



School Waste Composition Study

2010

Purpose

The study was designed to determine:

- How much waste schools generate
- How much waste could be recycled, composted or sent to livestock
- How many recyclables and compostables are being thrown away
- How much contamination is in recycling and composting bins
- The composition of school waste

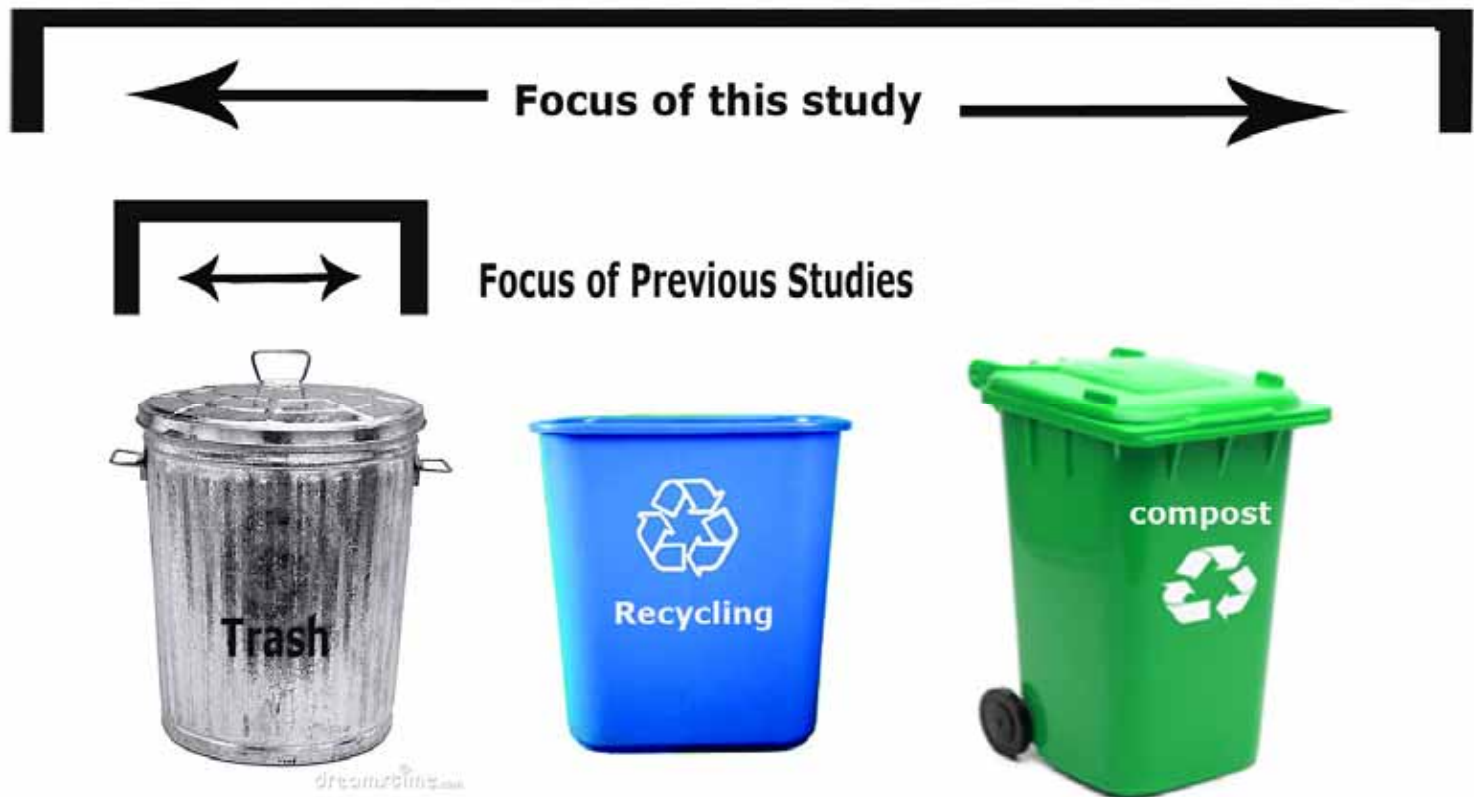


Amazing Collaboration



- Hennepin County – Dept. of Environmental Services
- MN Pollution Control Agency
- City of Minneapolis – Dept. of Solid Waste & Recycling
- Hopkins, Minneapolis, Minnetonka Public Schools

