
DENVER RECYCLES

2017 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 2017.

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 an opt-in fee-based compost collection service. 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.

2017 Highlights

- ❖ *Denver Recycles diverted **49,893 tons** of materials from disposal in the landfill in 2017.*
- ❖ *Participation in the City's residential recycling program **increased to 85%** of all eligible households.*
- ❖ *The number of households enrolled in the Denver Composts program increased by 21% and the **tons of organic materials composted increased by 28%**.*
- ❖ *Solid Waste Management **completed the transition of all Denver households to cart-based trash service.***
- ❖ *Graffiti crews removed more than **1,594,000 ft² of graffiti** around the city.*

PROGRAM CONTACT INFORMATION:

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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.

In 2017, DSWM recycled and composted a total of 49,893 tons of materials; achieving a 21.8% recycling and composting rate¹. Each eligible household generated an average of 2595 total pounds of materials, recycled and composted 565 pounds of materials, and threw 2,030 pounds of materials in the trash. There was a 6.5% decrease in the residential landfill tonnage, a 4% increase in recycled tonnage, and a 28% increase in compost tonnage in 2017 as compared to 2016.

Figure 1 displays the detailed breakdown of tons of material landfilled and diverted in 2017.

Figure 1: Tons Generated, Diverted and Landfilled in 2017

Categories	Tons
Residential Trash Disposed	179,264
Residential Recycling	39,429
Residential Composting ²	7,123
E-cycle Events	36.7
E-cycle Coupons	104.5
Recycle Your Holiday Lights	2.9
LeafDrop	838
Appliance Collection	171
HHW Collections	49.7
Treecycle ³	215
Backyard Compost ⁴	1,450
'Other' Recycling	473
Totals	
Total Landfill	179,264
Total Recycled and Composted	49,893
Total Generated	229,157
Percentages	
% Landfilled	78.2%
% Recycled and Composted	21.8%

¹ The term 'Recycling and Composting Rate' includes *all* material diverted from the landfill in the City of Denver. Figure 1 displays all the materials included in the Recycling and Composting 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 2017.

