Solid Waste Reduction & Recycling
Minnesota Pollution Control Agency (MPCA)

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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

<table>
<thead>
<tr>
<th>Agency</th>
<th>Recycling rate</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>DHS</td>
<td>54%</td>
<td>970</td>
</tr>
<tr>
<td>DLI</td>
<td>44%</td>
<td>375</td>
</tr>
<tr>
<td>DNR</td>
<td>52%</td>
<td>645</td>
</tr>
<tr>
<td>MPCA</td>
<td>52%</td>
<td>668</td>
</tr>
<tr>
<td><strong>Mandated recycling rate</strong></td>
<td><strong>60%</strong></td>
<td>****</td>
</tr>
</tbody>
</table>

*Source: Minnesota Technical Assistance Program, University of Minnesota*
Visual estimation of trash composition

Minnesota Pollution Control Agency (MPCA)
Visual Analysis of Trash Composition

- **Organics**: 15%
- **Recyclables**: 35%
- **Trash**: 50%
Solid waste reduction options

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

<table>
<thead>
<tr>
<th>Agency</th>
<th>Annual reduction</th>
<th>Potential increase in recycling rate</th>
<th>Implementation cost</th>
<th>Annual net savings</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>DHS</td>
<td>47,100 lbs</td>
<td>14%</td>
<td>$660</td>
<td>$540</td>
<td>Recommended</td>
</tr>
<tr>
<td>DLI</td>
<td>34,900 lbs</td>
<td>17%</td>
<td>$490</td>
<td>$400</td>
<td>Planned</td>
</tr>
<tr>
<td>DNR</td>
<td>24,500 lbs</td>
<td>12%</td>
<td>$700</td>
<td>$1,630</td>
<td>Recommended</td>
</tr>
</tbody>
</table>
Solid waste reduction options

- Improve / launch organics recycling program
- Improve recycling program
- Offer reusables at cafeteri
- 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

WHAT TO PUT IN THE "ORGANICS" BIN?

- Organic waste
- Vegetables
- Fruits
- Eggshells
- Coffee grounds
- Leaves

Our sustainability goals:
- Reduce 40% of waste sent to incineration
- Reach 75% recycling rate by 2023
- Support our efforts, we need YOUR help!

ORGANICS

RECYCLE

RECYCLE

TRASH

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Centralized waste station

WHAT TO PUT IN THE “ORGANICS” BIN?

- Fruits and vegetables
- Vegetables
- Plant-based food waste
- Baking trays
- Paper products

Our sustainability goals:
- Reduce 40% of solid waste generated in accordance to 2020
- Double 7% recycling rate by 2024

To reach these goals, we need YOUR help!
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
Tips for a successful employee engagement program

- Communicate waste reduction goals to employees
- Report progress and recognize achievements
- Be interactive, creative and fun

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

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


<table>
<thead>
<tr>
<th>Agency</th>
<th>Annual reduction</th>
<th>Implementation cost</th>
<th>Annual net savings</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPCA – DNR Cafeteria</td>
<td>7,700 lbs</td>
<td>$9,300</td>
<td>$17,400</td>
<td>Recommended</td>
</tr>
</tbody>
</table>

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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

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## Reuse office supplies

<table>
<thead>
<tr>
<th>Agency</th>
<th>Annual reduction</th>
<th>Implementation cost</th>
<th>Annual net savings</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>DHS</td>
<td>500 lbs</td>
<td>$200</td>
<td>$23,700</td>
<td>Recommended</td>
</tr>
<tr>
<td>DNR</td>
<td>350 lbs</td>
<td>$200</td>
<td>$15,750</td>
<td>Recommended</td>
</tr>
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</table>
### Other recommendations

<table>
<thead>
<tr>
<th>Agency</th>
<th>Recommendation</th>
<th>Annual reduction</th>
<th>Implementation cost</th>
<th>Annual net savings</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>DHS</td>
<td>Recycle plastic wrap &amp; bags</td>
<td>100 lbs</td>
<td>$0</td>
<td>N/A</td>
<td>Recommended</td>
</tr>
<tr>
<td>DLI</td>
<td>Downsize trash dumpster</td>
<td>N/A</td>
<td>$0</td>
<td>$4,200</td>
<td>Planned</td>
</tr>
<tr>
<td>DLI</td>
<td>Install 0.5 gpm faucet aerators in restrooms</td>
<td>48,750 gallons</td>
<td>$70</td>
<td>$150</td>
<td>Planned</td>
</tr>
<tr>
<td>DNR</td>
<td>Track &amp; report all recycled materials</td>
<td>N/A</td>
<td>$0</td>
<td>N/A</td>
<td>Recommended</td>
</tr>
<tr>
<td>Agency</td>
<td>Current recycling rate</td>
<td>Potential recycling rate</td>
<td>Annual reduction</td>
<td>Implementation cost</td>
<td>Annual net savings</td>
</tr>
<tr>
<td>--------</td>
<td>------------------------</td>
<td>--------------------------</td>
<td>------------------</td>
<td>---------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>DHS</td>
<td>54%</td>
<td>75%</td>
<td>71,200 lbs</td>
<td>$2,100</td>
<td>$29,300</td>
</tr>
<tr>
<td>DLI</td>
<td>44%</td>
<td>69%</td>
<td>52,300 lbs</td>
<td>$1,600</td>
<td>$6,800</td>
</tr>
<tr>
<td>DNR</td>
<td>52%</td>
<td>72%</td>
<td>47,300 lbs</td>
<td>$2,400</td>
<td>$20,600</td>
</tr>
<tr>
<td>PCA</td>
<td>52%</td>
<td>64%</td>
<td>28,300 lbs</td>
<td>$11,200</td>
<td>$21,500</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>199,100 lbs</td>
<td>$17,300</td>
<td>$78,200</td>
</tr>
</tbody>
</table>
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?