



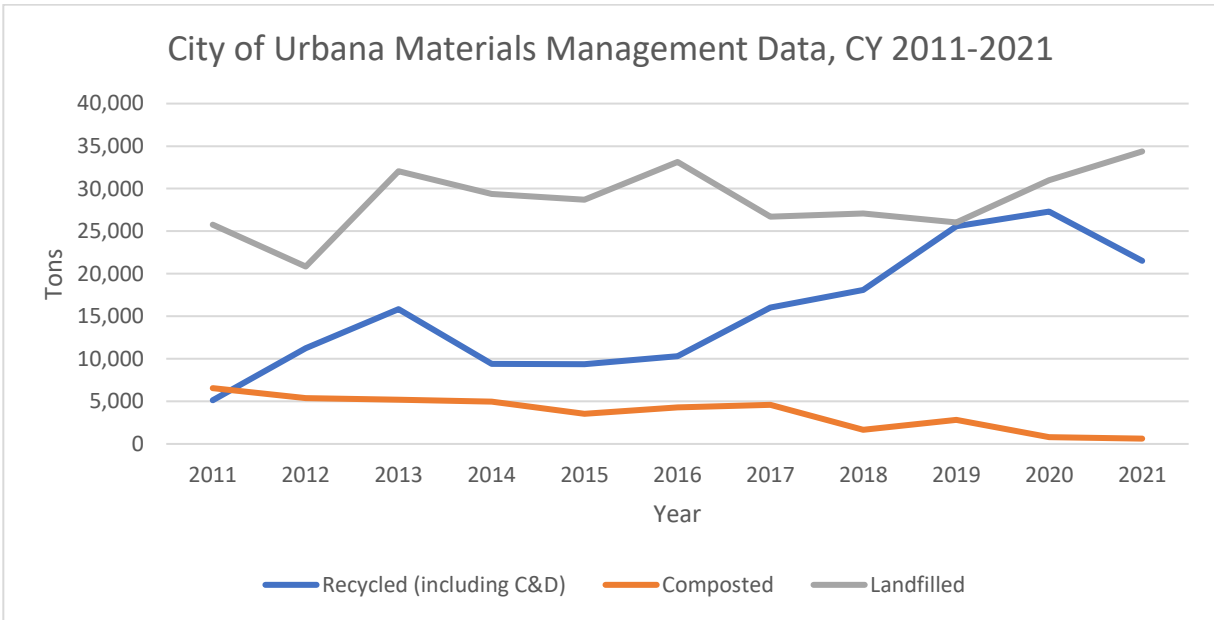
ANNUAL REPORT

CY 2021

URBANA MATERIALS MANAGEMENT CY 2021

Diversion Rate

In 2021, there was a total of 56,519 tons of materials *generated* in Urbana. This includes garbage, recycled construction & demolition (C&D) debris, commodity recycling from households, and landscape materials composted. Data was compiled using the totals that haulers provide the City of Urbana, along with data from divisions within the Urbana Public Works department. Of the total materials generated, 34,373 tons were landfilled; 21,521 tons were recycled, including C&D; and 625 tons were composted. Urbana’s waste diversion rate in 2021 was 39%. Below is a look at recycled, composted, and landfilled tonnages for the past 11 years:



