



# URBANA WASTE MANAGEMENT REPORT

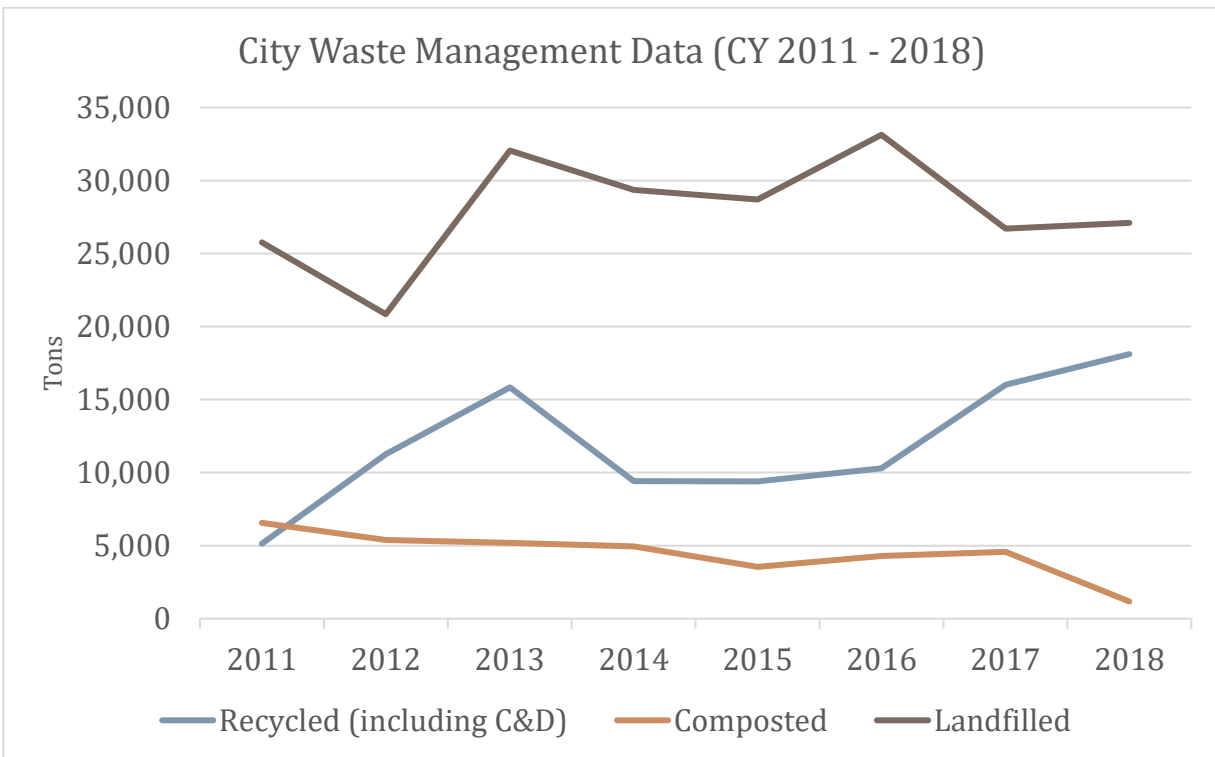
CY 2018

*A summary of waste diversion and recycling activities in the City of Urbana.*

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## Diversification Rate

In 2018, there was a total of 46,876 tons of waste *generated* in Urbana. This includes garbage, construction & demolition (C&D) debris recycled, commodity recycling from households, and landscape materials composted. Data was compiled using the totals that haulers provide for an annual survey, along with materials diverted or landfilled from city departments. Of the total waste generated, 27,101 tons were landfilled; 18,112 tons were recycled, including C&D; and 1,663 tons were composted. Urbana's waste diversion rate in 2018 was 42%. Below is a look at recycled, composted and landfilled tonnages for the past eight calendar years.

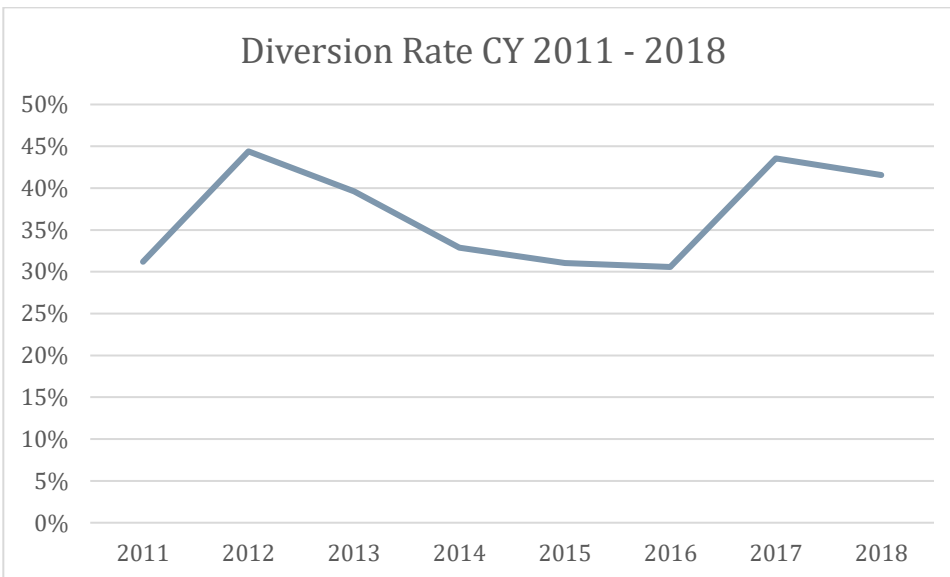


The City began tracking data in 2011 when licensed garbage haulers in Urbana were required to provide the quantity of garbage, recycling and landscape debris collected on an annual basis. Comparing 2018 data to 2011 data, Urbana has nearly quadrupled materials recycled (including C&D) from 5,100 tons collected in 2011 to 18,100 tons collected in 2018. Landscape materials composted has decreased five-fold due to

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factors such as the City of Champaign no longer bringing materials to the facility, and fewer leaf collections by the City due to budget constraints. Overall, garbage landfilled has remained relatively consistent the past eight years, leveling out in 2017 and 2018. Overall, the average diversion rate for the past eight calendar years is 37%.

