

Solid Waste Reduction & Recycling

Minnesota Pollution Control Agency (MPCA)

Li Guan

Advisor: Anna Arkin

Minnesota Technical Assistance Program

UNIVERSITY OF MINNESOTA

Project Overview

- MN State Statute
 - 60% recycling rate goal
 - 75% by 2030 for metro area agencies
- Status
 - 2012: Only 29% of agencies reported recycling data
 - Only 14% of agencies met recycling goal

Project Overview

- Two main focuses
 - ❖ Provide site specific recommendations to four agencies in Lafayette Park area (St. Paul)
 - ❖ Develop a toolkit for agencies across MN

Section I

AGENCIES AT LAFAYETTE PARK

Glossary

- **Solid waste** --- Trash
- **DHS** --- Department of Human Services
- **DLI** --- Department of Labor and Industry
- **DNR** --- Department of Natural Resources
- **MPCA** --- MN Pollution Control Agency
- **Organics recycling** --- Collect organics for commercial composting
- **Solid waste management tax** --- A tax on trash (but not recycling), charged by the state and some counties

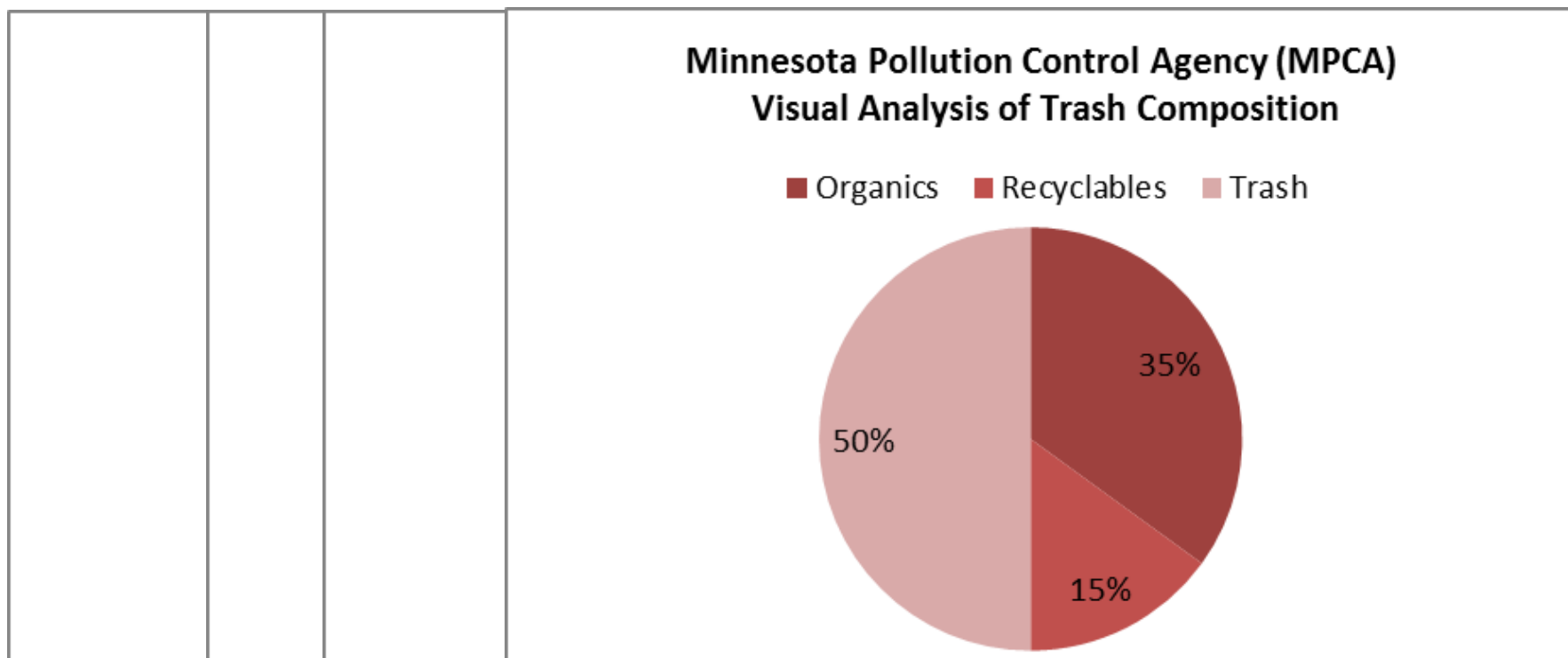
Approach to waste analysis

- Track down waste streams
- Conduct visual estimation of trash composition
- Identify opportunities to increase waste reduction, reuse, and recycling

2013 Agency Recycling Rates

Agency	Recycling rate	Population
DHS	54%	970
DLI	44%	375
DNR	52%	645
MPCA	52%	668
Mandated recycling rate		60%

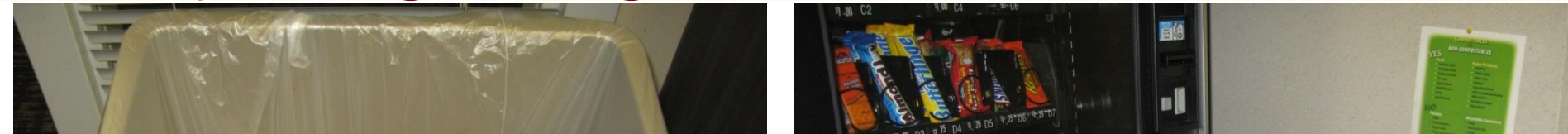
Visual estimation of trash composition



Solid waste reduction options

- Improve / launch organics recycling program
- Improve recycling program
- Offer reusables at cafeteria
- Reuse office supplies

Improve / launch organics recycling program



Agency	Annual reduction	Potential increase in recycling rate	Implementation cost	Annual net savings	Status
DHS	47,100 lbs	14%	\$660	\$540	Recommended
DLI	34,900 lbs	17%	\$490	\$400	Planned
DNR	24,500 lbs	12%	\$700	\$1,630	Recommended

