Advisory Committee
Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)
June 25, 2013
Purpose of the Plan

The Solid Waste Plan 2040 will be a guidance document, communication tool, and resource for policy decisions regarding solid waste management systems, facilities, and programs.
1. Public Meeting Law Acknowledgement & Safety Briefing
2. Call Meeting to Order
3. Roll Call
4. Approve Meeting Minutes from May 14, 2013
5. Process for Developing Recommendations
   a) Additional Information on Construction and Demolition Material Recycling
6. System Definition
7. Committee Questions and Discussions

BREAK
Agenda

BREAK

8. System Definition (cont.)
9. Public Participation
10. Developing Plan Recommendation
11. Committee Questions and Discussions
12. Next Advisory Committee Meeting
   a) Timing, Topics and Notification
13. Public Comment (final 15 minutes)
14. Close Meeting
Construction & Demolition Materials Recycling

Current System:

• 75 – 80% Diversion of Total C&D Generation
  • Includes Concrete and Asphalt Compared to Material Disposed of at City’s North 48th Street C&D Landfill

• Quantities of C&D Materials Going to Bluff Road is Unknown:
  • Materials for Reuse/Repurpose, Recycle, Waste
  • State Composition Study was 0.17% Misc. C&D; 0.31% Wood at Bluff Road
  • Iowa Statewide Composition Study was 5.5%
  • Operation personnel identify wood, asphalt shingles, packaging materials as noted components
Construction and Demolition Materials Recycling

Program Types:

• Regulatory Requirements
  – Mandatory recycling plans
  – Minimum diversion requirements
  – Incorporation into disaster response plans

• Market and Diversion Incentives
  – Modify government procurement/purchasing specifications
  – Require the use of recyclable materials
  – Targeted programs
  – Increased landfill fees
  – Disposal bans

• Materials Recycling and Processing Centers
Construction and Demolition Materials Recycling

**Issue:**
Significant quantities of concrete and asphalt are being recycled through private initiatives, but other commercial and residential C&D waste material are being disposed of in the City’s C&D Waste Landfill and in the MSW landfill. Limited diversion of this other material is occurring through private and not-for-profit initiatives.

Some of this material can be re-used/re-purposed and some has recycling value. Examples of materials with additional recycling value include: wood, gypsum/drywall, packaging materials, brick, and asphalt shingles. Increased rates of diversion could likely be achieved through several means including: education, regulatory requirements, market and diversion incentives, material recycling and processing centers.
Construction and Demolition Materials Recycling

Options:
1) Maintain Status Quo:
   a. Support private recycling and material reuse effort.

2) Develop/Support programs to reduce the quantities of construction and demolition waste going to the City’s disposal site(s).
Construction and Demolition Materials Recycling

1. Maintain Status Quo.

2. Develop/Support programs to reduce the quantities of construction and demolition waste going to the City’s disposal site(s).

3. Abstain.
System Definition
System Definition

• Combines information on existing programs and future program options

• Serve as the basis for the development of the Solid Waste Management Plan

• Basis of Open House and Public Outreach

• Utilizes Preferred Path Options and Associated Discussions
System Definition

Options:
- Strategies
- Quantitative/Qualitative Goals
- Benefits
- Cost Considerations
- Capital Costs
- Operating Costs
- Funding
- Diversion
# System Definition - Scenarios

<table>
<thead>
<tr>
<th>Program Area</th>
<th>Scenario 1</th>
<th>Scenario 2</th>
<th>Scenario 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Reduction</td>
<td>Increased Education</td>
<td>1 - 2%</td>
<td>Increased Education in conjunction with more progressive diversion efforts</td>
</tr>
<tr>
<td>Toxics Reduction</td>
<td>Year round facility</td>
<td>&lt;1%</td>
<td>Year round facility</td>
</tr>
<tr>
<td>Yard Waste</td>
<td>Status Quo</td>
<td>0%</td>
<td>Status Quo</td>
</tr>
<tr>
<td>Residential Recycling</td>
<td>Universal with Minimum Levels of Service</td>
<td>5-7%</td>
<td>Universal - more enhanced program</td>
</tr>
<tr>
<td>Commercial Recycling</td>
<td>Universal with Minimum Levels of Service</td>
<td>6-8%</td>
<td>Universal - more enhanced program</td>
</tr>
<tr>
<td>Organic Waste Diversion</td>
<td>Status Quo with added educational emphasis</td>
<td>&lt;1%</td>
<td>Pilot program for food composting</td>
</tr>
<tr>
<td>Waste Conversion Technologies</td>
<td>Status Quo</td>
<td>0%</td>
<td>Waste Conversion facility targeting majority of non-diverted wastes</td>
</tr>
<tr>
<td>Transfer Station</td>
<td>Transfer Station with no processing</td>
<td>&lt;1%</td>
<td>Transfer Station with limited diversion of materials delivered as waste</td>
</tr>
<tr>
<td>% INCREASE in TOTAL MSW Diversion (above current 18%)</td>
<td>12-18%</td>
<td>17-24%</td>
<td>57-62% (1)</td>
</tr>
<tr>
<td>% TOTAL MSW Diversion (including current 18%)</td>
<td>30-36%</td>
<td>35-42%</td>
<td>75-80% (1)</td>
</tr>
</tbody>
</table>
Estimates of Diversion – Increase (Total)

