

# Advisory Committee

Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

June 13, 2012



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# 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.*

# Agenda

1. Public Meeting Law Acknowledgement & Safety Briefing
2. Welcome and Opening Remarks
3. Charge Statement for the Advisory Committee
4. Introduce Committee Chair/Vice Chair
5. Roles & Responsibilities of the Advisory Committee
6. Committee Discussion

## **Break**

7. Guiding Principles
8. Planning Process
9. Project Schedule
10. Public Participation Plan
11. Committee Discussion
12. Next Advisory Committee Meeting
13. Public Comment (Final 15 minutes)
14. Close Meeting

# Agenda

## **1. Public Meeting Law Acknowledgement & Safety Briefing**

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# Welcome & Opening Remarks

## Introductions

- Management Team and Consultant Project Team
- Advisory Committee Members Roll Call
- Advisory Committee Introductions

*Please take a minute to introduce yourself:  
Name, Organization and Areas of Interest*

# Charge Statement for the Advisory Committee

The Advisory Committee will review the components of the Plan, evaluate community inputs, provide guidance and feedback, and propose changes appropriate for inclusion in plan, and in doing so will:

- Reflect input from the community and stakeholders
- Provide input that reflects the unique nature of the communities in the service area
- Review waste management strategies based on provided criteria
- Ensure transparent decision making, and
- Ensure the final Plan complements other relevant City and County planning initiatives

# Introduce Committee Chair/Vice Chair

## Roles and Responsibilities of Committee Chair:

- Open each meeting, take roll call of attendance, and close each meeting
- Introduce the facilitator
- Enforce meeting format and rules of engagement
- Moderate the public comment period
- Attend all Advisory Committee Meetings
- Call for Advisory Committee votes, if necessary
- In the absence of the Chair, the Vice Chair will assume the duties and responsibilities of the Chair

# Roles & Responsibilities of the Advisory Committee

## Meeting Format

- The Committee Chair opens meetings, calls roll, and closes the meeting
- Meetings will be professionally facilitated
- Agendas and meeting materials:
  - Sent electronically one week in advance of the meeting date
  - Committee members should review and when necessary print the materials

# Roles & Responsibilities of the Advisory Committee

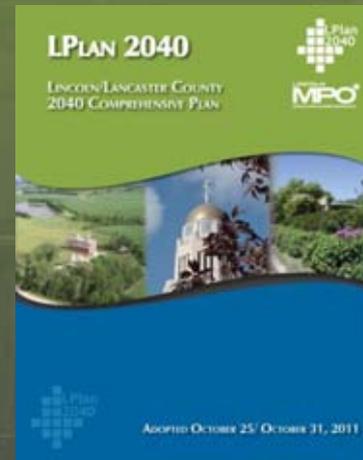
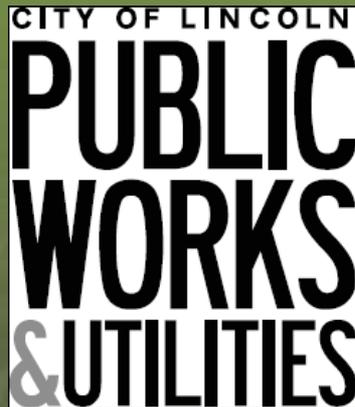
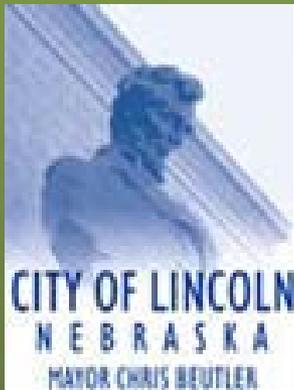
## Meeting Format

- The meeting facilitator will track agenda progress and create a list of actionable items
- Meetings will start promptly at the designated time
- 15 minutes at the end of the meeting is reserved for public comments
- Meeting notes will be taken for each meeting
- If a vote is required it will be recorded by roll call or similar process

# Standing Meeting Agenda

- Welcome, Public Meeting Laws Acknowledgement, and Opening Remarks (Chair)
- Roll Call (Chair)
- Review Meeting Format and Rules of Engagement (Chair)
- Introduction of Facilitator (Chair)
- Safety Briefing (Facilitator)
- Meeting Specific Technical Agenda (Facilitator/Technical Staff)
- Accept Committee Comments/Discussions (Facilitator/Technical Staff)
- Review of Actionable Items (Facilitator)
- Next Meeting Topics (Facilitator)
- Accept Public Comment (Chair)
- Meeting Closure (Chair)

# Roles & Responsibilities of the Advisory Committee



Solid Waste Management Plan for Lincoln and Lancaster County

# Committee Discussion

- Public Meeting Laws
- Charge Statement
- Roles & Responsibilities

# Agenda

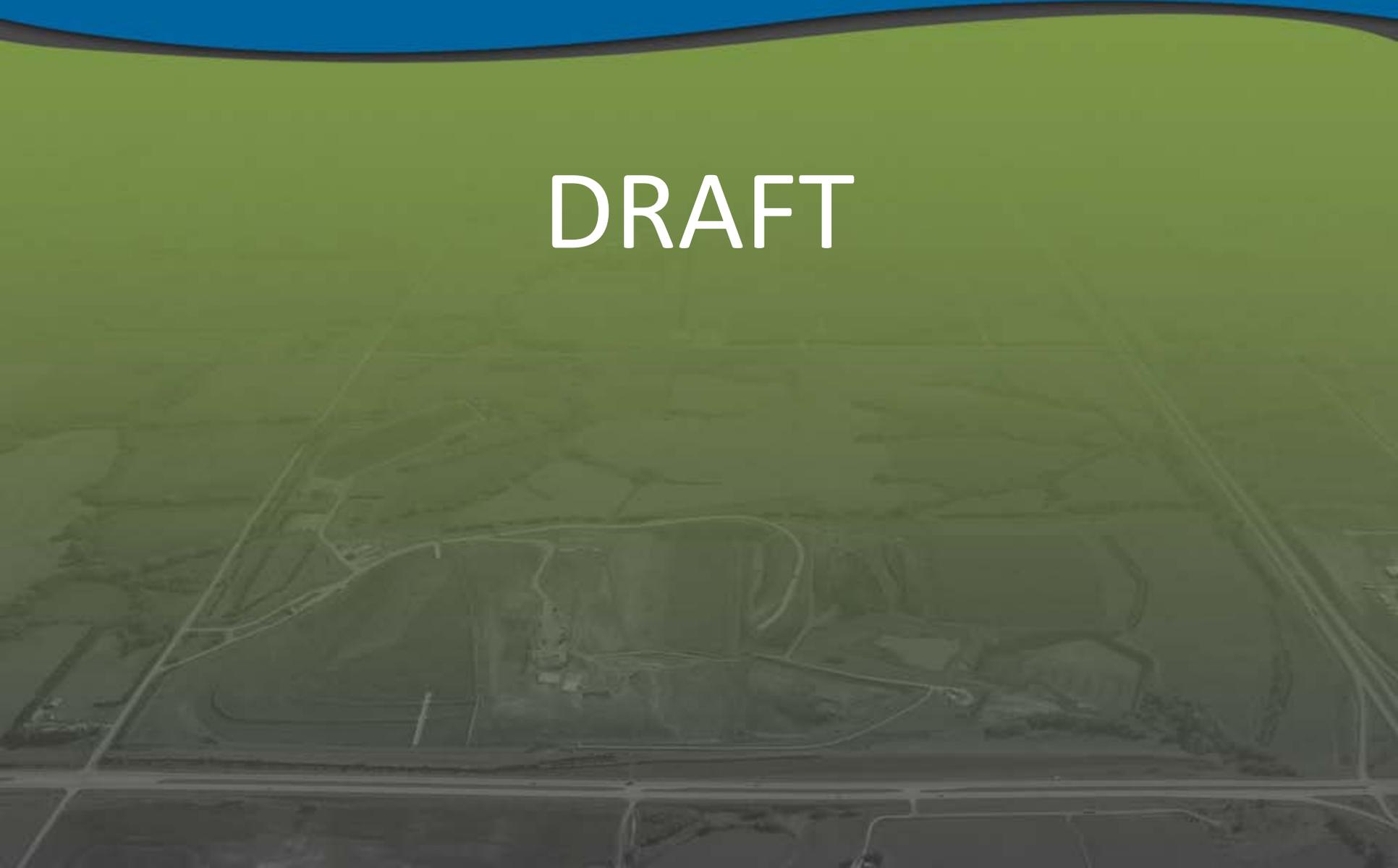
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# Guiding Principles

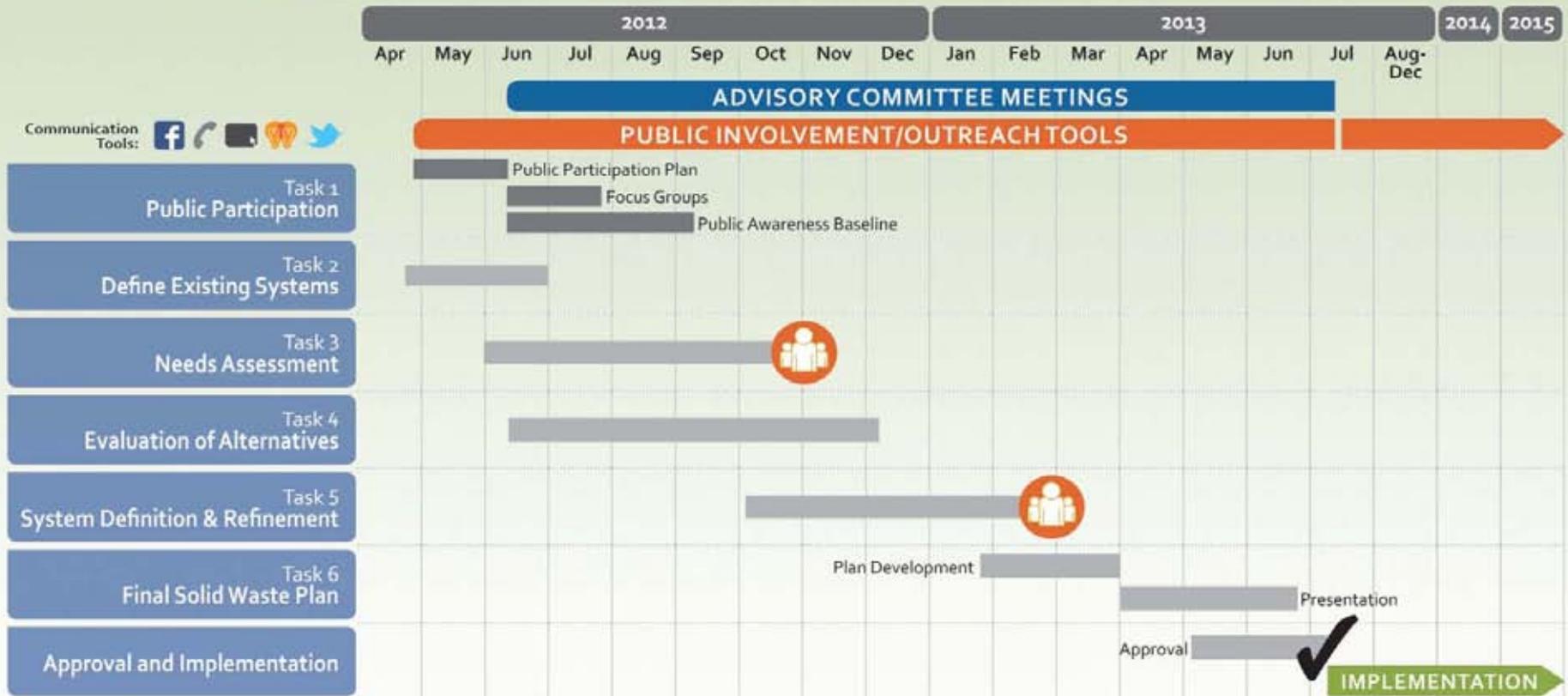
**DRAFT**



# Planning Process

- Public Participation Process
- Definition of Existing Systems and Facilities
- Needs Assessment
- Evaluation of Alternatives
- System Definition and Refinement
- Solid Waste Management Plan

# Overall Project Schedule



- Public Participation Activities
- Task Duration
- Final Plan
- Public Meeting



# Public Participation Plan

- Website
- Social Media
- Toll – Free Call Line
- Newsletters & Flyers
- Public Meetings
- Via Advisory Committee Meetings
- Survey

# Project Website

CITY OF LINCOLN  
NEBRASKA  
MAYOR CHRIS BEUTLER

Solid Waste Management Plan for Lincoln and Lancaster County

## Solid Waste Plan 2040

lincoln.ne.gov Public Work and Utilities Wastewater and Solid Wastes Recycling and Solid Waste Operations Solid Waste Plan 2040

Home The Plan The Process Committee Contact FAQs Resources Community Comments

### Solid Waste Plan 2040

Follow us:

The development of a comprehensive, integrated solid waste management plan was identified as a strategy in the Lincoln-Lancaster County 2040 Comprehensive Plan (LPlan 2040). The Solid Waste Management Plan (Solid Waste Plan 2040) will be a guidance document, communication tool, and a resource for policy decisions. The Public Works and Utilities Department and the Lincoln-Lancaster County Health Department will facilitate the development of the Solid Waste Plan 2040.

Log on to <http://lincoln.ne.gov>  
Search: **Solid Waste Plan 2040**

CITY OF LINCOLN NEBRASKA  
LANCASTER COUNTY NEBRASKA  
CITY OF LINCOLN PUBLIC WORKS & UTILITIES  
HEALTH DEPARTMENT

Tweet 0

Solid Waste Management Plan for Lincoln and Lancaster County

Solid Waste Plan 2040

# Committee Discussion

- Guiding Principles
- Planning Process
- Schedule
- Public Participation Plan

# Next Advisory Committee Meeting

All meetings will be held 2nd Tuesday of each month from 2:30 pm to 4:30 pm.

Next Meeting: July 10, 2012 Room 303

Tentative Topics:

- Existing solid waste management systems, facilities, and programs
- Goals and objectives of the Plan
- Needs assessment
- Subsequent evaluations and evaluation criteria

# 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

# Agenda

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## **14. Close Meeting**

# Advisory Committee

Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

July 10, 2012



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# 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.*

# Agenda

1. Public Meeting Law Acknowledgement & Safety Briefing
2. Call Meeting to Order
3. Roll Call / Approve Meeting Minutes from June 13, 2012
4. Solid Waste Management System
  - a) Regulatory Framework
  - b) Existing Systems, Facilities and Programs
  - c) Typical Cost Allocations
5. Assessment of (Basic) Needs / Status Quo
6. Minimum Levels of Service
7. Service Area
8. Committee Questions and Discussions

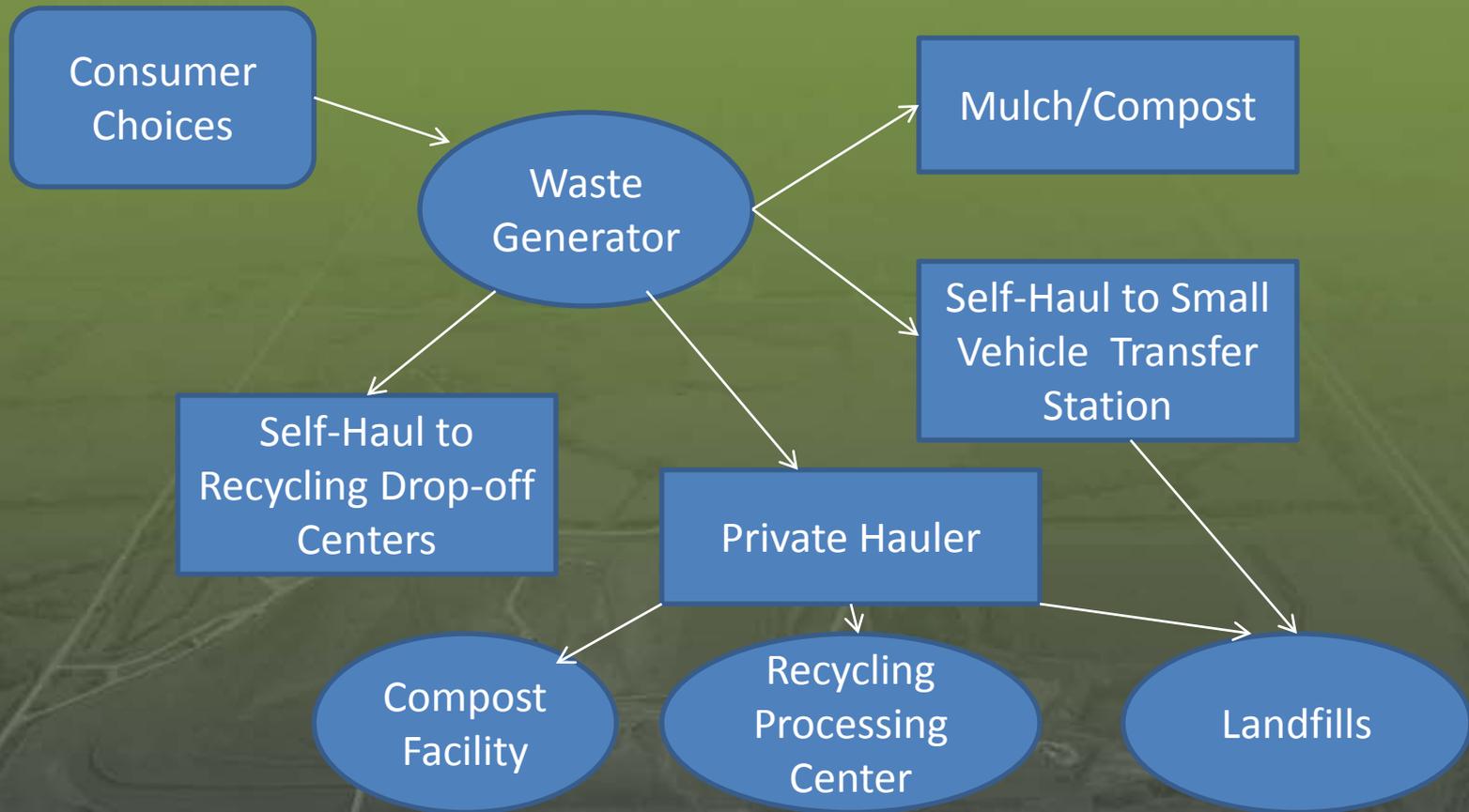
**BREAK**

# Agenda

## BREAK

9. Update on Public Participation
10. Plan Development
  - a) Guiding Principles
  - b) Plan Goals
11. Overview of Alternatives/Assessments
  - a) Future Topics/Modules
  - b) Evaluation Criteria
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  - a) Timing, Topics and Notification
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# Existing Solid Waste Management System



# Existing Solid Waste Management System

## Regulatory Framework

- Federal
- State
- Local
  - LMC Section 8.32 – Solid Wastes
  - LMC Section 5.41- Salvaging, Recycling and Composting Operations

# Existing Solid Waste Management System

## Private Waste Collection (residential)

- Once or twice/week waste collection
- Seasonal yard waste collection
- Curbside recycling collection

## Private Waste Collection (commercial/industrial)

## Public Landfill Disposal

- Bluff Road Municipal Solid Waste Landfill
- Construction & Demolition Waste Landfill

# Existing Solid Waste Management System

## Public Solid Waste Management Facilities/Programs

- Small Vehicle Transfer Station
- Recycling Drop-off Sites
- Yard Waste Composting
- Appliance De-manufacturing
- Household Hazardous Waste Collection
- Special Waste Permit Program
- Keep Lincoln-Lancaster County Beautiful (illegal dump site clean-up/neighborhood clean-up)
- Nuisance Complaint Program
- Emergency Response (spill clean-up)

# Existing Solid Waste Management System

## Private Solid Waste Management Facilities/Programs

- Recycling Drop-off Sites
- Yard Waste Composting
- Recycling Processing Centers
- Construction/Demolition Materials Recycling

# Existing Solid Waste Management System

2010-2011

- 305,000 tons of MSW Disposed
  - 287,000 tons – Bluff Road Landfill
  - 18,000 tons – Exported Outside County
- 72,000 tons C/D Waste Disposed

# Existing Solid Waste Management System

## Recycling Drop-off Sites

- Lincoln
  - multi-material sites
  - newspaper only sites
- Lancaster County
  - multi-material sites



# Existing Solid Waste Management System

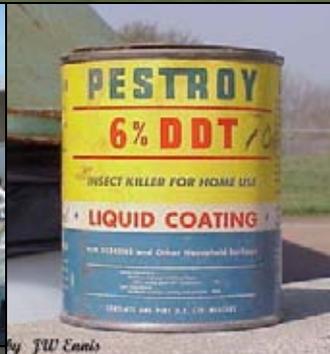
- Subscription Commercial Recycling
- Subscription Residential Curbside Recycling
  - private refuse haulers and businesses



# Existing Solid Waste Management System

## Toxicity Reduction

- Core Areas of Concentration
  - Household Hazardous Waste
  - Small Business Waste
- Waste requires special handling & disposal
- Largely unregulated waste streams



# Existing Solid Waste Management System

## Household Hazardous Waste

- Public Education & Behavior Change
- Community Partners
- Other Efforts



# Existing Solid Waste Management System

## Small Business Waste - Conditionally Exempt Small Quantity Generators (CESQG)

- Also called “Special Waste”
- Waste Stream Similar to HHW
- Technical Assistance



# Assessment of (Basic) Needs/Status Quo

- Legal and Regulatory Obligations
- Disposal Capacity Reached During Planning Period
  - Municipal Solid Waste Landfill
  - Construction & Demolition Waste Landfill
- Limitations of Available Data

# Assessment of (Basic) Needs/Status Quo

## Legal and Regulatory Obligations

- Nebr. Rev. Statutes Chapter 13, Section 13-2001 to 2043 – Integrated Solid Waste Management Act
- Lincoln Municipal Code 8.32 – Solid Waste
- NDEQ Requirements: Title 132 – Integrated Solid Waste Management Regulations

# Assessment of (Basic) Needs/Status Quo

## Disposal Capacity Reached During Planning Period

- Bluff Road Municipal Solid Waste Landfill
- North 48<sup>th</sup> Street Construction and Demolition Waste Landfill

# Assessment of (Basic) Needs/Status Quo

Other Needs - identified in the planning process

- Additional systems, facilities or programs
- Societal demands, or environment and economic goals and objectives

# Minimum Levels of Service

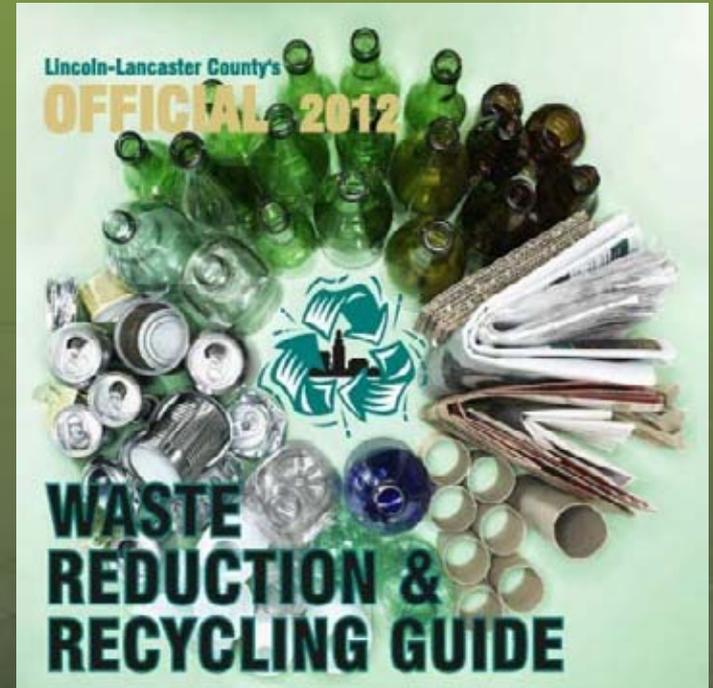
Education

Collection

Recycling and Diversion

Other Waste Programs

Disposal



# Minimum Levels of Service

## LPlan 2040 Guiding Principle

“The City policy of privately owned and operated collection of refuse and recyclables coupled with public ownership, operation and financing of disposal and selected integrated solid waste management services will continue during the planning period.”

# Service Area

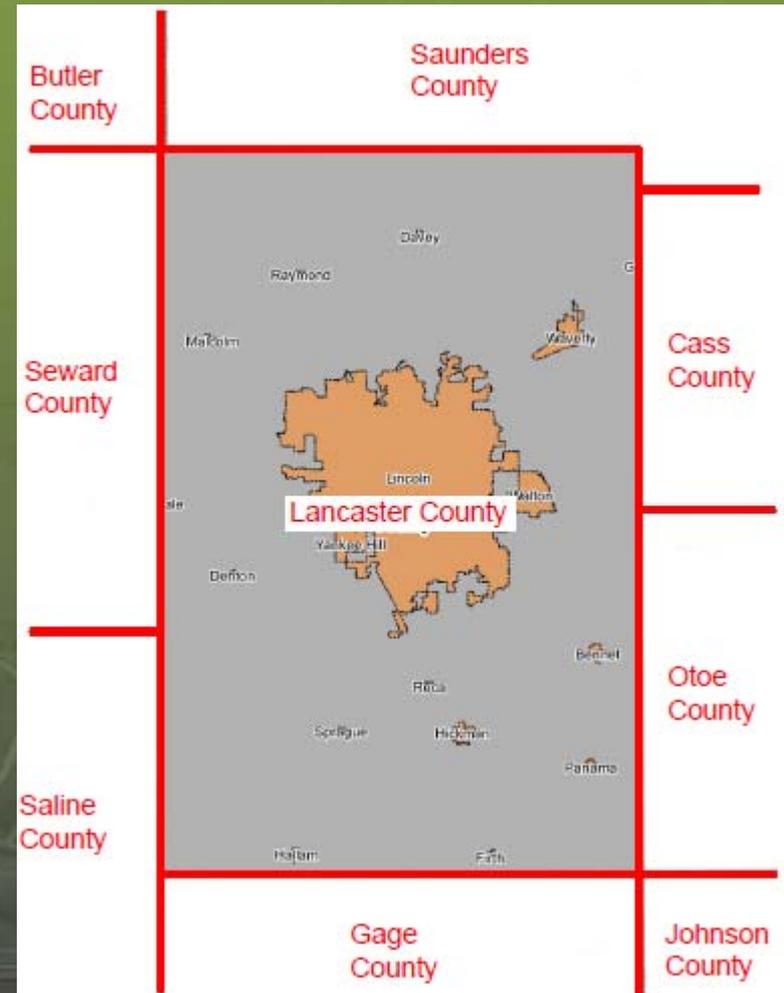
## LPlan 2040 Guiding Principle

“No out-of-county waste is accepted for landfill disposal. This policy reserves landfill capacity for city and county residents and allows administration of programs under existing authorities.”

# Service Area

## Examples of Services:

- Disposal of out-of-county waste in landfills
- Recycling, composting and diversion programs
- Regional household hazardous waste facility
- Educational/Pollution prevention efforts





# Committee Questions & Discussion

- Solid Waste Management System
  - Regulatory Framework
  - Existing Systems, Facilities and Programs
  - Typical Cost Allocations
- Assessment of (Basic) Needs/Status Quo
- Minimum Levels of Service
- Service Area

# Agenda

## BREAK

9. Update on Public Participation
10. Plan Development
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# Update on Public Participation

Website: [lincoln.ne.gov](http://lincoln.ne.gov)

–keyword: solid waste plan 2040

Social Media

–Facebook

–Twitter

Information Line

(402) 936-7042



Log on to <http://lincoln.ne.gov>

Search: **Solid Waste Plan 2040**

Solid Waste Management Plan for Lincoln and Lancaster County

**Solid Waste Plan 2040**

# Plan Development

## Guiding Principles

- emphasize the **Waste Management Hierarchy**
- encourage **Public-Private Partnerships**
- ensure sufficient **System Capacity**
- engage the **Community**
- embrace **Sustainable Principles**

# Plan Development / Goals

Develop a comprehensive, integrated Solid Waste Management Plan for Lincoln and Lancaster County that promotes waste prevention, toxicity reduction, diversion, reuse and recycling as waste management strategies with higher and better use of natural resources than land disposal

# Plan Development / Goals

Establish quantifiable objectives and measurable performance indicators to assess progress in meeting plan goals.

# Plan Goals

Community Participation

Public-Private Partnerships

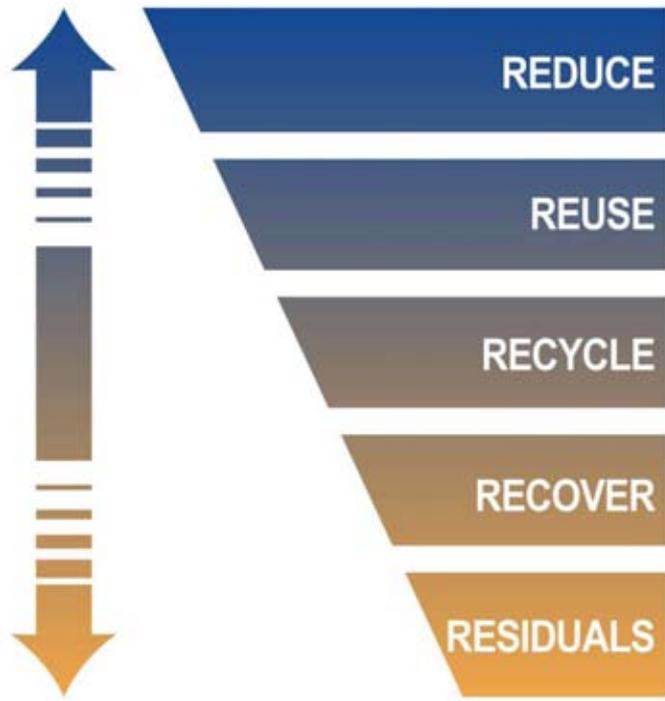
System Capacity

Sustainable Principles

# Plan Development - Goals

## Waste Management Hierarchy

Most Preferred



Least Preferred

**REDUCE** - prevention/sustainable consumption

**REUSE** - reusing waste in its current form; repeatedly using materials

**RECYCLE** - process waste to recover commercially viable products; use materials to make new products

**RECOVER** – recovery of energy from waste

**RESIDUALS** - disposal of wastes

# Overview of Alternatives/Assessment

## Future Topics/Modules

Source Reduction

Recycling & Composting

Disposal Capacity

Disposal Refinements

Implementation Considerations

Collection and Handling Programs

# Overview of Alternatives/Assessment

## Evaluation Criteria

- Waste Reduction/Diversion
- Technical Requirements
- Environmental Impacts
- Economic Impacts
- Implementation Viability

# Committee Questions & Discussion

- Public Participation
- Plan Development
  - Guiding Principles
  - Plan Goals
- Alternatives/Assessment
  - Future Topics/Modules
  - Evaluation Criteria

# Next Advisory Committee Meeting

August 14, 2012

2:30 pm to 4:30 pm

LLCHD Training Room (lower level)

3140 "N" Street

## Tentative Topics:

- Needs Assessment
- Source Reduction

# Public Comment

- Guidelines:
  - State name and address
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# Advisory Committee

Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

August 14, 2012



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# Agenda

1. Public Meeting Law Acknowledgement / Safety Briefing
2. Call Meeting to Order
3. Roll Call
4. Approve Meeting Minutes from July 10, 2012
5. Follow-Up from Previous Meeting
  - a) Clarification / Open Meetings Act
  - b) Occupation Tax
  - c) Plan Goals
6. Plan Development
  - a) Assessment of Needs and Modules / Topics
  - b) Education = Behavior Change
7. Source Reduction
  - a) Definitions / Framework / Options
  - b) Zero Waste
  - c) Product Stewardship
8. Committee Questions and Discussions

# Agenda

## BREAK

9. Source Reduction (continued)
  - d) Household Hazardous Waste and Conditionally Exempt Small Quantity Generator (Small Business) Hazardous Wastes
  - e) Universal, Special and Unique Wastes
  - f) Yard Wastes
10. Public Participation
11. Committee Questions and Discussion
12. Next Advisory Committee Meeting
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# 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.*

# Open Meetings Act

- Clarification of Open Meetings Act
  - Don't Circumvent the Act
  - Guidance /City Attorney Website
- Encourage public participation
  - Attend meetings, access the website, submit comments, etc.
- Distribute information through the City

# Plan Development

- Planning Process
  - Needs Assessments
  - Modules / Topics
  - Holistic View of “System” (integrated)
    - System Definition (Alternatives)
- Advisory Committee Input and Questions
- Education = Behavior Change

# Source Reduction



- Definition/Framework/Options
- Zero Waste
- Product Stewardship
- Household Hazardous Waste
- Universal, Special and Unique Waste
- Yard Waste

# Source Reduction/Reuse

REDUCE

- Is also known as waste prevention, means reducing waste at the source including:
  - reusing or donating items,
  - buying in bulk,
  - reducing packaging,
  - redesigning products, and
  - reducing toxicity.
- Objectives:
  - Minimize waste generation
  - Minimize waste disposed

# Source Reduction

## Definitions/Framework/Options

- **REDUCE** - prevention/sustainable consumption
- **Source Reduction** refers to any change in the design, manufacture, purchase, or use of materials or products (including packaging) to reduce their amount or toxicity before they become municipal solid waste. Source reduction also refers to the reuse of products or materials.

(Ref. USEPA Website 07/2012)

# Source Reduction

## Definitions/Framework/Options

- **Framework**

- Reduce it at the Source
- RCRA National Goals (1976)
  - Protect human health & the environment from the potential hazards of waste disposal
  - Conserve energy and natural resources
  - Reduce the amount of waste generated
  - Ensure waste are managed in an environmentally sound manner
- Zero Waste – Similar Objectives

# Source Reduction

## Definitions/Framework/Options

- **Options**

- Education/ Behavior Change
- Systems, Facilities and Programs
- Purchasing Practices
- Bans and Restrictions
- Incentives
- Organized exchanges
- Take-back programs

# Source Reduction

## Definitions/Framework/Options

- **Benefits of Reduction**

- Reduces Waste
- Saves Natural Resources
- Reduces Toxicity of Waste
- Reduces Costs
- Reduces Impact to the Environment
  - Saves landfill space

# Zero Waste

REDUCE

- Overarching concept encompassing all waste reduction and diversion options.
- Zero Waste is a philosophy and design principle
- Zero Waste is a goal that is ethical, economical, efficient and visionary, to guide people in changing their lifestyles and practices to emulate sustainable natural cycles, where all discarded materials are designed to become resources for others to use

# What is Zero Waste?

Designs "waste" out of the system

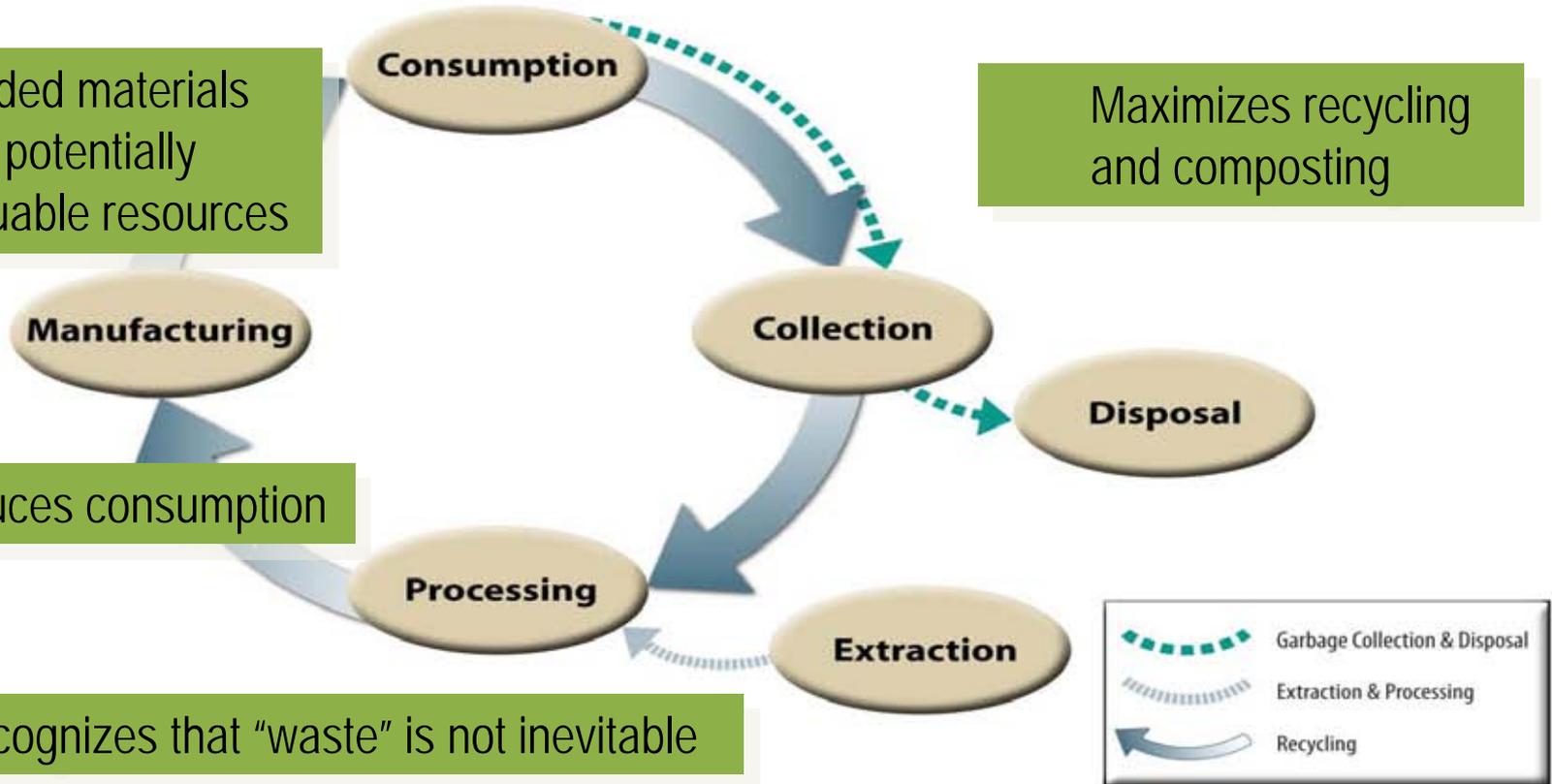
Goes beyond "end of pipe" strategies

Discarded materials are potentially valuable resources

Maximizes recycling and composting

Reduces consumption

Recognizes that "waste" is not inevitable



# Zero Waste



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# Product Stewardship

REDUCE

Is a product-centered approach to environmental protection that calls on those in the product lifecycle—manufacturers, retailers, users, and disposers—to share responsibility for reducing the environmental impacts of products.