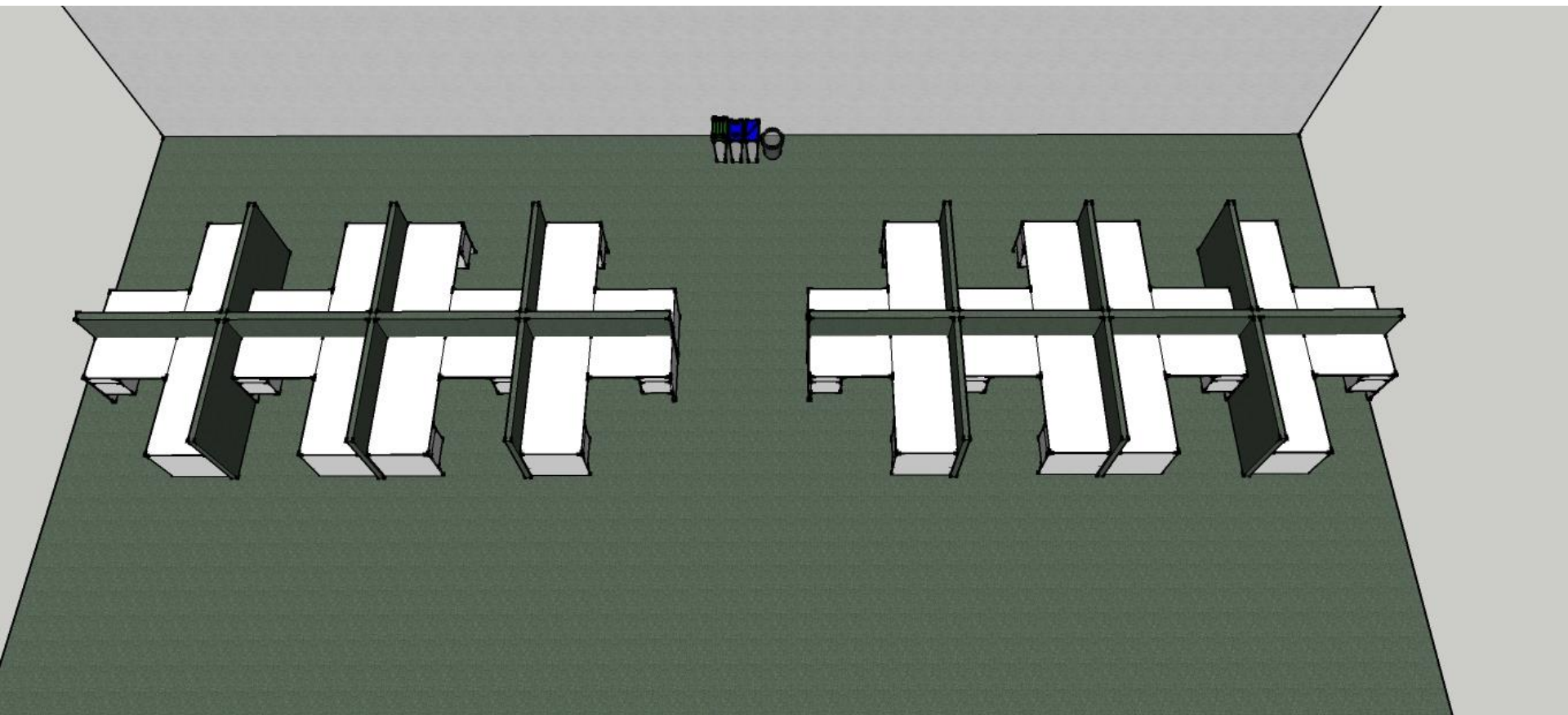
Solid waste reduction options

- Improve / launch organics recycling program
- Improve recycling program
- Offer reusables at cafeteria
- Reuse office supplies

Improve recycling program

- How?
 - ❖ Create centralized waste station and eliminate desk side waste baskets
 - ❖ Purchase color-coded bins
 - ❖ Update current signage
 - ❖ Improve education & communications program

Centralized waste station



Centralized waste station



Centralized waste station



Improve recycling program

- How?
 - ❖ Create centralized waste station and eliminate desk side waste baskets
 - ❖ Purchase color-coded bins
 - ❖ Update current signage
 - ❖ Improve education & communications program

Update current signage

- Opportunities with current signage: information could be updated & more illustrative



Update current signage

- Suggested signage is from Recycling Association of Minnesota (RAM)



Update current signage

WHAT TO PUT IN
THE “ORGANICS”
BIN

Hey, I am not TRASHY...
RECYCLE ME IN THE
“ORGANICS” BIN!

Thanks!