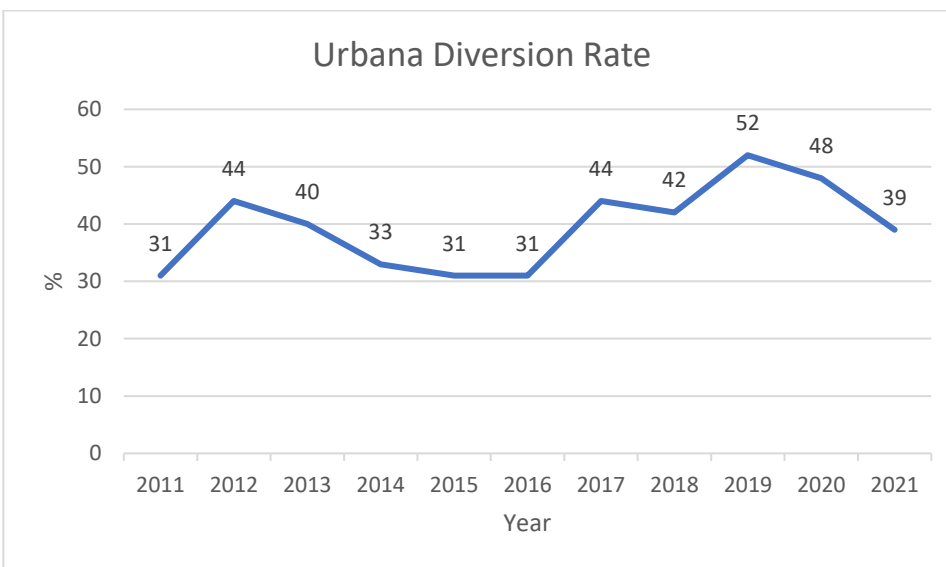
The City of Urbana began tracking data in 2011 when licensed garbage haulers in Urbana were required to provide the quantity of garbage, recycling (including C&D) and landscape debris collected on an annual basis.

Since 2011, recycling (including C&D) has increased fivefold, landscape materials received for composting has decreased 90%, and garbage landfilled has increased in 2020 and 2021 due to the pandemic. During this time frame many individuals were

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working from home, schooling at home, and eating at home contributing to higher residential municipal waste landfilled. Between 2011 and 2019 the average tons of garbage landfilled was 28,000 for the City of Urbana, but in the past two calendar years there has been a 32% increase in garbage landfilled.

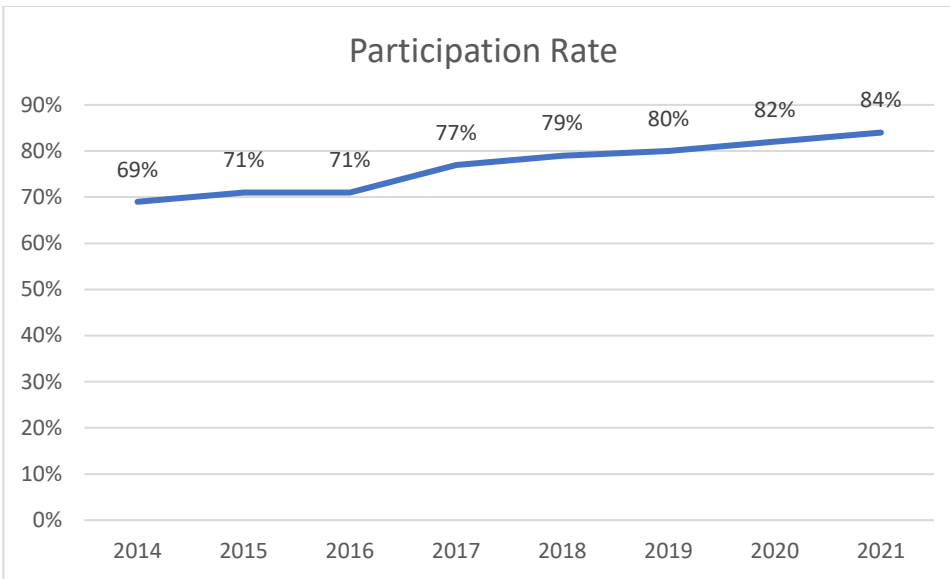
The diversion rate for the past 11 years averages 40%. The chart below shows the diversion rate (%) per year.



Participation Rate: Curbside U-Cycle Program

The participation rate in the curbside U-Cycle program has been tracked since 2014. In 2014, the participation rate was at 69%. In 2021, the participation rate rose to 84%, a 15% increase since 2011. 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).

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Environmental Impacts

In 2021, the curbside and multifamily U-Cycle programs recycled a combined 3,951 tons of commingled recycling, averaging 329 tons of recyclables collected and processed per month. Calendar year 2021 saw the highest recycling rates in the U-Cycle program for both curbside and multifamily households since implementation of the programs in 1986 and 1999, respectively.