(Ref. USEPA Website 07/2012)

- Objectives
  - Minimize health, safety, environmental and social impacts
  - Maximize economic benefits of product and packaging through all lifecycle stages.

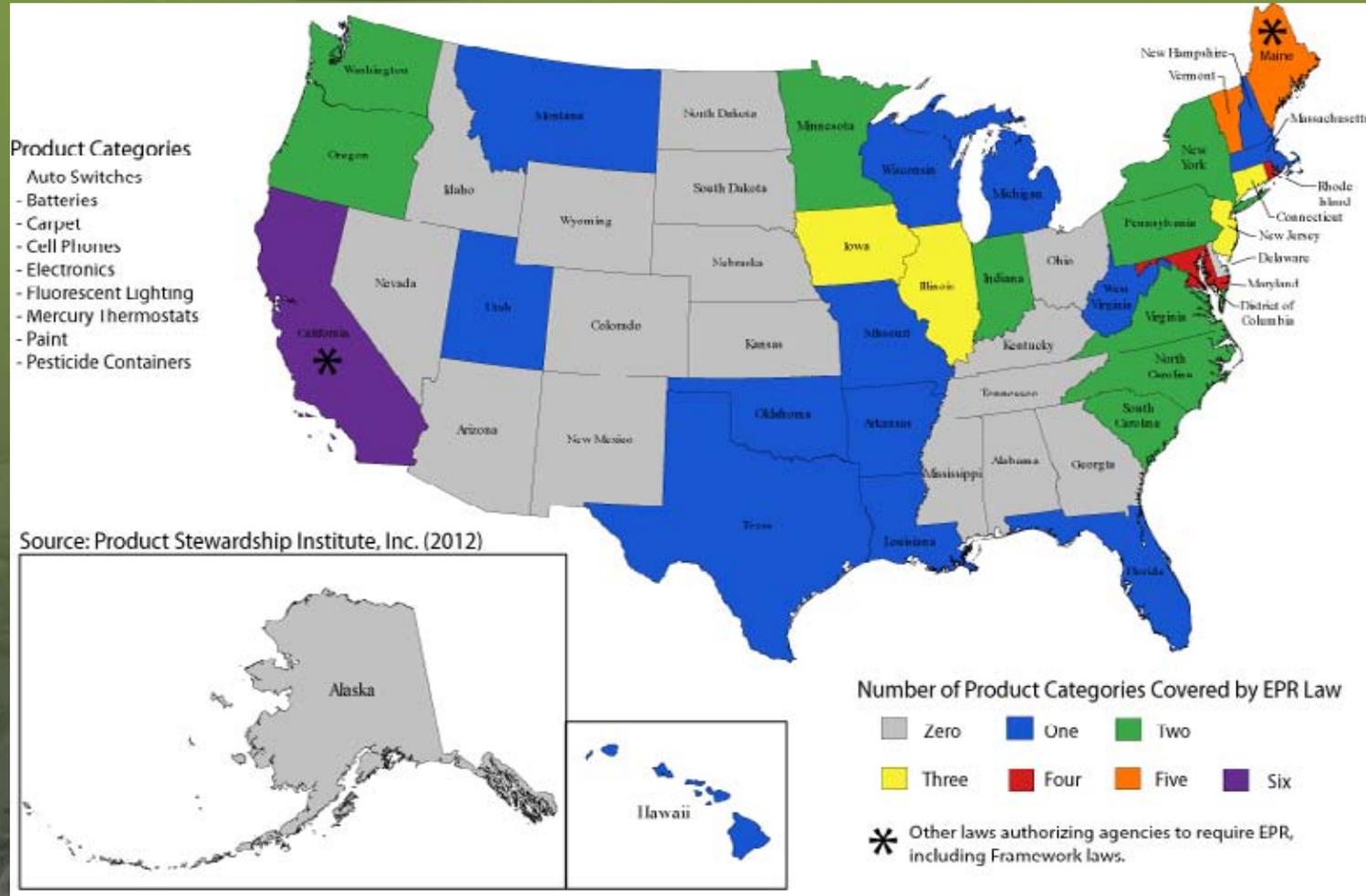
# Extended Producer Responsibility

Is a mandatory type of product stewardship that includes the requirement that producers' responsibility for their product extends to post-consumer management of the product and its packaging.

(Ref. Product Stewardship Institute Website 07/2012)

- Objectives:
  - Help finance end-of-life disposal of products

# Product Stewardship Extended Producer Responsibility Laws



# Product Stewardship & Extended Producer Responsibility Laws

## Examples - Product Stewardship

- Electronics
- Batteries
- Fluorescent Lights
- Motor Oil
- Pharmaceuticals
- Telephone Directories

## Examples – Extended Producer Responsibility

- Voluntary Take-Back Programs
- Thermostat
- Pesticide Container
- Mandated Take-Back Programs

# Source Reduction



- Definition/Framework/Options
- Zero Waste
- Product Stewardship
- Household Hazardous Waste
- Universal, Special and Unique Waste
- Yard Waste

# Household Hazardous & CESQG (Small Business) Waste

REDUCE

Are leftover household or business products that contain corrosive, toxic, ignitable, or reactive ingredients, such as:

- Lawn & Garden chemicals
- Pesticides
- Automotive fluids
- Oil based paint/solvents
- Mercury containing items
- Cleaning agents

- Objectives:
  - Protect human health and the environment
  - Toxicity Reduction



# Household Hazardous & CESQG (Small Business) Waste

REDUCE

## Program Options:

- Education
- Mobile collection events
- Permanent facility
- Local business take-back
- Combination of Above

## Issues:

- Accessibility
- Management
- Safety
- Behavior Change
- Funding

# Household Hazardous & CESQG (Small Business) Waste

## Permanent Facility

- Increased diversion
- Possibly increased number/types of materials
- Increased convenience and accessibility
- Maximize local reuse opportunities
- Store large size shipments
- Better support for CESQG



# Universal, Special & Unique Wastes

REDUCE

Requires special handling and care for safe collection, proper recycling, or treatment and disposal

- Universal Waste
- Special Waste
- Unique Waste

- Objectives:
  - Protect human health & the environment
  - Focus on Waste Management Hierarchy/ Source Reduction
  - Proper disposal practices

# Universal Wastes

- Universal Waste is **Hazardous Waste**
  - Batteries
  - Pesticides
  - Mercury-containing items
  - Spent Lamps (light bulbs)
  - Electronic Items
- Regulations streamlined the management to facilitate recovery and recycling
- Program Options:
  - Source reduction
  - Retail take-back
  - Product stewardship & EPR
  - Drop-off facility

# Special Waste

- Possesses physical, chemical, or biological characteristics that make it different from general municipal solid waste
- Requires special management to ensure protection of public health, safety, or the environment
- Program Options:
  - Education
  - Source reduction, reuse & recycling
  - Take-back programs
  - Product stewardship & EPR

# Unique Wastes

Require special handling or may be more difficult to manage, reuse or recycle

- Tires
- Electronics
- Scrap Metal & Appliances
- Household medical & pharmaceutical waste
- Paints
- Difficult to handle items

- Program Options:
  - Education
  - Source reduction
  - Take-back programs
  - Product stewardship & EPR
  - Drop-off facilities

# Yard Waste

REDUCE

Grass and leaves in combination with chipped trees and branches and other organic material collected as the result of the care of ornamental plants, lawns, shrubbery, vines and gardens.

(NDEQ Title 132)

Grass cuttings or clippings and leaves.

(LMC 8.32.010)

- Objectives:
  - Source reduction
  - Material Utilization

# Yard Waste

## Program Options:

- Source Reduction
- Landfill Diversion/Composting
- Landfilling with Energy Recovery

# Yard Waste

## Program Options:

- Source Reduction
- Ban from City Landfill
- Landfill Diversion/  
Composting (Status Quo)
- Landfilling with Energy  
Recovery

## • Issues:

- Can be accepted at landfills with energy generation
- Source reduction involves on-site use
- Collection and composting is form of Recycling
- Current landfilled MSW waste is 3 % yard waste
- Affects life of the City landfill

# Committee Questions & Discussion

- Definitions/Framework/Options
- Zero-Waste
- Product Stewardship
- Household Hazardous Waste (HHW)
- Universal and Unique Wastes
- Yard Waste

# Public Participation

Website: [lincoln.ne.gov](http://lincoln.ne.gov)

–keyword: solid waste plan 2040

Social Media

Information Line

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Baseline Survey

Encourage public participation

– Attend meetings, access the website, submit comments, etc.



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# Next Advisory Committee Meeting

## Next Meeting:

September 11, 2012

2:30 pm to 4:30 pm

Lincoln/Lancaster County Health Department  
Lower Level Training Room

## Tentative Topics:

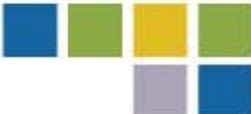
- Occupation Tax
- Plan Goals
- Needs Assessment
- Recycling Module

# Advisory Committee

## Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# Advisory Committee

Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

September 11, 2012



Solid Waste Master Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# Agenda

1. Public Meeting Law Acknowledgement / Safety Briefing
2. Call Meeting to Order
3. Roll Call
3. Approve Meeting Minutes from August 14, 2012
5. Plan Development
  - a) Needs Assessment
  - b) Baseline Assessment/Survey
6. Committee Questions and Discussions

**BREAK**

# Agenda

## BREAK

7. Plan Development (continued)
  - c) Plan Goals
8. Public Participation
  - a) Open House / Needs Assessment
  - b) “Town Hall” / On-Line “Meetings”
9. Follow-up from Previous Meetings
  - a) Occupation Tax
  - b) Yard Waste / Clarification
10. Committee Questions and Discussion
11. Next Advisory Committee Meeting
  - a) Timing, Topics and Notification
12. Public Comment (Final 15 Minutes)
13. Close Meeting

# 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.*

# Needs Assessment

- Purpose

- to assist the City and County in assessing their existing solid waste management systems, facilities, programs, and
- planning for future needs

- Content

- information and projections are prepared to establish a basis for the development of the long-term, comprehensive, integrated solid waste management plan (Solid Waste Plan 2040 or Plan).
  - Volumes and types of waste being generated;
  - Existing waste management practices; and
  - Anticipated future waste management needs in the Planning Area.

# Needs Assessment - Outline

Section 1 – Introduction

Section 2 – Planning Area

Section 3 – Current Waste Management Practices

Section 4 – Generation and Composition

Section 5 – Future Management and Disposal Needs

# Needs Assessment - Outline

## Section 1 – Introduction

- 1.1 Background
- 1.2 Solid Waste Types Managed
- 1.3 Needs Assessment Contents

## Section 2 – Planning Area

- 2.1 Population
- 2.2 Employment Data
- 2.3 Urban Growth Patterns

# Needs Assessment - Outline

## Section 3 – Current Waste Management Practices

- 3.1 Solid Waste and Recyclables Collection Practices
- 3.2 Waste Handling and Management Facilities
- 3.3 Disposal Facilities
- 3.4 Regulatory/Permit Requirements
- 3.5 Greenhouse Gas Emissions from the Solid Waste Management System

## Section 4 – Generation and Composition

- 4.1 Historical Waste Generation
- 4.2 Reporting and Data Collection Methods
- 4.3 Analysis Methodology
- 4.4 Generation Rates
- 4.5 Seasonal Fluctuations
- 4.6 Waste Composition

# Needs Assessment - Outline

## Section 5 – Future Management and Disposal Needs

- 5.1 Future Quantity Forecasts
- 5.2 Waste Disposal Capacity
- 5.3 Facilities Needs
- 5.4 Management Programs
- 5.5 Regulatory/Permit Requirements
- 5.6 Regional Programs and Facilities
- 5.7 Summary of Solid Waste Management Needs
- 5.8 Forecast Variables
- 5.9 Waste Tracking Needs

# Baseline Assessment/Survey

- **Purpose:** To assess basic information on solid waste services provided to the public by both the private and public sector
- **Process:** HDR contracted for a telephone based, random survey to be conducted of about 400 people in Lincoln
- **Content:** Survey questionnaire handout
- **Results:** Presented at next meeting

Committee Discussion

Plan Development

Needs Assessment

Baseline Assessment/Survey

Solid Waste Master Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# Plan Development

## Discussion of DRAFT Plan Goals



# Public Participation – Needs Assessment

- **Purpose:** To present information from the Needs Assessment to the public and gather feedback.
- **Process:**
  - Open House Meeting; mid-November
  - Online Town Hall; one-week in advance of the Open House
  - Information in each format will be the same

# Public Participation

Website: [lincoln.ne.gov](http://lincoln.ne.gov)

–keyword: solid waste plan 2040

Social Media

Information Line

– (402) 936-7042

Encourage public participation

–Attend meetings, access the website, submit comments



Log on to <http://lincoln.ne.gov>

Search: **Solid Waste Plan 2040**

Solid Waste Master Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# Occupation Tax

## Understanding the Definitions from Lincoln Municipal Code

- Title 8.32 – Solid Wastes
  - Garbage
  - Putrescible
  - Refuse
  - Solid waste
  - Refuse hauler
  - Waste hauler
- Title 5.41 – Salvage, Recycling and Composting Operations
  - Recyclables

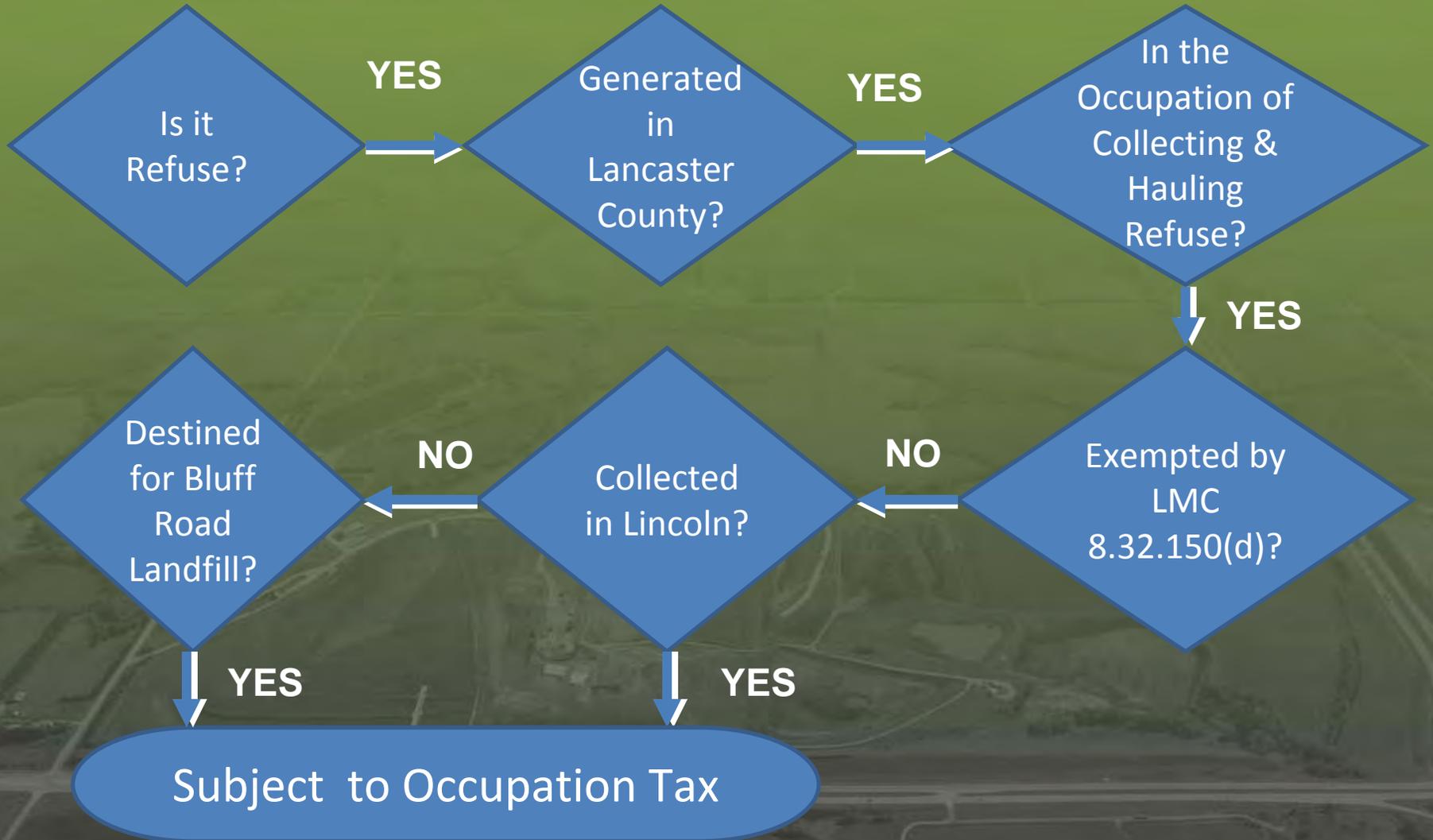
# Occupation Tax

Who and what is subject to the Occupation Tax?

Who and what is exempt from the Occupation Tax?

What does the revenue from the Occupation Tax support?

# Simplified Flow Chart-Occupation Tax



# Clarification – Yard Waste (& Wood)

- YW Waste Sent to Disposal ~ 3% (9,700 tons)
- YW Waste Compost/Ground ~ 5% (19,400 tons )
- Site Life Impacts
  - No Diversion, based on 22 years remaining LF
    - 0.75 years @ LF Density
    - 2.6 years @ Typical Grass & Brush Density
- Clarification will be provided

# Committee Discussion

Plan Goals

Public Participation

Open House / Needs Assessment  
“Town Hall” / On-Line “Meetings”

Follow-up from Previous Meetings

Occupation Tax

Yard Waste / Clarification

# Next Advisory Committee Meeting

## Next Meeting:

October 9, 2012

2:30 pm to 4:30 pm

Lancaster County Extension

444 Cherry Creek Road

## Tentative Topics:

- Baseline Survey Results
- Needs Assessment
- Module 2 – Recycling and Composting

# 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

# Advisory Committee

Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

October 9, 2012



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# 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.*

# Agenda

1. Public Meeting Law Acknowledgement & Safety Briefing
2. Call Meeting to Order
3. Roll Call
4. Approve Meeting Minutes from September 11, 2012
5. Baseline Assessment/Survey
6. Recycling Overview
7. Recycling Topics
  - a) Residential Recycling
  - b) Commercial Recycling
  - c) Construction and Demolition Materials Recycling
8. Committee Questions and Discussions

**BREAK**

# Agenda

## BREAK

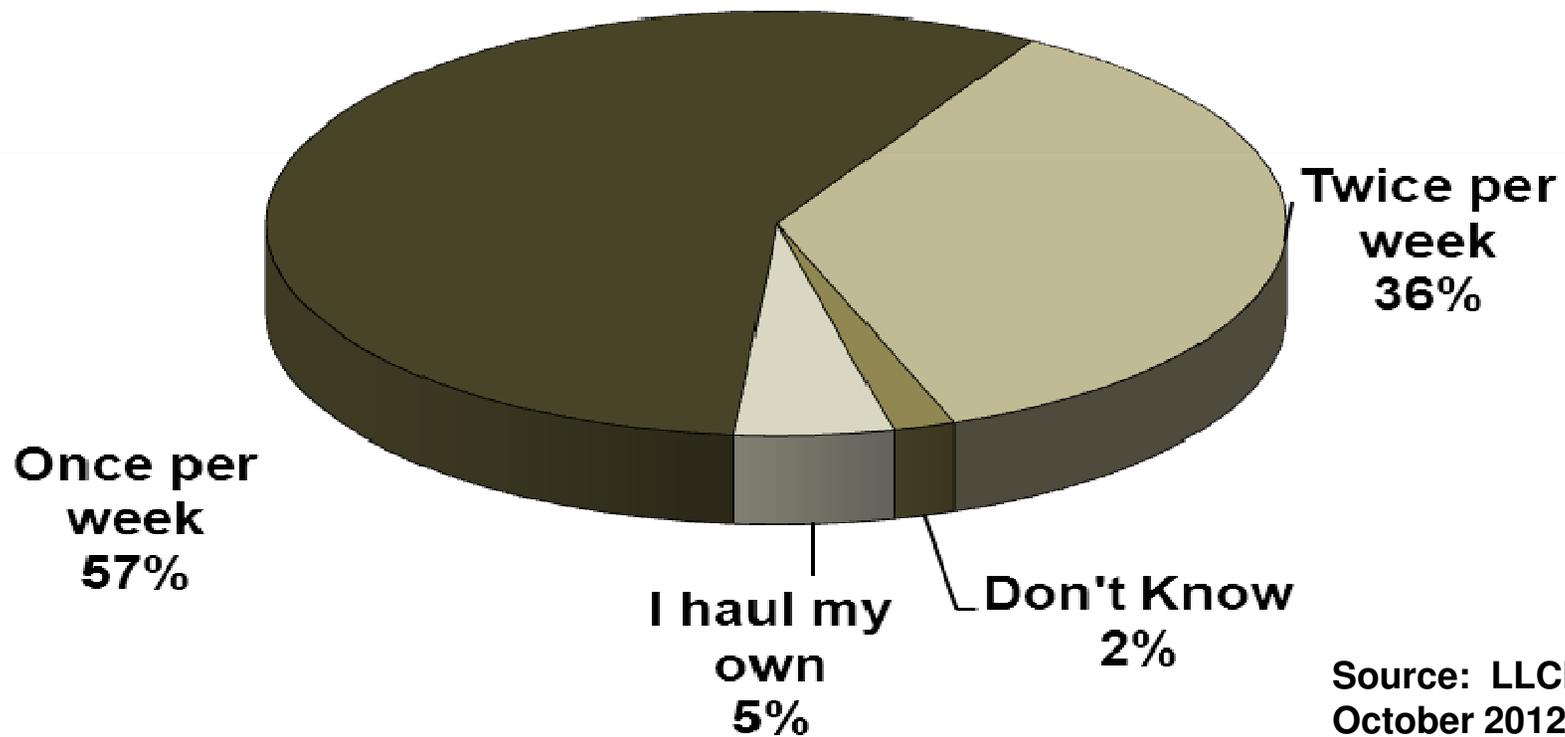
9. Recycling Topics (continued)
  - a) Recycling Incentives
  - b) Organic Waste Diversion (Composting)
10. Needs Assessment
11. Public Participation
  - a) News Release(s) / Newsletter(s)
12. Revised DRAFT Plan Goals
13. Committee Questions and Discussion
14. Next Advisory Committee Meeting
  - a) Timing, Topics and Notification
15. Public Comment (final 15 minutes)
1. Close Meeting

# Baseline Assessment/Survey

- 411 Lincoln households were surveyed by phone in August 2012.
- The sample was “weighted” by LLCHD

# Baseline Assessment/Survey

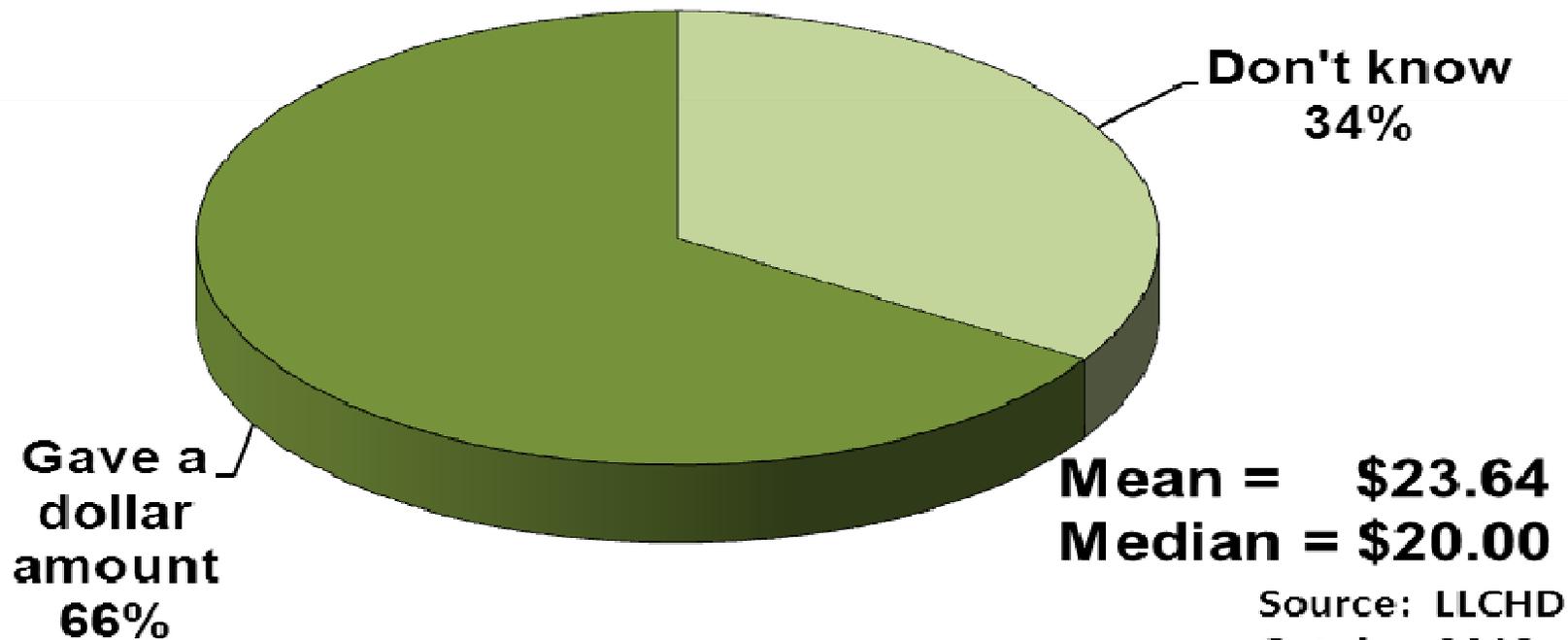
**Q1. How often is your garbage collected by a private waste hauler each week?**



Source: LLCHD  
October 2012

# Baseline Assessment/Survey

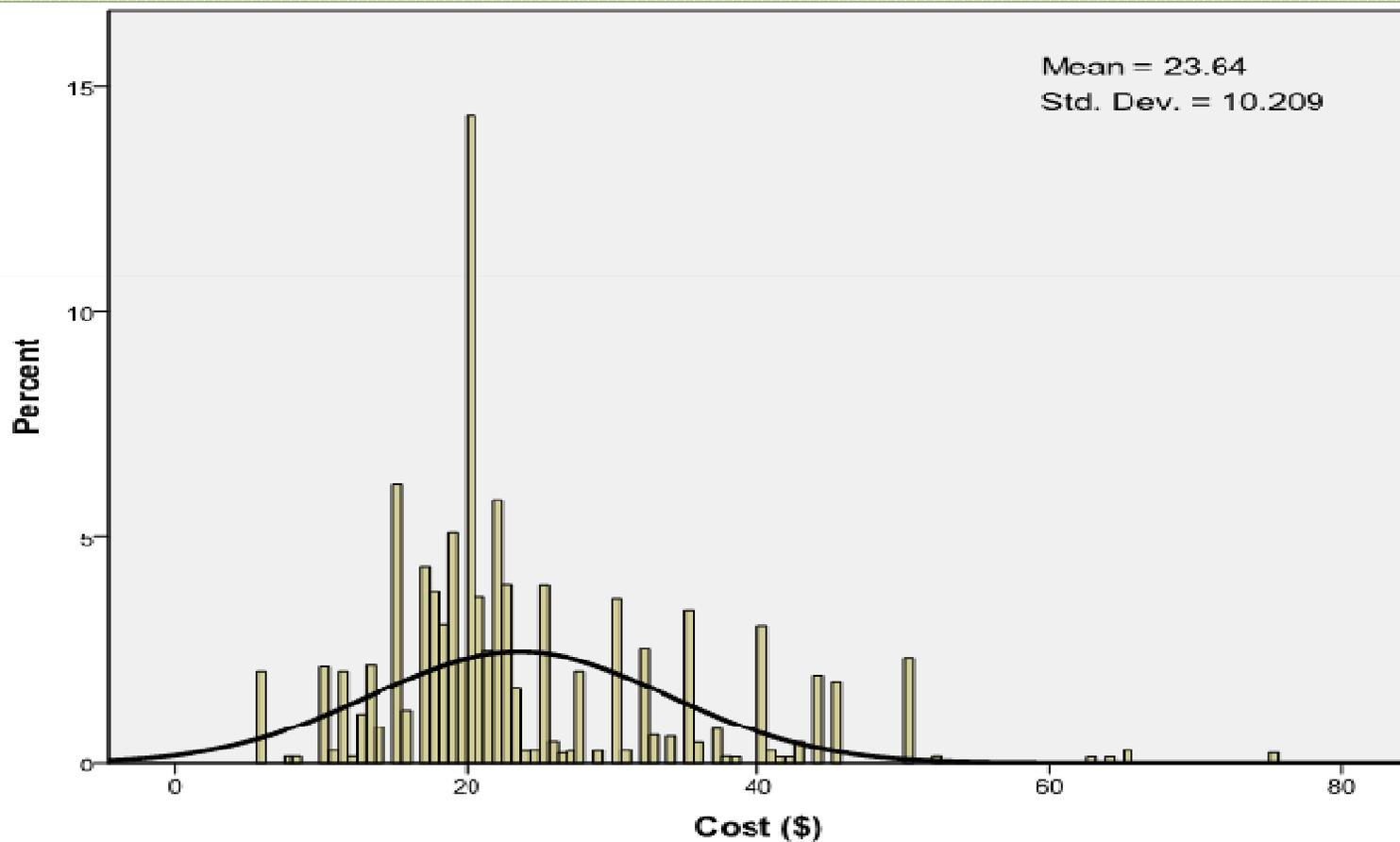
**Q1a. How much do you pay per month for garbage service?**



# Baseline Assessment/Survey

## Bell Curve of Cost for Garbage Service (weighted data)

Source: LLCHD October 2012



# Baseline Assessment/Survey

**Q2. Do you recycle aluminum cans, newspaper, cardboard, plastic, or tin cans?**



**Q2a. Do you have curbside collection of recyclables?**

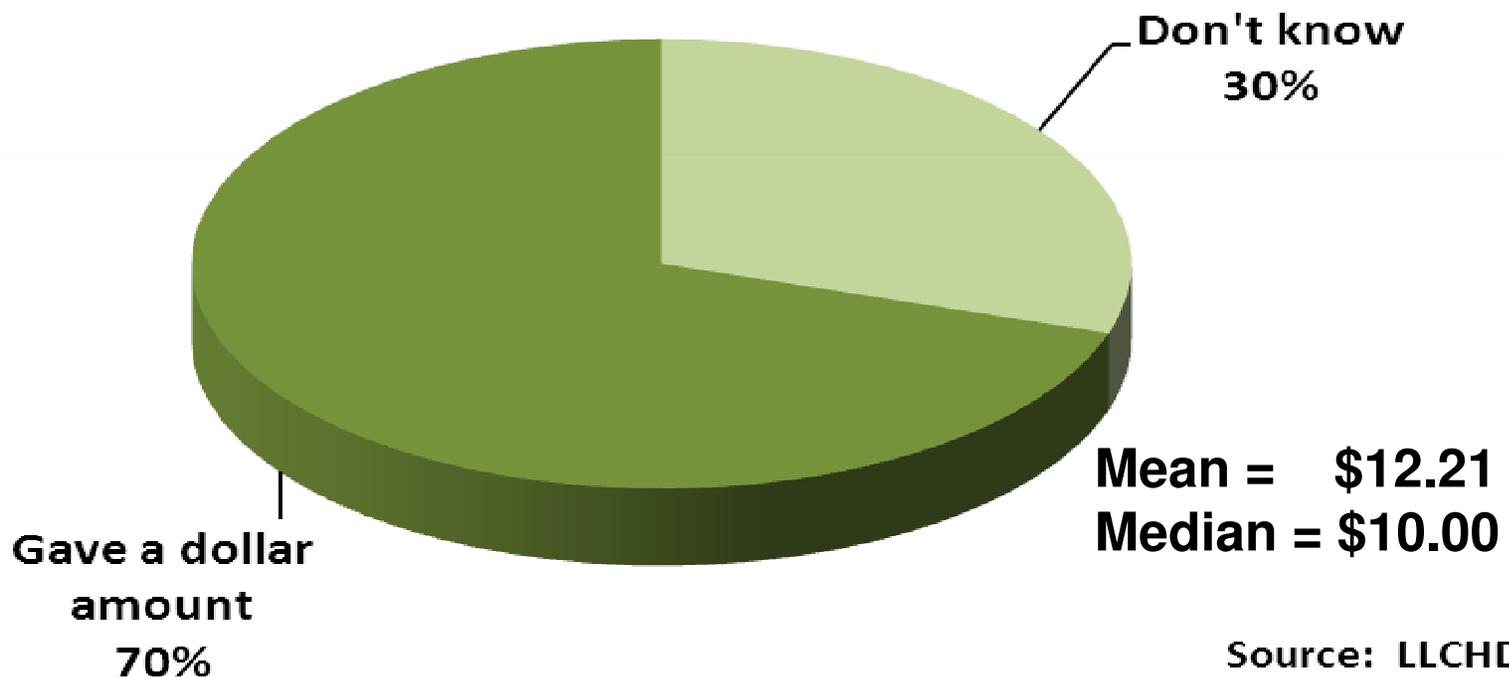


Thus, about **24%** of households **have curbside** collection of recyclables.

Source: LLCHD  
October 2012

# Baseline Assessment/Survey

**Q2a.a. How much do you pay per month for curbside recycling?**

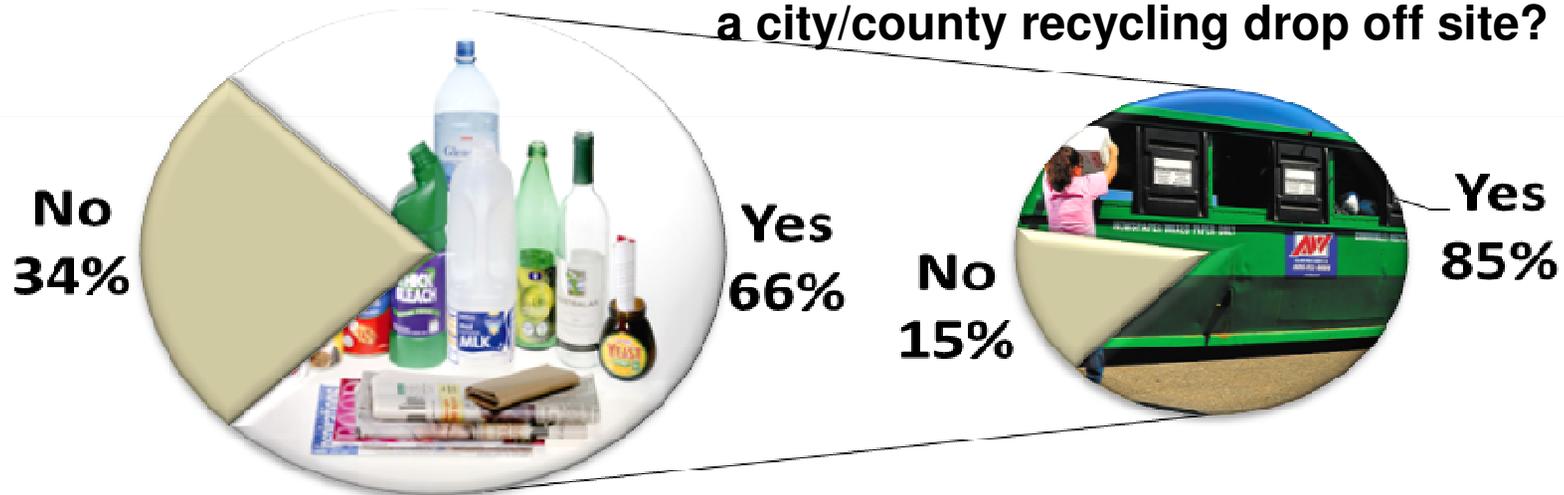


Source: LLCHD  
October 2012

# Baseline Assessment/Survey

**Q2. Do you recycle aluminum cans, newspaper, cardboard, plastic, or tin cans?**

**Q2b. Do you take your recyclables to a city/county recycling drop off site?**



Thus, about **56%** use city/county recycling drop off sites.