1) 12-18% (30-36%)
2) 18-22% (36-40%)
3) 57-62% (75-80%)
System Definition

Evaluation/Screening Criteria

• Waste Reduction/Diversion
• Technical Criteria
• Environmental Impact
• Economic Impact
• Implementation Viability
### System Definition – Eval./Screening Criteria

<table>
<thead>
<tr>
<th></th>
<th>Waste Reduction/Diversion</th>
<th>Technical Criteria</th>
<th>Environmental Impact</th>
<th>Economic Impacts</th>
<th>Implementation Viability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Reduction</td>
<td>↑</td>
<td>↑</td>
<td>↑</td>
<td>↑</td>
<td>↑</td>
</tr>
<tr>
<td>Toxics Reduction</td>
<td>↑</td>
<td>↑</td>
<td>↑</td>
<td>↑</td>
<td>↑</td>
</tr>
<tr>
<td>Yard Waste</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Residential Recycling and Diversion</td>
<td>↑</td>
<td>↑</td>
<td>↑</td>
<td>↑</td>
<td>↑</td>
</tr>
<tr>
<td>Commercial Recycling and Diversion</td>
<td>↑</td>
<td>↑</td>
<td>↑</td>
<td>↑</td>
<td>↑</td>
</tr>
<tr>
<td>Construction and Demolition Materials Recycling</td>
<td>↑</td>
<td>↑</td>
<td>↑</td>
<td>↑</td>
<td>↑</td>
</tr>
<tr>
<td>Organic Waste Diversion (Composting)</td>
<td>↑</td>
<td>--</td>
<td>↑</td>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td>Waste Conversion Technologies</td>
<td>↑</td>
<td>--</td>
<td>↑</td>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td>Municipal Solid Waste Disposal</td>
<td>--</td>
<td>↑</td>
<td>↓</td>
<td>↑</td>
<td>↑</td>
</tr>
<tr>
<td>Transfer Station and Processing Facilities</td>
<td>--</td>
<td>--</td>
<td>↑</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>
Program Areas

• Range of Increases in TOTAL MSW Diversion
• Estimate tons Diverted, per Year
• Annualized Cost Equivalent
• Cost /Household/Month
## System Definition – Cost Information