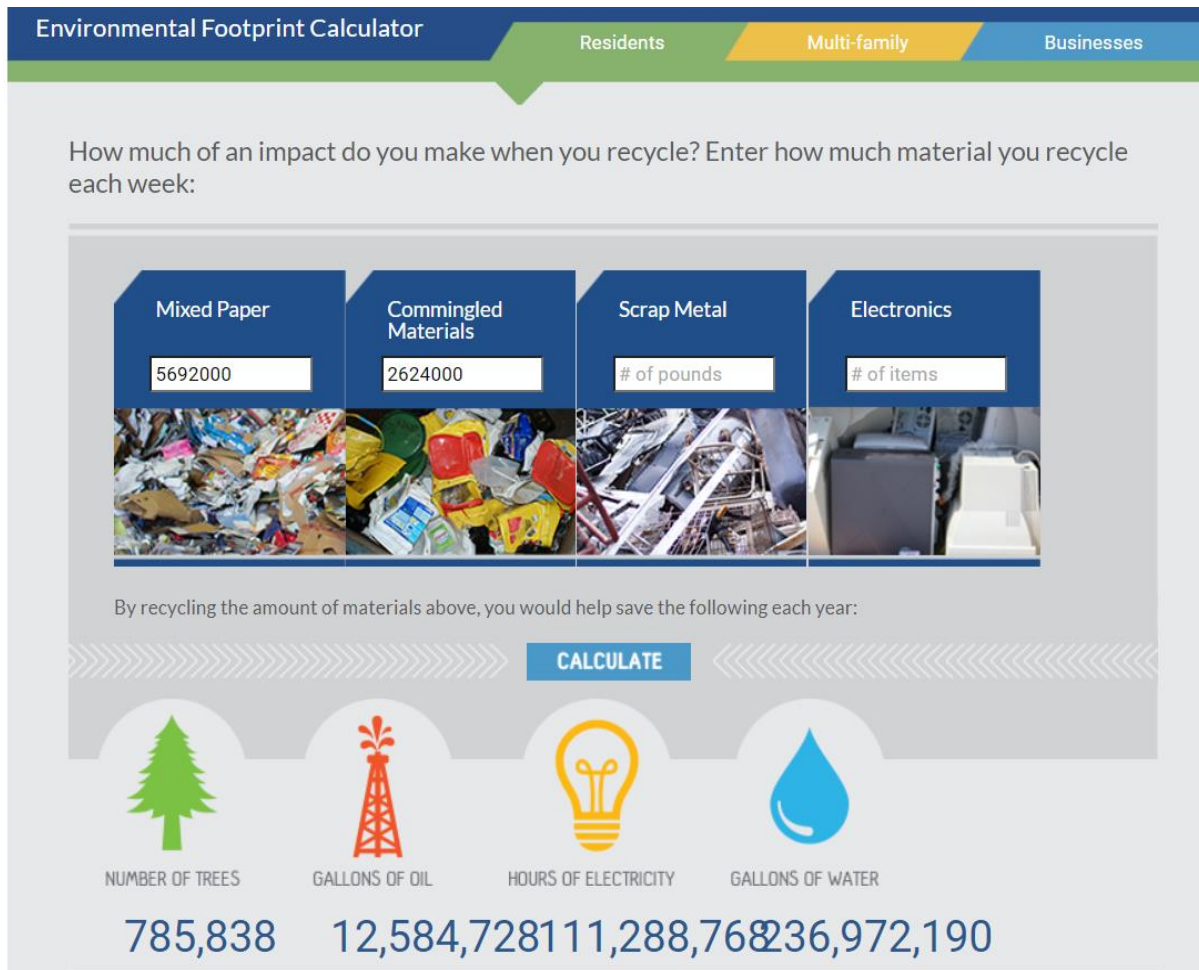
The positive environmental impacts of recycling were assessed using an environmental impact calculator provided by Montgomery County, Maryland. For our purposes we are only including residential recycling totals for paper, and commingled materials which includes plastics, glass, and metals. Here are the results.