Source: LLCHD  
October 2012

# Baseline Assessment/Survey

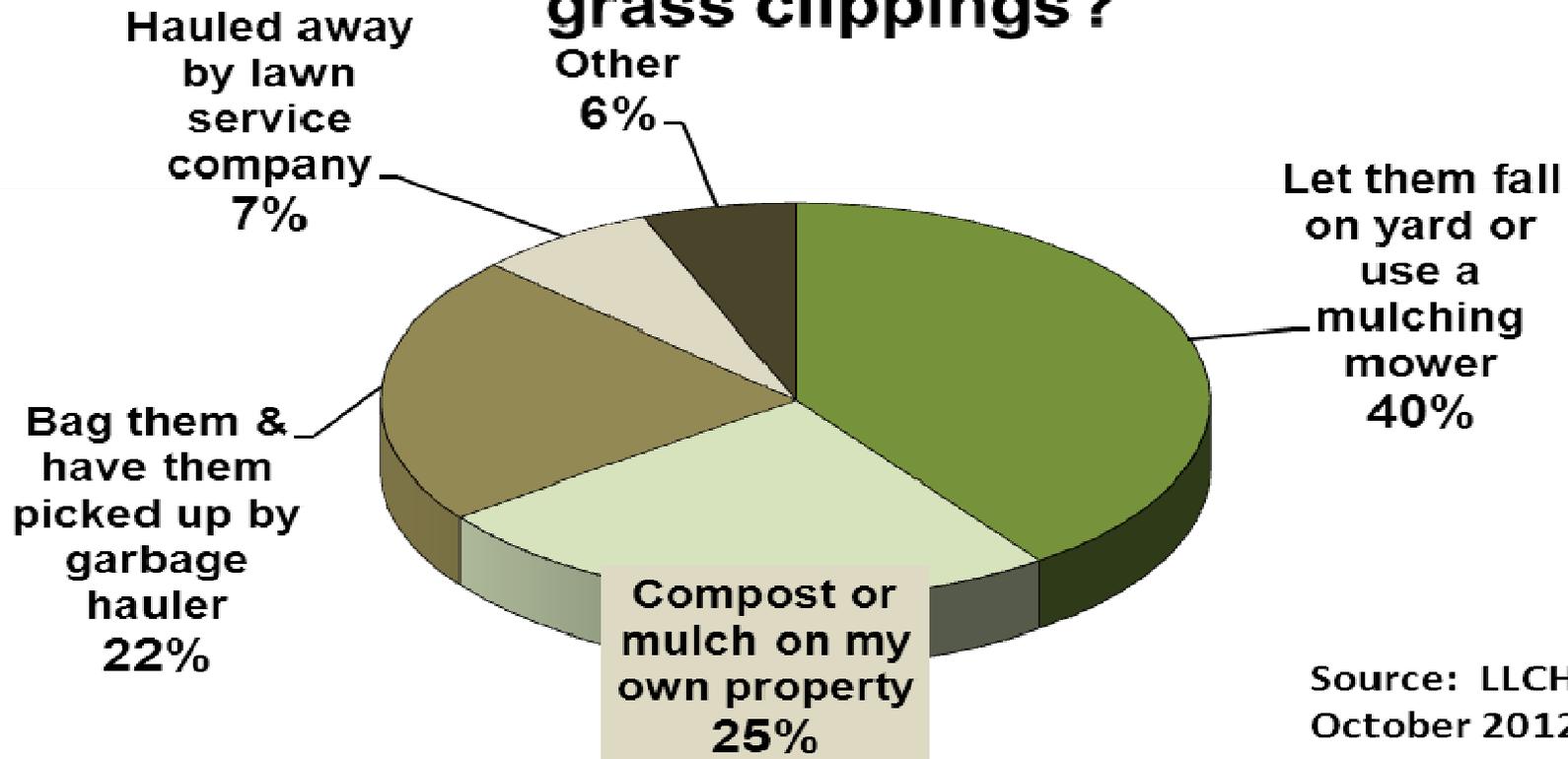
**Q2d. Do you think curbside collection of recyclables should be offered to every home in Lincoln as part of the basic garbage collection services?**



Source: LLCHD  
October 2012

# Baseline Assessment/Survey

## Q3. When your yard is mowed, which one of the following happens to the grass clippings?



Source: LLCHD  
October 2012

# Baseline Assessment/Survey

## Q4. When you have leaves to get rid of in the fall, what do you do with the leaves?



# Baseline Assessment/Survey

**Q5. The health department holds at least six household hazardous waste collection events each year. Have you ever taken household hazardous waste to one of these events?**



Source: LLCHD  
October 2012

# Baseline Assessment/Survey

**Q6. Do you think a building should be constructed to accept household hazardous waste year round?**

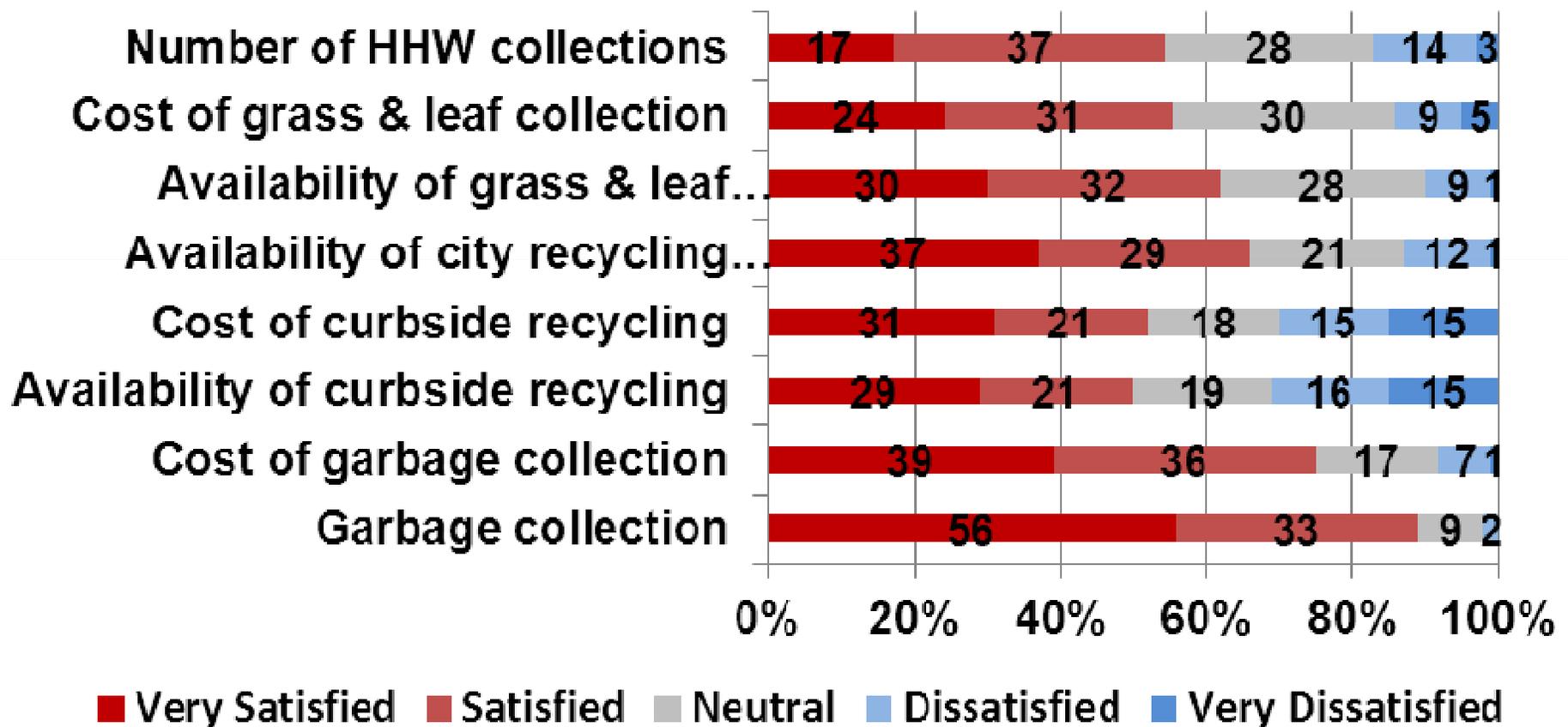


Source: LLCHD  
October 2012

# Baseline Assessment/Survey

## Q7. How satisfied are you with the following services

Source: LLCHD 10/12



# Recycling Topics



- Overview
- Residential Recycling
- Commercial Recycling
- Construction & Demolition Materials Recycling
- Recycling Incentives
- Organic Waste Diversion (Composting)

# Recycling - Overview

RECYCLE

- 1) Collecting materials
- 2) Sorting and processing into raw materials that can be used to produce new products
- 3) Purchasing recycled product

- Objectives:
  - Turns materials that would otherwise become waste into valuable resources

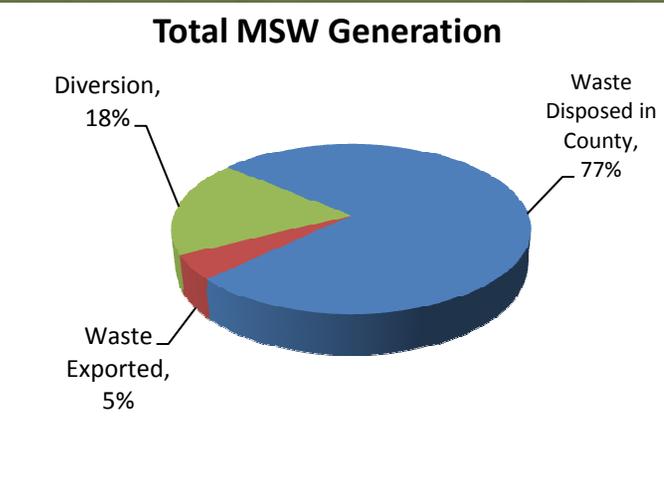
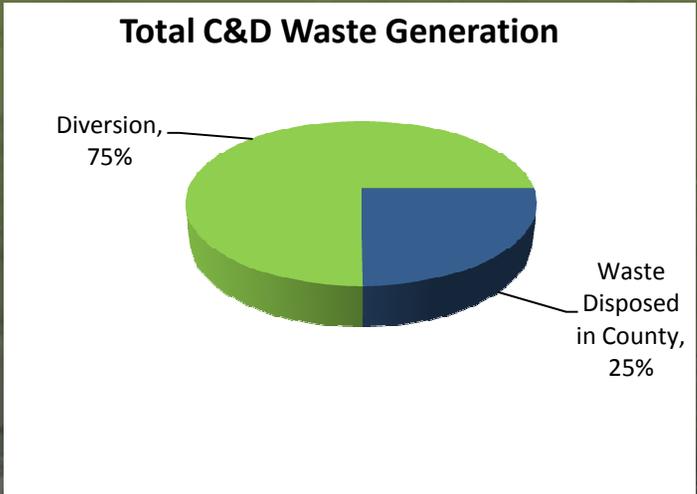
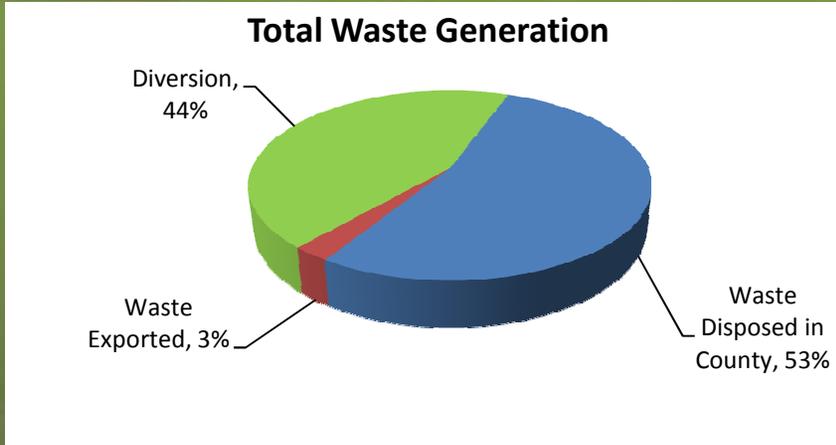


**Markets are Key to Success**

# Solid Waste Includes

- Total Waste
  - Municipal Solid Waste (MSW)
    - Residential
    - Commercial (multi-family, businesses, industry and institutions)
    - Recycled and Composted (Residential & Commercial)
  - Construction and Demolition (C&D) Waste
    - C &D Waste Disposed
    - C &D Waste Recycled/Diverted
  - Diversion

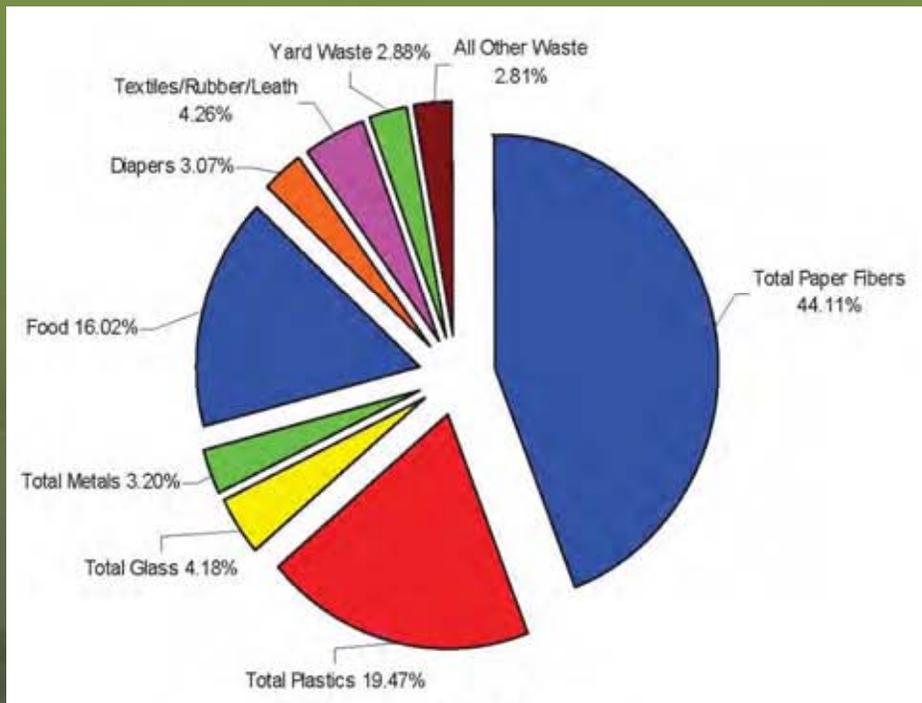
# Disposal and Diversion - 2011



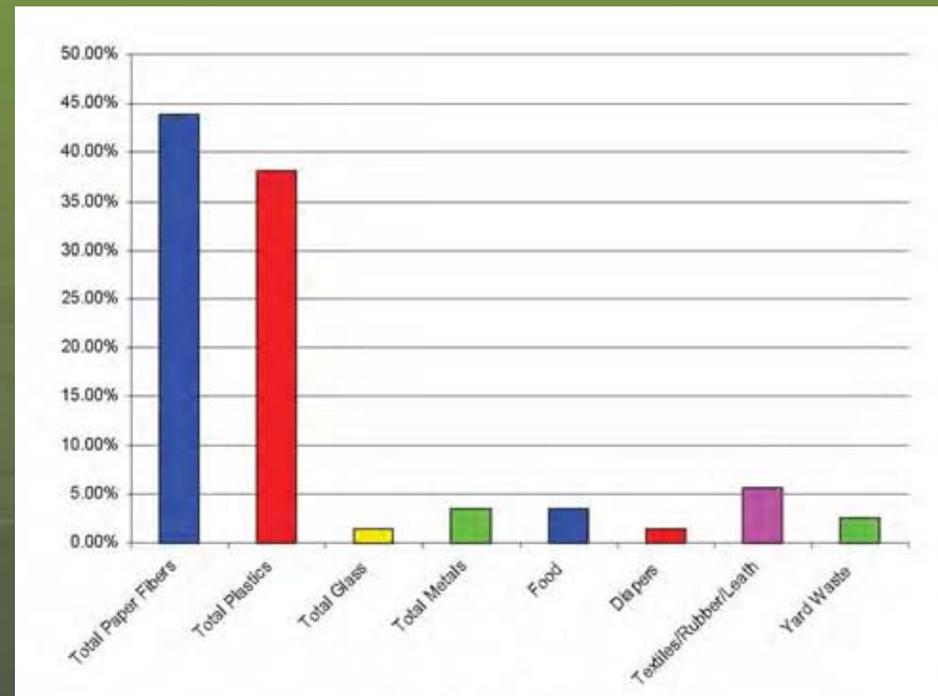
Diversion % includes Yard Waste

# Composition (from NDEQ Study)

RECYCLE



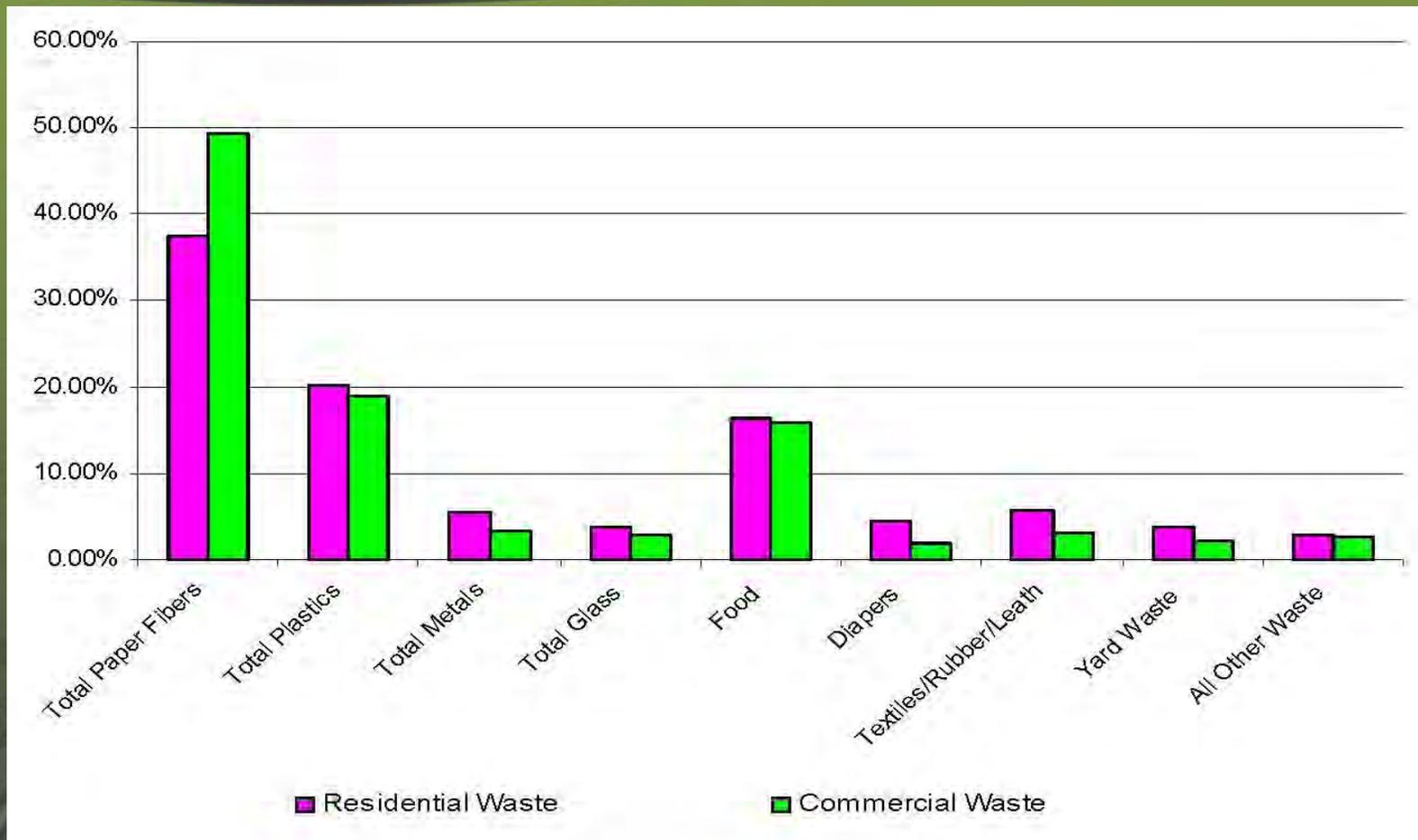
Distribution by Weight



Distribution by Volume

# Composition (from NDEQ study)

RECYCLE



Distribution by Weight

# Composition – NDEQ Recycling Potential

- Paper Fiber provides the Greatest Opportunities for Recovery/Recycling
- Recycling Potential – Readily Recoverable
  - 75% of the Metals
  - 50 - 60% of Plastics
    - 27% is PET #1 and HDPE #2
- Glass presents the greatest potential for reuse
  - Given its weight and limited value, these reuse needs tend to be localized

# Residential Recycling

RECYCLE

## Current Systems and Diversion Rates

- Drop-off Centers – 3% of Residential MSW
- Curbside Collection – 5% of Residential MSW
- Yard Waste Composting – 10% of Residential MSW
- Buy-Back Centers – Unknown

# Residential Recycling

RECYCLE

## Program Options

- Drop-off centers
- Buy-back centers – not evaluated
- Curbside collection
  - Free market
    - with minimum service ordinances
  - Franchising (exclusive or non-exclusive)
  - Contracts
- Deposit/refund programs
  - Generally requires statewide program

# Commercial Recycling

RECYCLE

## Current System

- Drop-off Centers – Counted under Residential Waste; Participation Unknown
- Subscription and Buyback – 18 % of Commercial MSW
- Waste Audits/Education

# Commercial Recycling

RECYCLE

## Program Options

- New construction (infrastructure) requirements
- Refuse hauler recycling service
  - Service is offered
  - Service must be provided
- Owner/Operator commercial recycling service
  - Minimum level of recycling services
- Processing facility

# Construction & Demolition Materials Recycling

RECYCLE

## Current System

- C & D Processors – 75% of Total C&D Generation
- North 48th Street Construction and Demolition Waste Landfill
  - Not a Diversion Program

# Construction & Demolition Materials Recycling

RECYCLE

## Program Options

- Regulatory Requirements
  - Mandatory recycling plans
  - Minimum diversion requirements for demo projects
  - Incorporation into disaster response plans
- Market and Diversion Incentives
  - Modify gov't procurement/purchasing specifications
  - Require the use of recyclable materials
  - Targeted programs
  - Increased landfill fees
  - Disposal bans
- Construction Materials Recycling and Processing Centers

# Committee Questions & Discussion

- Baseline Assessment Survey
- Residential Recycling
- Commercial Recycling
- Construction and Demolition Materials Recycling

# Agenda

## BREAK

8. Recycling Topics (continued)
  - a) Recycling Incentives
  - b) Organic Waste Diversion (Composting)
9. Needs Assessment
10. Public Participation
  - a) News Release(s) / Newsletter(s)
11. Revised DRAFT Plan Goals
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  - a) Timing, Topics and Notification
14. Public Comment (final 15 minutes)
15. Close Meeting

# Recycling – Incentives

RECYCLE

## Current System

- Educational & Promotion
- Recycling Drop-off Centers (No charge drop-off sites)
- Waste Audits to Commercial Business
- Material Reuse (via not-for-profits)
- Subsidies (via Occupation Tax and Grants)
- Toxics Reduction through HHW (No charge) and CESQG programs (limited charges)
- Waste exchanges and reuse options
- Assistance with cleanup and mini-grants
- Take back programs by businesses

# Recycling - Incentives

RECYCLE

## Program Options

- Education
- **Availability/Access/Convenience**
- Fees/Rates
  - Single fee systems
  - Pay-as-you-throw (volume based rates)
- Bans, Restrictions and Mandates
  - Building Specification
  - Demolition and Deconstruction
  - Utilization of Recycled Materials
- Grants or Subsidies

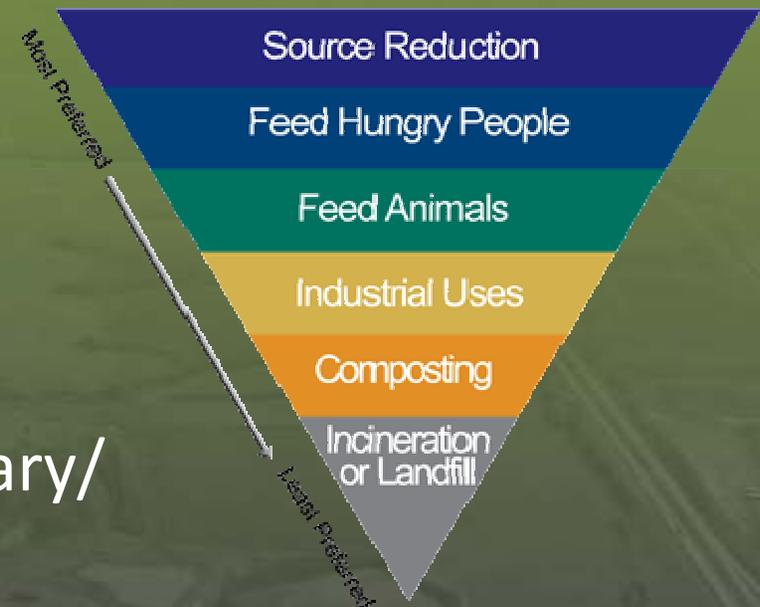
# Organic Waste Diversion (Composting)

RECYCLE

## Current System

- Food Programs (Source Reduction)
- Paper Fibers (Recycling)
- Yard and Wood Waste
  - Christmas Tree Recycling
  - Composting – Bluff Road
  - Drop-off – North 48<sup>th</sup> Street
  - Curbside Recycling – Voluntary/Subscription
- Livestock Waste Composting

## Food Recovery Hierarchy



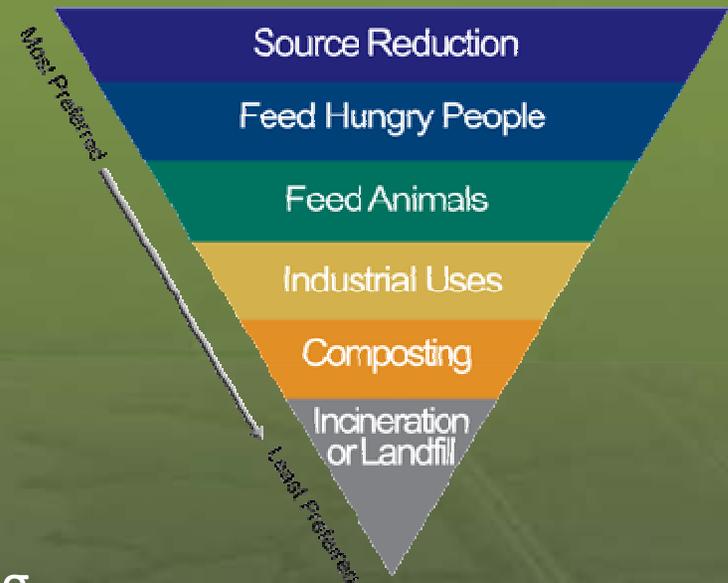
# Organic Waste Diversion (Composting)

RECYCLE

## Program Options

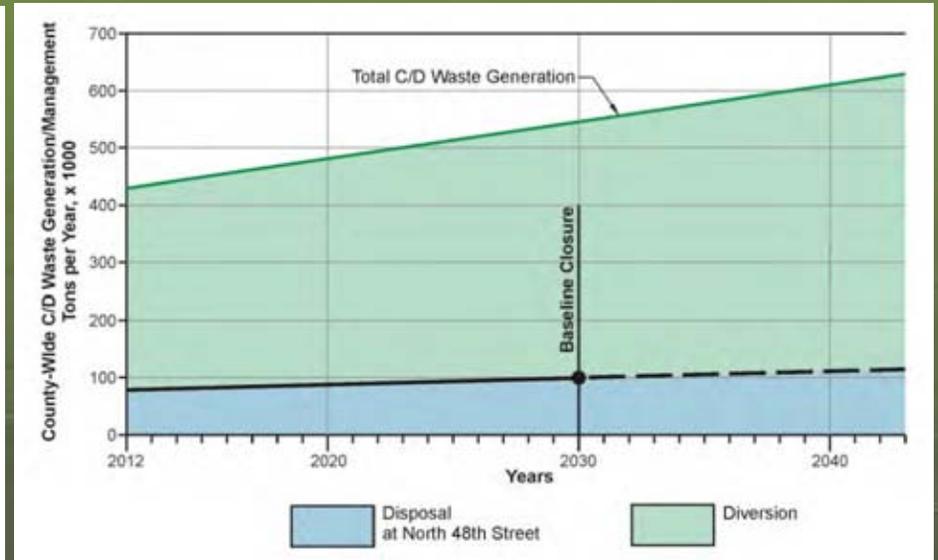
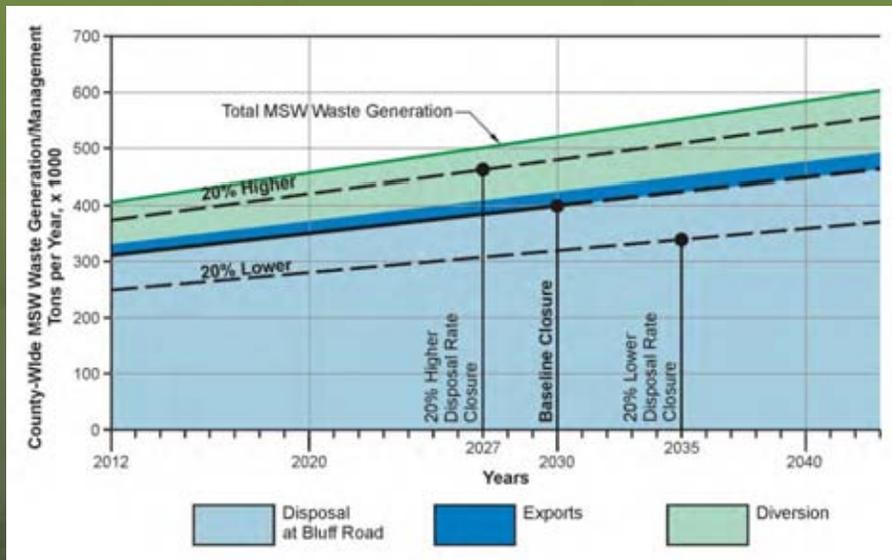
- Marketing
- Collection and Recovery
  - Wet/Dry Systems
  - Sanitary Sewer Collection Systems
- Composting or Digestion
  - Aerobic Organic Waste Composting
  - Anaerobic Organic Waste Digestion/Composting

### Food Recovery Hierarchy



# Needs Assessment

## Landfill Site Life - Preliminary



Bluff Road

North 48<sup>th</sup> Street

# Public Participation - Update

## Activities since last meeting:

- City Press Release - October 5
- Newsletter - October 8

# Needs Assessment - Public Participation

## Open House

- Live Meeting – Nov. 13
  - 6:00 to 8:00 PM
  - Lincoln/Lancaster County Health Department  
Lower Level Training Room
- On-Line Meeting – Nov. 6 through Nov. 20
  - Link will be provided on website

# Needs Assessment - Public Participation

## Outreach:

- Electronic Newsletter
- Press Release
- Social Media
- Toll Free Phone Line

## Meeting Materials:

- Display Boards
- Comment Forms

# Public Participation

Website: [lincoln.ne.gov](http://lincoln.ne.gov)

–keyword: solid waste plan

Social Media

–Facebook

–Twitter

Information Line

(402) 441-7738



The screenshot shows the website for the Solid Waste Management Plan for Lincoln and Lancaster County. The header includes the City of Lincoln, Nebraska logo and the title "Solid Waste Plan 2040". Below the header is a navigation menu with links for Home, The Process, Committee, Contact, FAQs, Resources, and Community Comments. The main content area features a large image of a landfill and a section titled "Solid Waste Plan 2040" with a brief description of the plan's development. A sidebar on the right contains information about the "Next Advisory Committee Meeting" on Tuesday, October 9, 2012, from 2:30 p.m. to 4:30 p.m. at the LPL - Lancaster County Edenshain Education Center. Logos for the City of Lincoln, Lancaster, and Lincoln's Public Works & Utilities and Health Department are displayed at the bottom. A footer section includes social media icons and the text "Log on to <http://lincoln.ne.gov> Search: Solid Waste Plan".

Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# Committee Questions & Discussion

Recycling Incentives

Organic Waste Diversion (Composting)

Needs Assessment

Public Participation

Revised Plan Goals

# Next Advisory Committee Meeting

## Next Meeting:

November 13, 2012

2:30 pm to 4:30 pm

Lincoln/Lancaster County Health Department  
Lower Level Training Room

## Topic:

- Needs Assessment

Needs Assessment Open House: November 13, 2012  
6:00 to 8:00 PM - Lincoln/Lancaster County Health  
Department- Lower Level Training Room

# Public Comment

- Guidelines:
  - State name and address
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# Advisory Committee

Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

November 13, 2012



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

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# Agenda

1. Public Meeting Law Acknowledgement & Safety Briefing
2. Call Meeting to Order
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6. Committee Questions and Discussions

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# Agenda

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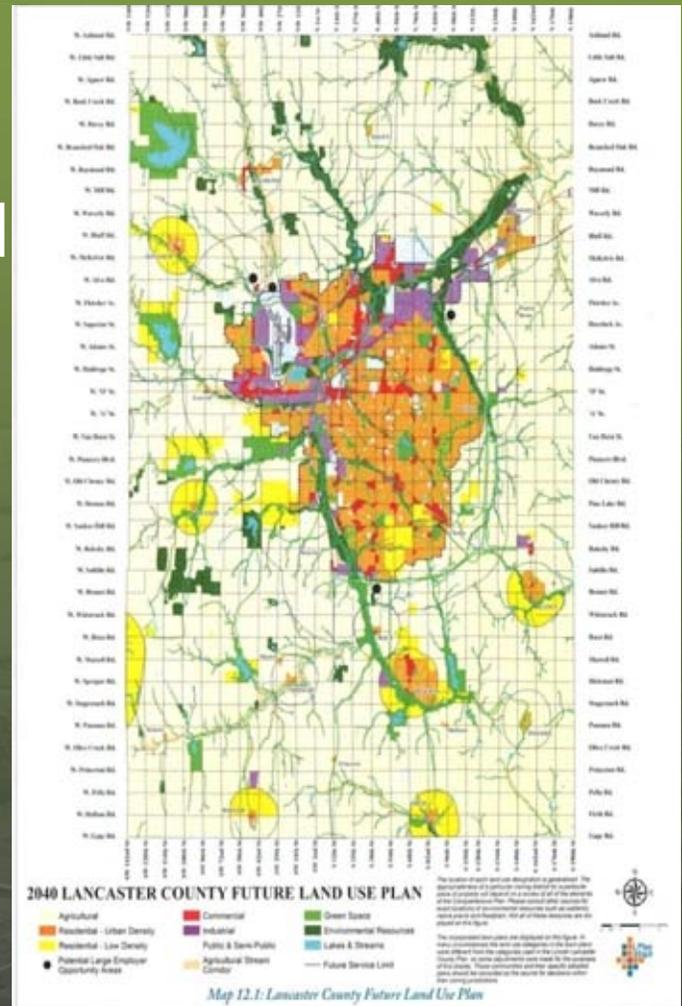
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8. Public Participation
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12. Public Comment (final 15 minutes)
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# Needs Assessment - Purpose

- Assess existing solid waste management systems, facilities, programs and planning for future needs in Lincoln and Lancaster County (Planning Area)
- Establish a basis (baseline) for the development of the long-term, comprehensive, integrated solid waste management plan (Solid Waste Plan 2040)

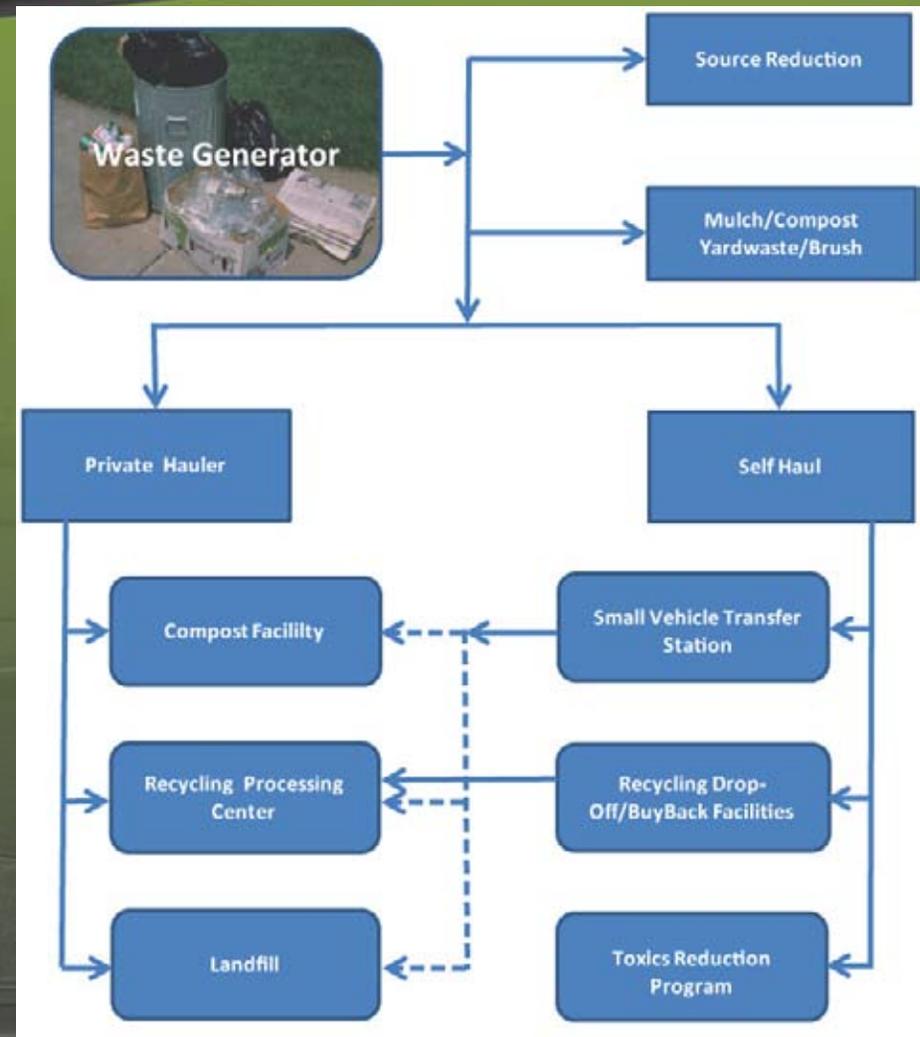
# Needs Assessment – Planning Area

- Background
- Types of Solid Waste Managed
- Planning Area Demographics
- Growth Patterns



# Needs Assessment – Management Practices

- Collection
- Waste Handling and Management Facilities
- Disposal Facilities
- Toxics Reduction
- Regulatory/Permit Requirements
- Greenhouse Gas Generation

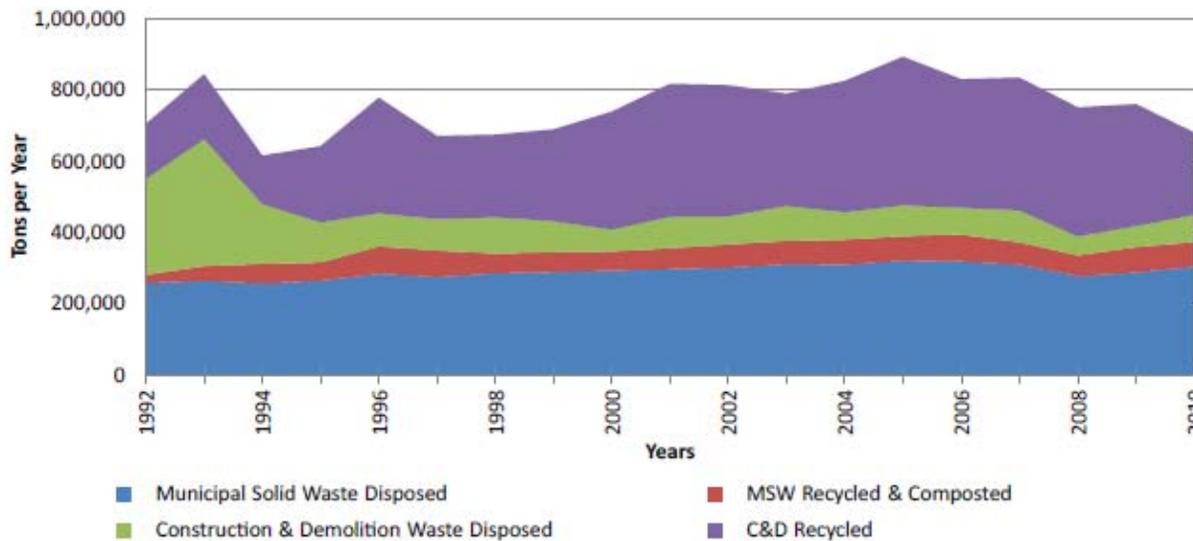


# Needs Assessment

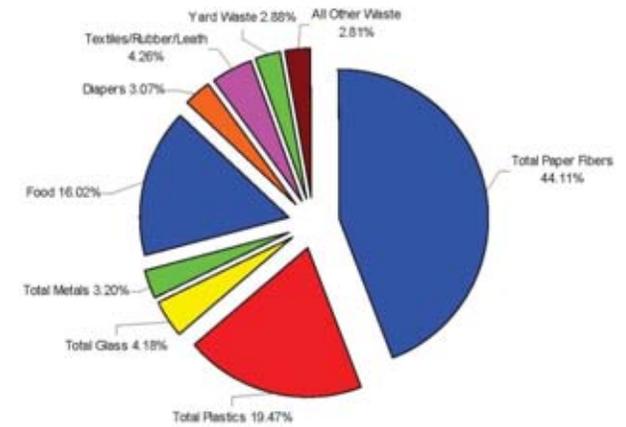
## Historic Waste Generation and Composition

The average household in Lincoln generates 1.7 tons of Municipal Solid Waste per year; 1.4 tons goes to a landfill.

