
DENVER RECYCLES

2016 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, and supports education for all waste services. The following report summarizes the recycling, composting and other diversion activities in Denver for 2016.

Services Offered

Denver Recycles offers a no-fee opt-in recycling collection service to all residents living in single family homes and 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. DSWM also provides trash and 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 and/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
- LeafDrop
- Learn To Compost classes
- Master Composter training program
- Mulch Giveaway & Compost Sale
- Treecycle
- Waste hauler licensing

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

2016 Highlights

- ❖ *Denver Recycles diverted **46,976 tons** of materials from disposal in the landfill in 2016.*
- ❖ *Participation in the City's residential recycling program **increased to 82%** of all eligible households.*
- ❖ *The number of households enrolled in the Denver Composts program increased by 41% and the **tons of organic materials composted increased by 45%**.*
- ❖ *Solid Waste Management converted an additional **35,000 Denver households** to cart-based trash service.*
- ❖ *Keep Denver Beautiful coordinated **137 clean-up projects** and Graffiti crews removed over **1,586,000 ft² of graffiti** around the city.*

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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 its services and programs. Through a new hauler licensing program, DSWM began tracking waste disposal and recycling furnished by private waste haulers that service commercial and larger multi-family buildings in 2016.

In 2016, DSWM diverted a total of 46,958 tons of materials; achieving a 19.7% diversion rate¹. Each eligible household generated an average of 2,707 total pounds of materials, diverted 533 pounds of materials away from disposal and threw 2,175 pounds of materials in the trash. There was a 7.5% decrease in the residential landfill tonnage, a 5% increase in diverted tonnage, and a 45% increase in residential compost tonnage in 2016 as compared to 2015.

Figure 1 displays the detailed breakdown of tons of material landfilled and diverted in 2016.

Figure 1: Tons Generated, Diverted and Landfilled in 2016

Categories	Tons
Residential Trash Disposed	191,669
Residential Recycling	37,982
Residential Composting ²	5,567
E-cycle Events	36
E-cycle Coupons	76
LeafDrop	448
Appliance Collection	170
HHW Collections	53
Treecycle ³	198
Backyard Compost ⁴	1,450
'Other' Recycling	978
Totals	
Total Landfill	191,669
Total Diverted	46,958
Total Generated	238,627
Percentages	
% Landfilled	80.3%
% Diverted	19.7%

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 Total comprised of residential tonnages and tonnages brought to the Cherry Creek Drop-off.

³ Estimate based on number of trees collected and average dry weight of a Christmas tree.

⁴ 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 2016.