Figure 2: Denver Residential Waste Generation in Tons

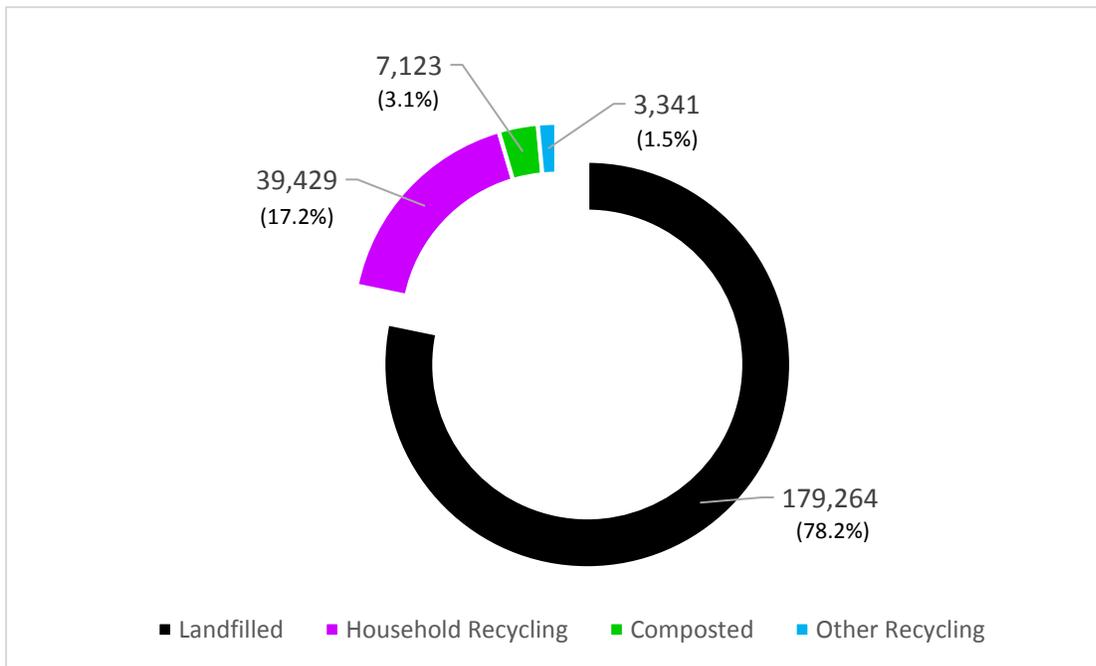
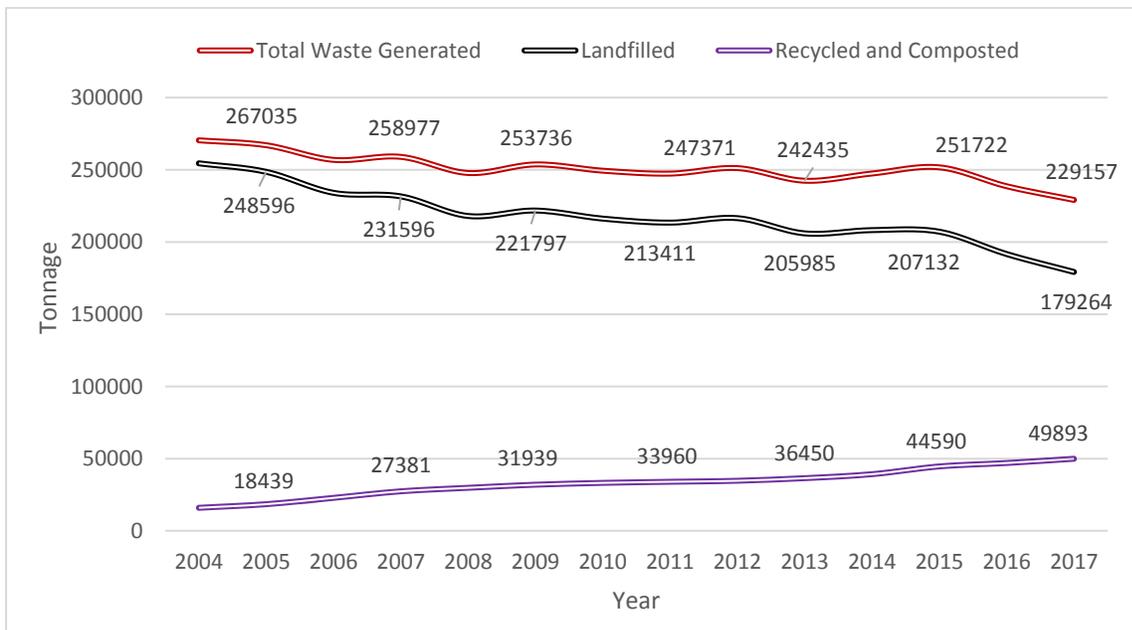


Figure 3 displays Denver’s historical waste generation, material landfilled, and recycled and composted since 2004.

Figure 3: Denver’s Waste Generation, Landfill, and Recycling and Composting Tonnages 2004 - 2017



COLLECTION PROGRAMS

Denver Recycles

Denver Recycles collects single stream recycling in 35, 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 2017:

- The City operated 24 recycling routes five days a week; up from 22 routes in 2016.
- 151,150 of the 176,600 eligible households in the City had signed up for recycling service; yielding an 85.6% participation rate.
- Each participating household set out approximately 522 pounds of recycling; an average of 20 pounds per collection or 10 pounds per week.