**Solid Waste Disposal & Diversion**

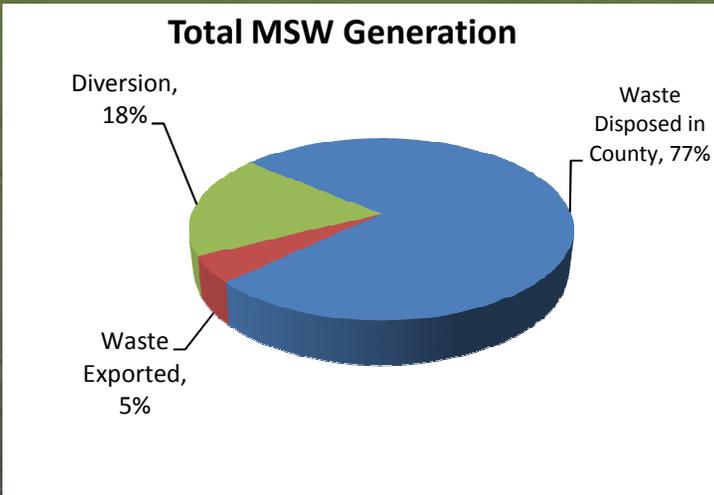
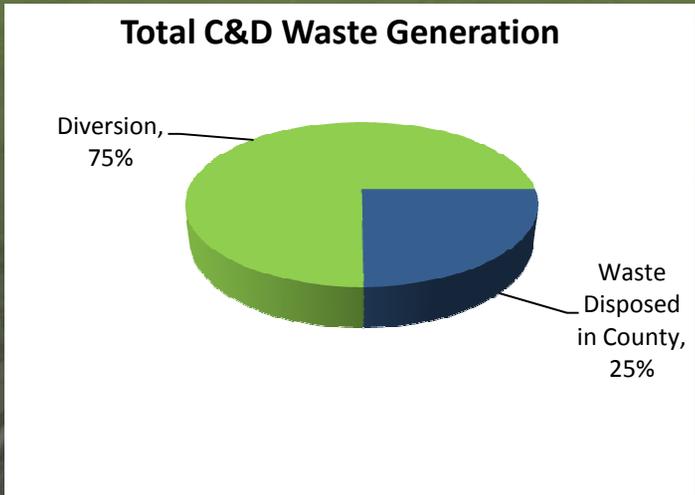
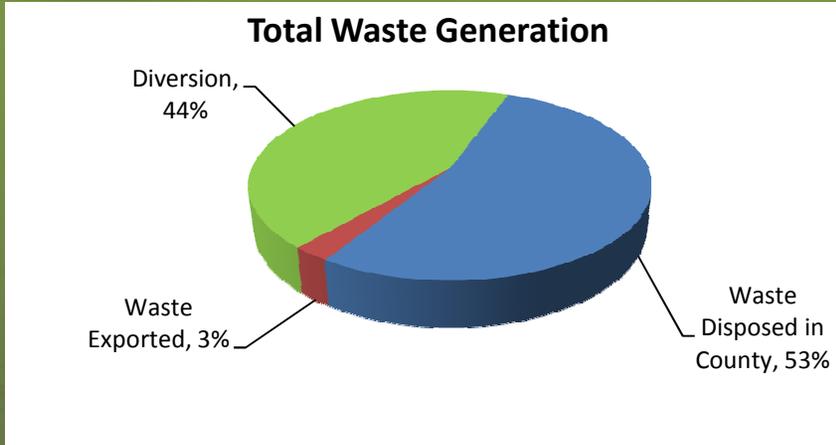


**Municipal Solid Waste Composition**



Composition, by Weight at Bluff Road Landfill (NDEQ Composition Study, 2008)

# Disposal and Diversion – 2011 (Status Quo)

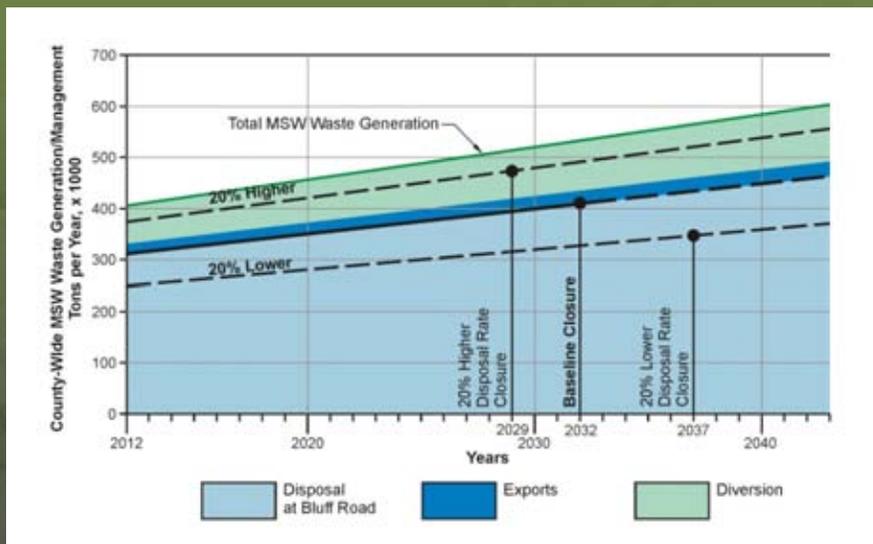


Diversion % includes Yard Waste

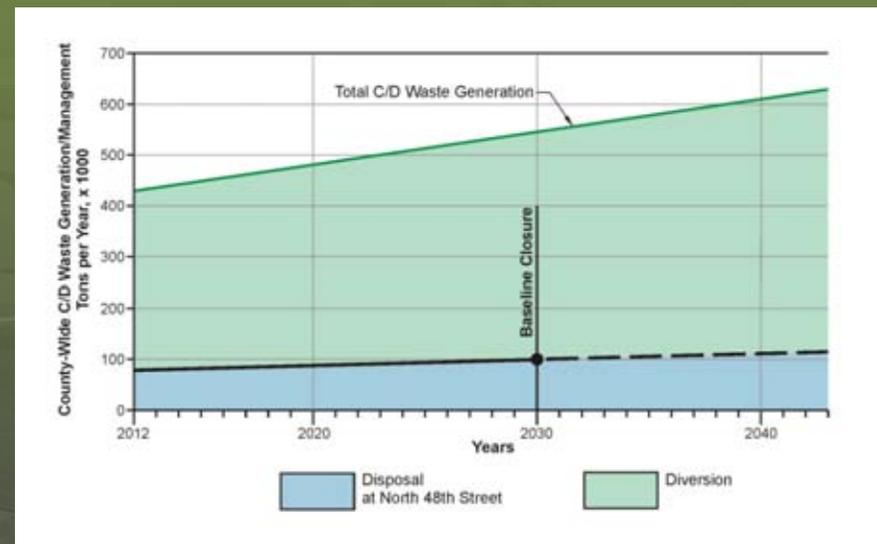
# Needs Assessment – Future Disposal Needs

## Status Quo

- Bluff Road MSW Landfill – 2032
- North 48<sup>th</sup> Street C&D Waste Landfill – 2030



Municipal Solid Waste Landfill  
Bluff Road Landfill



Construction & Demolition Waste Landfill  
North 48th Street Landfill

# Subsequent Evaluations – Additional Needs?

- New or expanded transfer station operations
- Permanent facility for household hazardous waste
- Facilities to handle or divert other wastes
- Curbside & recycling drop-off centers
- Others



# Committee Questions & Discussion

## Needs Assessment

Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# 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.*

# Open House / On-Line “Town Hall” Meeting

## The purpose of the Open House:

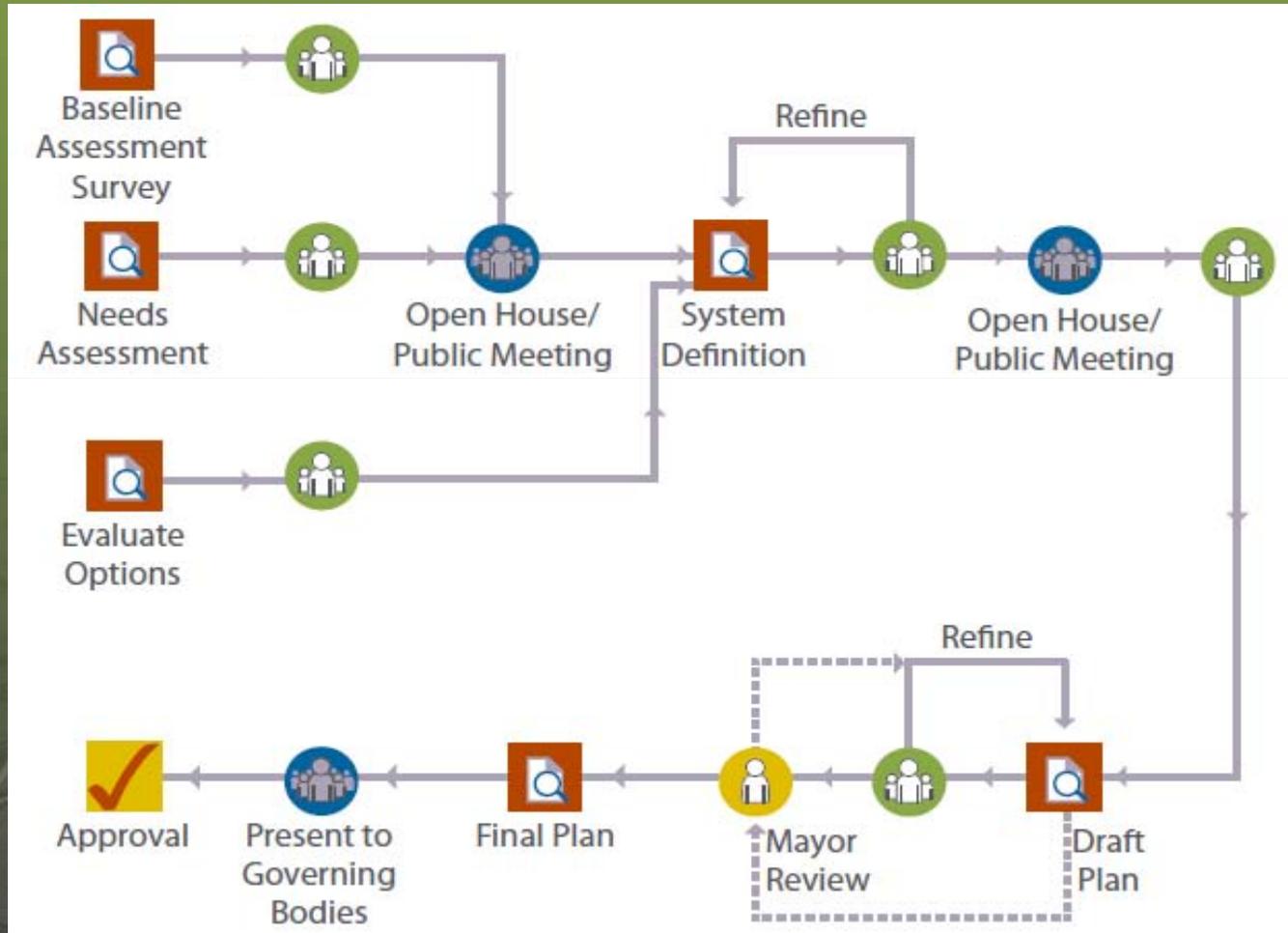
- Share information on planning efforts
- Present information on existing systems, facilities and programs, and the identified future needs (the Needs Assessment)
- Seek input and comments, now and during the remainder of the planning process

# Basis for the Solid Waste Plan 2040

- Guiding Principles adopted in the LPlan 2040
- Solid Waste Plan 2040 Guiding Principles
- Waste Management Hierarchy
- Nebraska's Integrated Solid Waste Management Act
- Federal Resource Conservation and Recovery Act (RCRA) of 1976



# The Planning Process



# Next Steps for Planning Process

- Complete Remaining Module Topics
- System Definition
- Plan Development and Refinement



# Project Schedule



# On-Line “Town Hall” Meeting - Demonstration

- Lincoln.ne.gov Keyword “solid waste plan”  
– Click on “Online Town Hall” or “Join now!”

The screenshot shows the website for the Solid Waste Management Plan for Lincoln and Lancaster County. The header includes the City of Lincoln logo and navigation links. The main content area features a large image of a landfill and a navigation menu. Below this, there is a section titled 'Solid Waste Plan 2040' with a descriptive paragraph. To the right, an 'Upcoming Events' section lists three events: 'Online Town Hall' (November 6th through 20th), 'Open House Meeting' (Tuesday, November 13, 2012), and 'Advisory Committee Meeting' (Tuesday, November 13, 2012). A red box highlights the 'Online Town Hall' link, and an arrow points from this box to a larger red box on the right containing the text: 'Online Town Hall', 'November 6th through 20th', and 'Join now!'.

# Public Participation

Website: [lincoln.ne.gov](http://lincoln.ne.gov)

- keyword: solid waste plan

Social Media

- Facebook
- Twitter

Comment Line  
(402) 441-7738



The screenshot shows the website for the Solid Waste Management Plan for Lincoln and Lancaster County. The header includes the City of Lincoln, Nebraska logo and the title "Solid Waste Plan 2040". Below the header is a navigation menu with links for Home, The Process, Committee, Contact, FAQs, Resources, and Community Comments. A large image of a landfill is featured in the background. The main content area includes a section titled "Solid Waste Plan 2040" with a brief description of the plan's development. A sidebar on the right contains information about the "Next Advisory Committee Meeting" on Tuesday, October 9, 2012, at 2:30 p.m. to 4:30 p.m. at the LPL - Lancaster County Extension Education Center. Logos for the City of Lincoln, Lancaster, and the Lincoln-Lancaster County Health Department are displayed at the bottom. A footer section provides instructions to log on to <http://lincoln.ne.gov> and search for "solid waste plan".

Solid Waste Management Plan for Lincoln and Lancaster County

**Solid Waste Plan 2040**

# Needs Assessment - Public Participation

## Outreach:

- Electronic Newsletter
- Press Release
- Social Media
- Toll Free Phone Line

## Meeting Materials:

- Display Boards
- Handout
- Comment Form

# Public Participation - Update

## Activities since last meeting:

- Press Release - November 1
- Newsletter No. 2 - November 9

# Revised DRAFT Plan Goals

Solid Waste Management Plan for Lincoln and Lancaster County



## **REVISED** **DRAFT**

### **Solid Waste Management Plan Goals**

The Lincoln-Lancaster County 2040 Comprehensive Plan (LPlan 2040) has two main Guiding Principles relative to solid waste management. These two principles provide a broad framework for the Solid Waste Management Plan. In addition, five specific Guiding Principles have been identified for the SWMP process. Within each of these principles, Plan Goals have been created. The Plan Goals establish a structure from which measurable objectives will be developed.

**LPlan 2040 Guiding Principle:**

“The City policy of privately owned and operated collection of refuse and recyclables coupled with public ownership, operation and financing of disposal and selected integrated solid waste management services will continue during the planning period.”

**LPlan 2040 Guiding Principle:**

“No out-of-county waste is accepted for landfill disposal. This policy reserves landfill capacity for city and county residents and allow administration of programs under existing authorities.”

Solid Waste Management Plan for Lincoln and Lancaster County



# Revised DRAFT Plan Goals

The Plan Goals are associated with the five Guiding Principles established for the Solid Waste Management Plan:

- engage the COMMUNITY
- encourage PUBLIC-PRIVATE PARTNERSHIPS
- ensure sufficient SYSTEM CAPACITY
- emphasize the WASTE MANAGEMENT HIERARCHY
- embrace SUSTAINABLE PRINCIPLES

**The Solid Waste Management Plan will:**

## **Overarching Goals**

- Promote waste prevention, toxicity reduction, diversion, reuse, and recycling as waste management strategies with higher and better use of natural resources than land disposal.
- Establish quantifiable objectives and measurable performance indicators to assess progress in meeting plan goals.

## **Guiding Principle: engage the COMMUNITY**

- Ensure residents, businesses and institutions are informed about options for effectively managing solid wastes generated within the community.
- Provide opportunities for stakeholders to participate in the design and implementation of the plan recommendations

# Revised DRAFT Plan Goals

## Guiding Principle: encourage PUBLIC-PRIVATE PARTNERSHIPS

- ~~Support partnerships through an acceptable allocation of resources, risks and rewards to best meet clearly defined needs~~
- Continue to promote and encourage public-private partnerships for management of solid wastes

## Guiding Principle: ensure sufficient SYSTEM CAPACITY

- Ensure adequate, ~~long term~~ disposal capacity through 2040
- ~~Provide~~ Ensure efficient systems, facilities and programs to collect, transport, sort, and process all solid wastes, and market recycled and diverted materials

## Guiding Principle: emphasize the WASTE MANAGEMENT HIERARCHY

Encourage effective and innovative approaches that:

- ~~Reduce:~~ Prevent waste generation and ensure sustainable consumption of materials (reduce).
- ~~Reuse:~~ Reuse waste in its current form and repeatedly use materials (reuse)
- ~~Recycle:~~ Process waste to recover commercially viable ~~products and use materials for to make~~ new products (recycle)
- ~~Recovery:~~ Recover energy from waste (recovery)
- ~~Residuals (disposal):~~ Manage residuals in an environmentally sound manner (residuals (disposal))

# Revised DRAFT Plan Goals

[The goal associated with the Guiding Principle – embrace SUSTAINABLE PRINCIPLES was not reviewed by the Advisory Committee at the September 11<sup>th</sup> meeting.]

**Guiding Principle: embrace SUSTAINABLE PRINCIPLES:**

- Ensure the solid waste management systems, facilities and programs consider economic, environmental, social, technological and political factors

# Committee Questions & Discussion

- Open House / On-Line “Town Hall” Meeting
- Public Participation
- Revised Plan Goals

# Next Advisory Committee Meeting

## Next Meeting:

December 11, 2012

2:30 pm to 4:30 pm

Lincoln/Lancaster County Health Department  
Lower Level Training Room

## Topic:

- Module 3 – Disposal Capacity

# 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.*

# Advisory Committee

Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

November 13, 2012



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# Advisory Committee

Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

December 11, 2012



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# 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.*

# Agenda

1. Public Meeting Law Acknowledgement & Safety Briefing
2. Call Meeting to Order
3. Roll Call
4. Approve Meeting Minutes from November 13, 2012
5. Vision Statement and Goals
6. System Definition and Refinement
7. Disposal Modules
8. Committee Questions and Discussions

**BREAK**

# Agenda

## BREAK

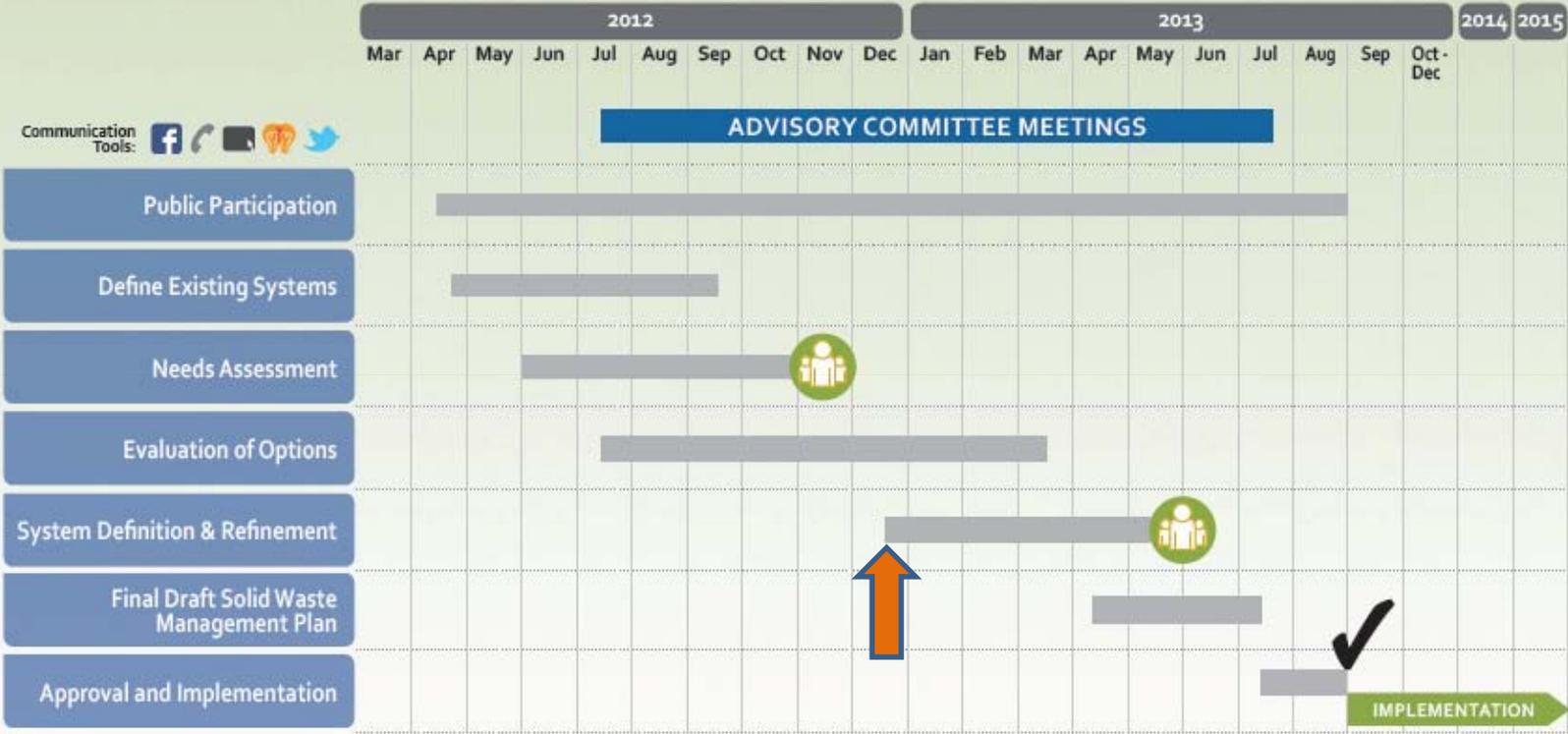
9. Group Discussion
10. Public Participation
  - a) Meeting Metrics
  - b) Comments
11. Committee Questions and Discussion
12. Next Advisory Committee Meeting
  - a) Timing, Topics and Notification
13. Public Comment (final 15 minutes)
14. Close Meeting

# Vision Statement, Guiding Principles and Goals

Solid Waste Plan 2040 acknowledges and will reflect the core promise embedded in LPlan 2040; that being a commitment to *“maintain and enhance the health, safety and welfare of our community during times of change, to promote our ideals and values as changes occur, and to meet the needs of today without sacrificing the ability of future generations to meet their needs.”*

The Solid Waste Plan 2040 will also reflect the *“importance and interconnectedness of economic, environmental, and socio-cultural domains, and the ways in which technology and public policy are applied and affect outcomes in these domains”* as is likewise stated in LPlan 2040.

# System Definition & Refinement - Schedule



Communication Tools:     



Final Plan



Public Meeting



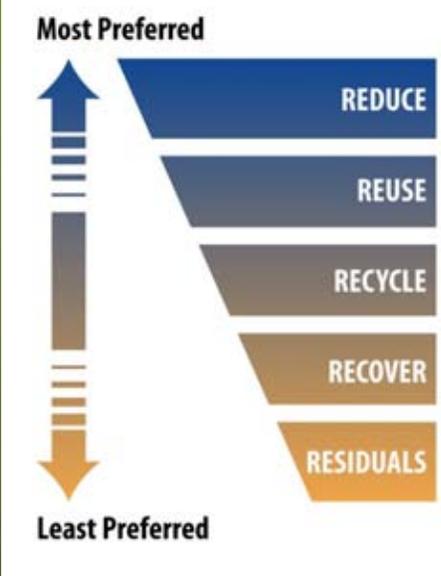
Solid Waste Management Plan for Lincoln and Lancaster County

# System Definition and Refinement

- Establish Alternatives to Baseline/Status Quo
  - 3 scenarios
- Committee Discussion/Modification
- Further Refinement & Evaluation
- Basis for System Definition
  - Present to Public
  - Refinement for Plan Development

# Disposal Topics (Modules 3 & 4)

- Module 3 - Disposal Capacity
- Module 4 - Disposal Requirements
- Topics
  - Waste Conversion Technologies
  - Municipal Solid Waste Disposal
  - Construction and Demolition Waste Disposal
  - Bioreactor/Bio-Stabilization Technologies



# Disposal – Waste Conversion Technologies

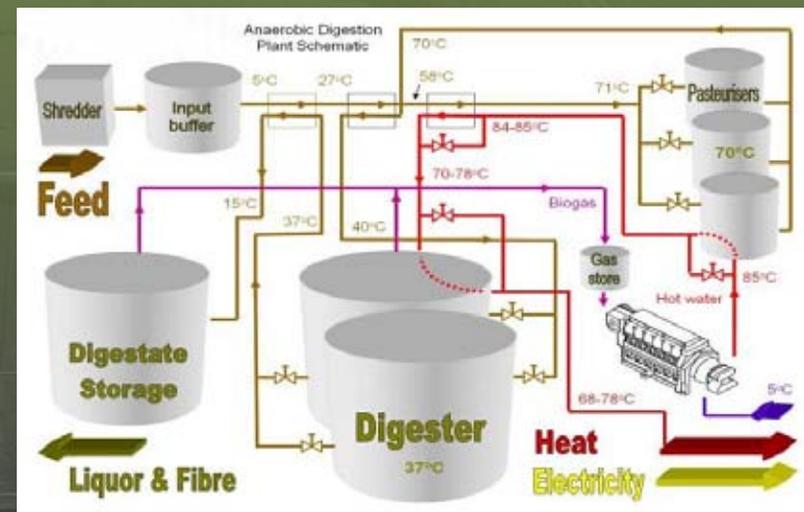
- Also known as waste-to-energy (WTE), resource recovery, combustion, and incineration
- 12% of MSW in US managed by combustion with energy recovery
- Recovery of energy and metals
- Compatible with recycling and diversion programs
- Reduces volume and organic content of landfilled waste

# Disposal – Waste Conversion Technologies

- May be considered a renewable energy source
- Current landfill gas-to-energy system at the Bluff Road MSW Landfill is a form of conversion technology
- MSW =  $\frac{1}{2}$  the energy content of coal

# Disposal – Waste Conversion Technologies

Demonstrated Technologies	Developing Technologies
Anaerobic digestion	Pyrolysis gasification
Gasification	Plasma arc gasification
Mass burn (waste to energy)	Hydrolysis
Refuse derived fuel (waste to energy)	Catalytic depolymerization



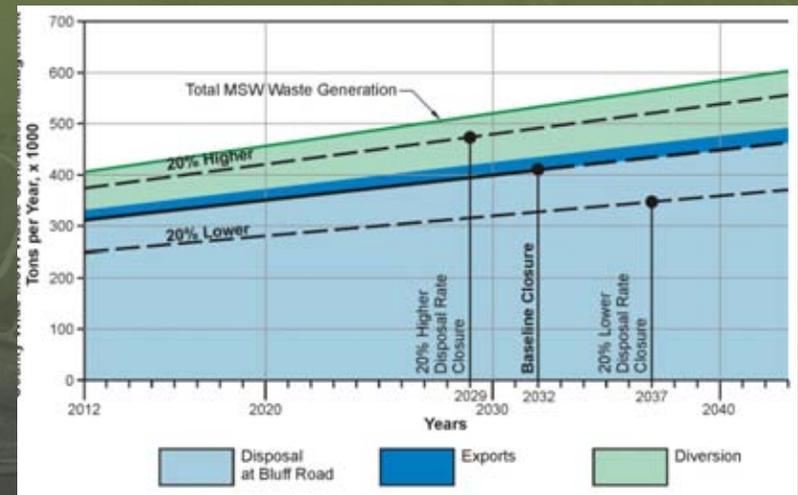
# Disposal – Waste Conversion Technologies

## Issues:

- Social/political acceptance
- Supply of waste
- Siting/location
- Permitting
- Implementation considerations
- Technology risk
- Costs
- Energy markets
- Air emission
- Residuals management

# Disposal – Municipal Solid Waste

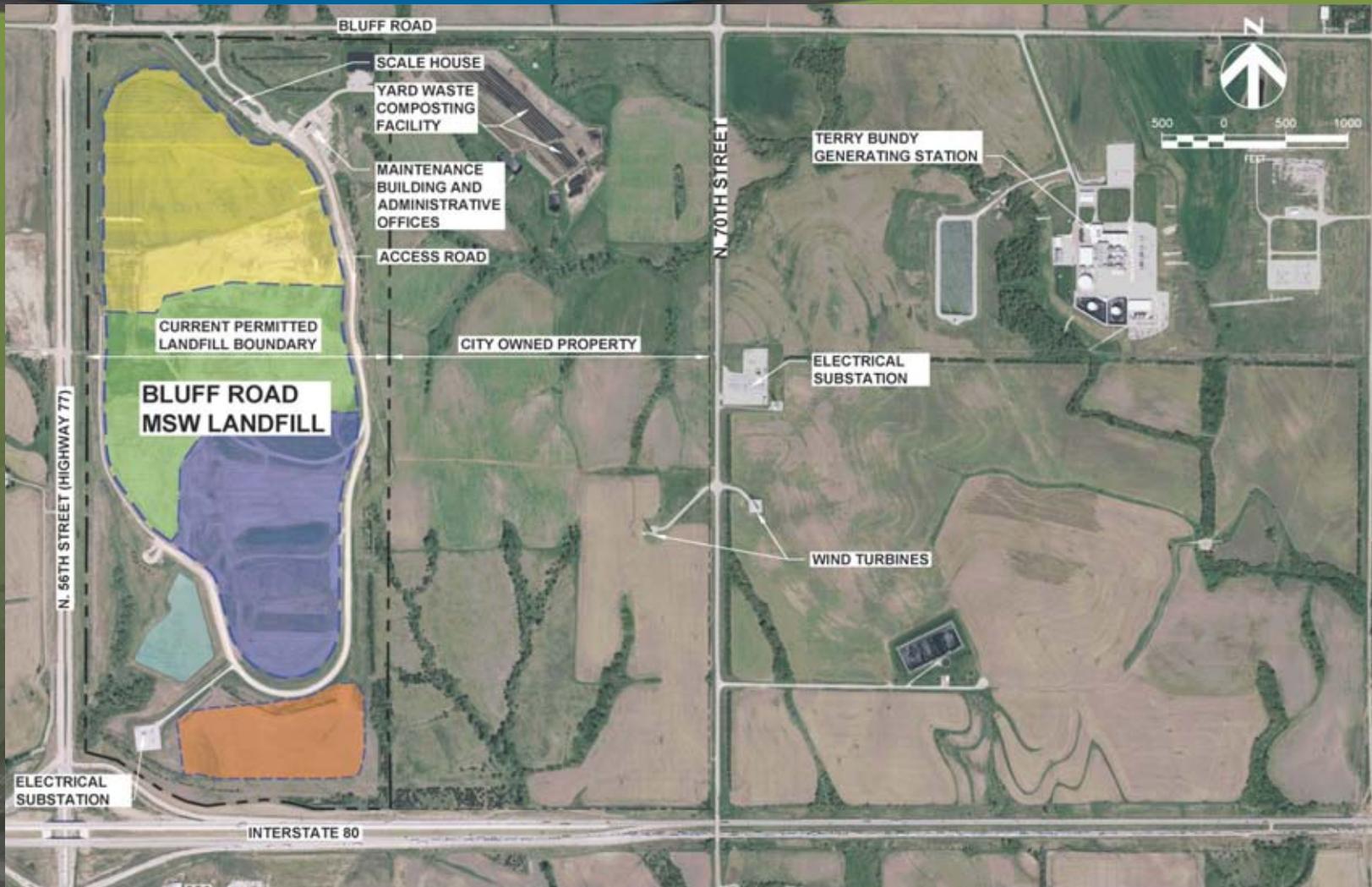
- County/municipality shall provide safe and sanitary disposal of solid waste
- Remaining capacity of Bluff Road MSW Landfill
  - Approximately 20 years
- Siting new landfills is **DIFFICULT!**
- Considered necessary
- Typically lowest cost option
- Long-term liability



# Disposal – Municipal Solid Waste

- Long-term Capacity Options
  - New City MSW landfill
  - New private MSW landfill
- LPlan 2040 identifies:  
“planning for expansion...on City owned property ...east of the existing site is anticipated....the expansion has not been permitted”

# Disposal – Municipal Solid Waste



# Disposal – Municipal Solid Waste

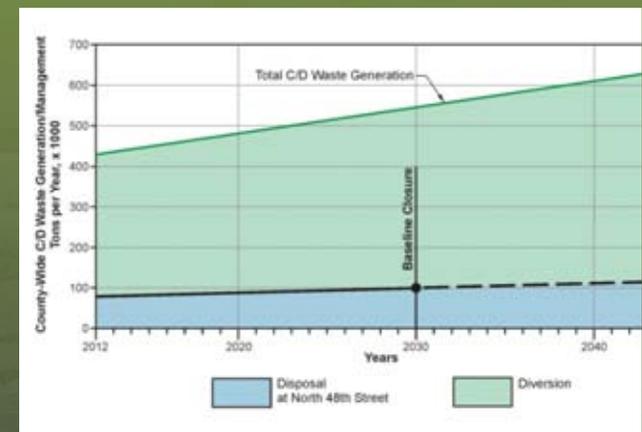
- Expansion Considerations:
  - Discourage conflicting development
  - Document compliance with NDEQ criteria
  - Designate in future land-use plans
  - Zoning regulation modifications
  - Obtain approvals
    - Local
    - State

# Disposal - Construction & Demolition Wastes

- Many C&D waste management options
- “Fill” material can be exempt from regulations
- City currently uses C&D wastes for beneficial filling purposes
- 75 to 80+ percent of concrete and asphalt is currently recycled

# Disposal - Construction & Demolition Wastes

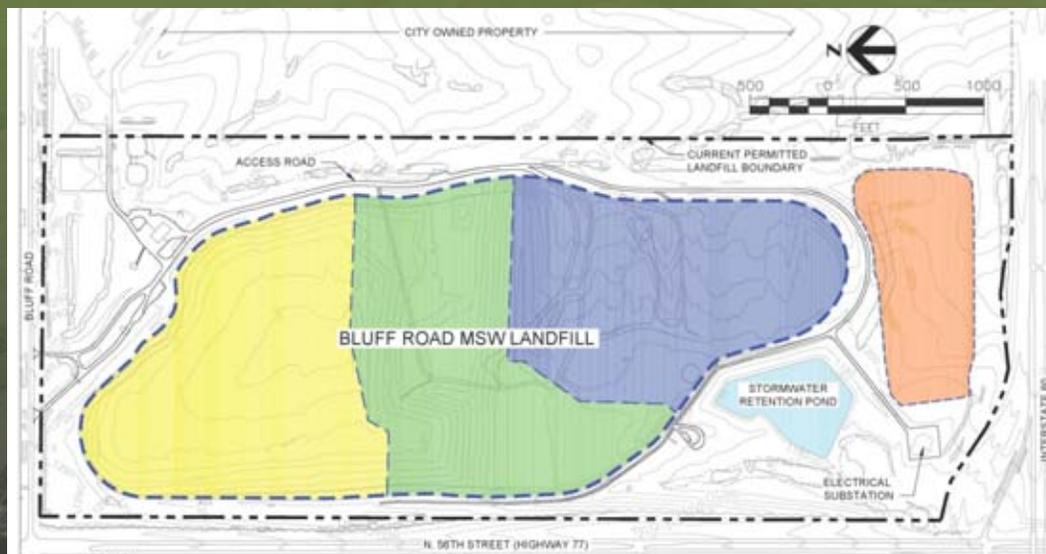
- Remaining capacity – Approximately 18 years
- Siting new landfills is **DIFFICULT!**
- Long-term Capacity Options
  - Expansion of Existing Site
  - New City C&D waste landfill
  - New Private C&D waste landfill
  - Combined C&D and MSW landfill



# Disposal - Construction & Demolition Wastes

## Future Disposal Options - Existing Sites

- Potentially easier to permit
- City owned & properly zoned
- Necessary infrastructure

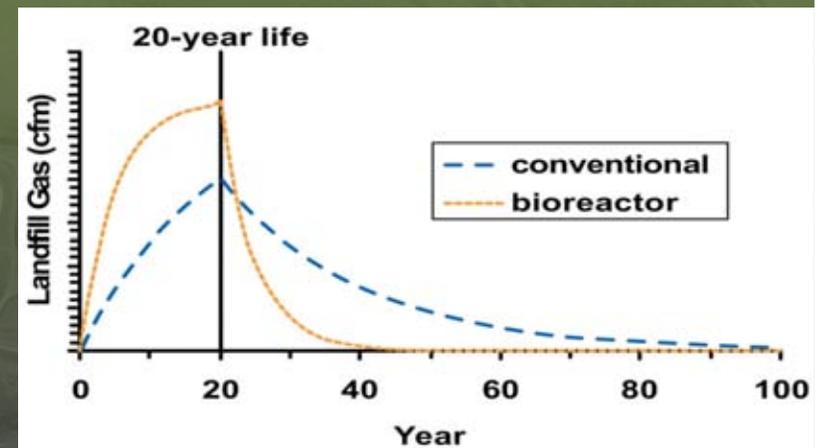


# Disposal - Construction & Demolition Wastes

- New Site Considerations:
  - **Public opposition**
  - Identify and acquire land
  - Siting and location restrictions
  - Zoning and land-use
  - Permitting
  - Infrastructure requirements
  - Costs
  - Implementation schedule

# Disposal – Bioreactor/Bio-Stabilization Technologies

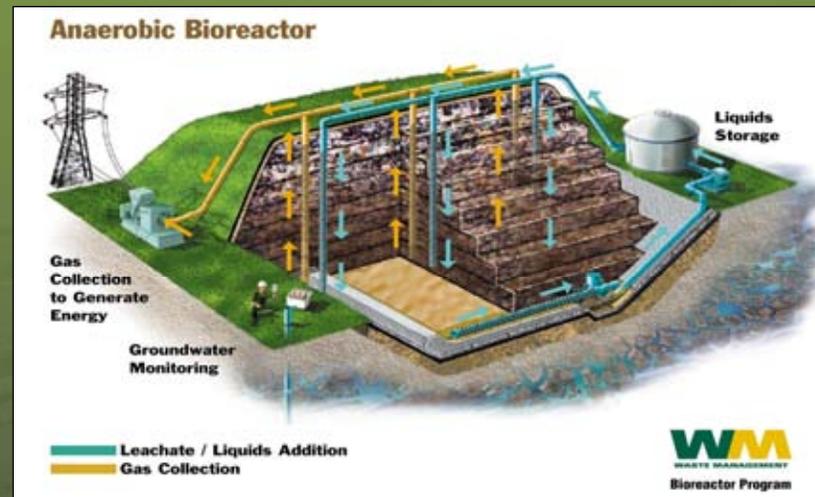
- Long-term biologic activity versus stabilization
- Requires large volumes of off-site liquids
- Research, Development & Demonstration (RD&D) permit required
- Added benefit in utilization of permitted air-space:
  - 10 -15 % Retrofits
  - 30 -50 % New site
- Reduces long-term risk?
- More landfill gas – short-term



# Disposal – Bioreactor/Bio-Stabilization Landfill

Most research focuses on the following techniques:

- Anaerobic
- Aerobic
- Hybrid



Issues:

- Liquids and liquid source(s)
- Added costs (construction & operation)
- Neighbor concerns
- Regulatory uncertainty

# Committee Questions & Discussion

- Vision Statement and Goals
- System Definition and Refinement
- Disposal Topics

# 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.*

# Group Discussion

- Review Question
- Assign Recorder and Reporter
- Discuss
- Report Discussion/Conclusions
- Submit Sheets for Tabulation

# Group Discussion

**DISCUSSION TOPIC: Nationally, 34% of the municipal solid waste is recycled compared to about 18% in Lincoln. Should the Solid Waste Management Plan 2040 set a numeric goal for recycling?**

# Group Discussion

**DISCUSSION TOPIC: The Needs Assessment describes the current solid waste management system, facilities and programs (the “Status Quo”). Should these be considered the “minimum level of service” for future planning purposes?**

# Public Participation

Website: [lincoln.ne.gov](http://lincoln.ne.gov)

- keyword: solid waste plan

Social Media

- Facebook
- Twitter

Comment Line  
(402) 441-7738



The screenshot shows the website for the Solid Waste Management Plan for Lincoln and Lancaster County. The header includes the City of Lincoln, Nebraska logo and the title "Solid Waste Plan 2040". Below the header is a navigation menu with links for Home, The Process, Committee, Contact, FAQs, Resources, and Community Comments. A large image of a landfill is featured in the background. The main content area includes a section titled "Solid Waste Plan 2040" with a brief description of the plan's development. A sidebar on the right contains information about the "Next Advisory Committee Meeting" on Tuesday, October 9, 2012, at 2:30 p.m. to 4:30 p.m. at the LPL - Lancaster County Extension Education Center. Logos for the City of Lincoln, Lancaster, and the Lincoln-Lancaster County Health Department are displayed at the bottom. A footer section provides instructions to log on to <http://lincoln.ne.gov> and search for "solid waste plan".

