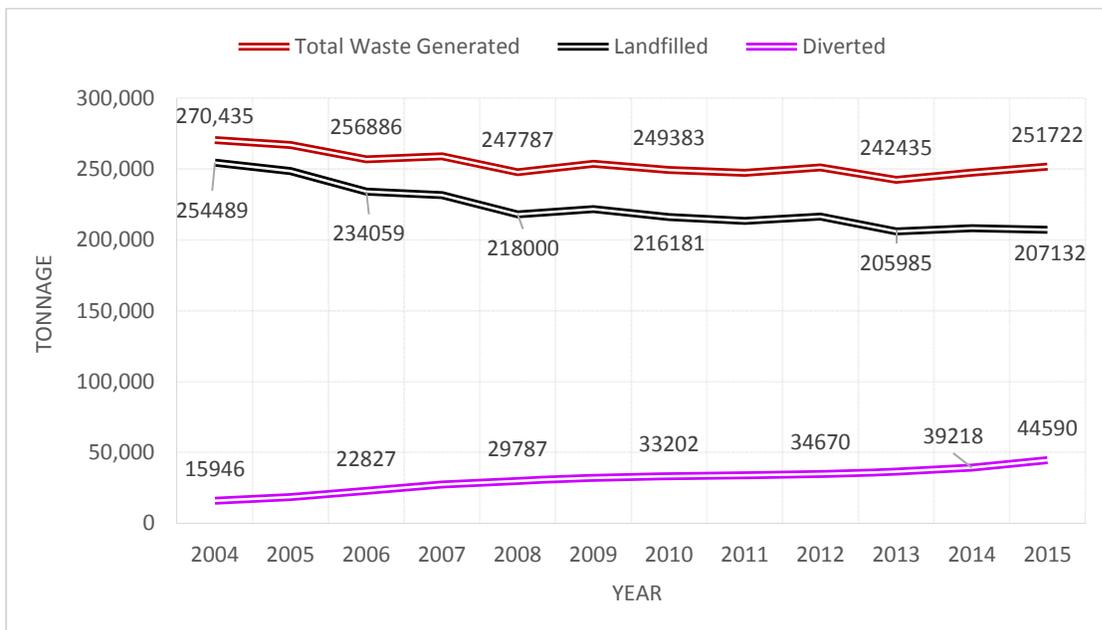


Figure 3 displays Denver’s historical waste generation, material landfilled, and diverted since 2004.

Figure 3: Denver’s Waste Generation, Landfill and Recycling Tonnages 2004 - 2015



COLLECTION PROGRAMS

Denver Recycles

Denver Recycles collects single stream recycling in 65 or 95 gallon carts from eligible Denver residential households (7 units or less) every other week. This is a free service to Denver residents.

By the end of 2015:

- The City operated 20 recycling routes five days a week; up from 16 routes in 2014.
- 134,550 of the 174,266 eligible households in the City had signed up for recycling service; yielding a 77.2% participation rate.
- Each participating household set out approximately 555 pounds of recycling; an average of 21 pounds per collection.

Denver Composts

Denver Composts is a fee-based service that collects residentially generated organic material including yard debris, food scraps and non-recyclable paper on a weekly basis in 65 or 95 gallon carts. The fee for this service is \$29.25 per quarter, or \$9.75 per month.



By the end of 2015, Denver Composts:

- Provided service to 6,755 households on four collection routes; up from two routes in 2014.
- Collected 3,843 tons of organic materials; double the amount collected in 2014.
- Each participating household diverted approximately 1,138 pounds of organics in 2015; an average of 22 pounds of organics per week.

Denver Public Schools

DSWM has an intergovernmental agreement (IGA) with Denver Public Schools (DPS) to collect trash, recycling and compost from eligible schools and facilities. The City provides recycling services to 163 different school sites, campuses and administrative offices, and Denver Recycles staff offer assemblies and training to DPS students and staff, and provide classroom recycling containers and posters for these school programs. In 2015, Denver Recycles estimates that:

- 7,663 tons of trash were collected⁴ from 163 DPS schools.
- 1,327 tons of recyclables were diverted⁵ by 163 DPS schools.
- 205 tons of organics were diverted⁵ by 23 DPS schools.

⁴ Estimates based on the size and average weight of the trash containers and the number of tips per year.

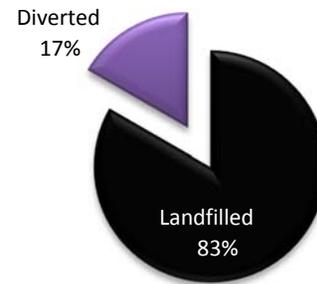
⁵ Estimates based on the size and average weight of the recycling and organics containers and the number of tips per year.