This study examined all waste generated by schools



Study Design

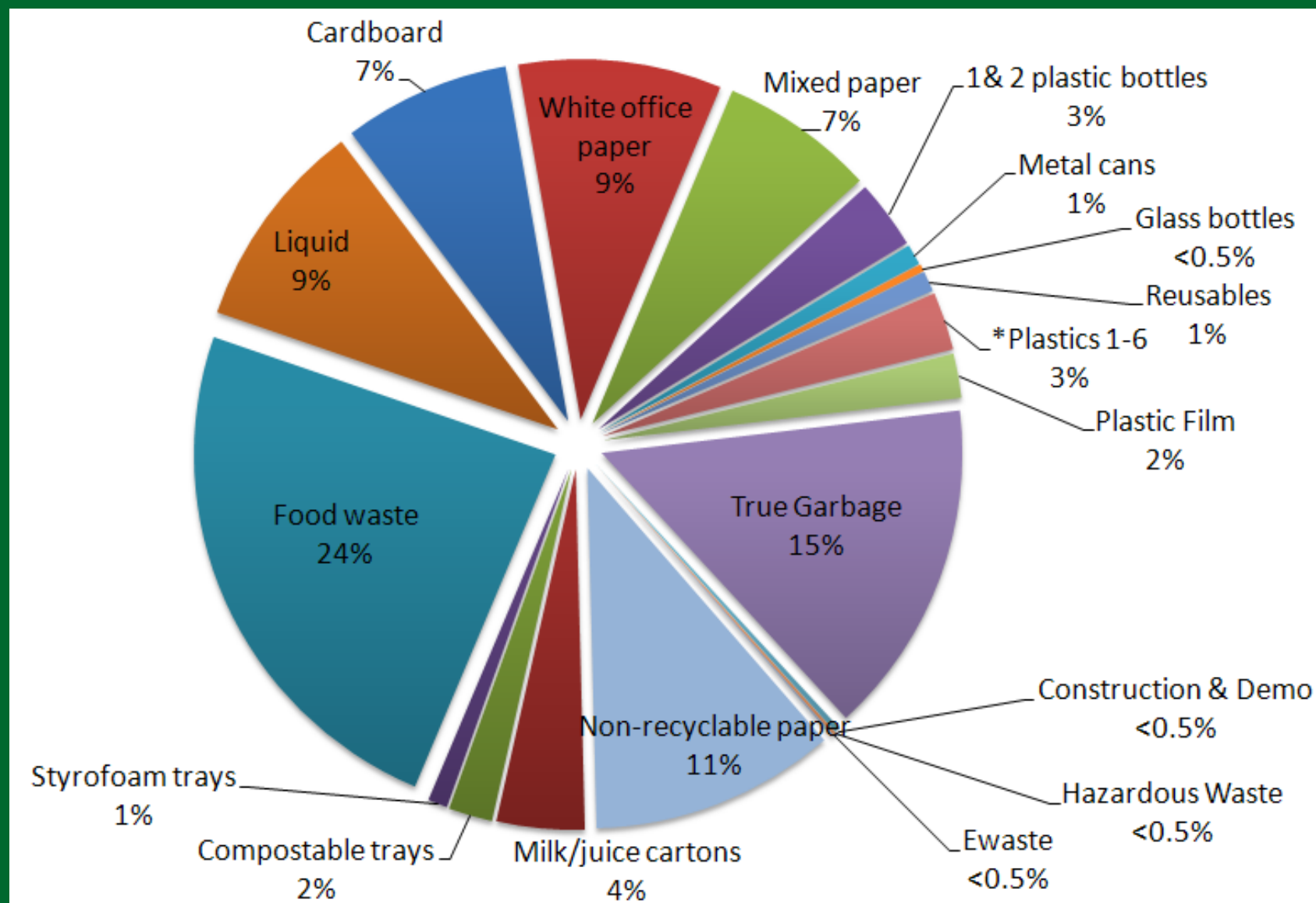
- 6 Schools – 2 elementary, 2 middle, 2 high schools
- All waste generated over two days was sorted – 'census' method
- Waste tracked by: school of origin, date generated, material stream
- Waste sorted into 19 categories