Here are the diversion rates by year:



## **Participation Rate: Curbside U-Cycle Program**

The participation rate in the curbside U-Cycle program increased 2% in 2018, from 77% (2017) to 79% (2018). Participation rate is calculated by dividing the total number of single-family through four-plex households in Urbana by the number of households that have requested a U-Card or recycling bin (historically). Participation rate assumes those households with recycling receptacles are setting out recycling semi-frequently (averaging twice per month).

## **Environmental Impacts**

Combined, the curbside and multifamily U-Cycle programs recycled 3,609 tons of materials in 2018, averaging 301 tons of recyclables per month. According to the U.S. EPA's Waste Reduction Model (WARM) calculator, 1,038 metric tons of CO<sub>2</sub> emissions

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are avoided every month (and 12,456 metric tons annually) by recycling 301 tons of commingled recyclables; with the equivalent of 2,689 vehicles taken off the road monthly.

## Method 2 - Using Monthly Total Tonnage

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3.45 Tons CO2E saved per Ton of Material Recycled/Composted

GHGs/month avoided by recycling/composting rather than landfilling using EPA's WARM model

$$\frac{301 \text{ ton}}{\text{mo}} \times \frac{3.44796 \text{ ton CO2e}}{\text{ton recycled}} = 1037.84 \text{ Metric tons/month of avoided CO2E emissions}$$

Equivalent number of cars taken off the road: = 2688.70

## Economic Impacts

In 2018, the average annual household garbage collection cost in Urbana was \$237.48 (or \$19.79/month). The average recycling collection cost in Urbana was \$38.72 (or \$3.23/month).

### Solid Waste Disposal

- Average garbage disposed\* in Illinois = 2,088 lbs./person/year
- Average number of people per household = 1.92
- Average annual household garbage disposed = 4,009 lbs. per household per year

$$(2,088 \text{ lbs./person/year} \times 1.92/\text{HH} = 4,009 \text{ lbs./household/year})$$

\*[https://igpa.uillinois.edu/sites/igpa.uillinois.edu/files/reports/IR10-09\\_Waste\\_&\\_Recycling.pdf](https://igpa.uillinois.edu/sites/igpa.uillinois.edu/files/reports/IR10-09_Waste_&_Recycling.pdf)

Institute of Government & Public Affairs Report (2010)

### Curbside Solid Waste Landfilled

- Curbside housing units = 8,820

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- Curbside Solid Waste Landfilled/Year (Est.) = 17,680 tons  
(8,820 HH x 4,009 lbs./HH/year = 35,359,380 lbs. / 2000 = 17,680 tons)

## Curbside Households Garbage Cost

- Estimated at \$2,094,574 per year  
(8,820 HH x \$237.48/annual (avg.) = \$2,094,574)
- Cost per ton = \$119/ton  
(2,094,574 / 17,680 tons = \$119/ton)
- Cost per pound = \$0.06/lb.  
(119/ton / 2000 = \$0.06/lb.)

## Multifamily Solid Waste Landfilled

- Multifamily Housing Units = 9,687
- Multifamily Solid Waste Landfilled/Year (Est.) = 19,418 tons  
(9,687 units x 4,009 lbs./HH/year = 38,835,183 lbs./year / 2000 = 19,418 tons)

## Multifamily Households Garbage Cost

- Estimated at \$1,200,801 per year  
(9,687 units x \$10.33/unit/month (avg.)\* x 12 months = \$1,200,801 per year)
- Cost per ton = \$62/ton  
(1,200,801/19,418 tons = \$61.84)
- Cost per pound = \$0.03/lb.  
(62 per ton / 2000 = \$0.03/lb.)

\*<https://www.hennepin.us/-/media/hennepinus/your-government/projects-initiatives/documents/multifamily-waste-study-2017.pdf>

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## Curbside Recycling Costs

- Annual contractual cost in CY 2018 = \$163,371
- Tons of recyclables collected in CY 2018 = 2,325 tons
- Cost per ton = \$70/ton  
( $\$163,371 / 2,325 \text{ tons} = \$70.27/\text{ton}$ )
- Cost per pound = \$0.04/lb.  
( $\$70.27/2000 = \$0.04/\text{lb.}$ )

## Multifamily Recycling Costs

- Annual contractual cost in CY 2018 = \$175,914
- Tons of recyclables collected in CY 2018 = 1,284 tons
- Cost per ton = \$137/ton  
( $\$175,914/1,284 \text{ tons} = \$137.00/\text{ton}$ )
- Cost per pound = \$0.07/lb.  
( $\$137.00/2000 = \$0.07/\text{lb.}$ )

## **Conclusion**

Materials recycled have increased since CY 2011. Materials landfilled have remained relatively consistent since CY 2011. Landscape materials composted have decreased the past couple years. Urbana's diversion rate in CY 2018 was 42%. Urbana's average diversion rate since CY 2011 is 37%. The curbside U-Cycle participation rate continues to increase every year. Curbside disposal costs per pound are double that of multifamily disposal costs due to bulk collection savings at multifamily properties. Multifamily recycling costs per pound are higher than curbside recycling costs due to less recyclables collected and higher contamination rates. Staff will continue outreach & education efforts at multifamily housing to increase recycling rates and decrease contamination.