Figure 4 displays the DPS diversion data for 2015, and Figure 5 displays the diversion rate for DPS.

Figure 4: Denver Public Schools 2015 Diversion Data

Category	Tons	Pounds per Student per Year
Landfilled	7,663	168
Recycled	1,327	29
Composted	205	4.5
Diversion rate	17%	n/a

Figure 5: DPS Diversion Rate



Denver Facilities

In 2015, Denver Recycles provided recycling services to 164 municipal buildings and organics collection to seven municipal buildings^{6,7}. Denver Recycles also established three additional ‘high diversion’ facilities at the Department of Environmental Health, Hampden Library and McNichols Building. Denver Recycles staff continued to monitor and improve upon the City’s first Zero Waste⁸ facility at 2000 West 3rd Avenue (Public Works). An estimated recycling rate from Denver facilities for 2015 is not available due to the way materials are collected and data is recorded.

Parks Recycling

Denver Recycles partnered with Denver Parks and Recreation to pilot a new dumpster based recycling program in three of Denver’s parks in 2014. The pilot program included City Park, Washington Park, and Cheesman Park. The six month pilot was such a success that the program nearly tripled in size in 2015 expanding from three to eight parks and increasing the number of recycling dumpsters inside the parks from 13 to 37. The program added the following parks: Berkeley, Congress, Cook, Rocky Mountain and Sloan’s Lake. The program diverted over 78 tons of recyclables, and even with the addition of parks and dumpsters, the contamination rate in the Parks recycling stream⁹ still holds at less than 5%.



⁶ Compost facilities include the Webb Building, the Wastewater Building, the Price Building, Hampden Library, the McNichols Building, Denver Environmental Health and the City and County Building.

⁷ Denver Art & Venues main facilities, Denver International Airport and the Denver Coliseum have recycling and composting services provided through a private contractor.

⁸ 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.

⁹ Contamination rate is the percentage of the collected recycling stream that is non-recyclable (plastic bags, trash, food waste, etc.)

Switch to Compressed Natural Gas Vehicles

In 2015, the City continued its switch to compressed natural gas fuel (CNG) for a portion of its fleet by adding 2 more CNG trucks to the fleet. This brings the total number of CNG trucks in the fleet to 42. 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.

Online 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. By the end of December 2015, more than 50,000 active reminders had been set-up through the system and greater than 7,000 phone apps had been downloaded. In 2015, a Recycling Directory search feature was added to the City’s website, and we saw the highest number of searches in a single day reach upwards of 19,000 in March of 2015.

Cart Conversion

Denver Recycles staff continued to assist DSWM with the planning, outreach, and implementation of the conversion to cart-based trash service in 2015. This conversion is part of the City’s Solid Waste Master Plan and has helped decrease illegal dumping and trash disposal, and increase collection efficiency and recycling participation. In 2015, 24,000 household were switched from manual or dumpster based trash service to cart-based trash collection. Staff attended more than 23 public meetings to help promote this transition, and during the transition, DR staff continued to be a resource for the community to help answer questions and concerns about the program. In 2014, DSWM began offering both 35 and 65-gallon carts for trash collection in addition to the default 95-gallon size. In the cart conversion areas, 10% of the households opted for either 35 or 65 gallon trash carts in 2015. In 2016, DSWM will change the default size of trash carts to 65 gallons.



OTHER COLLECTIONS, SPECIAL EVENTS, AND NEW INITIATIVES

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

- **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 waste diversion in Denver Public Schools. The goals of the grant included:
 - Conducting local and national research to uncover the best strategies to increase K-12 diversion - **COMPLETED**
 - Developing new tools and strategies for DPS - **COMPLETED**
 - Testing new tools and strategies at several pilot schools – **IN PROGRESS**
 - Measuring the impacts - **IN PROGRESS**
 - Developing a toolkit to help increase diversion district-wide – **IN PROGRESS**
- **Drop-Off Recycling Center:** Denver Recycles opened its first ever fully staffed free public drop-off recycling center in 2015. The facility, dubbed the Cherry Creek Recycling Drop-Off, is co-located at the Cherry Creek transfer station (7301 E. Jewell) and accepts single stream recyclables, yard waste, food scraps and other organic materials from Denver city residents. In 2015, the site averaged 350 residents per week.
- **Education and Outreach:** Denver Recycles sent the annual WasteWise Denver publication to all eligible households in the City. This publication was used to promote the recycling and diversion programs available to residents, as well as, outline service guidelines and special programs available to residents. 2015's newsletter promoted the replacement of Denver's Large Item Pickup and Cart Overflow programs with once-per-month Extra Trash Service. The Denver Recycles Facebook page had more than 2,000 'likes', the Denver Recycles Twitter account had over 460 followers, and the recycling web page had over 1.13 million page views in 2015. 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 2015, 528 E-cycle Coupons were redeemed for use. This coupon gave a significant discount to residents who wished to drop off electronics for recycling at Metech Recycling, a certified e-steward vendor. A total of 54,600 pounds of old electronic material was diverted through the E-cycle coupon program. Additionally, Denver Recycles partnered with Metech Recycling to host two electronic collection events in 2015 which accounted for 264,400 pounds of electronics from a total of 1,990 residents. All materials were processed by Metech Recycling.