Solid Waste Management Plan for Lincoln and Lancaster County

**Solid Waste Plan 2040**

# Public Participation - Update

## Meeting Metrics - Needs Assessment

### Comments

# Committee Questions & Discussion

- Discussion Topics
- Public Participation

# Next Advisory Committee Meeting

## Next Meeting:

January 8th, 2013

2:30 pm to 4:30 pm

Lincoln/Lancaster County Health Department  
Lower Level Training Room

## Topic:

- Module 5 - Implementation Considerations
- Module 6 - Collection and Handling Programs?
- System Definition and Refinement?

# Public Comment

- Guidelines:
  - State name and address
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  - 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.*

# Advisory Committee

Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

December 11, 2012



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# Advisory Committee

## Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

February 12, 2013



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# 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.*

# Agenda

1. Public Meeting Law Acknowledgement & Safety Briefing
2. Call Meeting to Order
3. Roll Call
4. Approve Meeting Minutes from December 11, 2012
5. December 11 Meeting Housekeeping
  - a) How is 18 percent MSW recycling calculated & EPA Methods
  - b) Group Question Summary
6. Module Topics
  - a) Collection System
  - b) Transfer Station and Processing Facilities
  - c) Markets
7. Committee Questions and Discussions

**BREAK**

# Agenda

## BREAK

8. Public Participation
9. Process for Developing Recommendations
10. Interactive Discussion
11. Committee Questions and Discussions
12. Next Advisory Committee Meeting
  - a) Timing, Topics and Notification
13. Public Comment (final 15 minutes)
14. Close Meeting

# Housekeeping – Recycling Rate

## How is 18 % MSW Recycling Calculated:

- $18\% = \frac{\text{Total Diverted}}{(\text{Total Diverted} + \text{Total MSW Disposed})}$

## USEPA Calculation Methods

- Material Flow method vs. Site-Specific method
- USEPA *Measuring Recycling A Guide for State and Local Governments*

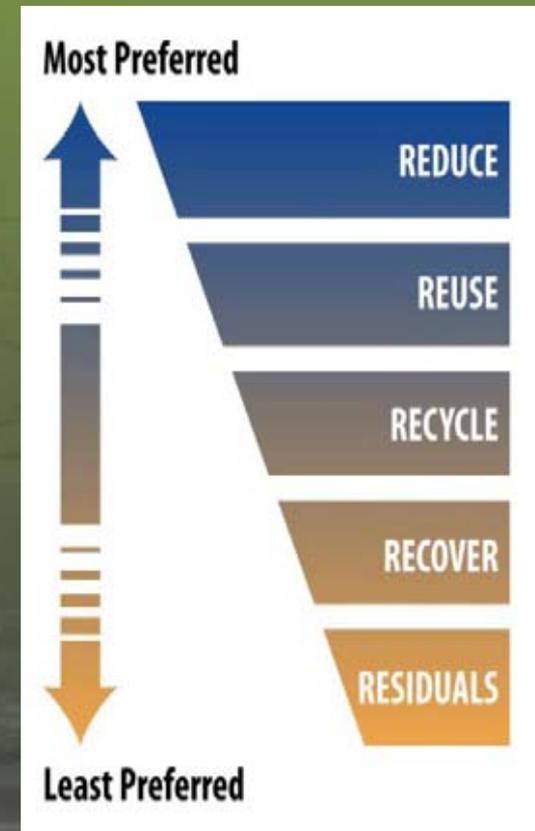
# Housekeeping – Group Questions Summary

## Group Questions Summary from December 11, 2012 Meeting

# Topics Modules

## Topics

- Collection System
- Transfer Station and Processing Facilities
- Markets (for recovered/recycled materials)



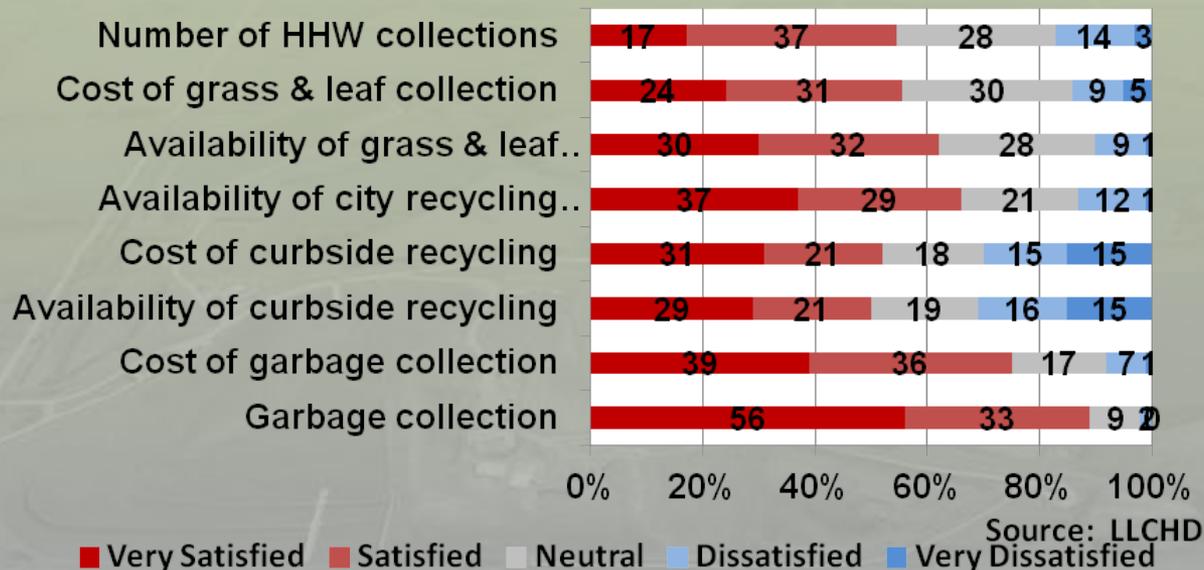
# Collection System

- Satisfaction rates are high with current garbage collection services

## Q7. How satisfied are you with:

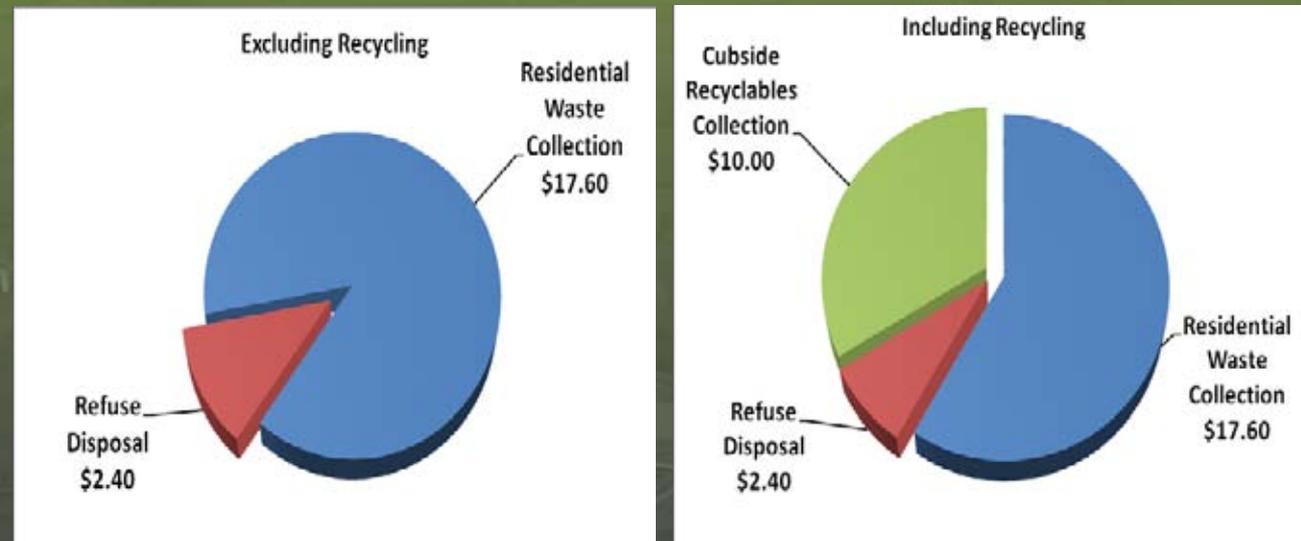
(not showing don't know responses)

Source: LLCHD 10/12



# Collection System

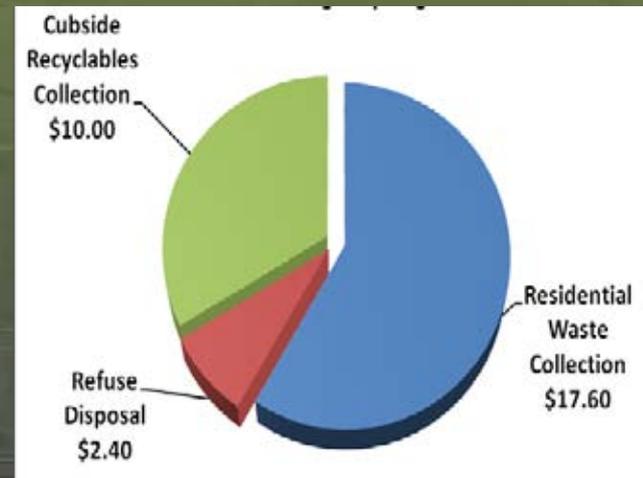
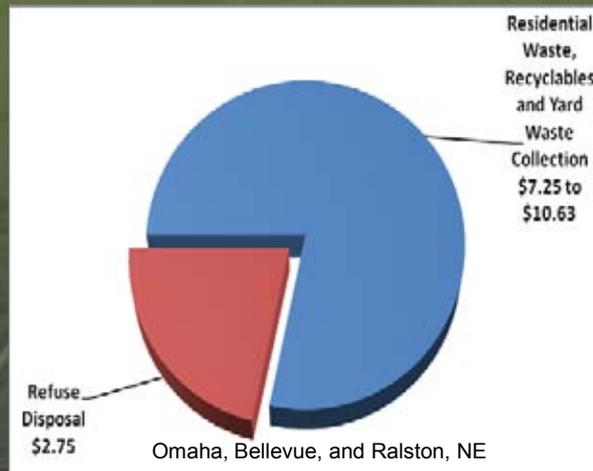
- Collection services are funded directly by users
- The most significant cost component for residential garbage service is collection and hauling



Average Monthly Residential Collection Service Costs – In Lincoln

# Collection System

- Current services are provided on free market basis
- Rates in Lincoln are higher than communities with organized collection programs
- Cost reductions can be achieved through franchises or municipal contracts



Avg. Monthly Res. Collection Costs In Other Nebraska Communities

# Transfer Stations and Processing Facilities

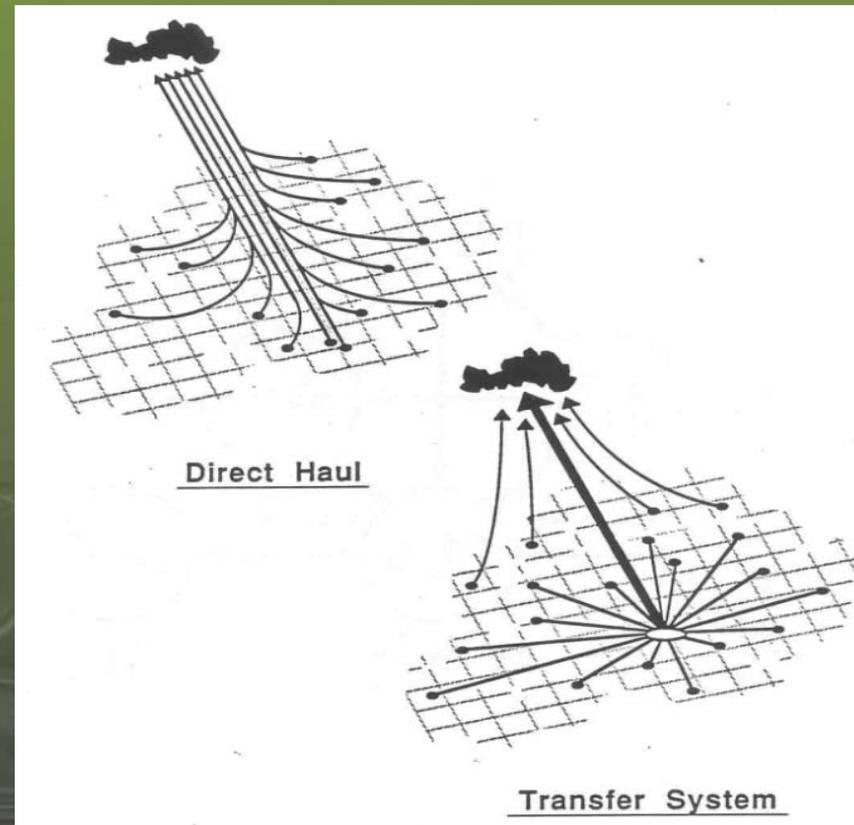
City's North 48<sup>th</sup> Street Transfer Station accepts only small vehicles

Three private waste processing facilities support recycling service providers



# Transfer Stations and Processing Facilities

- Conceptually a transfer station in the southern third of the City may be cost effective
- Conceptually there are benefits to co-locating transfer stations and processing or other diversion facilities



# Transfer Stations and Processing Facilities

- Transfer stations often serve many purposes:
  - Cost savings
  - Control expense
  - Traffic mitigation
  - User convenience
  - Waste screening
  - Facilitate recycling
  - Reduce air emissions
  - Others



# Markets

Markets are affected by:

- Volume of material recovered
- Market demand
- Consumer demand
- Raw material availability, quality and cost

The above factors contribute to fluctuating prices

# Markets

Markets are essential to a successful waste reduction and recycling program

Planning Area materials are generally sent to brokers, which aggregate and ship materials to regional, national or international end users

Revenue is reduced by the costs for transportation and added processing and handling costs

Current outlet for recovered/recycled materials relies on private service providers and private markets (excluding yard waste)

# Markets

Local opportunities, may include:

- Papers
- Glass
- Plastics
- Compost

Role government may play in the support and development of markets:

- Market Incentives
- Market Development

# Markets - Issues

- Most markets are national/international
- Local markets for compost are not large revenue generators and compete with other programs
- Markets for food waste compost is not established
- Market prices for glass have been quite low in comparison to the cost of recovery, processing and transportation
- Prices can experience volatility (risk)
- Local market longevity/sustainability is a key issue

# Committee Questions & Discussion

## Housekeeping

- 18 percent recycling rate calculation
- Group Question Summary

## Collection System

## Transfer Stations and Processing Facilities

## Markets

# 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

Website: [lincoln.ne.gov](http://lincoln.ne.gov)

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City of Lincoln  
Solid Waste Management Plan for Lincoln and Lancaster County  
**Solid Waste Plan 2040**

Home | The Process | Committee | Contact | FAQ | Resources | Community Comments

### Solid Waste Plan 2040

The development of a comprehensive, integrated solid waste management plan was identified as a strategy in the Lincoln-Lancaster County 2040 Comprehensive Plan (Plan 2040). The Solid Waste Management Plan (Solid Waste Plan 2040) will be a guidance document, communication tool, and a resource for policy decisions. The Public Works and Utilities Department and the Lincoln-Lancaster County Health Department will facilitate the development of the Solid Waste Plan 2040. The planning process for Solid Waste Plan 2040 includes numerous opportunities for public participation and involvement.

**Next Advisory Committee Meeting:**  
Tuesday, October 8, 2013  
2:30 p.m. to 4:30 p.m.  
LINC - Lancaster County Extension Education Center  
444 Cherry Creek Road

CITY OF LINCOLN  
PUBLIC WORKS & UTILITIES  
HEALTH DEPARTMENT

Log on to <http://lincoln.ne.gov>  
Search: **solid waste plan**

# Process for Developing Recommendations

Options

System  
Definition

Final Plan

# Options vs. System Definition vs. Final Plan

## Options

- Identifies a Preferred Path
- Used to create a System Definition

## System Definition

- Present to Public
- Refined for Final Plan Recommendations

## Committee Plan Recommendations:

- Not necessarily tied to the System Definition
- May include phased approach
- May include program specific goals

# Developing System Definition

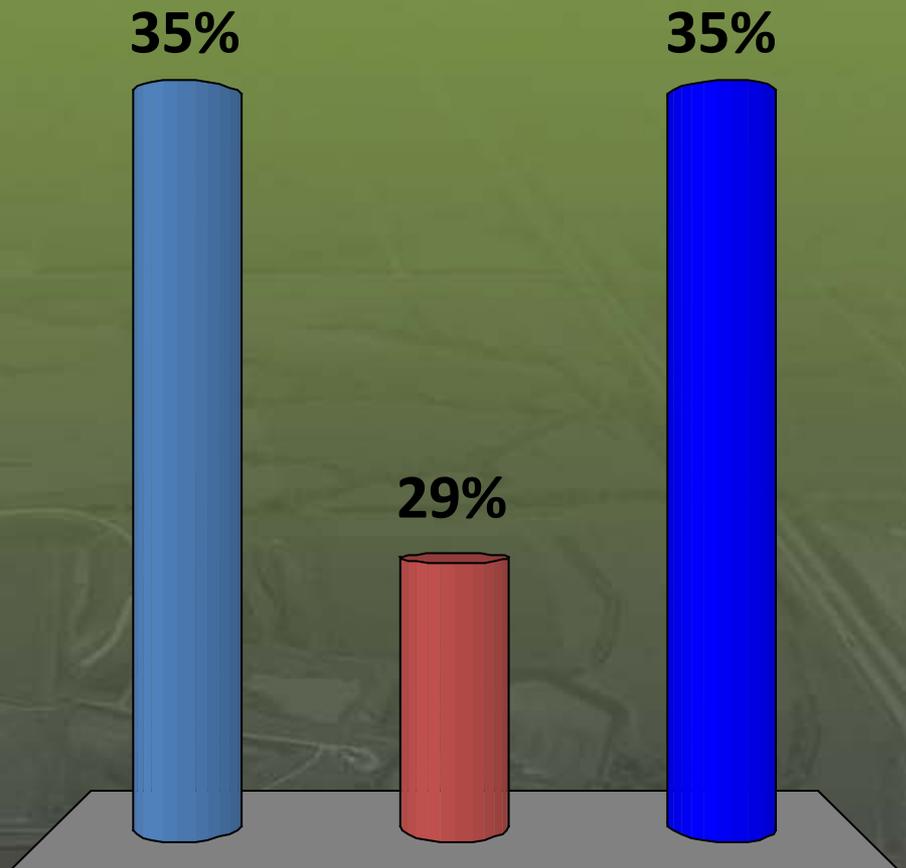
- Purpose
- Ground Rules
- Process



- What constitutes a majority?

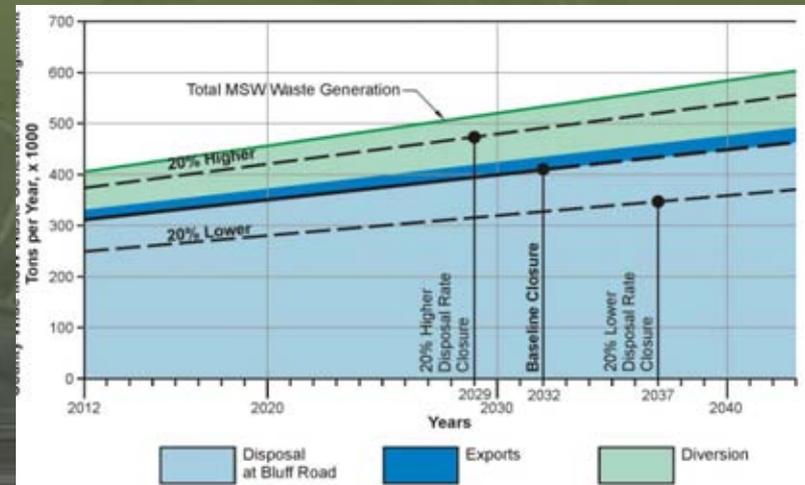
# Which flavor of ice cream do you prefer?

1. Chocolate
2. Vanilla
3. Strawberry

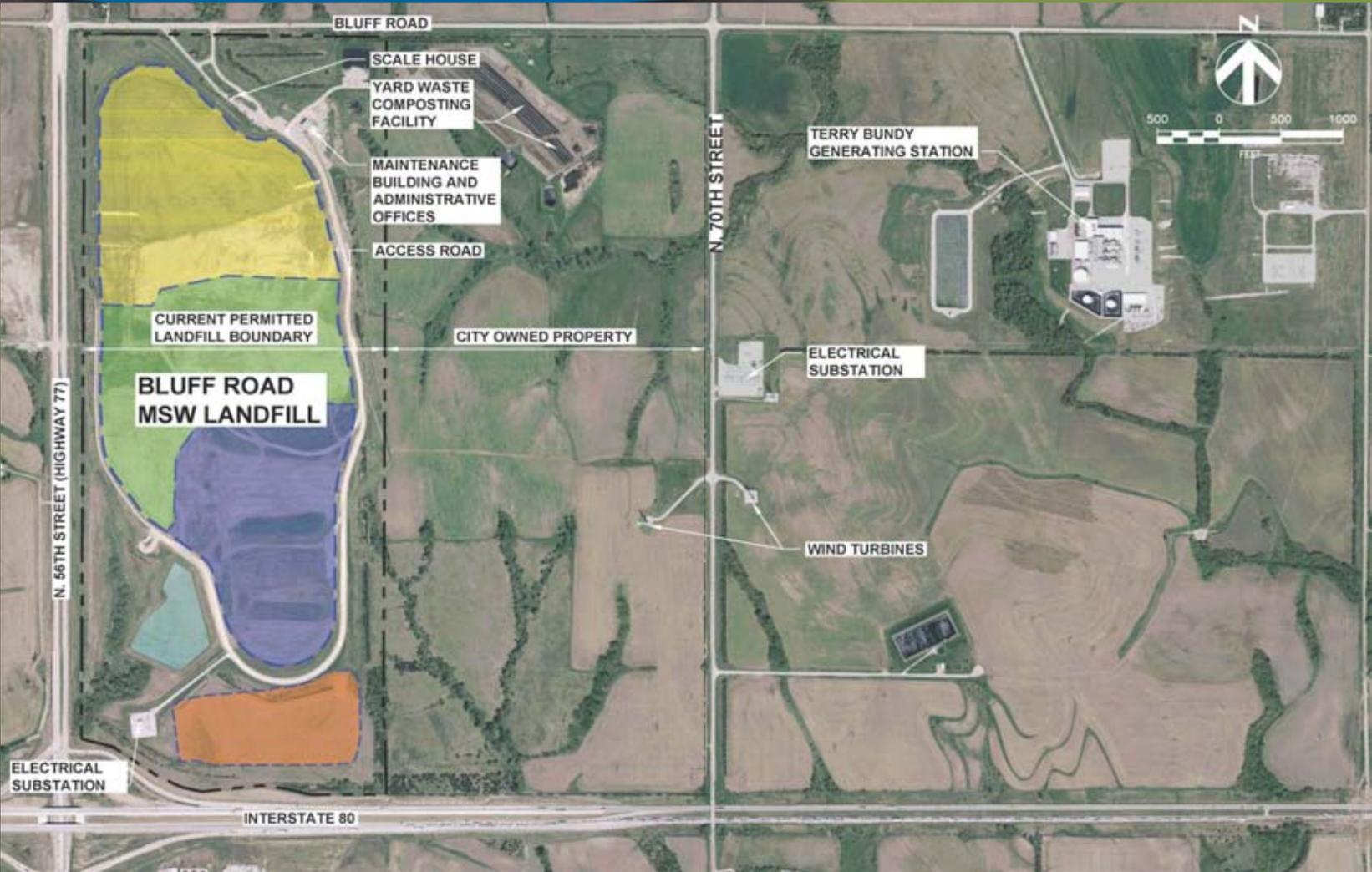


# Disposal – Municipal Solid Waste

- County/municipality shall provide safe and sanitary disposal of solid waste
- Remaining capacity of Bluff Road MSW Landfill
  - Approximately 20 years
- Siting new landfills is **DIFFICULT!**
- Considered necessary
- Typically lowest cost option
- Long-term liability



# Disposal – Municipal Solid Waste



# Municipal Solid Waste Disposal

## Issue:

Current Bluff Road MSW Landfill is projected to reach capacity in less than 20 years (e.g., 2032).

## Options:

- 1) Expand on City-owned property to the east of currently permitted site
- 2) Develop landfill at new location in the County

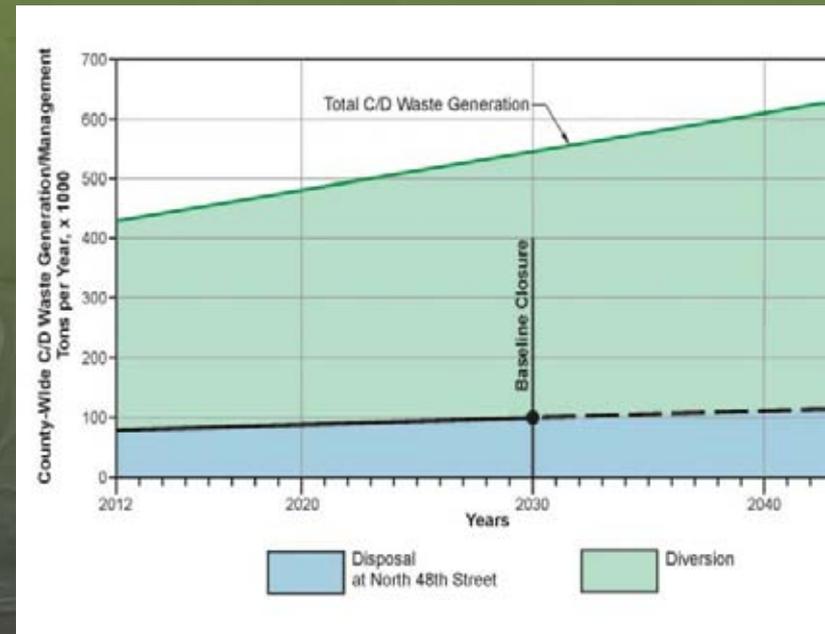
# Municipal Solid Waste Disposal - Polling

Option 1 – Expand on City property

Option 2 - New site in the County

# Disposal - Construction & Demolition Wastes

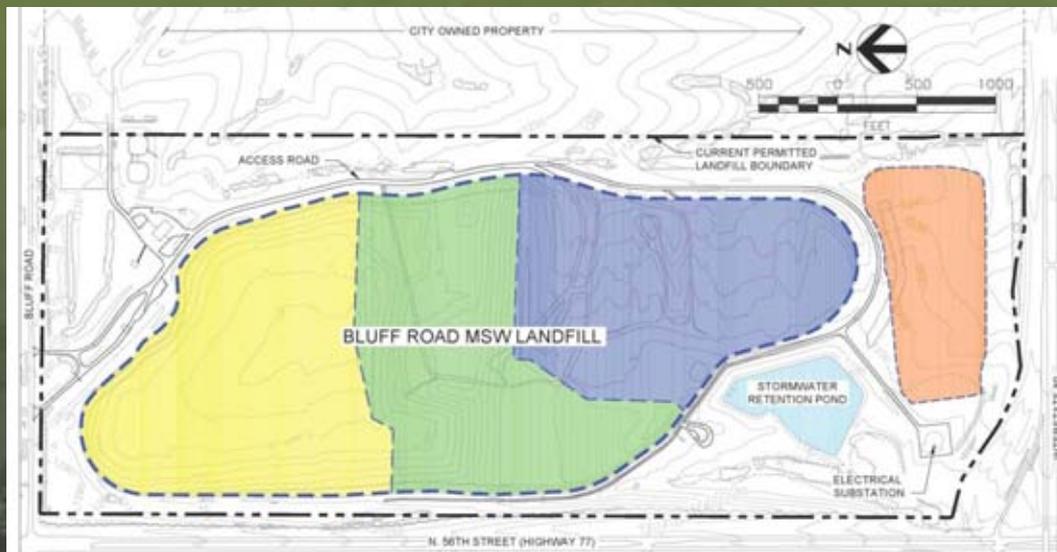
- Remaining capacity – Approximately 18 years
- Siting new landfills is **DIFFICULT!**
- Long-term Capacity Options
  - Expand on City Property
  - Develop New City Site in County
  - Discontinue City Provided Site (New Private C&D waste landfill)



# Disposal - Construction & Demolition Wastes

## Future Disposal Options - Existing City Sites

- Potentially easier to permit
- City-owned & properly zoned
- Necessary infrastructure



# Construction & Demolition Waste Disposal

## Issue:

Current North 48<sup>th</sup> Street C&D Waste Landfill is projected to reach capacity in less than 20 years (e.g., 2030).

## Options:

- 1) Expand on City-owned property:
  - a. South of the current N. 48<sup>th</sup> Street Disposal Area.
  - b. South of the current Bluff Road MSW Landfill Disposal Area.
- 2) Develop New City-owned C&D Waste Landfill at new location in the County.
- 3) Discontinue City-Provided C&D Waste Landfill and rely on privately developed C&D Waste Landfill(s).

# Construction & Demolition Waste Disposal - Polling

Option 1 – Expand on City Property

Option 2 – Develop New City Site in County

Option 3 – Discontinue City Provided Site

# Committee Questions & Discussion

## Process for Developing Recommendations

# Next Advisory Committee Meeting

## Next Meeting:

March 12, 2013

2:30 pm to 4:30 pm

Lincoln/Lancaster County Health Department  
Lower Level Training Room

## Topic:

- Process for Developing Recommendations

# Public Comment

- Guidelines:
  - State name and address
  - Limit your remarks to time allotted – 3 minutes
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# 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.*

# Advisory Committee

Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

March 12, 2013



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# 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.*

# Agenda

1. Public Meeting Law Acknowledgement & Safety Briefing
2. Call Meeting to Order
3. Roll Call
4. Approve Meeting Minutes from February 12, 2013
5. Process for Developing Recommendations
  - a) Vision, Guiding Principles, Waste Management Hierarchy, Regulatory Background, and Evaluation Criteria
  - b) Solid Waste Management Continuum
  - c) Refinements to the Options Selection Process
6. Committee Questions and Discussions

**BREAK**

# Agenda

## BREAK

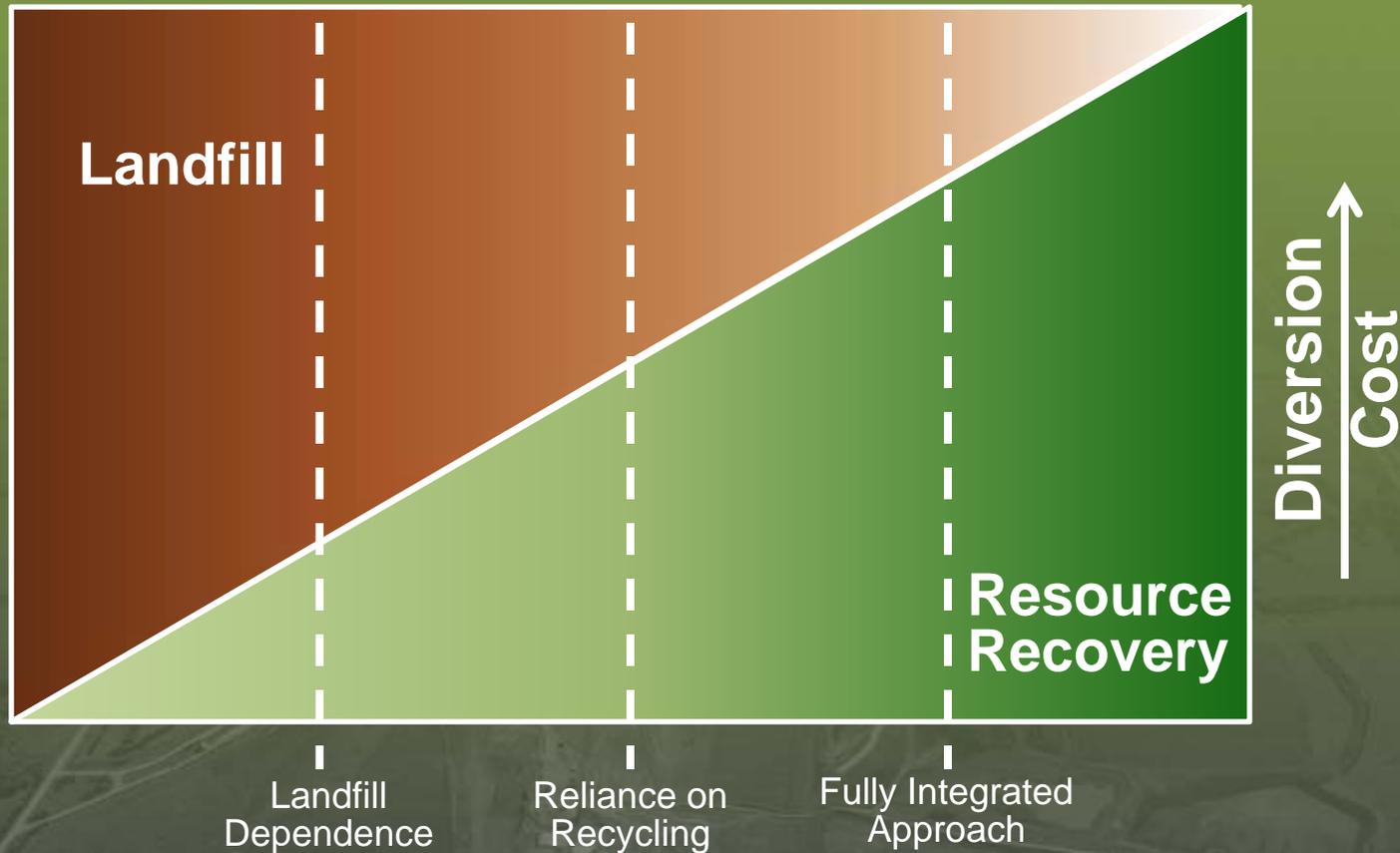
8. Public Participation
9. Developing System Definition
10. Committee Questions and Discussions
11. Next Advisory Committee Meeting
  - a) Timing, Topics and Notification
10. Public Comment (final 15 minutes)
11. Close Meeting

# Process for Developing Recommendations

- Vision
- Guiding Principles
- Waste Management Hierarchy
- Regulatory Background
- Evaluation Criteria



# Process for Developing Recommendations



Progression of Solid Waste Management Alternatives along a Continuum

Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040**

# Process for Developing Recommendations

Options

System  
Definition

Final Plan

# Process for Developing Recommendations

## Refinements to Options Selection

- Options could be Yes/No
- Abstention – Polling Option
- Common Implementation Considerations

# Common Implementation Considerations

- Education/Behavioral Change
- Costs and Funding
- Required Changes
- Impacts to Existing Programs
- Monitoring and Enforcement
- Implementation Timeline
- Markets

# Committee Questions & Discussion

## Process for Developing Recommendations

- a) Vision, Guiding Principles, Waste Management Hierarchy, Regulatory Background, and Evaluation Criteria
- b) Solid Waste Management Continuum
- c) Refinements to the Options Selection Process

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Website: [lincoln.ne.gov](http://lincoln.ne.gov)

- keyword: solid waste plan

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- Facebook
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Comment Line

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Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# Developing System Definition

- Purpose
- Ground Rules
- Process

Topic Overview

Initial Polling

Discussion

Final Polling

# Options vs. System Definition vs. Final Plan

## Options

- Identifies a Preferred Path
- Used to create a System Definition

## System Definition

- Present to Public
- Refined for Final Plan Recommendations

## Committee Plan Recommendations:

- Not necessarily tied to the System Definition
- May include phased approaches
- May include program specific goals

# Options Topics

- Source Reduction  
(including: Product Stewardship and Zero Waste)
- Toxics Reduction  
(including: HH and CESQG Hazardous Waste and Universal, Special and Unique Wastes)
- Yard Waste
- Residential Recycling and Diversion
- Commercial Recycling and Diversion
- Construction and Demolition Materials Recycling
- Organic Waste Diversion (Composting)

# Source Reduction

REDUCE

Also known as waste prevention, source reduction means reducing waste at the source including:

- reusing or donating items
- buying in bulk
- reducing packaging
- redesigning products
- reducing toxicity

- Objectives:
  - Minimize waste generation
  - Minimize waste disposed



# Source Reduction

REDUCE

**Source Reduction** refers to any change in the design, manufacture, purchase, or use of materials or products (including packaging) to reduce their amount or toxicity before they become municipal solid waste. Source reduction also refers to the reuse of products or materials. ([Reference USEPA Website 07/2012](#))

## Resource Conservation and Recovery Act (RCRA)

- Protect human health & the environment from the potential hazards of waste disposal
- Conserve energy and natural resources
- Reduce the amount of waste generated
- Ensure waste are managed in an environmentally sound manner

## Zero Waste – Similar Objectives

Solid Waste Management Plan for Lincoln and Lancaster County

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# Source Reduction

REDUCE

**Product Stewardship:** Is a product-centered approach to environmental protection that calls on those in the product lifecycle—manufacturers, retailers, users, and disposers—to share responsibility for reducing the environmental impacts of products. ([Reference USEPA Website 07/2012](#))

## Zero Waste

- Overarching concept encompassing all waste reduction and diversion options
- Zero Waste is a philosophy and design principle
- Zero Waste is a goal that is ethical, economical, efficient and visionary, to guide people in changing their lifestyles and practices to emulate sustainable natural cycles, where all discarded materials are designed to become resources for others to use

# Source Reduction

REDUCE

## Issue:

In 2011, there were 373,932 tons of MSW generated in the Planning Area, of which 304,919 (82 percent) tons were sent to landfills for disposal. Consistent with the waste management hierarchy reducing the quantity of waste generated is important in conserving resources and reducing the amount of waste to be managed by other means.