<table>
<thead>
<tr>
<th>Program Area</th>
<th>% increase in TOTAL MSW Diversion</th>
<th>Estimated Tons Diverted per Year</th>
<th>Annualized Cost Equivalent (2013$)</th>
<th>Cost/Household/Month (2013$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Reduction</td>
<td>1-4%</td>
<td>4,100</td>
<td>$300,000</td>
<td>$0.21</td>
</tr>
<tr>
<td>Toxics Reduction</td>
<td>less than 1%</td>
<td></td>
<td>$2,300</td>
<td>$0.00</td>
</tr>
<tr>
<td>Modular Storage Container(s)</td>
<td></td>
<td></td>
<td>$3,100</td>
<td>$0.00</td>
</tr>
<tr>
<td>Small Storage Building</td>
<td></td>
<td></td>
<td>$3,600</td>
<td>$0.00</td>
</tr>
<tr>
<td>Permanent Facility</td>
<td></td>
<td></td>
<td>$126,000</td>
<td>$0.08</td>
</tr>
<tr>
<td>Yard Waste</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status Quo</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year Round Ban</td>
<td>1-2%</td>
<td>4,100</td>
<td>No Estimate</td>
<td>No Estimate</td>
</tr>
<tr>
<td>Residential Recycling</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Containers</td>
<td>N/A</td>
<td>N/A</td>
<td>$500,000</td>
<td>$0.50</td>
</tr>
<tr>
<td>Universal with Minimum Levels of Service</td>
<td>5-7%</td>
<td>20,600</td>
<td>$5,100,000</td>
<td>$0.50</td>
</tr>
<tr>
<td>Universal – More Enhanced Program</td>
<td>6-8%</td>
<td>24,700</td>
<td>$5,100,000</td>
<td>$0.50</td>
</tr>
<tr>
<td>Universal - Incentivized</td>
<td>8-10%</td>
<td>32,900</td>
<td>No Estimate</td>
<td>No Estimate</td>
</tr>
<tr>
<td>Commercial Recycling</td>
<td>6-12%</td>
<td>24,700</td>
<td>No Estimate</td>
<td>No Estimate</td>
</tr>
<tr>
<td>Organic Waste Diversion</td>
<td>5-10%</td>
<td>20,600</td>
<td>$824,000</td>
<td>No Estimate</td>
</tr>
<tr>
<td>Waste Conversion Technologies</td>
<td>40-50%</td>
<td>168,000</td>
<td>$20,000,000</td>
<td>No Estimate</td>
</tr>
</tbody>
</table>

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Solid Waste Management Plan for Lincoln and Lancaster County

Solid Waste Plan 2040
System Definition – Annualized Cost

Annualized Cost
- Option/Topic
- Annualized Capital Expense
- Annual Operating Expense
- Total Annual Expenses
<table>
<thead>
<tr>
<th>Option/Topic</th>
<th>Annualized Capital Expense</th>
<th>Annual Operating Expense</th>
<th>Total Annual Expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Reduction (Education/Behavior Change)</td>
<td>0</td>
<td>$300,000 - $900,000</td>
<td>$300,000 - $900,000</td>
</tr>
<tr>
<td>Toxics Reduction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Modular Storage Container</td>
<td>$2,300 – $4,600</td>
<td>$0</td>
<td>$2,300 – $4,600</td>
</tr>
<tr>
<td>• Small Storage Building</td>
<td>$3,100 - $7,600</td>
<td>Not Estimated</td>
<td>Not Estimated</td>
</tr>
<tr>
<td>• Permanent Facility</td>
<td>$76,400 - $267,000</td>
<td>$50,000-$150,000</td>
<td>$126,000 - $417,000(1)</td>
</tr>
<tr>
<td>Yard Waste</td>
<td>$0</td>
<td>N/A</td>
<td>$0</td>
</tr>
<tr>
<td>Residential Recycling and Diversion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Containers</td>
<td>Containers Only</td>
<td>Collection Only</td>
<td></td>
</tr>
<tr>
<td>• At $5 to $7 per household/month</td>
<td>$500,000 - $700,000</td>
<td>$5,100,000 - $7,100,000</td>
<td>$3,600,000 - $5,100,000</td>
</tr>
<tr>
<td>• At $3.50 - $5.00 per household/month</td>
<td></td>
<td></td>
<td>$1,400,000 - $5,800,000(2)</td>
</tr>
<tr>
<td>Commercial Recycling and Diversion</td>
<td>(2)</td>
<td>(2)</td>
<td>(2)</td>
</tr>
<tr>
<td>Construction and Demolition Materials Recycling</td>
<td>(3)</td>
<td>(3)</td>
<td>(3)</td>
</tr>
<tr>
<td>Organic Waste Diversion (Composting)</td>
<td>(5)</td>
<td>(5)</td>
<td>$824,000 - $4,100,000(7)</td>
</tr>
<tr>
<td>Waste Conversion Technologies</td>
<td>(3)</td>
<td>(3)</td>
<td>$20,000,000(4)</td>
</tr>
<tr>
<td>Municipal Solid Waste Disposal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Expand on adjacent City property</td>
<td>$487,000-$722,000(2)</td>
<td>N/A</td>
<td>$487,000-$722,000(3)</td>
</tr>
<tr>
<td>Construction and Demolition Waste Disposal</td>
<td>$7,900(5)</td>
<td>N/A</td>
<td>$7,900(5)</td>
</tr>
<tr>
<td>• Expand on adjacent City property</td>
<td>$7,900(5)</td>
<td>N/A</td>
<td>$7,900(5)</td>
</tr>
<tr>
<td>Transfer Station and Processing Facilities</td>
<td>$450,000 - $610,000</td>
<td>Not Estimated</td>
<td>Not Estimated(4)</td>
</tr>
</tbody>
</table>
System Definition – Implementation Actions