Compostable products from cafeteria

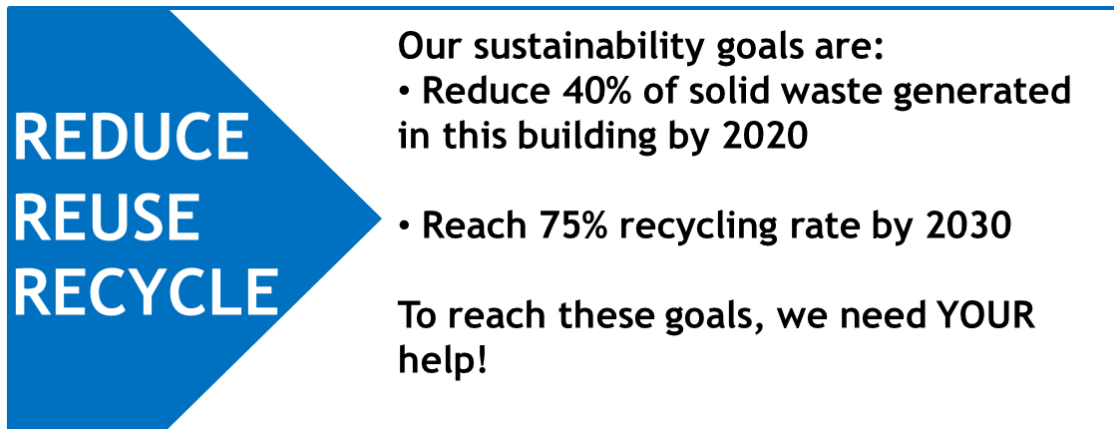


Improve recycling program

- How?
 - ❖ Create centralized waste station and eliminate desk side waste baskets
 - ❖ Purchase color-coded bins
 - ❖ Update current signage
 - ❖ Improve education & communications program

Education & communications

- Tips for a successful employee engagement program
 - ❖ Communicate waste reduction goals to employees
 - ❖ Report progress and recognize achievements
 - ❖ Be interactive, creative and fun



**REDUCE
REUSE
RECYCLE**

Our sustainability goals are:

- Reduce 40% of solid waste generated in this building by 2020
- Reach 75% recycling rate by 2030

To reach these goals, we need **YOUR** help!

Improve recycling program

Agency	Annual reduction	Potential increase in recycling rate	Implementation cost	Annual net savings	Status
DHS	23,500 lbs	7%	\$1,230	\$5,020	Recommended
DLI	17,400 lbs	8%	\$1,030	\$2,000	Recommended
DNR	14,700 lbs	7%	\$1,570	\$3,200	Recommended
MPCA	20,500 lbs	12%	\$2,080	\$4,060	Recommended

Solid waste reduction options

- Improve / launch organics recycling program
- Improve recycling program
- Offer reusables at cafeteria
- Reuse office supplies

Offer reusables in cafeterias

- Reusable takeout containers
- Reusable utensils & dishware



http://erefdn.org/index.php/grants/fundedresearchinfo/beyond_disposables_eco-clamshell_reusable_to-go_program/

Agency	Annual reduction	Implementation cost	Annual net savings	Status
MPCA – DNR Cafeteria	7,700 lbs	\$9,300	\$17,400	Recommended

Solid waste reduction options

- Improve / launch organics recycling program
- Improve recycling program
- Offer reusables at cafeteria
- Reuse office supplies

Reuse office supplies

- Set up a centralized ordering & purchasing system
- Encourage employees to reuse & take back extras
- Circulate extra office supplies with regional offices or with other agencies in Lafayette Park



Reuse office supplies

Agency	Annual reduction	Implementation cost	Annual net savings	Status
DHS	500 lbs	\$200	\$23,700	Recommended
DNR	350 lbs	\$200	\$15,750	Recommended

Other recommendations

Agency	Recommendation	Annual reduction	Implementation cost	Annual net savings	Status
DHS	Recycle plastic wrap & bags	100 lbs	\$0	N/A	Recommended
DLI	Downsize trash dumpster	N/A	\$0	\$4,200	Planned
DLI	Install 0.5 gpm faucet aerators in restrooms	48,750 gallons	\$70	\$150	Planned
DNR	Track & report all recycled materials	N/A	\$0	N/A	Recommended

Summary

Agency	Current recycling rate	Potential recycling rate	Annual reduction	Implementation cost	Annual net savings
DHS	54%	75%	71,200 lbs	\$2,100	\$29,300
DLI	44%	69%	52,300 lbs	\$1,600	\$6,800
DNR	52%	72%	47,300 lbs	\$2,400	\$20,600
PCA	52%	64%	28,300 lbs	\$11,200	\$21,500
Total			199,100 lbs	\$17,300	\$78,200

Section II

SOLID WASTE REDUCTION AT STATE AGENCIES TOOLKIT

Table of contents

- Introduction
- Solid Waste Management Planning
- Data Tracking, Reporting; Information Gathering
- Solid Waste Reduction at Agency Buildings
- Education & Communications
- Additional Resources

Personal benefits

- Gain hands-on experience
- Work independently
- Develop interest in sustainability management

Thank you!

Questions?