## Options:

- 1) Maintain Status Quo.
- 2) Expand programs that lead to greater source reduction.



# Source Reduction

1. **Maintain Status Quo.**
2. **Expand programs that lead to greater source reduction.**
3. **Abstain.**

# Toxics Reduction

REDUCE

## Permanent Facility

- Increased diversion
- Possibly increased number/types of materials
- Increased convenience and accessibility
- Maximize local reuse opportunities
- Store large size shipments
- Better support for CESQG



# Toxics Reduction

REDUCE

## Universal, Special & Unique Wastes

- Requires special handling and care for safe collection, proper recycling, or treatment and disposal

## Universal Waste is Hazardous Waste

- Batteries
- Pesticides
- Mercury-Containing Items
- Spent Lamps (light bulbs)
- Electronic Items

## Special Waste

- Possesses physical, chemical, or biological characteristics that make it different from general municipal solid waste

## Unique Wastes

- Tires
- Electronics
- Scrap Metal & Appliances
- Household Medical & Pharmaceutical Waste
- Paints
- Difficult to Handle Items

# Toxics Reduction

REDUCE

## Issue:

Higher levels of hazardous materials could be diverted from disposal with more convenient program options. Based on the Baseline Assessment/Survey a total of 69 percent of the respondents think that a building should be constructed to accept household hazardous waste year round.

## Options:

- 1) **Maintain Status Quo.**
- 2) **Expand the Toxics Reduction Program and Create a Place to Provide Year Round Access.**

# **Toxics Reduction (including HH & CESQG Hazardous Waste, Universal, Special and Unique Wastes)**

- 1. Maintain Status Quo.**
- 2. Expand the Toxics Reduction Program and Create a Place to Provide Year Round Access.**
- 3. Abstain.**

# Committee Questions & Discussion

## Developing System Definition

Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# Next Advisory Committee Meeting

## Next Meeting:

April 9, 2013

2:30 pm to 4:30 pm

Lincoln/Lancaster County Health Department  
Lower Level Training Room

## Topic:

- Process for Developing 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.*

# Advisory Committee

Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

March 12, 2013



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# Advisory Committee

## Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

April 9, 2013



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

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1. Public Meeting Law Acknowledgement & Safety Briefing
2. Call Meeting to Order
3. Roll Call
4. Approve Meeting Minutes from March 12, 2013
5. Process for Developing Recommendations
6. Committee Questions and Discussions

**BREAK**

# Agenda

## BREAK

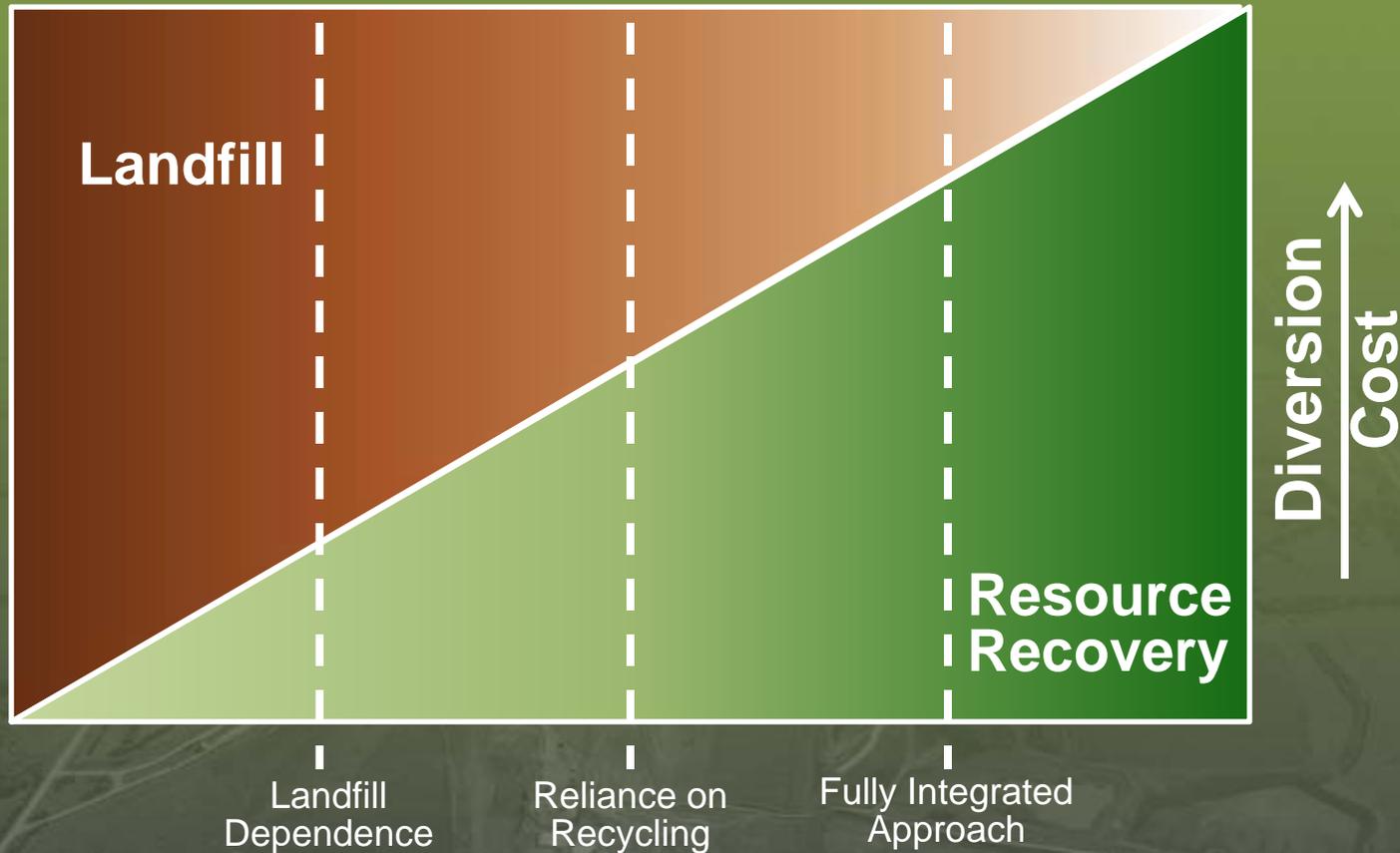
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# Process for Developing Recommendations



Progression of Solid Waste Management Alternatives along a Continuum

Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040**

# Developing System Definition

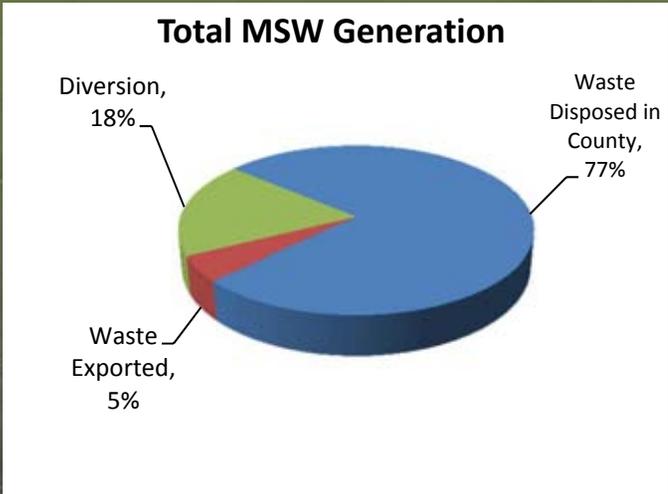
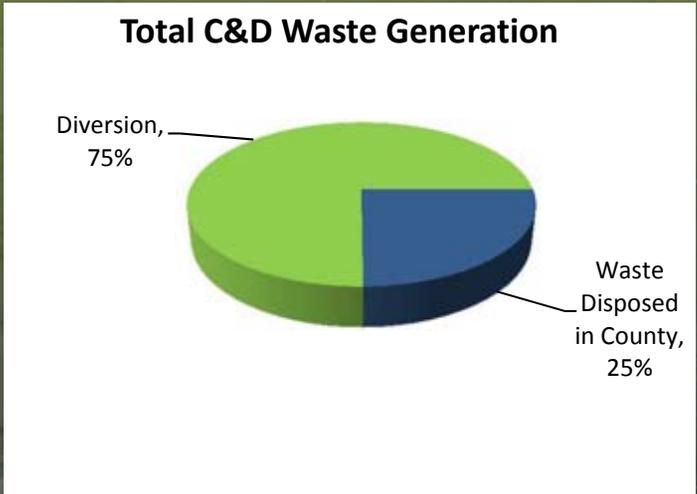
## Process



# Options Topics

- Yard Waste
- Residential Recycling and Diversion
- Commercial Recycling and Diversion
- Construction and Demolition Materials Recycling
- Organic Waste Diversion (Composting)
- Waste Conversion Technologies
- Bioreactor/Bio-Stabilization Landfill
- Transfer Station and Processing Facilities

# Disposal and Diversion - 2011

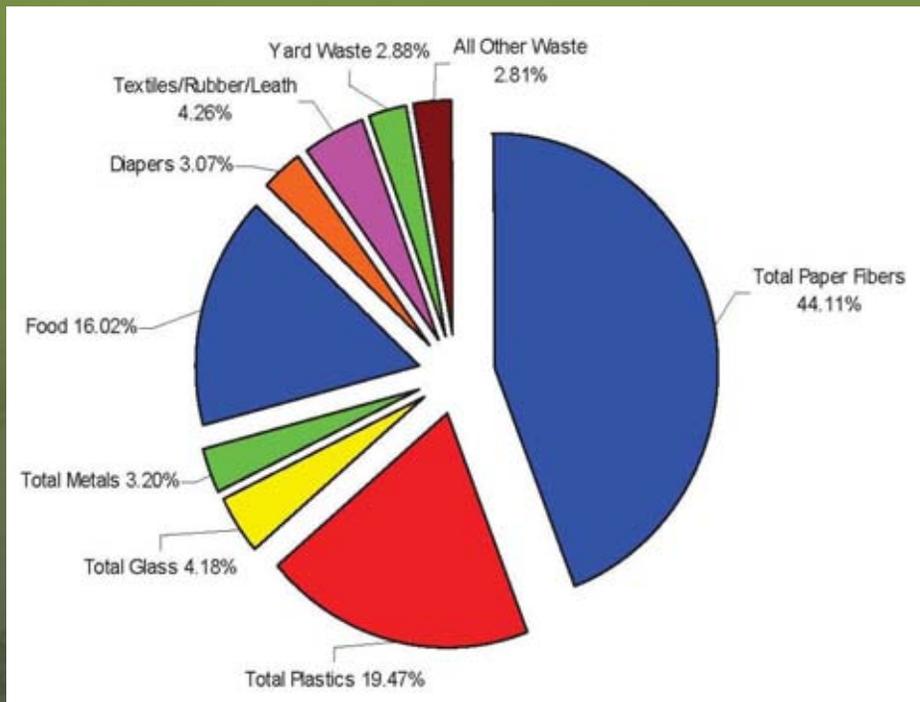


Diversion % includes Yard Waste

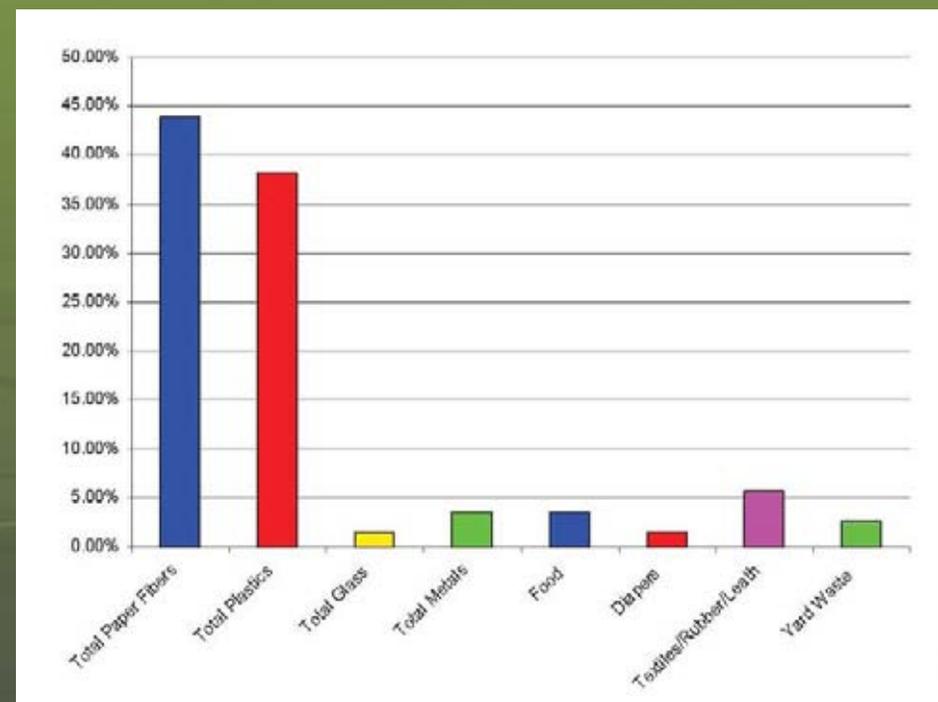
# Recycling and Diversion - General

RECYCLE

## Composition (from NDEQ Study)



Distribution by Weight

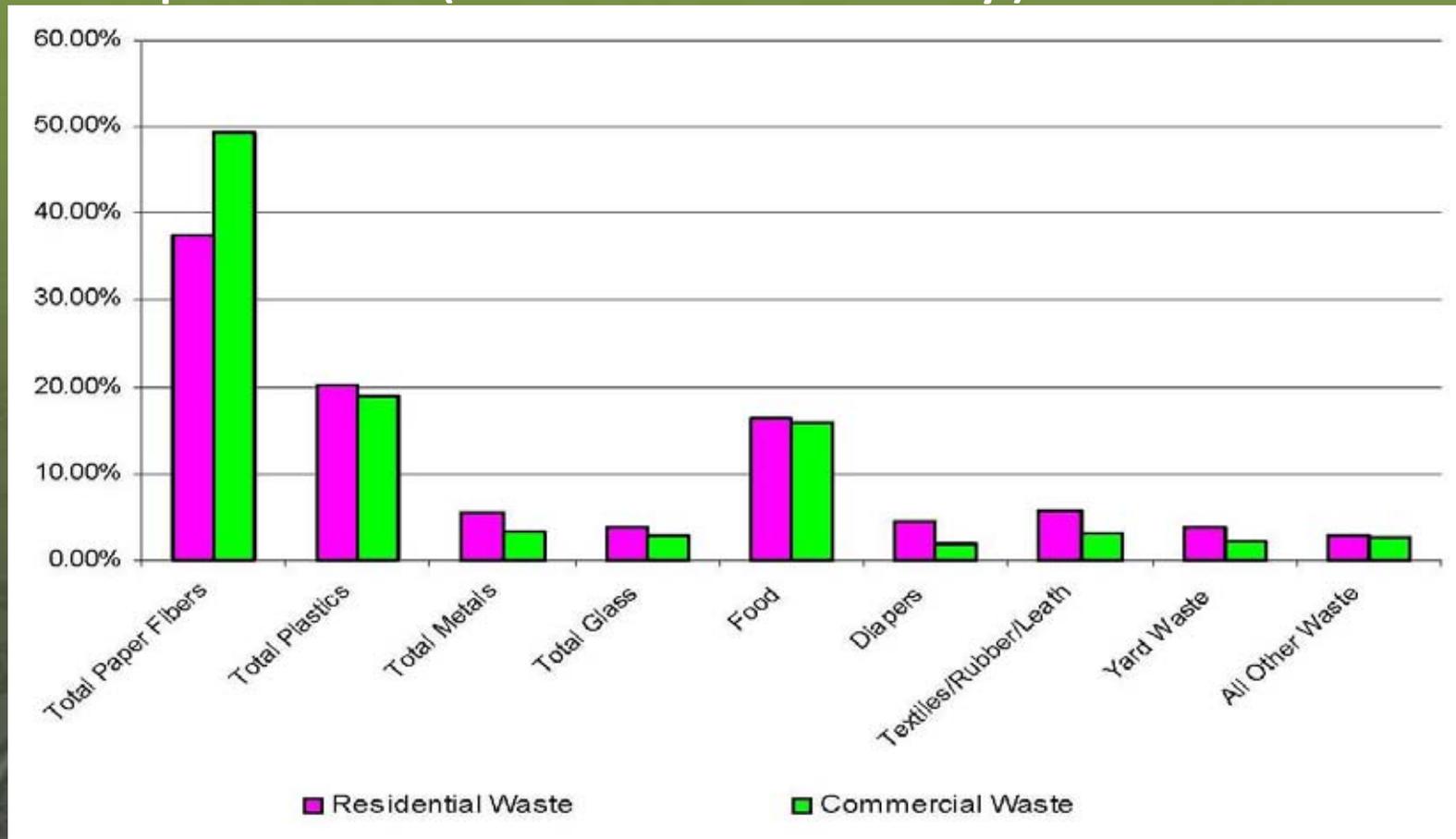


Distribution by Volume

# Recycling and Diversion – General

RECYCLE

## Composition (from NDEQ study)



Distribution by Weight

Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# Composition – NDEQ Recycling Potential

- Paper Fiber provides the Greatest Opportunities for Recovery/Recycling
- Recycling Potential – Readily Recoverable
  - 75% of the Metals
  - 50 - 60% of Plastics
    - 27% is PET #1 and HDPE #2
- Glass presents the greatest potential for reuse
  - Given its weight and limited value, these reuse needs tend to be localized

# Yard Waste

REDUCE

## Yard Waste:

Grass and leaves in combination with chipped trees and branches and other organic material collected as the result of the care of ornamental plants, lawns, shrubbery, vines and gardens. (NDEQ Title 132)

## Lawn Waste:

Grass cuttings or clippings and leaves.  
(LMC 8.32.010)



# Yard Waste

REDUCE

## Issue:

State law allows yard waste disposal in landfills that recover methane and utilize it for energy production. Increased quantities of yard waste disposal would decrease the life of the City's MSW landfill. 3% of what is currently received for disposal at the City's MSW landfill is yard waste; 5% of what is currently diverted from the City's landfill is yard waste.

## Options:

- 1) Maintain Status Quo (Seasonal Ban).
- 2) Allow yard waste disposal at City's MSW landfill year round.
- 3) Ban yard waste disposal at City's MSW landfill year round.

# Yard Waste

1. Maintain Status Quo (Seasonal Ban).
2. Allow yard waste disposal at City's MSW landfill year round.
3. Ban yard waste disposal at City's MSW landfill year round.
4. Abstain.

# Residential Recycling and Diversion

RECYCLE

## Program Types

- Drop-off centers
- Buy-back centers – not evaluated
- Curbside collection
  - Free market
    - with minimum service ordinances
  - Franchising (exclusive or non-exclusive)
  - Contracts
- Deposit/refund programs
  - Generally requires statewide program

# Residential Recycling and Diversion

RECYCLE

## Issue:

Higher levels of waste diversion (capture more resources) could be achieved with more convenient options for residential waste recycling. Based on the Baseline Assessment/Survey 85% of respondents thought curbside collection of recyclables should be offered to every home in Lincoln as part of the basic garbage collection services.

## Options:

- 1) Maintain Status Quo.
- 2) Residential curbside recycling to be provided to all single family and duplex dwellings City wide.

# Residential Recycling and Diversion

1. Maintain Status Quo.
2. Residential curbside recycling to be provided to all single family and duplex dwellings City wide.
3. Abstain.

# Purpose of the Plan

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Website: [lincoln.ne.gov](http://lincoln.ne.gov)

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Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# Next Advisory Committee Meeting

## Next Meeting:

May 14, 2013

2:30 pm to 4:30 pm

Lincoln/Lancaster County Health Department  
Lower Level Training Room

## Topic:

- Process for Developing Recommendations

# Public Comment

- **Guidelines:**

- State name and address
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# Advisory Committee

## Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

April 9, 2013



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# Advisory Committee

Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

May 14, 2013



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

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# Agenda

1. Public Meeting Law Acknowledgement & Safety Briefing
2. Call Meeting to Order
3. Roll Call
4. Approve Meeting Minutes from April 9, 2013
5. Process for Developing Recommendations
  - a) Additional Information on Yard Waste Options
6. Committee Questions and Discussions

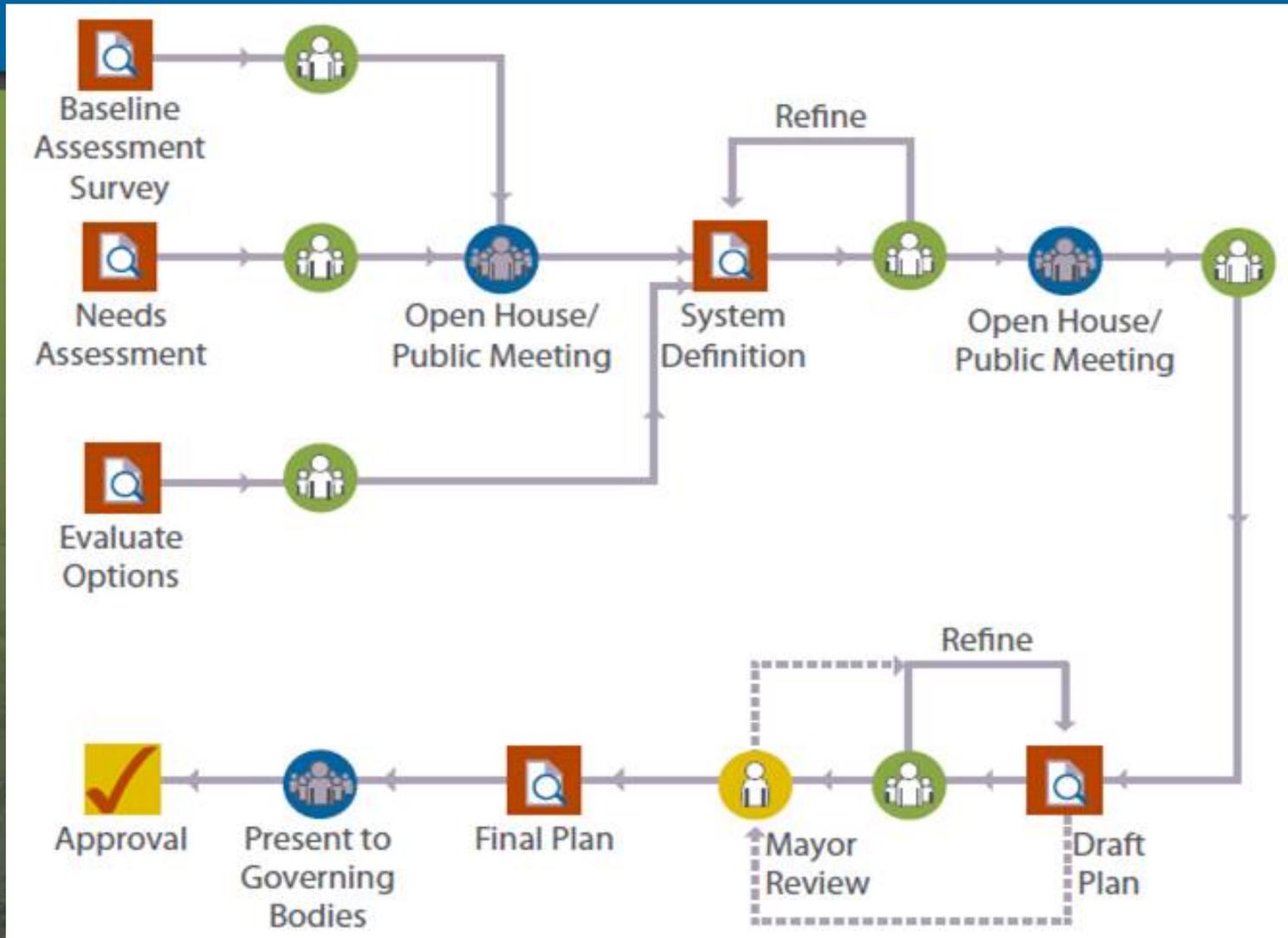
**BREAK**

# Agenda

## BREAK

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# Planning Process



# Options vs. System Definition vs. Final Plan

## Options:

- Identifies a Preferred Path
- Used to create a System Definition

## System Definition:

- Present to Public
- Refined for Final Plan Recommendations

## Committee Plan Recommendations:

- Not necessarily tied to the System Definition
- May include phased approach
- May include program specific goals

# Process for Developing Recommendations

- Vision
- Guiding Principles
- Waste Management Hierarchy
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- Evaluation Criteria



# Developing System Definition

## Process



# Options Topics

- Yard Waste
- Commercial Recycling and Diversion
- Construction and Demolition Materials Recycling
- Organic Waste Diversion (Composting)
- Waste Conversion Technologies
- Bioreactor/Bio-Stabilization Landfill
- Transfer Station and Processing Facilities

# Yard Waste – Clarifications

REDUCE

## Yard Waste:

- Grass and leaves
- Branches and other organic material collected as the result of the care of ornamental plants, lawns, shrubbery, vines and gardens.



# Yard Waste - Primary

REDUCE

## Issue:

State law allows yard waste (grass and leaves) disposal in landfills for the production and recovery of methane gas for use as fuel. Increased quantities of yard waste (grass and leaves) disposal would decrease the life of the City's MSW landfill. 3% of what is currently received for disposal at the City's MSW landfill is grass, leaves, garden waste and brush; 5% of what is currently diverted from the City's landfill is grass, leaves, garden waste and brush.

## Options - Primary: Grass and Leaves

- 1) Maintain Status Quo (Seasonal Ban on grass and leaves).
- 2) Allow grass and leaves disposal at City's MSW landfill year round.
- 3) Ban grass and leaves disposal at City's MSW landfill year round.

# Yard Waste (Grass and Leaves)

1. Maintain Status Quo (Seasonal Ban)
2. Allow grass and leaves disposal at City's MSW landfill year round.
3. Ban grass and leaves disposal at City's MSW landfill year round.
4. Abstain.

# Commercial Recycling and Diversion

RECYCLE

## Program Types:

- New construction (infrastructure) requirements
- Refuse hauler recycling service
  - Service is offered
  - Service must be provided
- Owner/Operator commercial recycling service
  - Minimum level of recycling services
- Processing facility

# Commercial Recycling and Diversion

RECYCLE

## Issue:

Higher levels of waste diversion (capture more resources) could be achieved with more convenient program options for commercial waste recycling. Commercial recycling provides the greatest opportunity for increased diversion rates. Commercial recycling accounts for 9 percent of the total MSW recycled in the Planning Area.

## Options:

- 1) Maintain Status Quo.
- 2) Commercial recycling to be provided to multi-family dwellings, businesses, industries, and institutions.

# Commercial Recycling and Diversion

1. Maintain Status Quo.
2. Commercial recycling to be provided to multi-family dwellings, businesses, industries, and institutions.
3. Abstain.

# Construction & Demolition Materials Recycling

RECYCLE

## Current System:

- C & D Processors
  - 75% - 80% of Total C&D Generation
- North 48th Street Construction and Demolition Waste Landfill
  - Not a Diversion Program

# Construction and Demolition Materials Recycling

RECYCLE

## 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
- Construction Materials Recycling and Processing Centers

# Construction and Demolition Materials Recycling

RECYCLE

## Issue:

Seventy-five to eighty percent of the construction and demolition debris generated in the Planning Area is currently recycled. The material being recycled is primarily concrete and asphalt. Additional opportunities for resource recovery exist for C&D materials currently sent to disposal.

## Options:

- 1) Maintain Status Quo:
  - a. Support private recycling and material reuse effort.
- 2) Require C&D recycling/diversion for construction and demolition projects.
- 3) **Select C&D material bans at City disposal sites.**

# Construction and Demolition Materials Recycling

1. Maintain Status Quo  
(Support private recycling  
and material reuse effort).
2. Require C&D  
recycling/diversion for  
construction and  
demolition projects.
3. Select C&D material bans  
at City disposal sites.
4. Abstain.

# Committee Questions & Discussion

## Process for Developing Recommendations

Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

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City of Lincoln  
NEBRASKA

Solid Waste Management Plan for Lincoln and Lancaster County  
**Solid Waste Plan 2040**

Home | The Process | Committee | Contact | FAQs | Resources | Community Comments

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**Solid Waste Plan 2040**  
The development of a comprehensive, integrated solid waste management plan was identified as a strategy in the Lincoln-Lancaster County 2040 Comprehensive Plan (Plan 2040). The Solid Waste Management Plan (Solid Waste Plan 2040) will be a guidance document, communication tool, and a resource for policy decisions. The Public Works and Utilities Department and the Lincoln-Lancaster County Health Department will facilitate the development of the Solid Waste Plan 2040. The planning process for Solid Waste Plan 2040 includes numerous opportunities for public participation and involvement.

**Next Advisory Committee Meeting:**  
Tuesday, October 9, 2012  
2:30 p.m. to 4:30 p.m.  
URL - Lancaster County Extension Education Center  
444 Cherry Creek Road

Log on to <http://lincoln.ne.gov>  
Search: **solid waste plan**

Solid Waste Management Plan for Lincoln and Lancaster County

**Solid Waste Plan 2040**

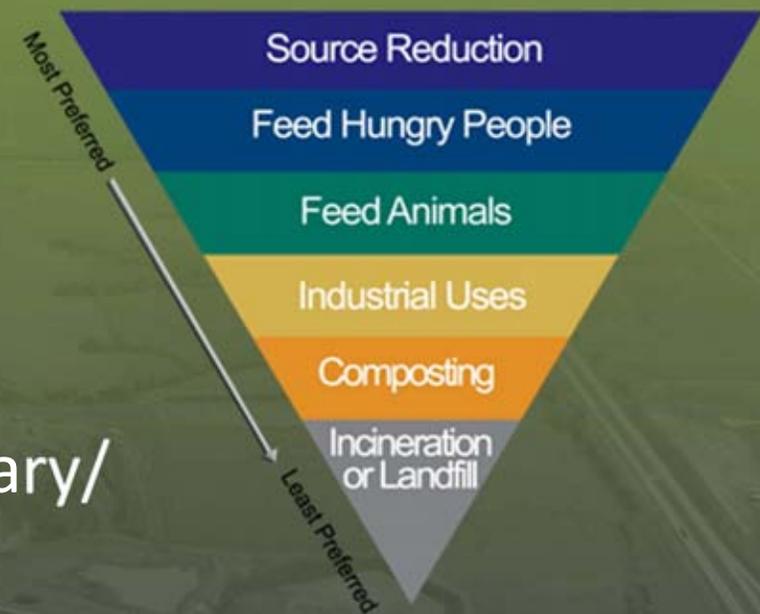
# Organic Waste Diversion (Composting)

RECYCLE

## Current System:

- Food Programs (Source Reduction)
- Paper Fibers (Recycling)
- Yard and Wood Waste
  - Christmas Tree Recycling
  - Composting – Bluff Road
  - Drop-off – North 48<sup>th</sup> Street
  - Curbside Recycling – Voluntary/Subscription
- Livestock Waste Composting

## Food Recovery Hierarchy



# Organic Waste Diversion (Composting)

RECYCLE

## Program Types:

- Marketing
- Collection and Recovery
  - Wet/Dry System
  - Sanitary Sewer Collection Systems
- Composting or Digestion
  - Aerobic Organic Waste Composting
  - Anaerobic Organic Waste Digestion/Composting



# Organic Waste Diversion (Composting)

RECYCLE

## Issue:

Food waste represents approximately 16 percent of the MSW disposed of at the Bluff Road Landfill. Organic waste can include paper and other materials as well as food waste. Reducing the organic waste in landfills reduces air emissions and can help reduce long-term liabilities associated with MSW landfilling.

## Options:

- 1) Maintain Status Quo (limited diversion by private initiatives).
- 2) Develop/support programs to reduce the quantity of organics, especially food waste, going to the City's MSW disposal site.

# Organic Waste Diversion (Composting)

1. Maintain Status Quo (limited diversion by private initiatives).
2. Develop/support programs to reduce the quantity of organics, especially food waste, going to the City's MSW disposal site.
3. Abstain.

# Disposal – Waste Conversion Technologies

- Also known as: waste-to-energy, resource recovery, combustion, incineration
- 12% of MSW in US managed by combustion with energy recovery
- Recovery of energy and metals
- Compatible with recycling and diversion programs
- Reduces volume and organic content of landfilled waste

# Waste Conversion Technologies

RECOVER

- May be considered a renewable energy source
- Current landfill gas-to-energy system at the Bluff Road MSW Landfill is a form of conversion technology
- MSW =  $\frac{1}{2}$  the energy content of coal

# Waste Conversion Technologies

RECOVER

- Social/political acceptance
- Supply of waste
- Siting/location
- Permitting
- Implementation considerations
- Technology risk
- Costs
- Energy markets
- Air emission
- Residuals management

# Waste Conversion Technologies

RECOVER

## Issue:

Materials destined for disposal in a landfill contain at least one additional major resource that can be recovered – renewable energy. Waste conversion technologies can help to maximize resource recovery (energy and possibly others) and reduce the tonnage of waste being disposed by 80 percent by weight. The energy output of 500 tons of MSW is equivalent to the energy demands of approximately 5,000 to 8,000 homes or 10 percent of the total number of occupied residential housing units in single- to four-unit dwellings in the Planning Area.

## Major Question:

Pursue the development of waste conversion technology(ies) as part of a long-term strategy for energy recovery and resource conservation.

- 1) Yes
- 2) No

# Waste Conversion Technologies

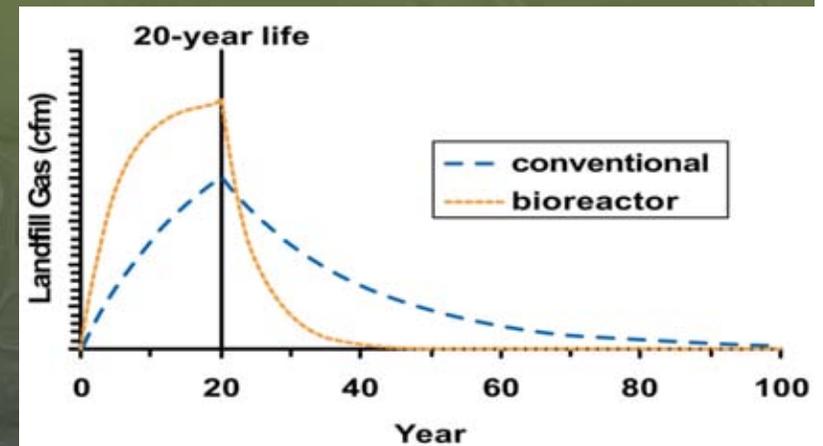
Pursue the development of waste conversion technology(ies) as part of a long-term strategy for energy recovery and resource conservation.

1. Yes
2. No
3. Abstain

# Bioreactor/Bio-Stabilization Landfill

RESIDUALS

- Long-term biologic activity versus stabilization
- Requires large volumes of off-site liquids
- Research, Development & Demonstration (RD&D) permit required
- Added benefit in utilization of permitted air-space:
  - 10 -15 % Retrofits
  - 30 -50 % New site
- Reduces long-term risk?
- More landfill gas – short-term

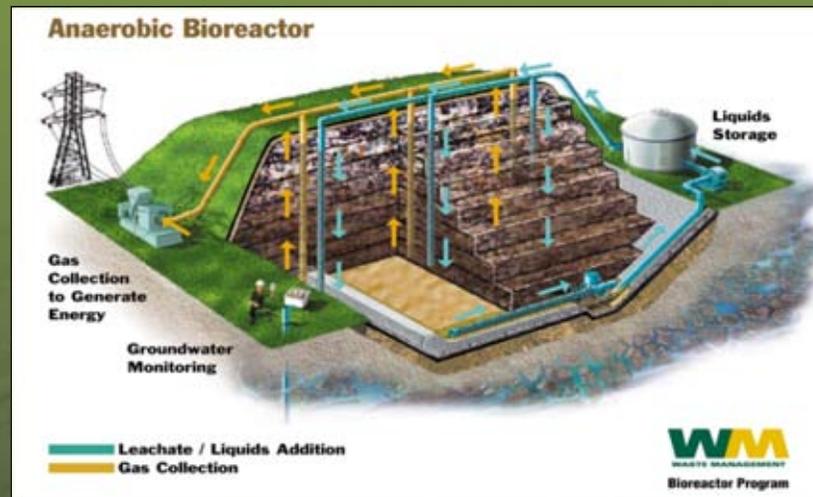


# Bioreactor/Bio-Stabilization Landfill

RESIDUALS

Most research focuses on the following techniques:

- Anaerobic
- Aerobic
- Hybrid



## Issues:

- Liquids and liquid source(s)
- Added costs (construction & operation)
- Neighbor concerns
- Regulatory uncertainty

# Bioreactor/Bio-Stabilization Landfill

RESIDUALS

## Issue:

Landfills represent a long-term liability and risk to the environment because the waste remains biologically active for many decades. Evolving technologies may provide opportunities to more rapidly stabilize the organic waste in the landfill. Bioreactor landfill technology can extend the life of a landfill by 30 percent (range 15 to 50 percent).