Denver Composts

Denver Composts is an opt-in 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 2017, Denver Composts:

- Provided service to 11,572 households on 11 collection routes; up from 5 routes in 2016.
- Collected 7,123 tons of organic materials; a 28% increase as compared to the tonnage collected in 2016.
- Each participating household diverted approximately 1231 pounds of organics in 2017; an average of 23.7 pounds of organics per week.
- Expanded the program to all eligible households city-wide.

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 that serve over 90,000 students. DSWM provides recycling services to 166 different school sites, campuses and administrative offices, and Denver Recycles staff offers assemblies, training and technical assistance to DPS students and staff, and provides classroom recycling containers and posters for these school programs. In 2017, Denver Recycles estimates that:

- 8,062 tons of trash were collected⁵ from 166 DPS facilities.
- 1,530 tons of recyclables were diverted⁶ by 166 DPS facilities.
- 271 tons of organics were diverted⁵ by 28 DPS schools.

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

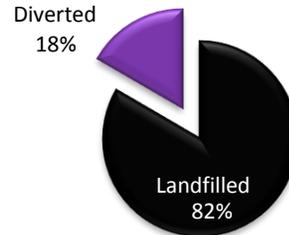
⁶ Estimates based on the size and average weight of the recycling and organics containers and the number of tips per year.

Figure 4 displays the DPS diversion data for 2017, and Figure 5 displays the diversion rate for DPS.

Figure 4: Denver Public Schools 2017 Diversion Data

Category	Tons	Pounds per Student per Year
Landfilled	8,062	179
Recycled	1,530	34
Composted	271	6
Diversion rate	18%	n/a

Figure 5: DPS Diversion Rate



Denver Facilities

In 2017, Denver Recycles provided recycling services to 193 municipal buildings and compost collection to 22 municipal buildings⁷; this is double the number of facilities that were participating in the compost collection program in 2016.

Due to the success of introducing the compost collection program at Denver Fire Station #10 in 2016, Denver Recycles established a Denver Fire Department compost collection pilot program to include Fire Stations 10, 16, 17, 22 and 24. Prior to the pilot program, these five fire stations had an average recycling and composting rate of 12%. After the pilot program, the average recycling and composting rate for these five fire stations increased to 70%. Based on these findings, we anticipate that each Denver fire station could recycle and compost an average of 3.3 tons of waste annually, and Denver Recycles and the Denver Fire Department are working towards expanding the compost collection program to all Denver fire stations by the end of 2019. Additionally, City employees are volunteering to improve and maintain recycle and compost efforts in City office buildings through a new Zero Waste Ambassador (ZWA) program. The ZWA program began in October 2017 and ended the year with a total of fifteen ZWA volunteers in the Wellington Webb and Human Services building.