The Study Schools

School	Total Population (Students & Staff)	Location	Grades	Recycling Program	Organics Program
Burroughs (elementary)	816.4	Minneapolis	K-5	Single Stream	Composting
Clear Springs (elementary)	681	Minnetonka	K-5	Dual Stream	Composting
Northeast (middle)	592.3	Minneapolis	6-8	Single Stream	Composting
West Junior (middle)	941	Hopkins	6-8	Dual Stream	Composting
Washburn (high)	925.1	Minneapolis	9-12	Single Stream	Composting
Minnetonka (high)	3,083.00	Minnetonka	9-12	Dual Stream	Composting

Composition of Waste (all grade levels combined)



Most Prominent Categories

- Food Waste: 23.09%
- True Garbage: 15.04%
- Recyclable Paper: Combined total of 23.51%
 - Mixed paper 6.92%
 - White office paper 9.11%
 - Cardboard 7.48%
- Non-recyclable paper: 10.99%



Liquids



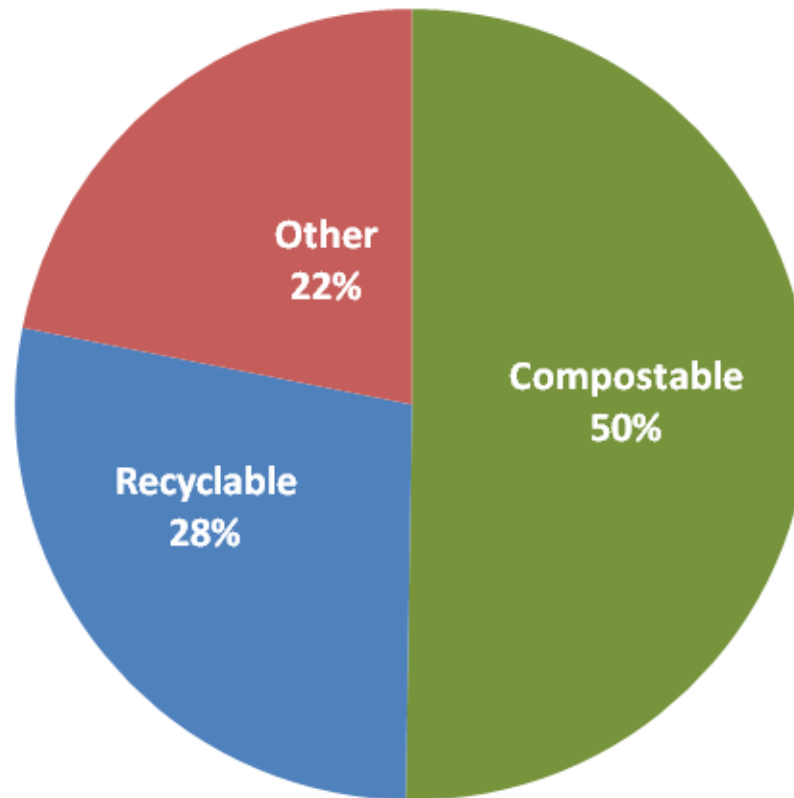
- All six schools pre-sorted liquid waste
- Even with pre sort, liquids accounted for 9.47%
- Many food to livestock programs encourage liquid waste to be placed in containers.
- Liquid is heavy, but does not take up lots of space.