Figure 2: Denver Residential Waste Generation in Tons

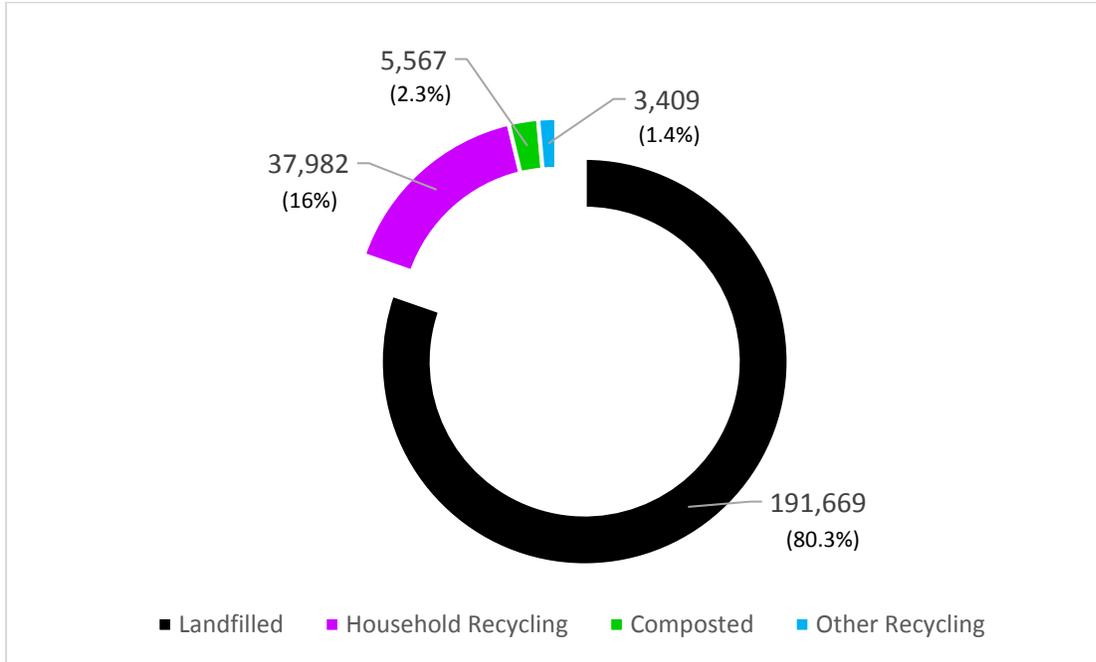
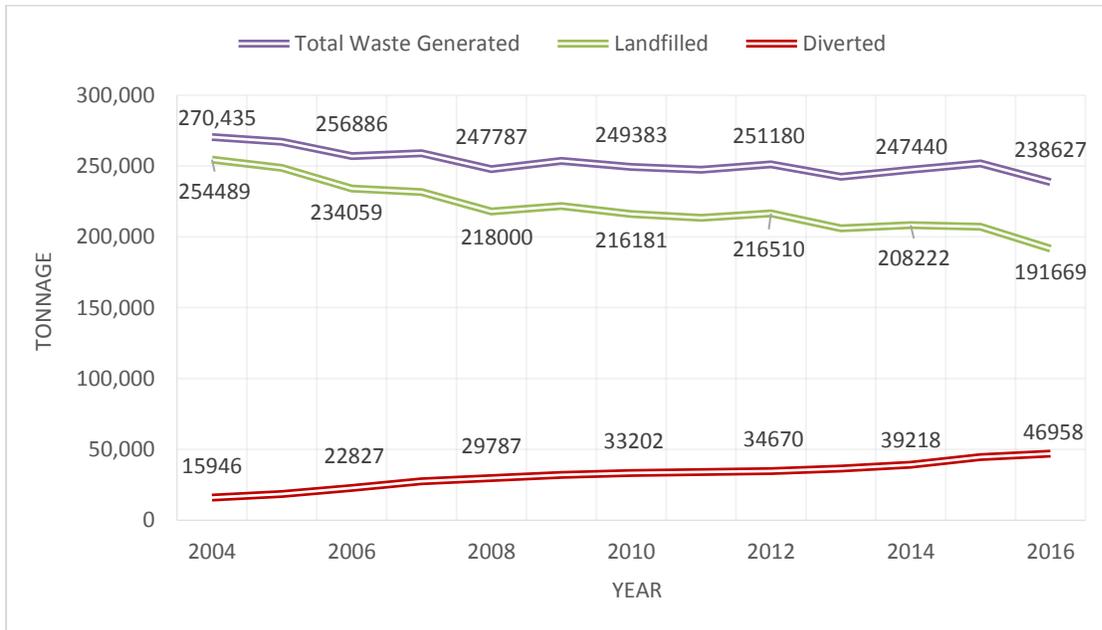


Figure 3 displays Denver’s historical waste generation, material landfilled, and diverted since 2004.

Figure 3: Denver’s Waste Generation, Landfill and Recycling Tonnages 2004 - 2016



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 no-charge service to Denver residents.

By the end of 2016:

- The City operated 22 recycling routes five days a week; up from 20 routes in 2015.
- 143,762 of the 176,283 eligible households in the City had signed up for recycling service; yielding an 81.6% participation rate.
- Each participating household set out approximately 528 pounds of recycling; an average of 20 pounds per collection or 10 pounds per week.

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 2016, Denver Composts:

- Provided service to 9,545 households on 5 collection routes; up from 4 routes in 2014.
- Collected 5567 tons of organic materials; a 45% increase as compared to the tonnage collected in 2015.
- Each participating household diverted approximately 1,166 pounds of organics in 2016; 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. DSWM provides recycling services to 160 different school sites, campuses and administrative offices, and Denver Recycles staff offers assemblies and training to DPS students and staff, and provides classroom recycling containers and posters for these school programs. In 2016, Denver Recycles estimates that:

- 8,294 tons of trash were collected⁵ from 160 DPS schools.
- 1,455 tons of recyclables were diverted⁶ by 160 DPS schools.
- 229 tons of organics were diverted⁵ by 27 DPS schools.