## Major Question:

Pursue the development of Bioreactor/Bio-Stabilization technology for use at the City's MSW Landfill if it can be shown to be technically and economically feasible.

- Yes
- No

# Bioreactor/Bio-Stabilization Landfill

Pursue the development of Bioreactor/Bio-Stabilization technology for use at the City's MSW Landfill if it can be shown to be technically and economically feasible.

1. Yes
2. No
3. Abstain

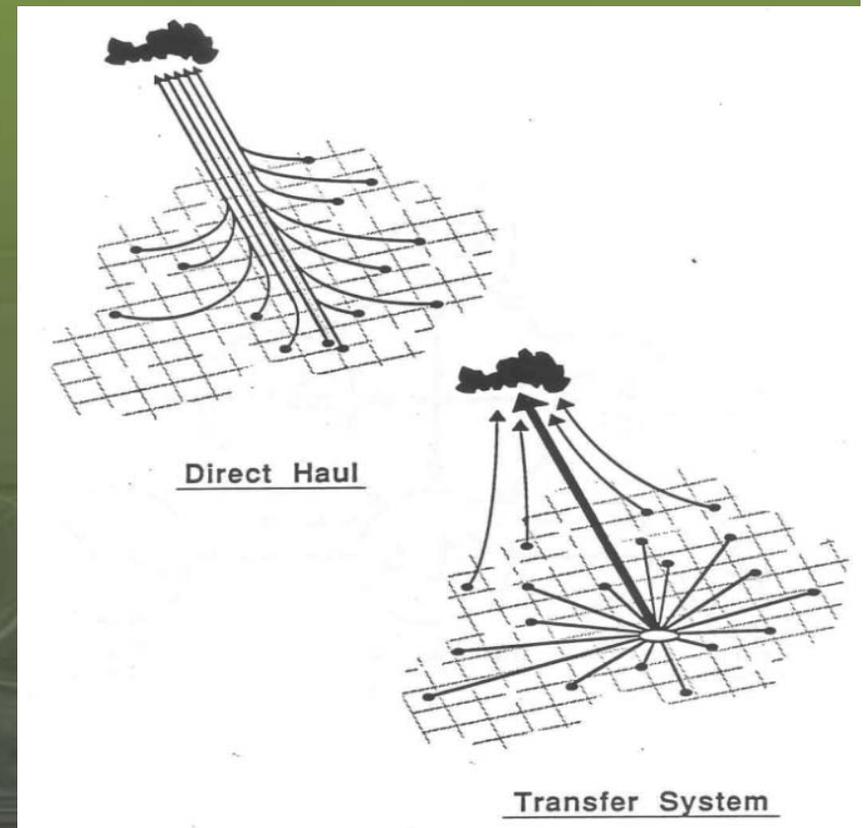
# Transfer Station and Processing Facilities

- City's North 48<sup>th</sup> Street Transfer Station accepts only small vehicles.
- Three private waste processing facilities support recycling service providers.



# Transfer Station and Processing Facilities

- Conceptually a transfer station in the southern third of the City may be cost effective.
- Conceptually there are benefits to co-locating transfer stations and processing or other diversion facilities.



# Transfer Station and Processing Facilities

Transfer stations often serve many purposes:

- Cost savings
- Control expense
- Traffic mitigation
- User convenience
- Waste screening
- Facilitate recycling
- Reduce air emissions
- Others



# Transfer Station and Processing Facilities

## Issue:

Properly located transfer stations can result in cost savings to waste haulers, reduced traffic at the landfills and provide other benefits to a waste management system. Based on rule of thumb distances a transfer station may be economically advantageous to waste haulers operating in the southern part of the Planning Area.

## Major Question:

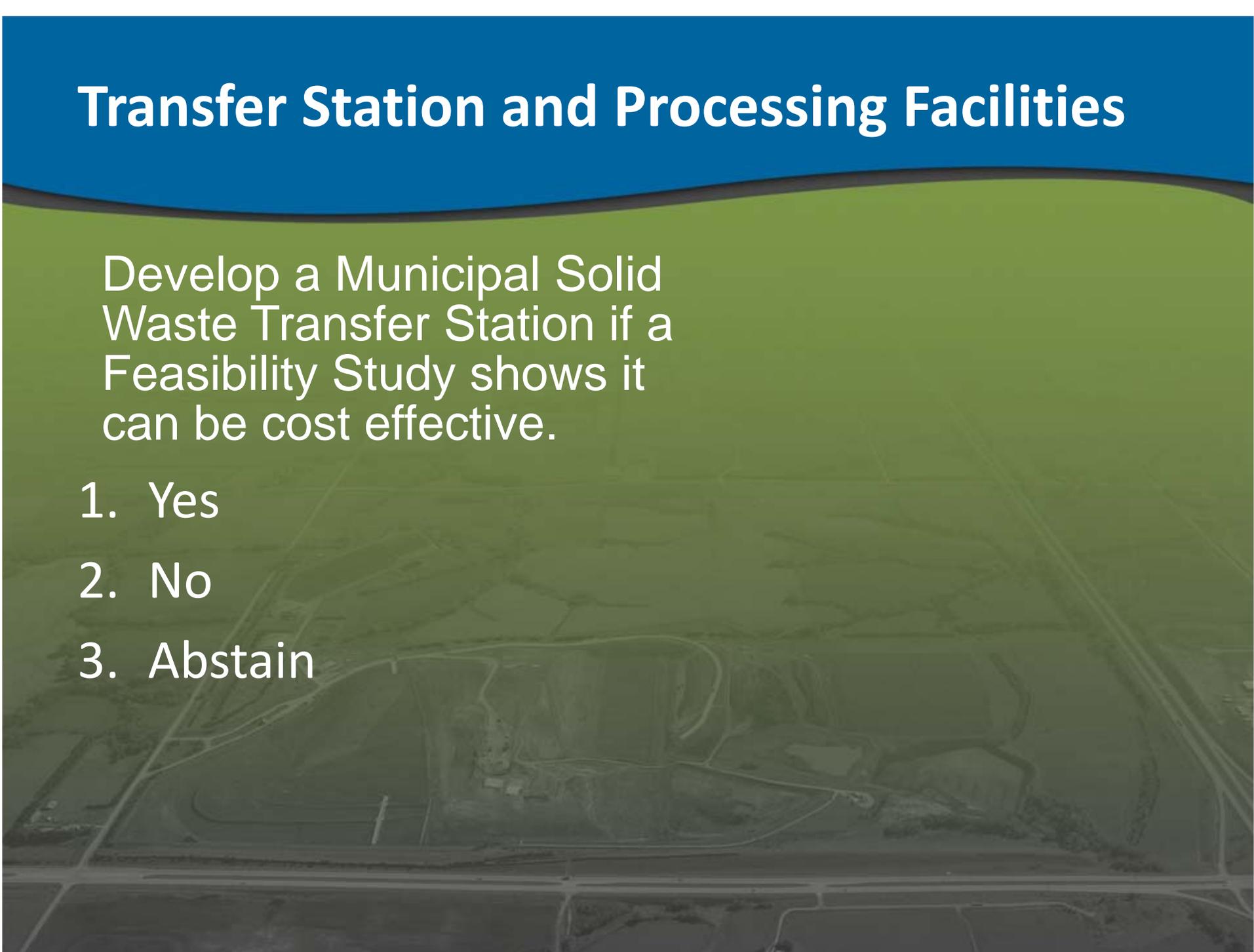
Develop a Municipal Solid Waste Transfer Station if a Feasibility Study shows it can be cost effective.

- Yes
- No

# Transfer Station and Processing Facilities

Develop a Municipal Solid Waste Transfer Station if a Feasibility Study shows it can be cost effective.

1. Yes
2. No
3. Abstain



# Committee Questions & Discussion

## Process for Developing Recommendations

Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# Next Advisory Committee Meeting

## Next Meeting:

June 11, 2013

2:30 pm to 4:30 pm

Lincoln/Lancaster County Health Department  
Lower Level Training Room

Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# 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

# Advisory Committee

Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

June 25, 2013



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# 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.*

# Agenda

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

RECYCLE

## Current System:

- 75 – 80% Diversion of Total C&D Generation
  - Includes Concrete and Asphalt Compared to Material Disposed of at City's North 48<sup>th</sup> 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

RECYCLE

## 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

RECYCLE

## 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 though 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

RECYCLE

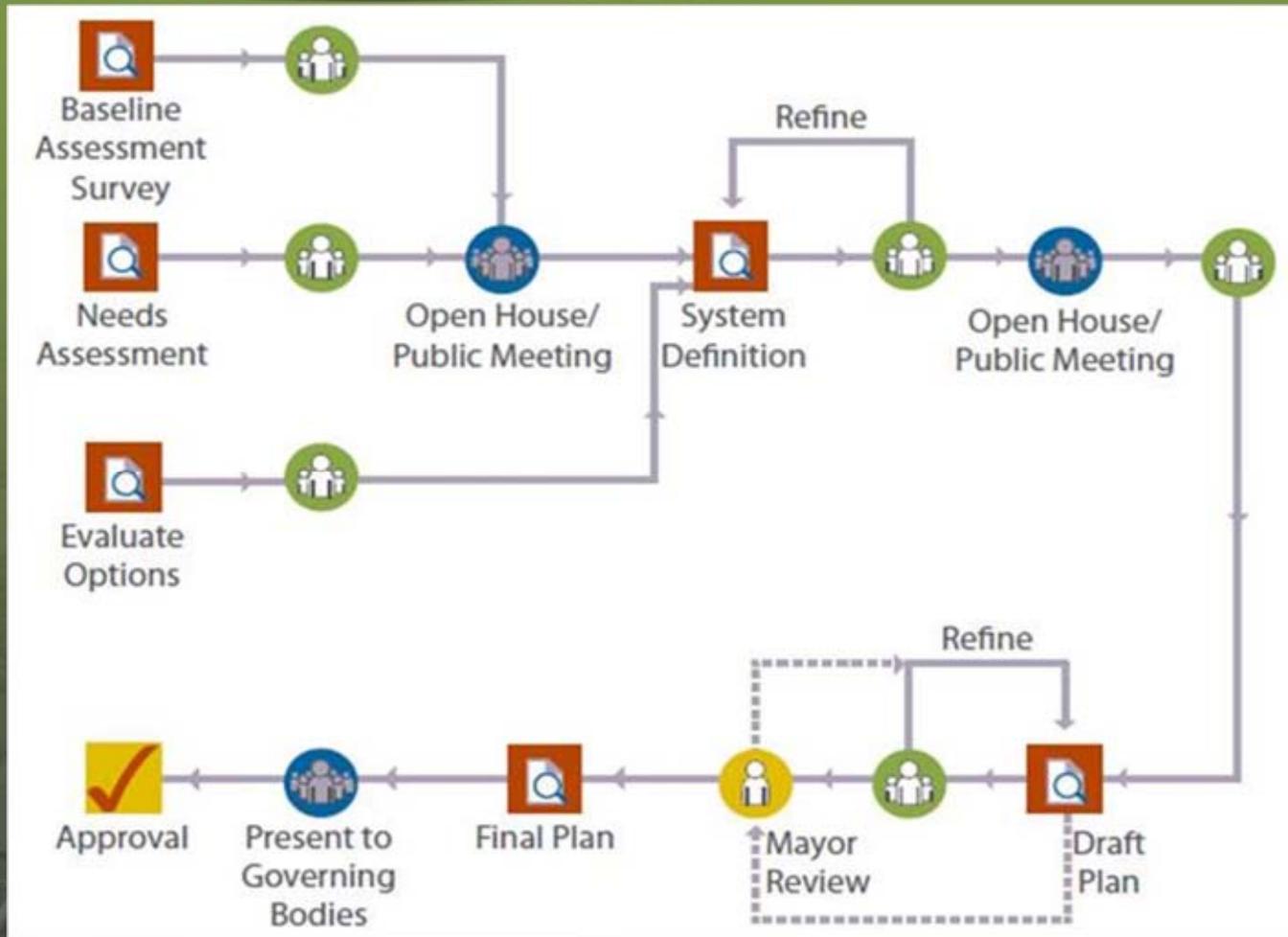
## Options:

- 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

Program Area	Scenario 1		Scenario 2		Scenario 3	
	Strategy	% increase in TOTAL MSW Diversion	Strategy	% increase in TOTAL MSW Diversion	Strategy	% increase in TOTAL MSW Diversion
Source Reduction	Increased Education	1 - 2%	Increased Education in conjunction with more progressive diversion efforts	2-4%	Increased Education in conjunction with incentivized programs (e.g., "volume-based" residential recycling and waste exchanges)	4-6%
Toxics Reduction	Year round facility	<1%	Year round facility	<1%	Year round facility	<1%
Yard Waste	Status Quo	0%	Status Quo	0%	Year round landfill ban for grass and leaves	1-2%
Residential Recycling	Universal with Minimum Levels of Service	5-7%	Universal - more enhanced program	6-8%	Universal with incentives (e.g. volume based rates)	8-10%
Commercial Recycling	Universal with Minimum Levels of Service	6-8%	Universal - more enhanced program	8-10%	Universal with incentives (e.g. volume based rates and space provisions for recycling in new construction)	10-12%
Organic Waste Diversion	Status Quo with added educational emphasis	<1%	Pilot program for food composting	1%	Commercial scale organics composting/digestion, food and soiled papers	5-10%
Waste Conversion Technologies	Status Quo	0%	Status Quo	0%	Waste Conversion facility targeting majority of non-diverted wastes	40 to 50%
Transfer Station	Transfer Station with no processing	<1%	Transfer Station with no processing	<1%	Transfer Station with limited diversion of materials delivered as waste	2-5%
% INCREASE in TOTAL MSW Diversion (above current 18%)		12-18%		17-24%		57-62% (1)
% TOTAL MSW Diversion (including current 18%)		30-36%		35-42%		75-80% (1)

# System Definition - Scenarios

## 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

	Waste Reduction/ Diversion	Technical Criteria	Environmental Impact	Economic Impacts	Implementation Viability
Source Reduction	↑	↑	↑	↑	↑
Toxics Reduction	↑	↑	↑	↑	↑
Yard Waste	--	--	--	--	--
Residential Recycling and Diversion	↑	↑	↑		↑
Commercial Recycling and Diversion	↑	↑	↑	--	--
Construction and Demolition Materials Recycling					
Organic Waste Diversion (Composting)	↑	--	↑	↓	↓
Waste Conversion Technologies	↑	--	↑	↓	↓
Municipal Solid Waste Disposal	--	↑	↓	↑	↑
Transfer Station and Processing Facilities	--	--	↑	--	--

# System Definition – Cost Information

## Program Areas

- Range of Increases in TOTAL MSW Diversion
- Estimate tons Diverted, per Year
- Annualized Cost Equivalent
- Cost /Household/Month

# System Definition – Cost Information

Program Area	% increase in TOTAL MSW Diversion <sup>(1)</sup>	Estimated Tons Diverted per Year <sup>(1)</sup>		Annualized Cost Equivalent (2013S)		Cost/Household/Month (2013S)	
Source Reduction	1-4 %	4,100	16,500	\$300,000	\$900,000	\$0.21	\$0.63
Toxics Reduction	less than 1%						
Modular Storage Container(s)				\$2,300	\$4,600	\$0.00	\$0.00
Small Storage Building				\$3,100	\$7,600	\$0.00	\$0.01
Permanent Facility		50	50	\$126,000	\$417,000	\$0.08	\$0.29
Yard Waste							
Status Quo	0%						
Year Round Ban	1-2%	4,100	8,200	No Estimate	No Estimate	No Estimate	
Residential Recycling							
Containers	N/A	N/A	N/A	\$500,000	\$700,000	\$0.50	\$0.67
Universal with Minimum Levels of Service	5-7%	20,600	28,800	\$5,100,000	\$7,100,000	\$5 - \$7 Free Market	
				\$3,600,000	\$5,100,000	\$3.50 - \$5.00 Franchise/Contract	
				N/A	N/A	\$0 or less if Franchised/Contracted with Solid Waste Collection	
Universal - More Enhanced Program	6-8%	24,700	32,900	\$5,100,000	\$7,100,000	\$5 - \$7 Free Market	
				3,600,000	\$5,100,000	\$3.50 - \$5.00 Franchise/Contract	
				N/A	N/A	\$0 or less if Franchised/Contracted with Solid Waste Collection	
Universal - Incentivized	8-10%	32,900	41,200	No Estimate	No Estimate	No Estimate	
Commercial Recycling	6-12%	24,700	49,400	No Estimate	No Estimate	Not Applicable	
Organic Waste Diversion	5-10%	20,600	41,200	\$824,000	\$4,100,000	No Estimate <sup>(2)</sup>	
Waste Conversion Technologies	40-50%	168,000	206,000	No Estimate	\$20,000,000	No Estimate <sup>(2)</sup>	

# System Definition – Annualized Cost

## Annualized Cost

- Option/Topic
- Annualized Capital Expense
- Annual Operating Expense
- Total Annual Expenses

# System Definition – Annualized Costs

Option/Topic	Annualized Capital Expense	Annual Operating Expense	Total Annual Expenses
Source Reduction (Education/Behavior Change)	0	\$300,000 - \$900,000	\$300,000 - \$900,000
Toxics Reduction <ul style="list-style-type: none"> <li>• Modular Storage Container</li> <li>• Small Storage Building</li> <li>• Permanent Facility</li> </ul>	<ul style="list-style-type: none"> <li>\$2,300 - \$4,600</li> <li>\$3,100 - \$7,600</li> <li>\$76,400 - \$267,000</li> </ul>	<ul style="list-style-type: none"> <li>\$0</li> <li>Not Estimated</li> <li>\$50,000-\$150,000</li> </ul>	<ul style="list-style-type: none"> <li>\$2,300 - \$4,600--</li> <li>Not Estimated</li> <li>\$126,000 - \$417,000<sup>(1)</sup></li> </ul>
Yard Waste	\$0	N/A	\$0
Residential Recycling and Diversion <ul style="list-style-type: none"> <li>• Containers</li> <li>• At \$5 to \$7 per household/month</li> <li>• At \$3.50 - \$5.00 per household/month</li> </ul>	Containers Only \$500,000 - \$700,000	Collection Only \$5,100,000 - \$7,100,000 \$3,600,000 - \$5,100,000	\$5,600,000 - \$7,800,000 <sup>(2)</sup> \$4,100,000 - \$5,800,000 <sup>(2)</sup>
Commercial Recycling and Diversion	(3)	(3)	(3)
Construction and Demolition Materials Recycling	(3)	(3)	(3)
Organic Waste Diversion (Composting)	(3)	(3)	\$824,000 - \$4,100,000 <sup>(7)</sup>
Waste Conversion Technologies	(3)	(3)	\$20,000,000 <sup>(4)</sup>
Municipal Solid Waste Disposal <ul style="list-style-type: none"> <li>• Expand on adjacent City property</li> </ul>	\$487,000-\$722,000 <sup>(5)</sup>	N/A	\$487,000-\$722,000 <sup>(5)</sup>
Construction and Demolition Waste Disposal <ul style="list-style-type: none"> <li>• Expand on adjacent City property</li> </ul>	\$7,900 <sup>(5)</sup>	N/A	\$7,900 <sup>(5)</sup>
Transfer Station and Processing Facilities	\$450,000 - \$610,000	Not Estimated	Not Estimated <sup>(6)</sup>

# 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

	Changes in Laws, Regulations and Ordinances	Cooperative Arrangements or Agreements between Units of Government or Private Entities	Additional Studies or Evaluation	Monitoring and Enforcement	Costs and Funding	Educational Initiatives and Promotion of Behavioral Changes	Changes to Existing Programs	Markets
Source Reduction	No	-	No	No	Yes	Yes	No	-
Toxics Reduction	-	-	Possibly	No	Yes	Yes	Yes	No
Yard Waste	No	No	No	No	Yes	No	No	Yes
Residential Recycling and Diversion	Yes	Yes	Possibly	Yes	Yes	Yes	Yes	Yes
Commercial Recycling and Diversion	Yes	Yes	Possibly	Yes	Yes	Yes	Yes	Yes
Construction and Demolition Materials Recycling								
Organic Waste Diversion (Composting)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Waste Conversion Technologies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municipal Solid Waste Disposal	No	No	No	No	-	No	No	No
Construction and Demolition Waste Disposal	No	No	No	No	-	No	No	No
Transfer Station and Processing Facilities	Possibly	Possibly	Yes	No	Yes	No	Yes	No

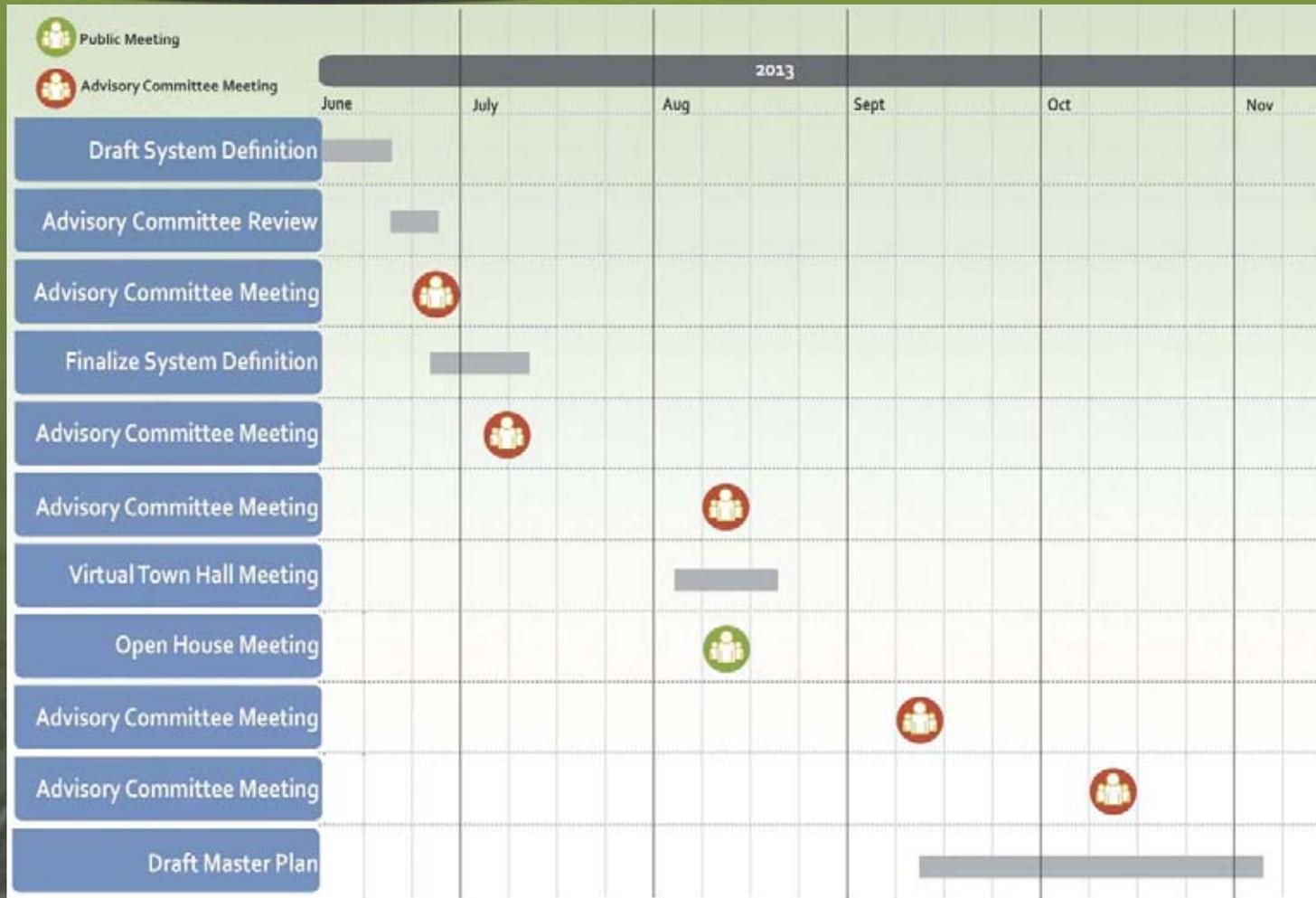
# Committee Questions & Discussion

- 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 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](http://lincoln.ne.gov)

- keyword: solid waste plan

Social Media

- Facebook
- Twitter

Comment Line

- (402) 441-7738



The screenshot shows the website for the Solid Waste Management Plan for Lincoln and Lancaster County. The header includes the City of Lincoln Nebraska logo and the title "Solid Waste Plan 2040". Below the header is a navigation menu with links for Home, The Process, Committee, Contact, FAQs, Resources, and Community Comments. A large image of a landfill is featured in the background. The main content area includes a section titled "Solid Waste Plan 2040" with a brief description of the plan's development. A sidebar on the right contains information about the "Next Advisory Committee Meeting" on Tuesday, October 9, 2012, at 2:30 p.m. to 4:30 p.m. at the UWL - Lancaster County Extension Education Center. Logos for the City of Lincoln Nebraska, Lancaster County, City of Lincoln Public Works & Utilities, and Lancaster County Health Department are displayed. At the bottom, there are social media icons for RSS, YouTube, Facebook, and Twitter, along with the text "Log on to <http://lincoln.ne.gov> Search: solid waste plan".

Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# Process for Developing Recommendations

- Not necessarily tied to the System Definition
- May include Phased Approach
- May include Program Specific Goals

# Process for Developing Recommendations

## 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

# Process for Developing Recommendations

## 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

Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# 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.*

# Advisory Committee

Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

June 25, 2013



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# Advisory Committee

Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

July 9, 2013



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# 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.*

# Agenda

1. Public Meeting Law Acknowledgement & Safety Briefing
2. Call Meeting to Order
3. Roll Call
4. Approve Meeting Minutes from June 25, 2013
5. Final System Definition
6. Open House and Public Outreach
7. Development of Plan Recommendations
8. Committee Questions and Discussions

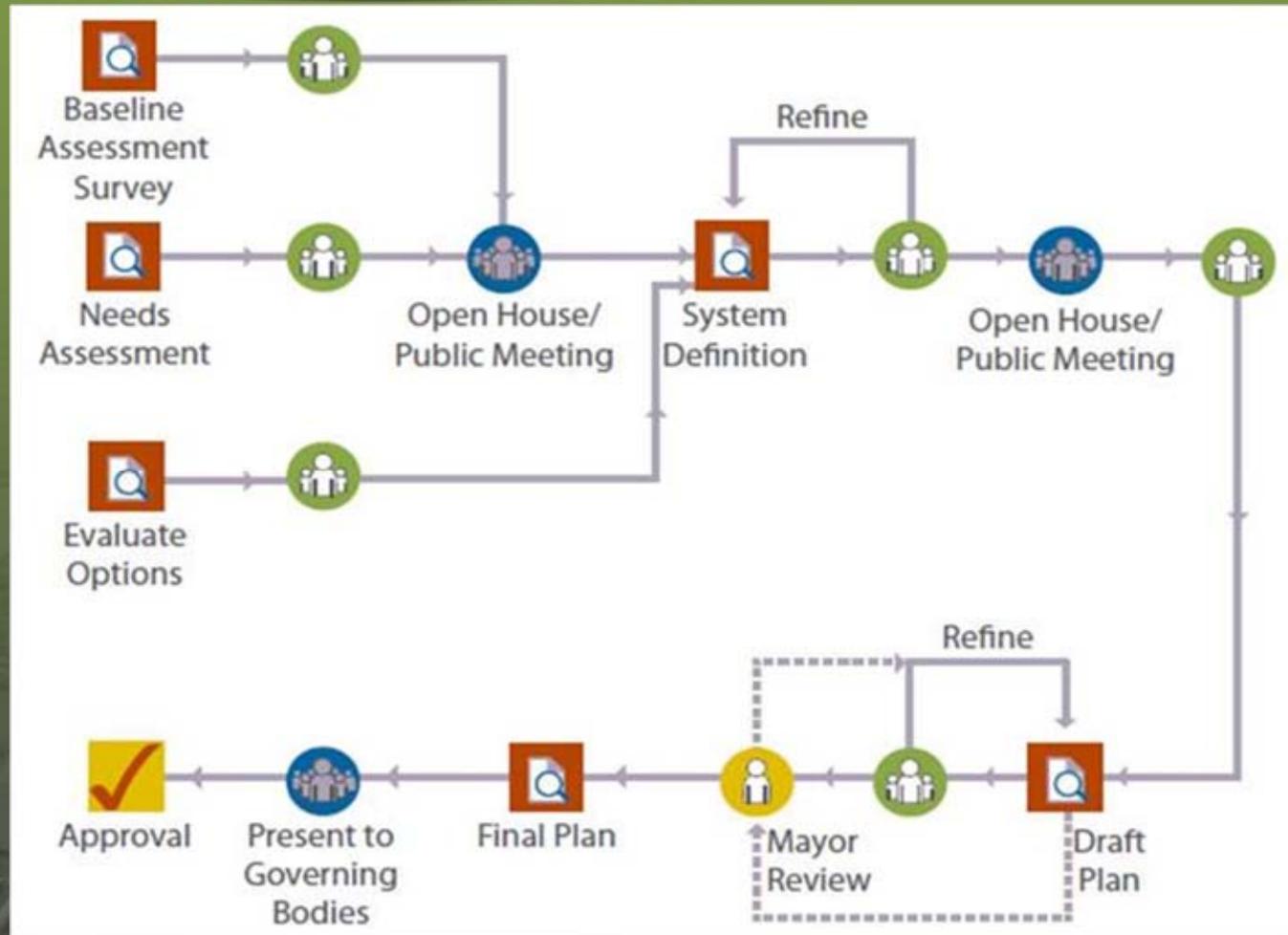
**BREAK**

# Agenda

## BREAK

8. Development of Plan Recommendations (cont.)
9. Public Participation
10. Committee Questions and Discussions
11. Next Advisory Committee Meeting
  - a) Timing, Topics and Notification
13. Public Comment (final 15 minutes)
14. Close Meeting

# System Definition



# Final System Definition

- Incorporates C&D Material Recycling
  - Completes Section 1.6.7
  - Completes Related Tables
- Incorporates Advisory Committee comments from 06/25 meeting, where possible
- Other minor corrections (typos, formatting, etc.)
- Will be used for Open House and Virtual Town Hall Meeting

# Schedule Update



Public Meeting



Advisory Committee Meeting

2013

July

Aug

Sept

Oct

Nov

Finalize System Definition

Advisory Committee Meeting

Advisory Committee Meeting

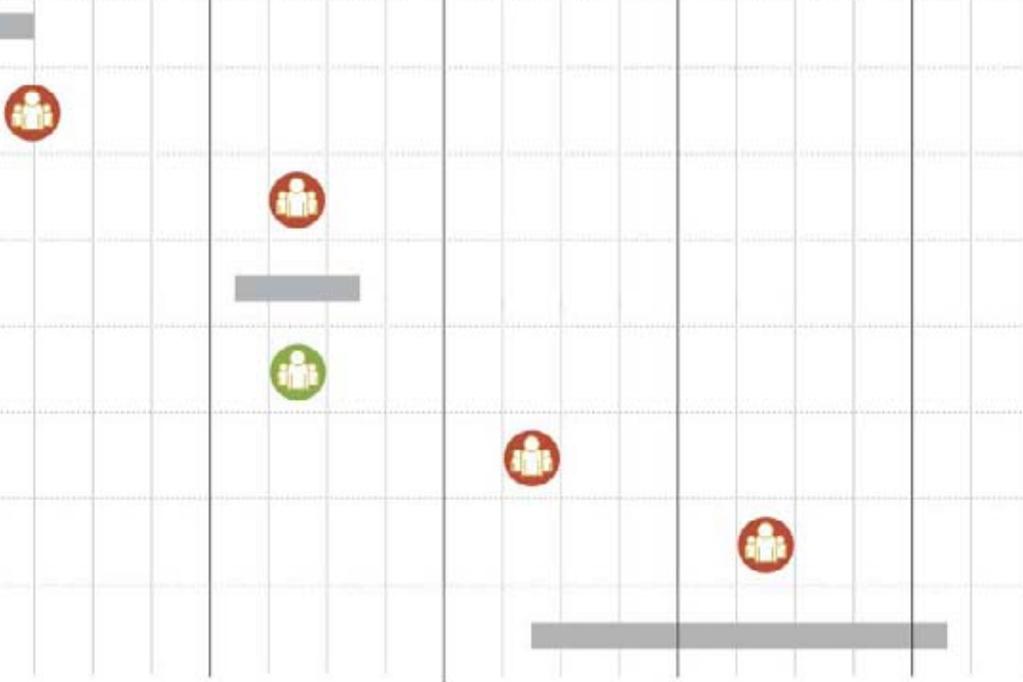
Virtual Town Hall Meeting

Open House Meeting

Advisory Committee Meeting

Advisory Committee Meeting

Draft Plan



# Public Participation

## Open House and Virtual Town Hall Meeting

- Display Boards
- Solicit Feedback

# Open House and Virtual Town Hall Meeting - Example

## Welcome

### The purpose of this Open House is to:

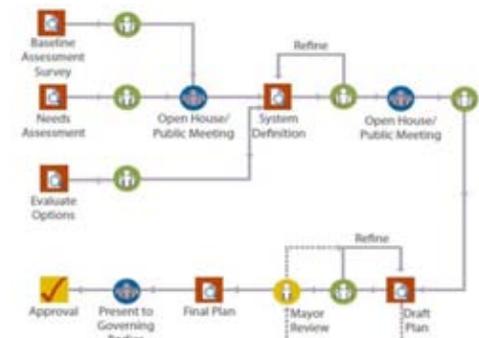
- Share information on solid waste management planning efforts
- Present program options for managing solid wastes in the future
- Seek input and comments from the public

# Open House and Virtual Town Hall Meeting - Example

## The Planning Process

### The key planning milestones include:

- A definition of the existing systems and an assessment of current and future needs (completed November 2012)
- An Open House/Public Meeting
- An evaluation of solid waste systems, facilities, and program alternatives (completed February 2013)
- A refined definition of systems, facilities, and programs
- An Open House/Public Meeting
- A final solid waste management plan



# Open House and Virtual Town Hall Meeting - Example

## Types of Solid Waste Managed

- **Municipal Solid Waste**
  - Solid waste from residential sources
  - Solid waste from commercial (business, industrial, and institutional) sources
- **Construction and Demolition Waste**
  - (building rubbish and demolition debris)
- **Other wastes, including the following**
  - Household Hazardous Waste (HHW)
  - Conditionally Exempt Small Quantity Generator (CESQG) Waste
  - Wastes needing special handling
  - Wastes banned from land disposal
- **Diverted Material (recycled, composted)**



# Open House and Virtual Town Hall Meeting - Example

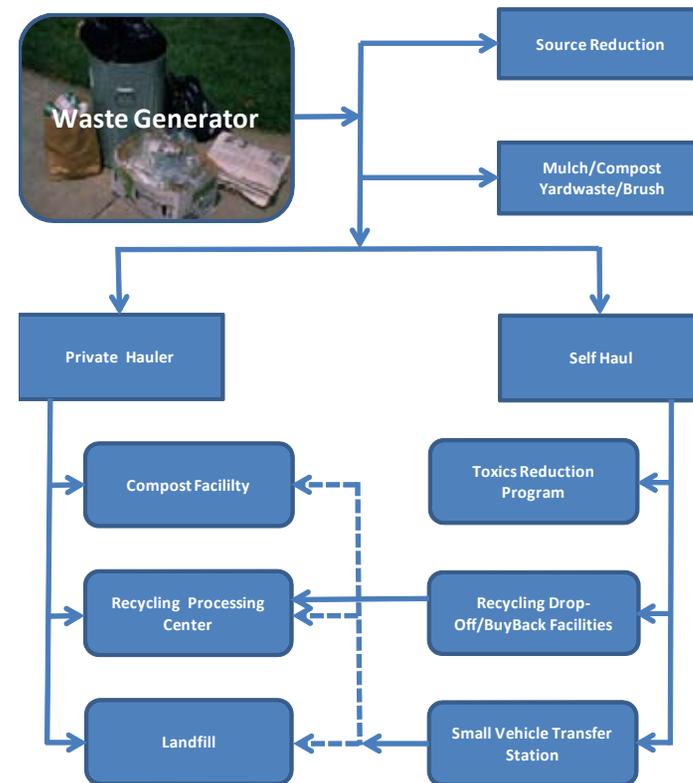
## System Definition:

- Combines information on existing solid waste management programs and program options considered for managing solid waste in the future.
- Describes programs that move the integrated solid waste management system from current levels of waste diversion and existing disposal practices toward greater resource conservation, waste reduction, waste diversion, and resource recovery efforts.
- Serves as the basis for the development of the Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040).

# Open House and Virtual Town Hall Meeting - Example

## Systems, Facilities, and Programs

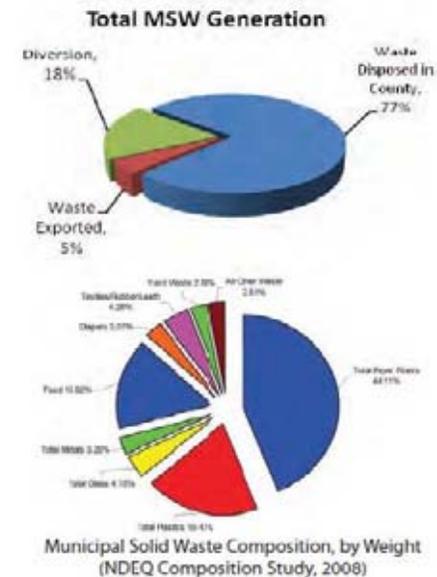
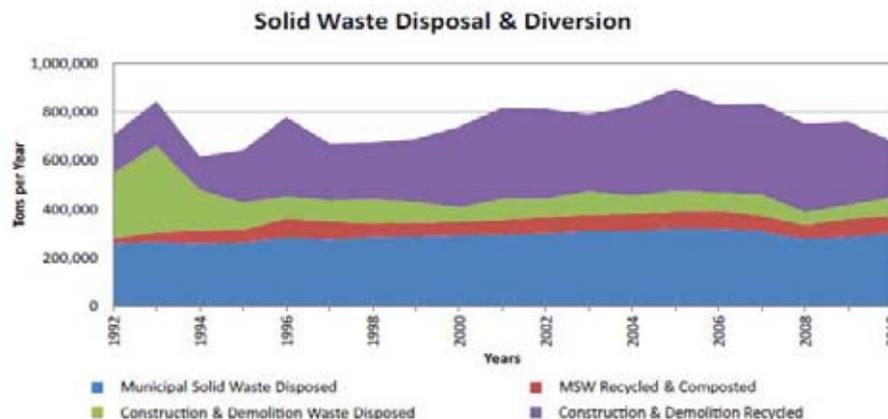
- Collection System
- Waste Processing
- Disposal Facilities
- Source Reduction



# Open House and Virtual Town Hall Meeting - Example

## Municipal Solid Waste Generation and Composition

- The 2010 Census indentified the population of Lancaster County as 285,407; by 2040 the population is projected to grow to over 412,000.
- The average household in Lincoln generates 1.7 tons of Municipal Solid Waste per year; 1.4 tons goes to a landfill.