Implementation Actions

- Changes in Laws, Regulations and Ordinances
- Cooperative Agreements or Arrangements between Units of Government or Private Entities
- Additional Studies or Evaluations
- Monitoring and Enforcement
- Costs and Funding
- Educational Initiatives and Programs of Behavioral Change
- Changes to Existing Programs
- Markets
# System Definition – Implementation Actions

<table>
<thead>
<tr>
<th></th>
<th>Changes in Laws, Regulations and Ordinances</th>
<th>Cooperative Agreements or Arrangements between Users of Public Util.</th>
<th>Additional Studies or Evaluation</th>
<th>Monitoring and Enforcement</th>
<th>Costs and Funding</th>
<th>Educational Initiatives and Promotion of Behavioral Changes</th>
<th>Changes to Existing Programs</th>
<th>Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Reduction</td>
<td>No</td>
<td>-</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>Toxics Reduction</td>
<td>-</td>
<td>-</td>
<td>Possibly</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Yard Waste</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Residential Recycling and Diversion</td>
<td>Yes</td>
<td>Yes</td>
<td>Possibly</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Commercial Recycling and Diversion</td>
<td>Yes</td>
<td>Yes</td>
<td>Possibly</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Construction and Demolition Materials Recycling</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Organic Waste Diversion (Composting)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Waste Conversion Technologies</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Municipal Solid Waste Disposal</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>-</td>
<td>No</td>
<td>No</td>
<td>No</td>
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<tr>
<td>Construction and Demolition Waste Disposal</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>-</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Transfer Station and Processing Facilities</td>
<td>Possibly</td>
<td>Possibly</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Committee Questions & Discussion

• Construction and Demolition Material Recycling

• System Definition
Purpose of the Plan

The Solid Waste Plan 2040 will be a guidance document, communication tool, and resource for policy decisions regarding solid waste management systems, facilities, and programs.
Public Participation – Schedule Update

- **Public Meeting**
- **Advisory Committee Meeting**
- **Draft System Definition**
- **Advisory Committee Review**
- **Advisory Committee Meeting**
- **Finalize System Definition**
- **Advisory Committee Meeting**
- **Advisory Committee Meeting**
- **Virtual Town Hall Meeting**
- **Open House Meeting**
- **Advisory Committee Meeting**
- **Advisory Committee Meeting**
- **Draft Master Plan**
Public Participation

- Virtual Town Hall Meeting
  - MindMixer Forum
- Open House In-Person Meeting
- Continued use of the Project Website and Comment Line
- Newsletter
- Others
Public Participation

Website: lincoln.ne.gov
  • keyword: solid waste plan

Social Media
  • Facebook
  • Twitter

Comment Line
  • (402) 441-7738

Log on to http://lincoln.ne.gov
Search: solid waste plan
Process for Developing Recommendations

• Not necessarily tied to the System Definition
• May include Phased Approach
• May include Program Specific Goals
Examples:

- **Goal:**
  - Numeric diversion rate by certain time frame

- **System/Facility/Program:**
  - Increased education/behavioral change
  - Expand landfill(s) on City owned property
  - Toxics reduction - create a place to provide year round access
  - Recycling program
Examples:

• General:
  – Develop a means to provide better information on quantities of materials diverted/recycled
  – Further evaluation of certain topic (Leading to decision/action)
Committee Questions & Discussion

Process for Developing Recommendations
Next Advisory Committee Meeting

Next Meeting:
July 9, 2013
2:30 pm to 4:30 pm
Lincoln/Lancaster County Health Department
Lower Level Training Room

Topic:
• System Definition
• Open House
• Developing Plan Recommendations
Public Comment

• Guidelines:
  – State name and address
  – Limit your remarks to time allotted – 3 minutes
  – Show respect to the meeting attendees, Advisory Committee members, facilitator and presenter(s)
  – No foul language or inappropriate behavior
  – Follow standard rules of decorum
Purpose of the Plan

The Solid Waste Plan 2040 will be a guidance document, communication tool, and resource for policy decisions regarding solid waste management systems, facilities, and programs.
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Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)
June 25, 2013