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

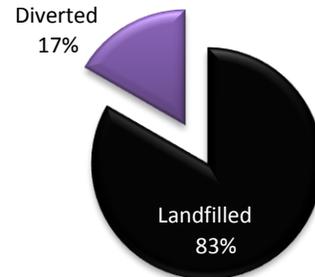
⁶ Estimates based on the size and average weight of the recycling and organics containers and the number of tips per year.

Figure 4 displays the DPS diversion data for 2016, and Figure 5 displays the diversion rate for DPS.

Figure 4: Denver Public Schools 2016 Diversion Data

Category	Tons	Pounds per Student per Year
Landfilled	8,294	188.5
Recycled	1,455	33.1
Composted	229	5.2
Diversion rate	17%	n/a

Figure 5: DPS Diversion Rate



Denver Facilities

In 2016, Denver Recycles provided recycling services to 166 municipal buildings and organics collection to 11 municipal buildings^{7,8}. Denver Recycles also established four ‘high diversion’ facilities at the Virginia Village Library, Schlessman Library, Fire Station #10 and the Governor’s Mansion, and offered training to city staff at 26 municipal facilities. An estimated recycling rate for Denver facilities for 2016 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 continue the parks recycling program in 2016 with a total of 37 dumpsters in eight different parks. Parks included in this program are as follows: Berkeley Park, Cheesman Park, City Park, Congress Park, Cook Park, Rocky Mountain Lake Park, Sloan’s Lake Park, and Washington Park. The program diverted over 99 tons of recyclables, and limiting the amount of trash in the Parks recycling dumpsters remains a key goal for the success of this program.



⁷ 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.

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

Trash Cart Conversion

Denver Recycles staff continued to assist DSWM with the planning, outreach, and implementation of the conversion to cart-based trash service in 2016. 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 2016, 35,000 households were switched from manual or dumpster-based trash service to cart-based trash collection. In cart conversion areas, 6% of the households opted for 35-gallon trash carts, 79% kept the 65-gallon trash carts (default size) and 15% opted for 95-gallon trash carts.



Online Schedule Look-up and Reminder Service

In April 2014, DSWM upgraded its electronic schedule widget which allows residents to establish email or voicemail collection reminders and download collection calendars. DSWM also had a free smartphone app created which allows customers to look up their collection schedules and set reminders. By the end of December 2016, more than 58,900 active reminders had been created and over 12,000 smartphone apps had been downloaded.

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:

- **Keep Denver Beautiful and Denver Partners Against Graffiti:** In mid-2016, program staff for Keep Denver Beautiful (KDB) and Denver Partners Against Graffiti (DPAG) were positioned under the Denver Recycles staff umbrella to maximize staff programs and budgets. KDB coordinated and/or supported 137 clean-up projects, recruited 4744 volunteers, and accumulated 14,244 volunteer hours. Our graffiti crews removed 1,586,073 ft² of graffiti.
- **Drop-Off Recycling Center:** 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 2016, the site averaged 400 residents per week.
- **Education and Outreach:** Annually, Denver Recycles sends the WasteWise Denver publication to all eligible households in the City with the aim of outlining service guidelines and promoting recycling, diversion and special programs available to residents. 2016's newsletter promoted the replacement of Denver's Large Item Pickup and Cart Overflow programs with Extra Trash Service and was sent to over 175,000 residents. DR staff continued to give presentations in DPS schools to both students and teachers and conducted employee engagement and education workshops, training sessions, and presentations for City employees. DR also continued to send out the monthly *Recycling Roundup* newsletter to registered neighborhood organizations, local papers, and city council offices.
- **Social Media and Customer Service:** The Denver Recycles Facebook page had more than 2,300 'likes', the Denver Recycles Twitter account had over 547 followers, the recycling web page had over 1.2 million page views, and Customer Service fielded 132,645 calls in 2016.
- **Electronics Recycling:** In 2016, 1,447 E-cycle Coupons were redeemed for use; a 174% increase over 2015. 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 76 tons of old electronic material was diverted through the E-cycle coupon program. Additionally, Denver Recycles partnered with Metech Recycling to host an electronic collection events in 2016 which accounted for 36 tons of electronics from a total of 506 residents. All materials were processed by Metech Recycling.
- **Master Composter Training Classes:** In 2016, Denver Recycles once again partnered with Denver Urban Gardens (DUG) to offer the Master Composter Training program. A total of 33 volunteers completed the 40-hour training and 40-hour giveback requirements. Collectively, the Master Composter volunteers donated 1,527 hours of outreach in 2016. Volunteers taught *Learn to Compost* seminars at the Gove Compost Demonstration Site, led garden-based compost seminars at 25 community gardens, provided backyard composting information to Denver