- Master Composter Training Classes:** In 2015, Denver Recycles once again partnered with Denver Urban Gardens (DUG) to offer the Master Composter Training program. A total of 24 volunteers completed the 40-hour training and 40-hour giveback requirements. Collectively, the Master Composter volunteers donated 1,190 hours of outreach through teaching *Learn to Compost* seminars and speaking with Denver residents at farmers’ markets and other events. Beginning in 2015, Master composters hosted composting workshops at 22 Denver Urban Gardens sites.
- Learn to Compost Classes:** Denver Recycles also partnered with Denver Urban Gardens to host free *Learn to Compost* classes from late April through mid-October. In 2015, 306 people attended these *Learn to Compost* classes.
- LeafDrop:** LeafDrop weekend collections were held at six sites on Saturdays and Sundays in November of 2015. Collections also occurred at two weekday sites from October through November. In total, 323.1 tons of leaves were composted with an estimated 7,000 vehicles visiting the weekend collection sites. As part of the 2015 LeafDrop program, Denver Recycles partnered with Denver Ace Hardware stores to promote the use of compostable brown paper lawn & leaf bags. In total, 25,000 paper bags (5,000 packs) were given away.
- Mulch Giveaway & Compost Sale:** Denver Recycles hosts this annual event each spring. In 2015, the main event was hosted at the Havana Nursery site with four additional satellite “dig-your-own” mulch sites. In total, an estimated 4,700 yd.³ of mulch was distributed to residents for free and 4,430 ft.³ of compost was sold with approximately 732 vehicles visiting the Havana site on the event day.
- Treecycle:** During the first two weeks of 2015, Denver SWM customers were instructed to set their Christmas trees out for collection as part of the annual Treecycle recycling event. A total of 18,058 trees were collected and mulched through the program. The estimated weight of the mulched trees was 163 tons.
- Appliance Collection:** The City contracts with a private firm to provide a ‘no cost’ appliance collection and recycling service to eligible residents. In 2015, the program collected 1,703 appliances and diverted an estimated 103 tons of materials from the landfill. This is a 75% diversion increase as compared to 2014.
- Household Hazardous Waste:** In 2015, 135,200 pounds of household hazardous waste was collected from Denver residents by the City’s contractor, WM/Curbside, of which 67% was recycled. For the year, home collection appointments totaled 1,134 and facility drop off appointments totaled 83.



PLANS FOR 2016 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 2016 include:

- **Denver Recycles:** Denver Recycles will expand the number of recycling routes it services by adding two to three additional recycling routes in 2016. Denver Recycles will also deliver 6,000 recycling carts to non-subscribers in the cart conversion areas.
- **Trash Cart Conversion:** In 2016, Denver Recycles will once again assist DSWM in converting dumpster and manual trash customers to cart-based trash collection. An estimated 35,000 additional households will be transitioned to carts so that by the end of 2016 over 135,000 Denver households will have cart based trash service. The default size of all new trash carts will be decreased from 95 gallons to 65 gallons.
- **Drop-Off Recycling Center:** Denver Recycles has plans to open its second fully staffed free public drop-off recycling center in 2016. The facility will be located at the Central Platte Campus and will accept single stream recyclables, yard waste, food scraps and other organic materials. The facility will be open to all Denver residents.
- **Expand Organics Collection:** By December 2016, the Denver Composts program will increase the number of residential organics collection routes from 4 to 7. The program is slated to provide service to a total of 11,000 Denver households and will continue to be fee-based.
- **Expand and Improve Employee Recycling Programs:** In 2016, Denver Recycles plans to establish recycling and organics collection programs at three more branch libraries and one Denver City fire station.
- **Recycling Education:** Denver Recycles will continue education and outreach efforts to the public, DPS, municipal facilities, etc.
- **Waste Hauler Licensing:** Denver Recycles will implement the new Waste Hauler Licensing program.