Parks Recycling

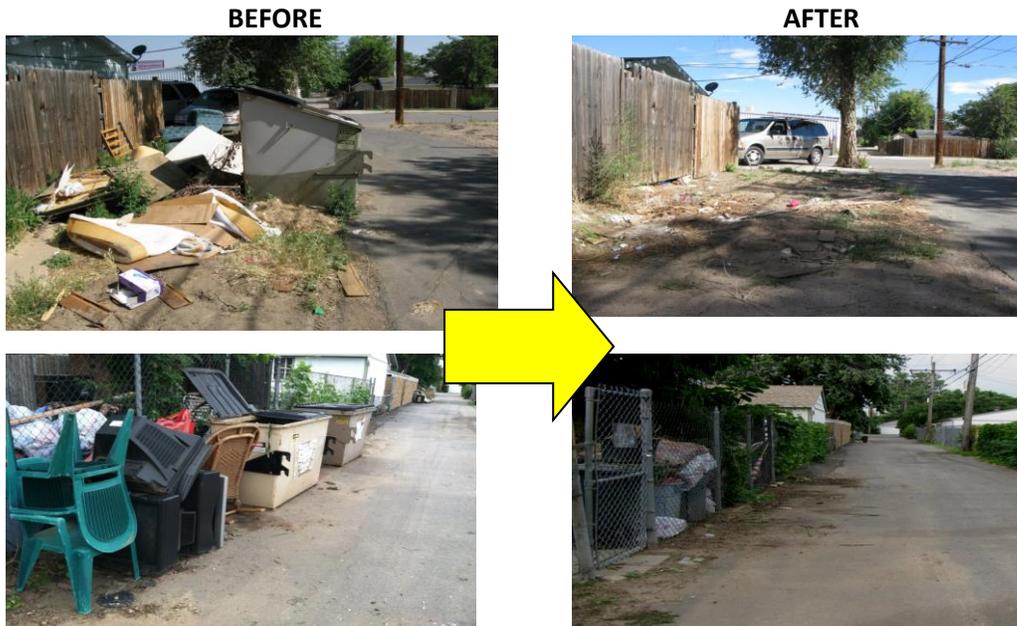
Denver Recycles partnered with Denver Parks and Recreation to continue the parks recycling program with a total of thirty-seven dumpsters in eight different parks. Parks included in this program are as follows: Berkeley Park, Cheesman Park, City Park, Congress Park, Cook Park, Rocky Mountain Lake Park, Sloan’s Lake Park, and Washington Park. The program diverted more than 71 tons of recyclables, and limiting the amount of trash in the Parks recycling dumpsters remains a key goal for the success of this program.



⁷Denver Art & Venues main facilities, Denver International Airport and the Denver Coliseum have recycling and compost collection 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 2017. 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 2017, the cart conversion program was completed by transferring the final 35,000 households from manual or dumpster-based trash collection to cart-based trash collection. The city-wide breakdown of carts are as follows: 5% of households opted for 35-gallon trash carts, 30% kept the 65-gallon trash carts (default size), and 65% opted for 95-gallon trash carts.



Online Schedule Look-up and Reminder Service

In 2017, DSWM expanded their online tools by developing a recycling directory in Spanish and offering a Spanish version of their free smartphone collection schedule app. By the end of December 2017, 70,841 active reminders had been created (444 of those in Spanish) and 18,565 smartphone apps had been downloaded.

OTHER COLLECTIONS, SPECIAL EVENTS, AND NEW INITIATIVES

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

- **Appliance Collection:** The City contracts with a private company to provide a ‘no-cost’ appliance collection and recycling service to eligible residents. In 2017, the program collected 2,919 appliances and diverted an estimated 171 tons of materials from the landfill.
- **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 2017, the site serviced almost 48,000 residents and averaged 918 vehicles per week.
- **Education and Outreach:** Annually, Denver Recycles mails the WasteWise Denver publication to all eligible households in the City with the aim of outlining service guidelines and promoting recycling, composting and special programs available to residents. 2017’s newsletter promoted city-wide compost collection and was sent to more than 176,000 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.
- **Electronics Recycling:** In 2017, 1,689 E-cycle Coupons were redeemed for use; a 17% increase over 2016. This coupon gave a significant discount to residents who wished to drop off electronics for recycling at the City’s contracted electronics recycling vendor. A total of 104.5 tons of old electronic material was recycled through the E-cycle coupon program. Additionally, Denver Recycles partnered with the contractor to host two electronic collection events in 2017 which accounted for 36.7 tons of electronics from a total of 625 residents.
- **Gove Compost Demonstration Site.** In 2017, Denver Recycles continued to maintain the Gove Compost Demonstration Site which actively showcases a wide variety of backyard composting systems and techniques throughout the growing season. This site also serves as an outdoor classroom and is a site where *Learn to Compost* classes are taught from May through October.
- **Household Hazardous Waste:** In 2017, 49.7 tons of household hazardous waste was collected from Denver residents by the City’s contractor, WM/Curbside, of which 59% was recycled. Home collection appointments totaled 1039 and facility drop off appointments totaled 60.
- **Keep Denver Beautiful and Denver Partners Against Graffiti:** Keep Denver Beautiful (KDB) coordinated and/or supported more than 100 clean-up projects throughout the City, and our graffiti crews removed 1,594,299 ft² of graffiti.