residents at over 100 farmers' markets and community events, and led additional workshops at Denver schools, offices and other community outlets.

- **Learn to Compost Classes:** Denver Recycles partnered with Denver Urban Gardens to host 32 free *Learn to Compost* classes from late April through mid-October. A total of 327 people attended these classes in 2016.
- **Gove Compost Demonstration Site.** In 2016, Denver Recycles completed site improvements at the Gove Compost Demonstration Site that included the addition of commercially available backyard compost systems, a new bulletin board, a new vermicomposting box and updated signage around the site.
- **LeafDrop:** LeafDrop weekend collections were held at six sites on Saturdays and Sundays in November of 2016. Collections also occurred at two weekday sites from October through November. In total, 448 tons of leaves were composted. As part of the 2016 LeafDrop program, Denver Recycles partnered with Denver Ace Hardware stores to promote the use of compostable brown paper lawn & leaf bags. In total, 15,000 paper bags (3,000 packs) were given away.
- **Mulch Giveaway & Compost Sale:** In 2016, Denver Recycles hosted this annual Spring event at the Havana Nursery site with four additional satellite “dig-your-own” mulch sites. In total, an estimated 4,200 yd.³ of mulch was distributed to residents for free and 5,130 ft.³ of compost was sold with approximately 642 vehicles visiting the Havana site on the event day.
- **Treecycle:** During the first two weekends of 2016, residents serviced by Denver SWM were instructed to set out their Christmas trees for collection as part of the annual Treecycle recycling event. A total of 22,000 trees were collected and mulched through the program. The estimated weight of the mulched trees was 198 tons.
- **Appliance Collection:** The City contracts with a private firm to provide a ‘no cost’ appliance collection and recycling service to eligible residents. In 2016, the program collected 2,817 appliances and diverted an estimated 170 tons of materials from the landfill. This is a 65% diversion increase as compared to 2015.
- **Household Hazardous Waste:** In 2016, 53 tons of household hazardous waste was collected from Denver residents by the City’s contractor, WM/Curbside, of which 58% was recycled. Home collection appointments totaled 937 and facility drop off appointments totaled 78. Denver Recycles also sponsored a paint recycling drop-off event with PaintCare which collected 80 tons of paint from 1,560 participants; an average of 103 pounds per car.



PLANS FOR 2017 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 2017 include:

- **Denver Recycles:** Denver Recycles will expand the number of recycling routes it services by adding three additional recycling routes in 2017. Denver Recycles will also deliver 6,000 recycling carts to non-subscribers in the cart conversion areas.
- **Trash Cart Conversion:** In 2017, 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 2017 all eligible Denver households will have cart-based trash service.
- **Drop-Off Recycling Center:** Denver Recycles has plans to open its second fully staffed free public drop-off recycling center in 2017. The facility will be centrally located 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 2017, the Denver Composts program will increase the number of residential organics collection routes from 5 to 11. The program will have the ability to provide service to a total of 11,000 new households and will continue to be fee-based.
- **Expand and Improve Employee Recycling Programs:** Denver Recycles will expand compost collection to three high diversion facilities and 3 low diversion facilities in 2017. Denver Recycles will also launch a new Zero Waste Coordinator campaign aimed at employee engagement in Denver municipal facilities.
- **Recycling Education:** Denver Recycles will continue to provide education and outreach to the public, DPS, municipal facilities, etc. in order to supply information on how to recycle and how to increase the amount of materials diverted from the City's waste stream.