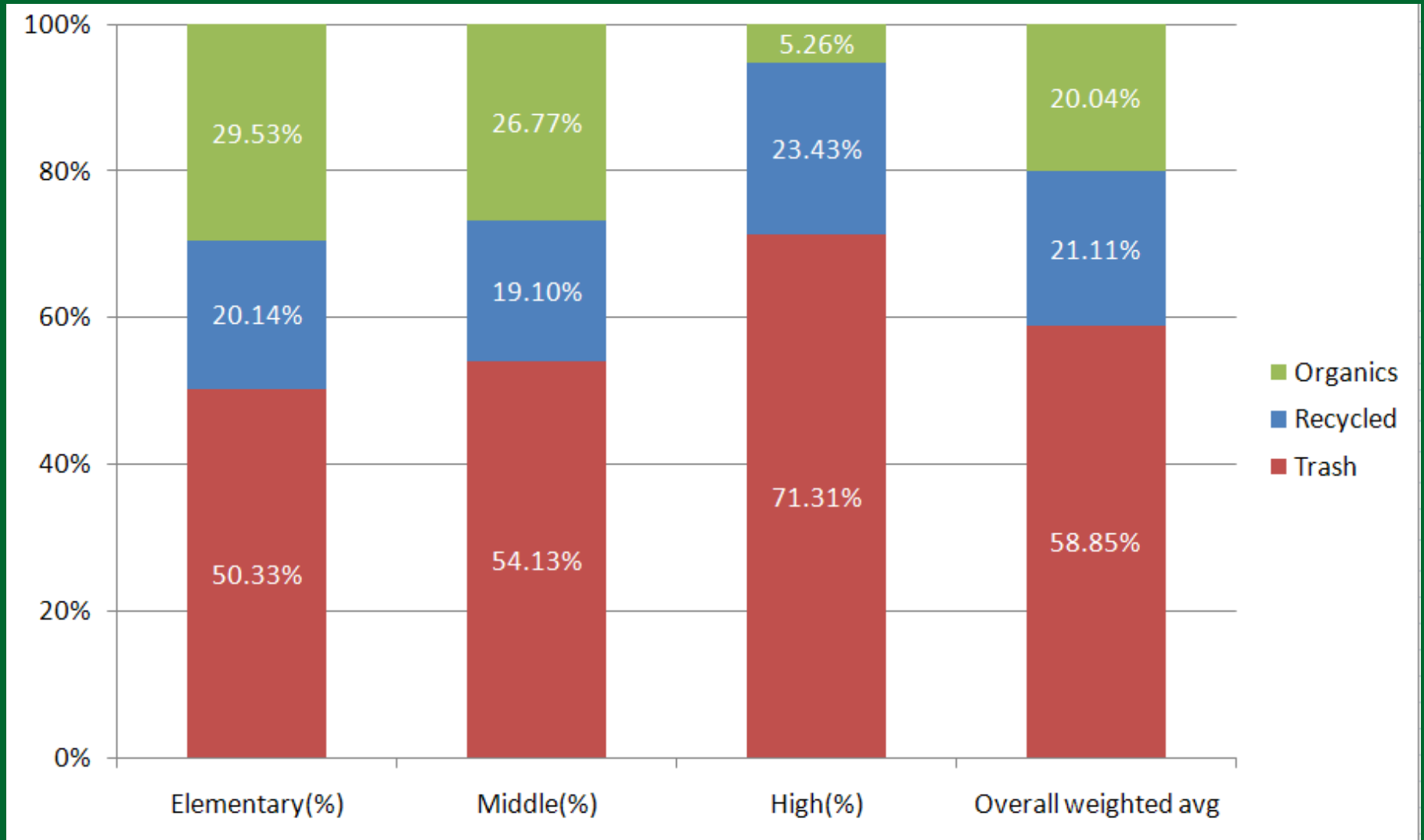


Recyclable and Compostable Components of School Waste

