



[recyclemoreminnesota.org](http://recyclemoreminnesota.org)

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## Strategies to track waste generation, recycling and composting at your school

An increasing number of organizations have found value in tracking their solid waste. Knowing how much waste is generated, and how much waste is captured through recycling and composting programs is essential to evaluating how well your program performs. While not all institutions save money by recycling, many do! Tracking your solid waste will position you to reduce overall solid waste costs.

There are three options for gathering data about your solid waste program that we describe here. We are listing them here from most-preferred to least-preferred, based on the quality and ease-of-collection of the data.

Whichever option you choose, your recycling team should start tracking right away and continue for at least a year after your program is implemented. Ideally, these measurements will become a “way of life” at your school and you will collect them as a part of routine business.

### **Option #1 (most preferred): Hauler weighs materials**

Institutions can negotiate with their trash hauler to have them weigh the trash, recycling, and compostables (where applicable). Some haulers have trucks outfitted with scales. While the scales are not perfect, they are believed to have a higher level of accuracy than other options for collecting waste data. Institutions that receive this service have typically included provisions in the contract with their waste hauler for collecting and reporting weights. As with any contract provision, it is important to periodically monitor and assess if the tracking and reporting is meeting the standards set within the contract. Some haulers may charge more for this service and some haulers may not be capable of offering it. To see template contract language that includes provisions on reporting visit the MPCA website:

(<http://www.pca.state.mn.us/resourcemanagement>)

## Option #2 (second-most preferred option): Monitor and track the volume

Option #2 is to monitor and track the volume of material in the trash, recycling, and composting dumpsters. To do this, an institution or their waste hauler would look into trash or recycling dumpsters and carts to determine how much material is there. The size of container (dumpster or cart), type of material, and volume of material (i.e. 25%, 50%, 75% or 100% full) must be noted before each pick up. A volume-to-weight conversion factor is then used to estimate material weight.

The spreadsheet provided in the Recycle More Minnesota school recycling toolkit (<http://recyclemoreminnesota.org/schools>) can be used as a worksheet for gathering this type of information. The formulas in the spreadsheet will convert the number of carts and dumpsters in to weights for you. If you use this spreadsheet, please read the example tab first. For further instructions on how to use the spreadsheet contact Tim Farnan, Minnesota Pollution Control Agency solid waste specialist, at 651-757-2348.

## Option #3 (least preferred option): Review hauler bills

Option #3 is to review waste hauler bills to determine what size containers are used and how frequently they are collected. Multiply the total number of cubic yards of material collected by the density for each material type. This method is likely to be the least accurate of the three options because typically not all containers on site are full for every collection. Using option 2 is far more accurate and can position an institution to reduce its trash bills. Trash bills can be reduced by reducing the frequency of collection and/or the size of the container.

Use this table to determine the estimated weight density per cubic yard:

Material Type	Density (lb/cu yd)
Mixed Paper Recycling	484
Bottles and Cans	200
Single Stream Recycling	139
Cardboard	100
Trash	125

Note: a 96 gallon container is 0.553 cubic yards

Multiply your container size by the number of collections in the timeframe you are evaluating and multiply the total number of cubic yards by the appropriate density to estimate how much material was collected. Repeat for each material stream (trash, paper recycling, cardboard, etc.).

**Example:** Lakewood Elementary has a 4-yard trash dumpster picked up twice every week. To estimate trash generation for six months using the process noted above, Lakewood would use the below formula:

- 4-cubic yards per collection x 2 collections per week = 8 cubic yards of trash each week
- 8 cubic yards of trash per week x 26 weeks (six months) = 208 cubic yards of trash
- 208 cubic yards of trash x 125 lbs per cubic yard (see table above) = 26,000 lbs of trash