By recycling 5.6 million pounds of paper and 2.6 million pounds of plastics, glass and metals in the U-Cycle program in 2021:

- 785,838 trees were saved
- 12.5 million gallons of oil were conserved
- 111 million kWh of electricity was saved

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- 237 million gallons of water was conserved



Economic Impacts

In 2021, the average annual household garbage collection cost in Urbana was \$21.52/month or \$258.24 annually. The average recycling collection cost in Urbana was \$3.25/month or \$39/annually.

Curbside Garbage Landfilled

- Curbside housing units 8,585

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- Curbside Solid Waste Landfilled/Year (Est.) = 15,124 tons

(Curbside households account for 44% of Urbana's housing, multiplied by the total municipal waste landfilled at 34,373 tons)

Curbside Households Garbage Cumulative Cost (Based on hauler prices, not tipping fees)

- Estimated at \$2,216,990 per year
(8,585 HH x \$258.24/annual (avg.) = \$2,216,990)
- Cost per ton = \$147/ton
($\$2,216,990 / 15,124 \text{ tons} = \$147/\text{ton}$)
- Cost per pound = \$0.07/lb.
($\$147/\text{ton} / 2000 = \$0.07/\text{lb.}$)

Multifamily Garbage Landfilled

- Multifamily Housing Units = 9,180
- Multifamily Solid Waste Landfilled/Year (Est.) = 19,249 tons

(Multifamily households account for 56% of Urbana's housing, multiplied by the total municipal waste landfilled at 34,373 tons)

Multifamily Households Garbage Cumulative Cost (Based on hauler prices, not tipping fees)

- Estimated at \$1,137,953 per year
(9,180 units x \$10.33*/unit/month (avg.)) x 12 months = \$1,137,953 per year
- Cost per ton = \$59/ton
($\$1,137,953 / 19,249 \text{ tons} = \$59/\text{ton}$)
- Cost per pound = \$0.03/lb.
($\$59 \text{ per ton} / 2000 = \$0.03/\text{lb.}$)

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

Curbside Recycling Costs

- Annual contractual cost in CY 2021 = \$153,056
- Tons of curbside recyclables collected in CY 2021 = 2,322 tons
- Cost per ton = \$66/ton
($\$153,056 / 2,322 \text{ tons} = \$66/\text{ton}$)
- Cost per pound = \$0.03/lb.
($\$66/2000 = \$0.03/\text{lb.}$)

Multifamily Recycling Costs

- Annual contractual cost in CY 2021 = \$172,964
- Tons of multifamily recyclables collected in CY 2021 = 1,629 tons
- Cost per ton = \$106/ton
($\$172,964/1,629 \text{ tons} = \$106/\text{ton}$)
- Cost per pound = \$0.05/lb.
($\$106/2000 = \$0.05/\text{lb.}$)

Conclusion

Materials recycled (including C&D) have steadily increased since CY 2011, a positive sign that recycling outreach and promotion are making an impact. Materials landfilled have increased the past two years due to the pandemic and more householders working, schooling, and eating at home. Landscape materials collected and composted has decreased since CY 2011, since there is no longer a contract with the City of Champaign.

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Urbana's diversion rate in CY 2021 was 39%. The average diversion rate since CY 2011 was 40%. Additionally, curbside recycling participation has increased the past six years – CY 2021 had the highest participation rate at 84%!

Curbside garbage disposal costs per pound are higher than multifamily disposal costs due to bulk collection savings at multifamily properties. Multifamily recycling costs per pound are higher than curbside recycling costs due to lower tonnages collected, and higher contamination rates.

CY 2021 had the highest rate of recycling to date in both the curbside and multifamily U-Cycle programs. Likely the increase was due to more householders staying at home during the pandemic and thus generating more waste *and recycling*. However, it also indicates that Urbana householders are doing their part to recycle, making a positive impact in the community and for the environment.