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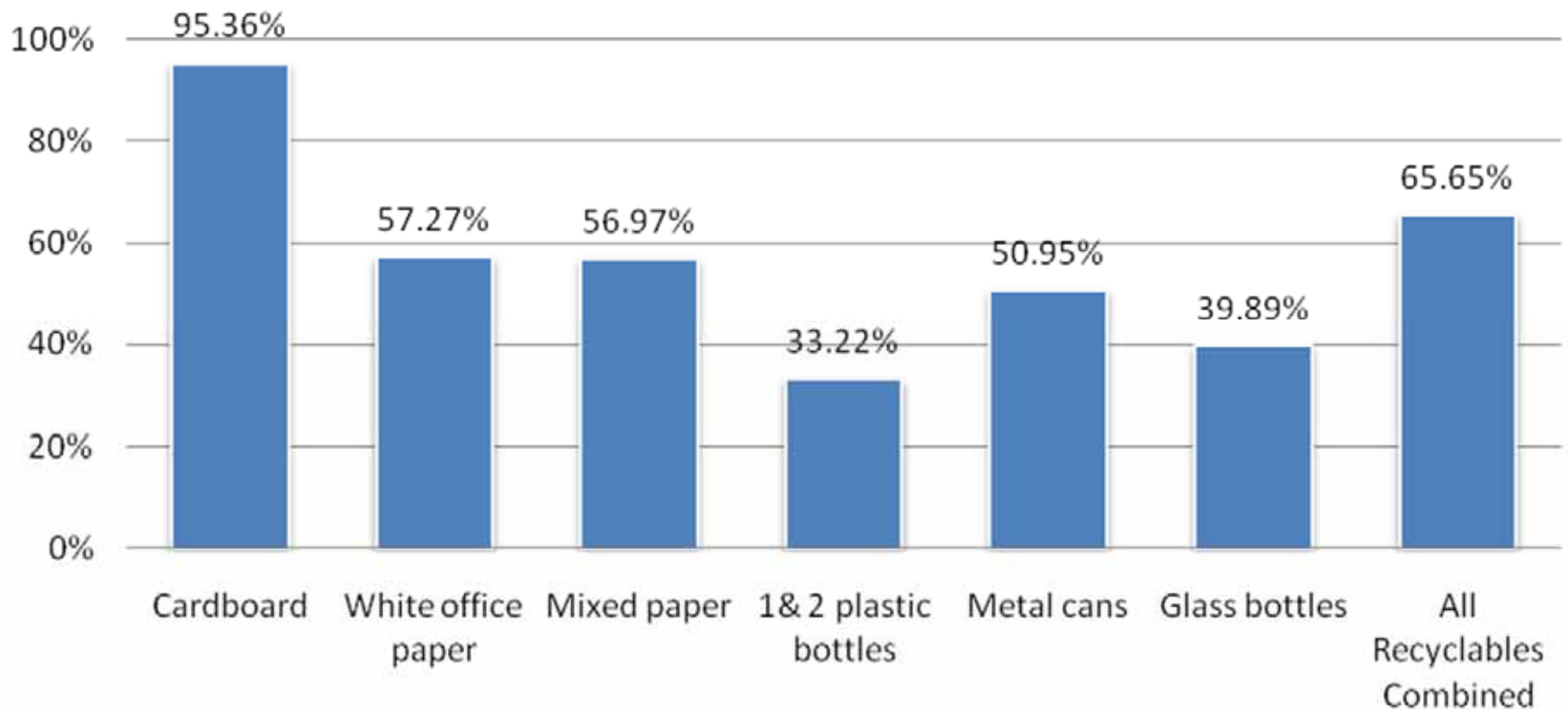


Current Recovery Rates:



