CITY OF URBANA, ILLINOIS
DEPARTMENT OF PUBLIC WORKS

ENVIRONMENTAL MANAGEMENT DIVISION

MEMORANDUM

TO: **Scott Tess, Environmental Sustainability Manager**

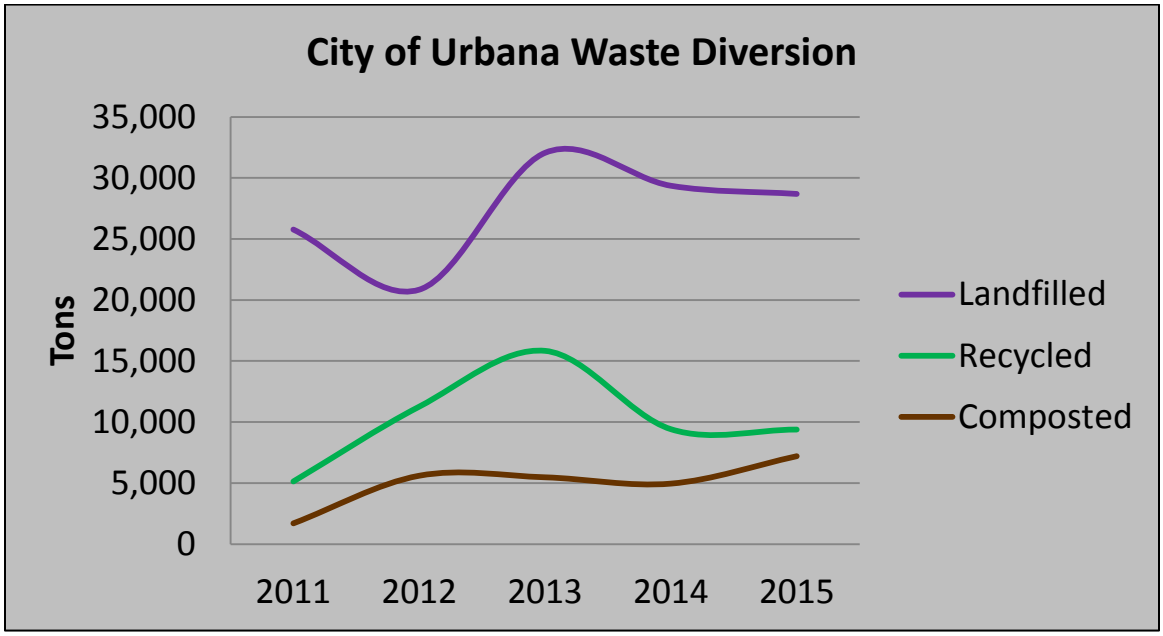
FROM: **Courtney Kwong, Recycling Coordinator**

DATE: **April 18, 2016**

RE: **Urbana Waste Diversion Report CY 2015**

Diversion Rate

In 2015 there was a total of 45,276 tons of waste generated in Urbana. This includes garbage, recycling and composting. Of this total, 28,690 tons (63%) was landfilled, 9,029 tons (20%) was recycled, and 7,557 tons (17%) was composted. Urbana's waste diversion rate in 2015 was 37%. Urbana's waste diversion increased by 4% in 2015 compared to 2014. The increase is attributable to a rise in composting (landscape) in 2015. According to the U.S. EPA, the national waste diversion rate is 34%. Urbana surpassed the national average by 3%. Below is a look at landfill, composting and recycling tonnages for the past five years.



Data has been tracked since 2011 when licensed City haulers were required to provide Urbana the quantity of garbage, recycling and landscape debris collected on an annual basis. Comparing 2015 data to 2011 data, Urbana has seen an 76% increase in recyclables collected, and a 345% increase in landscape composted; but has also seen a slight increase (11%) of garbage landfilled. Overall, the diversion rate in 2015 increased 16% when comparing 2011 to 2015 data.

Participation Rate: U-Cycle Program

Participation in the U-Cycle program rose 2% in 2015; from 69% in 2014 to 71% in 2015. Outreach efforts, including direct mail to households that do not have a U-Cart, most likely attributed to the increase. Additionally, the convenience of requesting a U-Cart online makes it easy and convenient for Urbana residents to obtain a U-Cart and participate in the program.

Environmental Impacts

The U-Cycle programs recycled 2,875 tons of materials in 2015, averaging 239 tons of recyclables per month. According to the U.S. EPA's WARM model 824 metric tons of CO2 emissions are avoided per month by recycling 239 tons of materials. That means that in 2015 Urbana residents saved 9,888 metric tons of CO2 emissions from releasing into the atmosphere.