- LeafDrop:** LeafDrop weekend collections were held at six sites on Saturdays and Sundays in November. Collections also occurred at two weekday sites from October through November. In total, 8,600 cars dropped off bags of leaves and 838 tons of leaves were composted. Denver Recycles continued its partnership with Denver Ace Hardware stores to promote the use of compostable brown paper lawn and leaf bags. In total, 28,440 paper bags were given away which is a 90% increase over the number of bags distributed in 2016. Denver Recycles also increased its education messaging encouraging residents to use compostable paper lawn bags instead of plastic bags.
- 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 399 people attended these classes in 2017.
- Master Composter Training Classes:** In 2017, Denver Recycles once again partnered with Denver Urban Gardens (DUG) to offer the Master Composter Training program. A total of 35 volunteers completed the 40-hour training and 40-hour giveback requirements. Master Composter volunteers donated a total of 1,606 hours of outreach. Volunteers taught *Learn to Compost* classes at the Gove Compost Demonstration Site, led garden-based compost classes at community gardens, provided backyard composting information to Denver residents at farmers' markets and community events, and led workshops at Denver schools, offices and other community outlets.
- Mulch Giveaway & Compost Sale:** In 2017, 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 4,640 yd.³ of mulch was distributed to residents for free and 6,990 ft.³ of compost was sold with 757 vehicles visiting the Havana site on the event day.
- Social Media and Customer Service:** The Denver Recycles Facebook page had almost 3,500 'likes', the Denver Recycles Twitter account had almost 600 followers, and Customer Service fielded 142,835 calls in 2017 which is an 8% increase over 2016.
- The Recycling Partnership (TRP) Grant:** Denver Recycles received a grant from TRP to develop and implement a pilot education project in two Denver neighborhoods. A waste sort was conducted in the Spring, and the data showed, that nearly two-thirds of all recyclables generated in an average Denver household were being placed in the purple recycle cart, only one out of every two aluminum/steel cans were being placed in the recycle cart. Using this information, Denver Recycles helped create an education campaign asking residents to place cans in their recycle carts rather than the trash. The outcome of this pilot was a 25% increase in the number of cans placed in the recycle cart vs the trash cart.
- Treecycle:** During the first two weekends of 2017, 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 24,022 trees were collected and mulched through the program. The estimated weight of the mulched trees was 215 tons.



PLANS FOR 2018 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 2018 include:

- **Denver Recycles:** Denver Recycles will expand the number of recycling routes by adding five additional recycling routes in 2018. Denver Recycles will complete the automatic delivery program of recycling carts by delivering recycling carts to the remaining 26,000 non-subscribers in Denver.
- **Expand Organics Collection:** In 2018, the Denver Recycles will work to fill the four compost collection routes we added at the end of 2017 and increase the quality of materials collected. We will also partner with the National Resource Defense Council (NRDC) and Certifiably Green Denver (CGD) on educating residents on the topic of food waste reduction.
- **Expand and Improve Employee Recycling Programs:** Denver Recycles expanded compost collection to five Denver fire stations in 2017. The pilot program was so successful that Denver Recycles plans to expand compost collection to all 36 Denver fires stations by the end of 2019. Denver Recycles also launched a new Zero Waste Coordinator campaign aimed at employee engagement in the Webb Building and Castro Building. There are plans to expand the program to other municipal facilities in 2018.
- **Grants:** In 2017, Denver Recycles received a grant from The Recycling Partnership (TRP) that was used to develop a pilot education campaign focusing on increasing the number of aluminum and steel cans residents recycle. The campaign was so successful that TRP will provide a larger grant to Denver Recycles in 2018 which will enable us to expand the pilot program city-wide.
- **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.