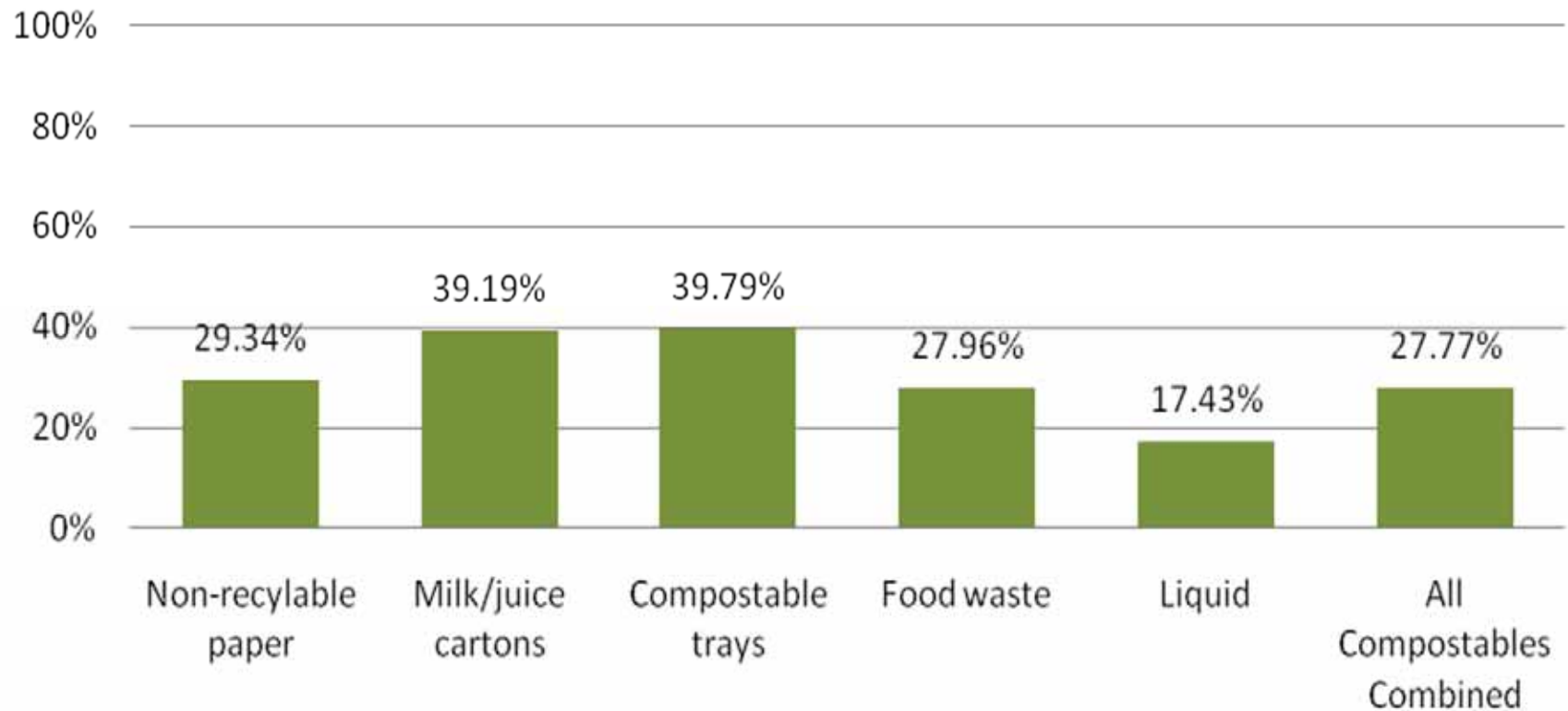
Recycling Capture Rates

Capture Rates for Recyclables



Capture Rates for Compostables

Capture Rate for Compostables



Waste Generated at Schools Statewide

	Per capita/ day (lb)	MN population of school tier*	Waste Generated Statewide Per School Day (lb)
Elementary (K-5)	0.47	413,401	195,969
Middle (6-8)	0.52	206,001	107,732
High (9-12)	0.56	309,711	174,746
Total	0.52	929,113	483,520

* Statewide student and staff population data: Minnesota Department of Education

- Assuming 180 School days per year – schools generate more than 43,516 tons of waste annually.
- 64 of Minnesota's 87 Counties reported generating less than 43,516 tons of waste in the 2008 SCORE Report

Using All Available Space



With loosely packed cafeteria trays, the capacity of a 96-gallon cart was 114 trays, or 4.4 lb of waste



With neatly stacked cafeteria trays, the capacity of a 96-gallon cart was 920 trays or 37.8 lb of waste

Lesson's learned

- Over 78% of what is generated at schools could be recycled or composted.
- Schools generate a significant amount of waste
 - Combined the state's ~2000 public schools generate more waste annual than 64 of MN's 87 Counties
- Schools that successfully increase recycling and composting capture rates have the potential to reduce trash service (which could save money)
- There are many opportunities for schools to reduce overall waste generation.



Digging Deep Through School Trash

A waste composition analysis of trash, recycling and organic material discarded at public schools in Minnesota



Minnesota Pollution Control Agency

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Find the full
report online
at:

www.pca.state.mn.us/schoolwaste



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