http://www.stopwaste.us/partnership/calculator/

Green House Gas (GHG) Equivalencies

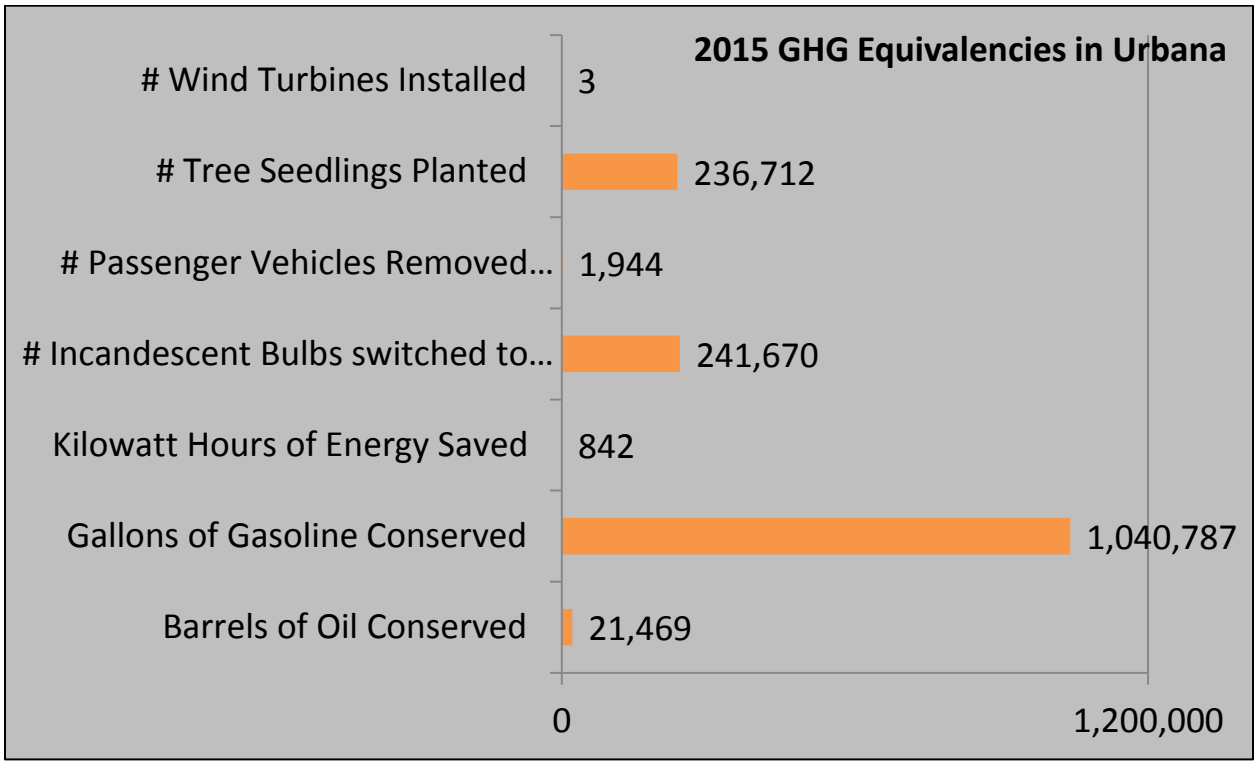
Utilizing 2015 tonnage data from the City of Urbana's U-Cycle program, electronics recycling and landscape composting by Urbana residents, the following Green House Gas (GHG) equivalencies were calculated through a calculator from Re-Trac Connect,* a waste diversion calculator.

In 2015 Urbana residents recycled 10,120 tons of residential recyclables, electronics and landscape debris, equivalent to

- conserving 21,469 barrels of oil
- conserving 1,040,787 gallons of gasoline
- saving 842 homes worth of energy use
- switching 241,670 incandescent lightbulbs to CFL
- removing 1,944 passenger vehicles from the road

- planting 236,712 tree seedlings
- installing 3 wind turbines

* http://www.re-trac.com/



Economic Impacts

In Urbana, the average annual price charged for household garbage collection is $208.08* (or $17.34/month). Residents in the curbside and multifamily recycling programs recycled 2,875 tons of materials in 2015 saving the equivalent of $598,230 of garbage collection costs. With 19,090** housing units in Urbana, that comes to a savings of $31.34 per Urbana household in 2015. That is not only an economic gain, but an environmental gain as well.

*Based on average monthly costs for household garbage collection in Urbana in 2015 (eight licensed providers)
**2010 Census data (http://www.census.gov/quickfacts/table/HSG010214/1777005)

Solid Waste Cost:
Disposal:
28,690 tons (2015 waste)
28,690 tons X $17.34/household (avg. garbage cost) X 12 months= $5,969,815/year
Cost per ton:
$5,969,815 / 28,690 tons=$208.08/ton

Cost per pound:
$208.08 / 2000=$0.10/lb.

Recycling Costs:

Curbside U-Cycle

Cost per ton:
$194,940*/ 2,187 tons = $89.14/ton
Cost per pound:
$89.14/ 2,000=$0.04/lb.
*Contractual cost (2015)

Multifamily U-Cycle

Cost per ton:
$215,000*/ 688 tons = $312.50/ton
Cost per pound:
$312.50/ 2,000 = $0.15/lb.
*Contractual cost (2015)

Combined U-Cycle Programs

Cost per ton:
$194,940+$215,000 = $409,940
2,187 tons + 688 tons = 2,875 tons
$409,940 / 2,875 tons = $142.59/ton
$142.59 / 2,000 = $0.07/lb.

Conclusions

Averaging the recycling costs together reveals that it costs less per pound to recycle materials in the U-Cycle program than to landfill residential refuse. Recycling makes economic sense! In addition, the GHG equivalencies indicate a significant positive environmental impact just through commodity recycling alone.