# Open House and Virtual Town Hall Meeting - Example

## Benefits of Resource Conservation, Waste Reduction, Waste Diversion and Resource Recovery

- Economic
- Energy
- Human Health and Environmental Protection
- Natural Resource Conservation

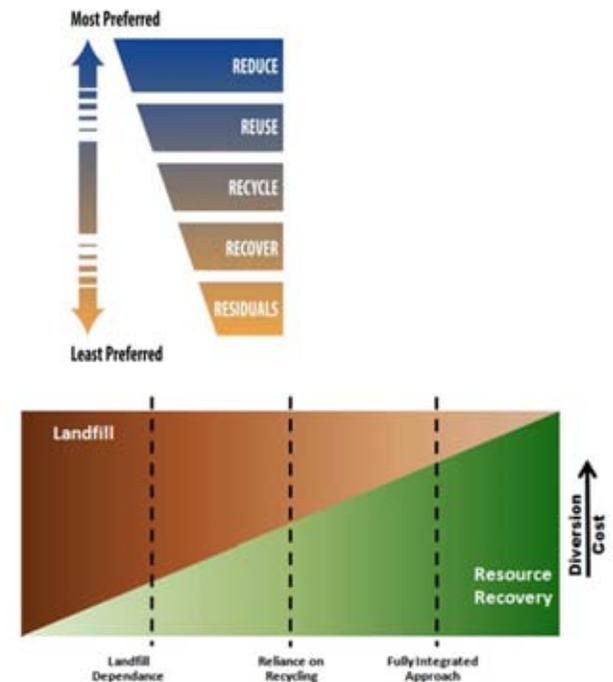
# Open House and Virtual Town Hall Meeting - Example

## Solid Waste Management Continuum and Waste Management Hierarchy

- As waste diversion and resource recovery efforts increase the cost of managing waste increases
- At low levels of diversion the community is largely dependent on landfilling

### System Definition describes program options for

- Progressively moving toward a more integrated solid waste management system
- Reducing the community's dependence on landfilling
- Emphasizing resource conservation, source reduction, waste diversion, and resource recovery



# Open House and Virtual Town Hall Meeting - Example

## Preferred Path for System Definition

- Source Reduction
- Toxics Reduction
- Yard Waste
- Residential Recycling and Diversion
- Commercial Recycling and Diversion
- Construction and Demolition Materials Recycling
- Organic Waste Diversion (Composting)
- Waste Conversion Technologies
- Municipal Solid Waste Disposal
- Construction and Demolition Waste Disposal
- Transfer Station and Processing Facilities

# Open House and Virtual Town Hall Meeting - Example

## Evaluation/Screening

### Evaluation and Screening Criteria for Solid Waste Management Options/Strategies

- Waste Reduction/Diversion
- Technical Requirements
- Environmental Impacts
- Economic Impacts
- Implementation Viability

# Open House and Virtual Town Hall Meeting - Example

## Municipal Solid Waste Diversion by Scenario (estimated)

Program Area	Scenario 1		Scenario 2		Scenario 3	
	Strategy	% increase in TOTAL MSW Diversion	Strategy	% increase in TOTAL MSW Diversion	Strategy	% increase in TOTAL MSW Diversion
Source Reduction	Increased Education	1 - 2%	Increased Education in conjunction with more progressive diversion efforts	2-4%	Increased Education in conjunction with incentivized programs (e.g. "volume-based" residential recycling and waste exchanges)	4-6%
Toxics Reduction	Year round facility	<-1%	Year round facility	<-1%	Year round facility	<-1%
Yard Waste	Status Quo	0%	Status Quo	0%	Year round landfill ban for grass and leaves	1-2%
Residential Recycling	Universal with Minimum Levels of Service	5-7%	Universal - more enhanced program	6-8%	Universal with incentives (e.g. volume based rates)	8-10%
Commercial Recycling	Universal with Minimum Levels of Service	6-8%	Universal - more enhanced program	8-10%	Universal with incentives (e.g. volume based rates and space provisions for recycling in new construction)	10-12%
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Waste Conversion Technologies	Status Quo	0%	Status Quo	0%	Waste Conversion facility targeting majority of non-diverted wastes	40 to 50%
Transfer Station	Transfer Station with no processing	<-1%	Transfer Station with no processing	<-1%	Transfer Station with limited diversion of materials delivered as waste	2-5%
% INCREASE in TOTAL MSW Diversion (above current 18%)		12-18%		17-24%		57-62% <sup>(1)</sup>
% TOTAL MSW Diversion (including current 18%)		30-36%		35-42%		75-80% <sup>(1)</sup>



# Open House and Virtual Town Hall Meeting - Example

## Evaluation and Screening for Options/Strategies

Evaluation/Screening Criteria	Waste Reduction/Diversion	Technical Criteria	Environmental Impact	Economic Impacts	Implementation Viability
Options/Strategies					
Source Reduction	↑	↑	↑	↑	↑
Toxics Reduction	↑	↑	↑	↑	↑
Yard Waste	--	--	--	--	--
Residential Recycling and Diversion	↑	↑	↑	↑	↑
Commercial Recycling and Diversion	↑	↑	↑	--	--
Construction and Demolition Materials Recycling	↑	↑	↑	↑	↑
Organic Waste Diversion (Composting)	↑	--	↑	↓	↓
Waste Conversion Technologies	↑	--	↑	↓	↓
Municipal Solid Waste Disposal	--	↑	↓	↑	↑
Transfer Station and Processing Facilities	--	--	↑	--	--

# Open House and Virtual Town Hall Meeting - Example

## Schedule



# Open House and Virtual Town Hall Meeting - Example

## Public Participation

### Provide Input

- Submit comments via the project website; [lincoln.ne.gov](http://lincoln.ne.gov) keyword: solid waste plan
- Submit comments via e-mail; [email@solidwasteplan.com](mailto:email@solidwasteplan.com)
- Leave a voice comment via the project phone line: (402) 441-7738.
- Mail written comments:
  - Solid Waste Plan 2040
  - 2400 Theresa Street
  - Lincoln, NE 68521
- Attend an Open House/Virtual Town Hall Meeting
- Attend an Advisory Committee meeting; check project website for meeting dates, times and locations

### Stay Up-to-Date

- Visit the project website at [lincoln.ne.gov](http://lincoln.ne.gov)
- (keyword: solid waste plan)

# Committee Questions & Discussion

Final System Definition

Public Participation

# 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

Website: [lincoln.ne.gov](http://lincoln.ne.gov)

- keyword: solid waste plan

Open House and  
Virtual Town Hall  
Meeting

Comment Line

- (402) 441-7738



The screenshot shows the website for the Solid Waste Management Plan for Lincoln and Lancaster County. The header includes the City of Lincoln, Nebraska logo and the title "Solid Waste Plan 2040". Below the header is a navigation menu with links for Home, The Process, Committee, Contact, FAQs, Resources, and Community Comments. A large image of a landfill is featured in the background. The main content area includes a section titled "Solid Waste Plan 2040" with a brief description of the plan's development. A sidebar on the right contains information about the "Next Advisory Committee Meeting" on Tuesday, October 9, 2012, at 2:30 p.m. to 4:30 p.m. at the UWL - Lancaster County Extension Education Center. Logos for the City of Lincoln, Lancaster County, and the Lincoln-Lancaster County Health Department are displayed at the bottom. Social media icons for RSS, YouTube, Facebook, and Twitter are also present.

Log on to <http://lincoln.ne.gov>  
Search: **solid waste plan**

Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# Public Participation

- Meeting Schedule
  - Virtual Town Hall Meeting (August 6 to August 20)
  - Open House Meeting (August 13)
- Email Announcement
- Continued use of the Project Website and Comment Line
- Newsletter
- Press Release
- Others

# Development of Plan Recommendations

- Not necessarily tied to the System Definition
- May include Phased Approach
- May include Program Specific Goals
- After Public Open House/Virtual Town Hall Meeting

# Committee Questions & Discussion

Public Participation

Development of Plan Recommendations

Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# Next Advisory Committee Meeting

## Next Meeting:

August ~~13, 2013~~ **27, 2013**

2:30 pm to 4:30 pm

Lincoln/Lancaster County Health Department  
Lower Level Training Room

## Topic:

To be Determined

# 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.*

# Advisory Committee

Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

July 9, 2013



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# Advisory Committee

## Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

August 27, 2013



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# 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.*

# Agenda

1. Public Meeting Law Acknowledgement & Safety Briefing
2. Call Meeting to Order
3. Roll Call
4. Approve Meeting Minutes from July 9, 2013
5. Open House, Virtual Town Hall Meeting and Public Comments Report
6. Process to Develop Recommendations
7. Development of Recommendations

**BREAK**

# Agenda

## BREAK

8. Development of Plan Recommendations (cont.)
9. Next Advisory Committee Meeting
10. Public Comment (final 15 minutes)
11. Close Meeting

# Public Participation & Comments

- Scheduled Meetings
  - Virtual Town Hall Meetings
  - Open House Meetings
  - Advisory Committee Meetings
- Email Announcement via Newsletters
- Press Releases
- City Focus – TV Interviews
- Posted on the Project Website and City website

# Open House and Virtual Town Hall Meeting

- 60 People Attended Open House
- 109 Participated in Virtual Town Hall Meeting

**LINCOLN - LANCASTER COUNTY SOLID WASTE PLAN 2040**  
**ABOUT THE PROJECT**

The development of a comprehensive, integrated solid waste management plan (as identified as a strategy in the Lincoln/Lancaster County 2040 Comprehensive Plan (Plan 2040)).

**PROJECT DETAILS**

About the Project  
How it Works  
The Solid Waste Plan 2040  
System Definition  
Open House - August 13, 2013  
Vision, Guiding Principles & Goals  
Baseline Assessment/Survey  
Technical Documents  
Stakeholder Screening Criteria

**TOPICS**

- Residential Recycling** (422 / 138 / Closed) State Closed
- Commercial Recycling (apartments, businesses, industries and institutions)** (208 / 82 / Closed) State Closed
- Toxics Reduction** (227 / 51 / Closed) State Closed
- Source Waste Reduction** (169 / 50 / Closed) State Closed
- Organic (Food) Waste Composting** (176 / 58 / Closed) State Closed
- Share Your Ideas** (882 / 58 / Closed) State Closed

Need Help?

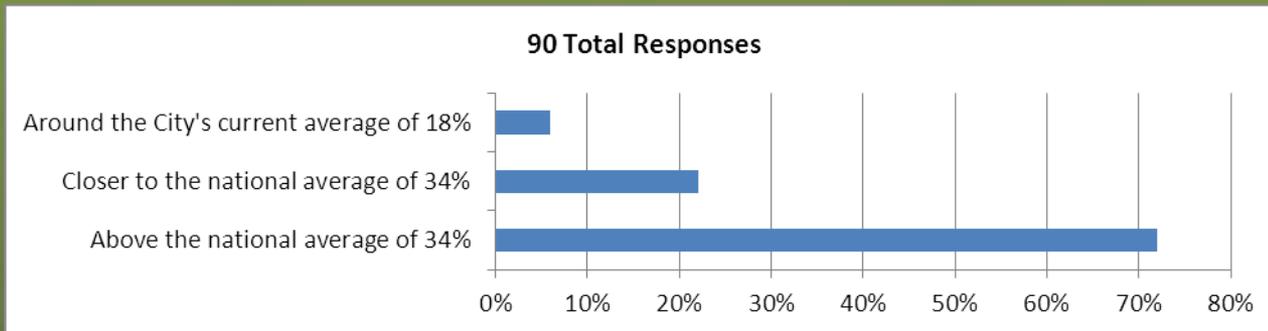


# Public Comment Report

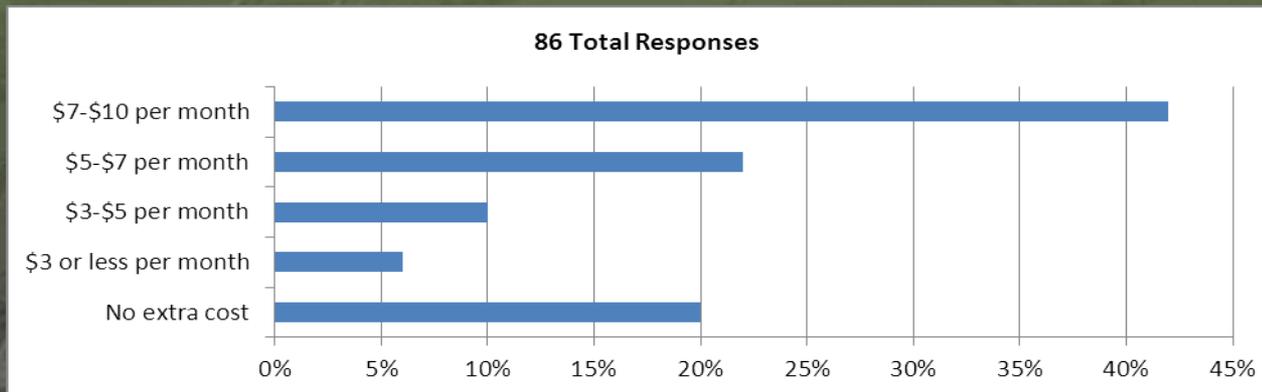
- Comments compiled on Website - Ongoing
  - Via website
  - Via phone line
  - Via email
  - Via mail
- Open House and Virtual Town Hall Meeting
  - Survey Questions
  - Open Ended Questions
  - Open Ended Comments

# Public Comment - Town Hall Meetings

Lincoln currently recycles about 18% of its residential waste; the national average is around 34%. Where do you think Lincoln should rank?

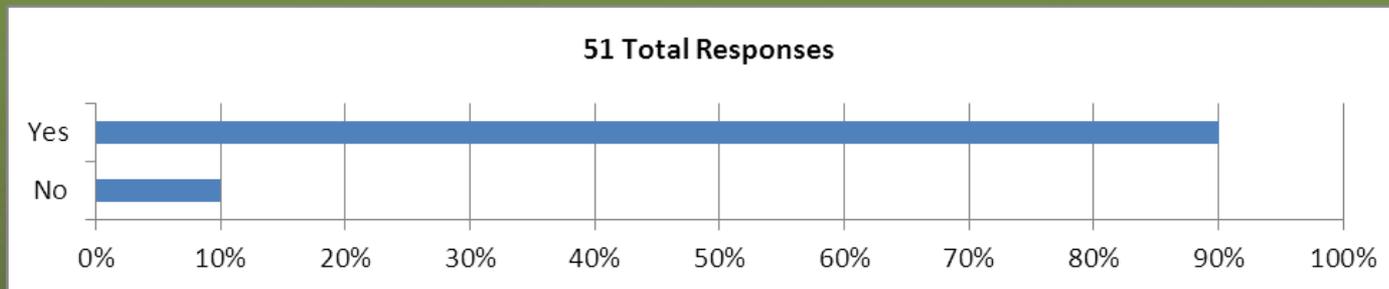


Assuming you do not have recyclables picked up at your home now, how much would you be willing to pay for having recyclables picked up at home in the future?

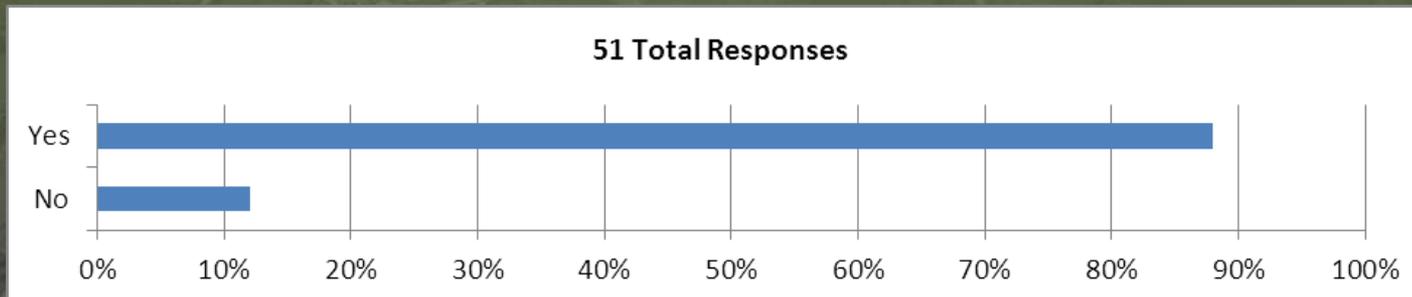


# Public Comment - Commercial Recycling

Should apartments, businesses, industries and institutions in Lincoln recycle materials like cardboard and office paper even though it could potentially increase costs for businesses?



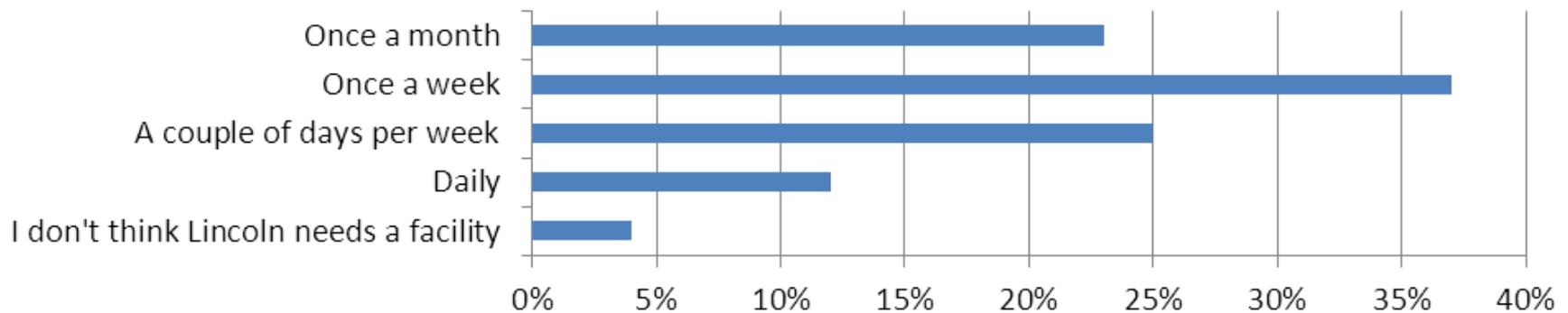
Should Lincoln require space be dedicated for recycling containers in commercial establishments and developments constructed in the future?



# Public Comment - Toxics Reduction

If Lincoln created a place to provide year-round household hazardous waste collection, how often should it be open?

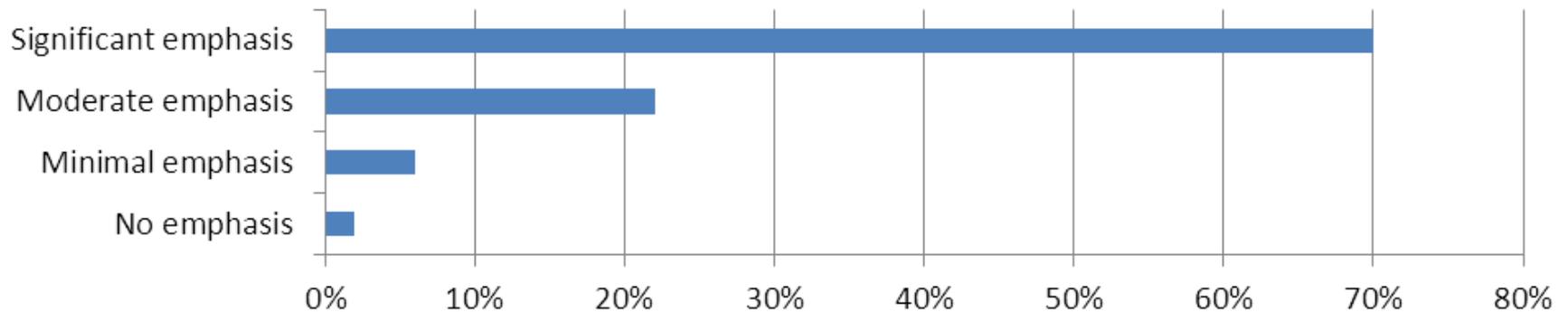
52 Total Responses



# Public Comment - Source Waste Reduction

What level of emphasis should Lincoln place on promoting waste reduction?

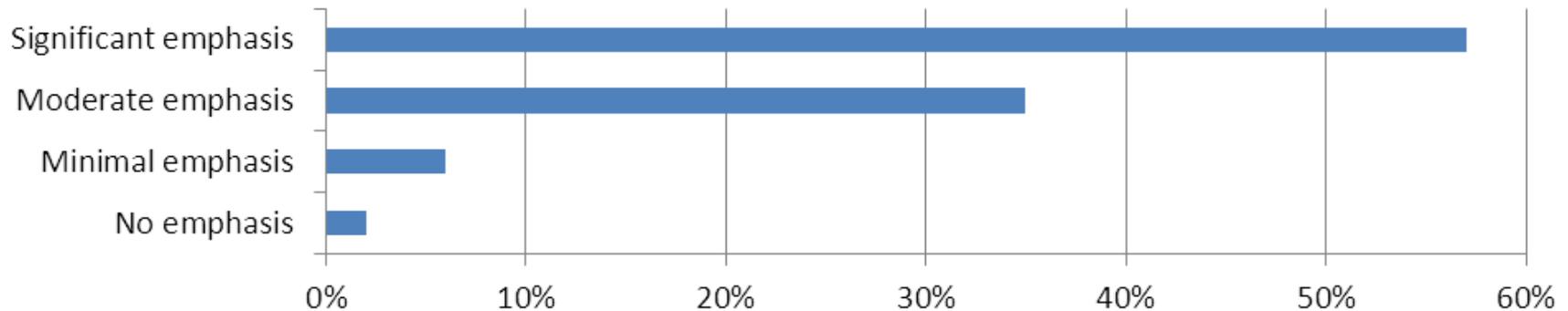
54 Total Responses



# Public Comment - Organic (Food) Waste Composting

What level of emphasis should be placed on separating commercial food waste for composting?

54 Total Responses



# Public Comment - Share Your Ideas

Please share your ideas regarding the future of solid waste management in Lincoln-Lancaster County.

- City wide ban on plastic shopping bags
- Limit specific garbage haulers to specific neighborhoods
- Volume Based Pricing
- Rename Solid Waste Plan
- Harness more energy from the landfill
- Inform Lincoln about recyclable waste & let solution evolve
- Haulers pick up trash 1 day per week and recycling another day
- Let's put yard waste back in the landfill with the trash
- Fluidized Bed Waste Combustion Boilers
- Education is key
- Litter Reduction component

# Process to Develop Plan Recommendations

- Review of Committee Charge Statement
- Review of Vision Statement, Guiding Principles and Plan Goals
- Provide Administration Clear Direction
  - Committee Determines Level of Detail in Recommendation
- Polling

# Process to Develop Plan Recommendations

## Organizational Outline

1. Identify Waste Reduction and Recycling Goals
2. Reaffirm Preferred Paths
3. Refine Preferred Path (additional recommendations)

# Development of Plan Recommendations

1. Identify Waste Reduction and Recycling Goal(s)

# Development of Plan Recommendations

## Preferred Path for System Definition

Option/Topic	Options Decision for System Definition
Source Reduction	Expand Programs that Lead to Greater Source Reduction.
Toxics Reduction	Expand the Toxics Reduction program and create a place to provide year round access.
Yard Waste	Maintain Status Quo (Seasonal Ban)
Residential Recycling and Diversion	Residential Curbside Recycling to be provided <sup>(1)</sup> to all single family and duplex dwellings City wide.
Commercial Recycling and Diversion	Commercial Recycling to be provided <sup>(2)</sup> to multi-family dwellings, businesses, industries and institutions.
Construction and Demolition Materials Recycling	Develop/Support programs to reduce the quantities of construction and demolition waste going to the City's disposal site(s).
Organic Waste Diversion (Composting)	Develop/Support programs to reduce the quantity of organics, especially food waste, going to the City's Municipal Solid Waste disposal site.
Waste Conversion Technologies	Pursue the development of Waste Conversion Technology(ies) as a part of a long-term strategy for energy recovery and resource conservation.
Municipal Solid Waste Disposal	Expand on City-owned property to the east of the currently permitted site.
Construction and Demolition Waste Disposal	Expand on City-owned property.
Bioreactor/Bio-Stabilization Technologies	No further consideration is given in the System Definition to pursuing the development of a bioreactor/bio-stabilization technology.
Transfer Station and Processing Facilities	Develop a municipal solid waste Transfer Station if a feasibility study shows it can be cost effective.

# Development of Plan Recommendations

## 3. Refine Preferred Paths

- Source Reduction
- Toxics Reduction
- Yard Waste
- Residential Recycling and Diversion
- Commercial Recycling and Diversion
- Construction and Demolition Material Recycling
- Organic Waste Diversion (Composting)
- Waste Conversion Technologies
- Municipal Solid Waste Disposal
- Construction and Demolition Waste Disposal
- Transfer Station and Processing Facilities

# 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.*

# Next Advisory Committee Meeting

## Next Meeting:

September 10, 2013

2:30 pm to 4:30 pm

Lincoln/Lancaster County Health Department  
Lower Level Training Room

## Topic:

Development of 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.*

# Advisory Committee

## Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

August 27, 2013



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# Advisory Committee

## Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

September 10, 2013



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# 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.*

# Agenda

1. Public Meeting Law Acknowledgement & Safety Briefing
2. Call Meeting to Order
3. Roll Call
4. Approve Meeting Minutes from August 27, 2013
5. Development of Recommendations

**BREAK**

# Agenda

## BREAK

6. Development of Plan Recommendations (cont.)
7. Next Advisory Committee Meeting
8. Public Comment (final 15 minutes)
9. Close Meeting

# Process to Develop Plan Recommendations

- Review of Committee Charge Statement
- Review of Vision Statement, Guiding Principles and Plan Goals
- Provide Administration Clear Direction
  - Committee Determines Level of Detail in Recommendation
- Polling

# Process to Develop Plan Recommendations

## Organizational Outline

1. Identify Diversion (Waste Reduction and Recycling) Goals
2. Refined Preferred Path (additional recommendations)

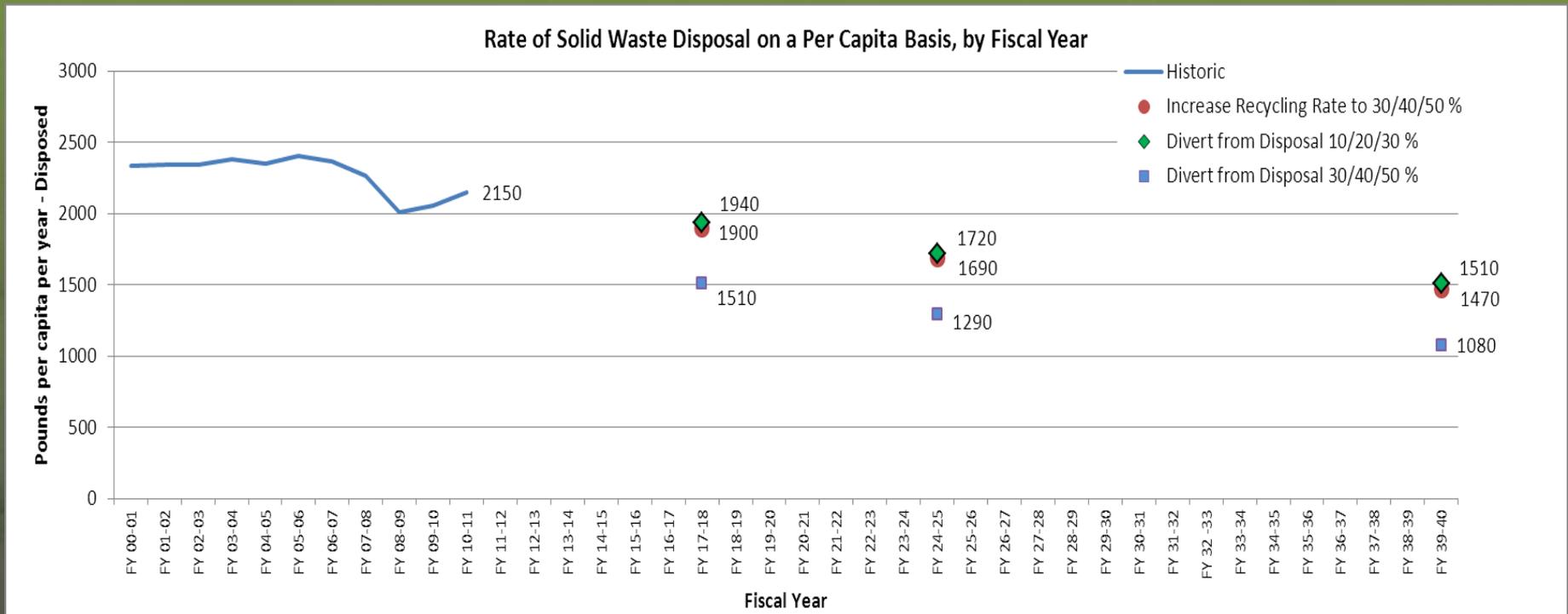
# Process to Develop Plan Recommendations

## Finalizing Recommendations:

1. Chair/Vice-Chair to refine Language
2. Advisory Committee to approve or modify refined Language
3. City to develop implementation plan

# Recommendation Solid Waste Diversion Goal: (Waste Reduction and Recycling)

Currently City Planning Department's Community Indicator's Report uses:  
Per Capita Solid Waste Disposal



# Sample Recommendation Language for Overall Waste Reduction and Recycling (Diversion) Goal

**Increase the municipal solid waste recycling rate to:**

**30 % by 2018**

**40 % by 2025**

**50 % by 2040**

**Reduce the per capita rate of municipal solid waste disposed of in landfills by:**

**10 % over 2011 rate by 2018**

**20 % over 2011 rate by 2025**

**30 % over 2011 rate by 2040**

**Reduce the per capita rate of municipal solid waste disposed of in landfills to:**

**1,940 pounds per capita per year by 2018**

**1,720 pounds per capita per year by 2025**

**1,510 pounds per capita per year by 2040**

# Sample Recommendation Language for Overall Waste Reduction and Recycling (Diversion) Goal

## **Increase the municipal solid waste recycling rate to:**

**Metric:** 2011 rate is estimated to be 18%. The recycling rate is calculated by dividing the municipal solid waste recycled and composted by the total municipal solid waste generated; the total MSW generation is the sum of the waste disposed in landfills plus the MSW recycled and composted. To ensure the most accurate calculation a reporting mechanism should be developed that ensures the City has accurate data from which to calculate recycling rates.

## **Reduce the per capita rate of municipal solid waste disposed of in landfills by:**

**Metric:** 2011 rate is 2,125 pounds per capita per year. This is calculated by dividing the total municipal solid waste sent to disposal in landfills (from Lincoln and Lancaster County) by the current Lancaster County population (estimates prepared by the City's Planning Department).

## **Reduce the per capita rate of municipal solid waste disposed of in landfills to:**

**Metric:** 2011 rate is 2,125 pounds per capita per year. This is calculated by dividing the total municipal solid waste sent to disposal in landfills (from Lincoln and Lancaster County) by the current Lancaster County population (estimates prepared by the City's Planning Department).

# Development of Plan Recommendations

## 2. Refine Preferred Paths

- Source Reduction
- Toxics Reduction
- Yard Waste
- Residential Recycling and Diversion
- Commercial Recycling and Diversion
- Construction and Demolition Material Recycling
- Organic Waste Diversion (Composting)
- Waste Conversion Technologies
- Municipal Solid Waste Disposal
- Construction and Demolition Waste Disposal
- Transfer Station and Processing Facilities

# 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.*

# Next Advisory Committee Meeting

## Next Meeting:

October 8, 2013

2:30 pm to 4:30 pm

Lincoln/Lancaster County Health Department  
Lower Level Training Room

## Topic:

Development of Plan Recommendations

# Public Comment

## Guidelines:

- State name and address
- Limit your remarks to time allotted – 3 minutes
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- No foul language or inappropriate behavior
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# 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.*

# Advisory Committee

## Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

September 10, 2013



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# Advisory Committee

## Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

October 8, 2013



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# 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.*

# Agenda

1. Public Meeting Law Acknowledgement & Safety Briefing
2. Call Meeting to Order
3. Roll Call
4. Approve Meeting Minutes from September 10, 2013
5. Development of Recommendations

**BREAK**

# Agenda

## BREAK

6. Development of Plan Recommendations (cont.)
7. Next Advisory Committee Meeting
8. Public Comment (final 15 minutes)
9. Close Meeting

# Process to Develop Plan Recommendations

- Review of Committee Charge Statement
- Review of Vision Statement, Guiding Principles and Plan Goals
- Provide Administration Clear Direction
  - Committee Determines Level of Detail in Recommendation
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# Process to Develop Plan Recommendations

## Organizational Outline

1. Refined Preferred Path (additional recommendations)

# Process to Develop Plan Recommendations

## Finalizing Recommendations:

1. Chair/Vice-Chair to refine Language
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# Development of Plan Recommendations

## 1. Refine Preferred Paths

- Source Reduction
- Toxics Reduction
- Yard Waste
- Residential Recycling and Diversion
- Commercial Recycling and Diversion
- Construction and Demolition Material Recycling
- Organic Waste Diversion (Composting)
- Waste Conversion Technologies
- Municipal Solid Waste Disposal
- Construction and Demolition Waste Disposal
- Transfer Station and Processing Facilities

# 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.*

# Next Advisory Committee Meeting

Next Meeting:

November ~~12~~ **5**, 2013

~~2:30~~ **2:00** pm to ~~4:30~~ **4:00** pm

Lincoln/Lancaster County Health Department  
Lower Level Training Room

Topic:

~~Development of~~ **Final** Plan Recommendations

# Public Comment

## Guidelines:

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# 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.*

# Advisory Committee

## Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

October 8, 2013



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# Advisory Committee

## Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

November 5, 2013



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 

# Purpose of the Plan

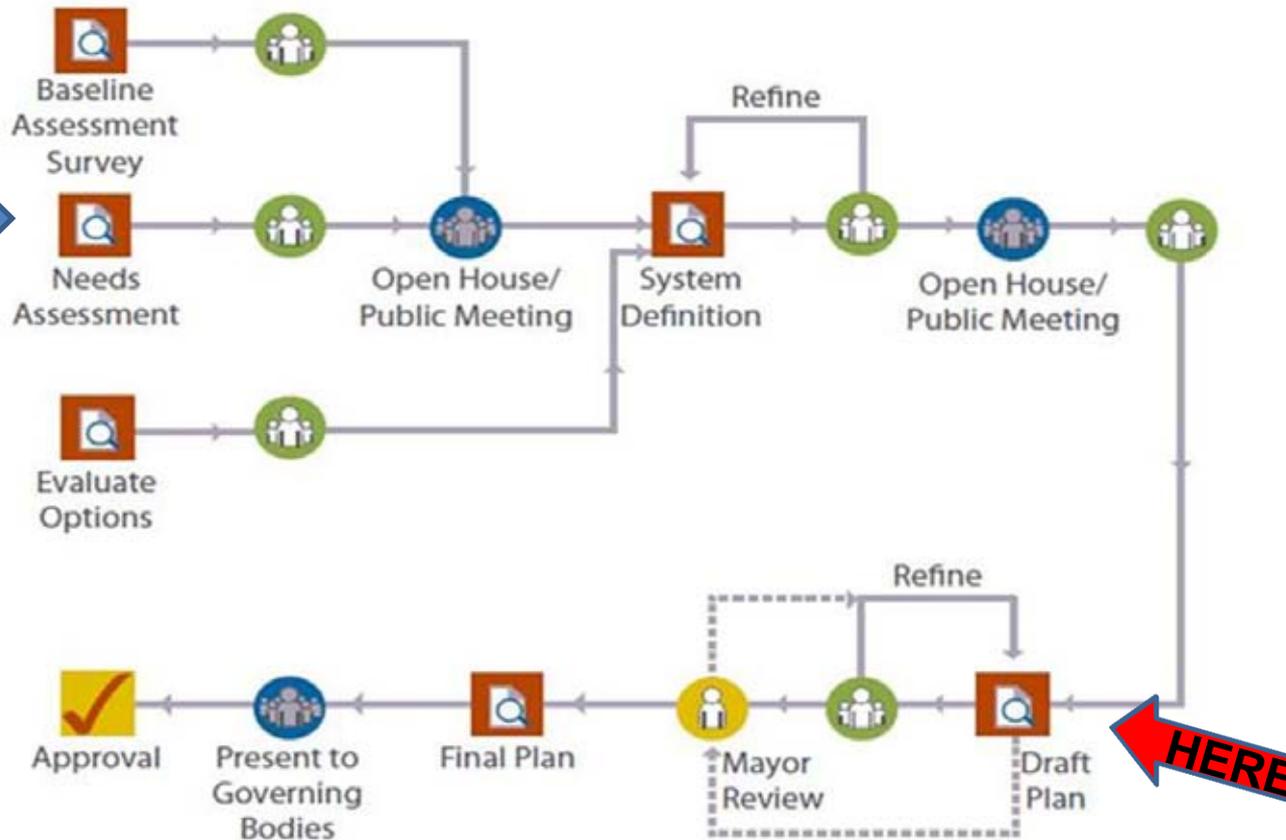
*The Solid Waste Plan 2040 will be a guidance document, communication tool, and resource for policy decisions regarding solid waste management systems, facilities, and programs.*

# Agenda

1. Public Meeting Law Acknowledgement / Safety Briefing
2. Call Meeting to Order
3. Roll Call
4. Approve Meeting Minutes from October 8, 2013
5. Planning Process Review
6. Solid Waste Plan 2040 Summary with Recommendations
7. Next Advisory Committee Meeting, if needed
8. Public Comment (final 15 minutes)
9. Close Meeting

# Planning Process Review

## How we got **HERE** from **THERE**



# The Journey to Solid Waste Plan 2040

## The Beginnings

- October 2011, LPlan 2040 identified the need to develop a comprehensive, integrated solid waste management plan.
- Mayor Beutler appointed the Advisory Committee, which first met on June 13, 2012.
- The public was encouraged to participate and provide comments throughout the process.

# Public Involvement – A Cornerstone

- Open meetings, public comments
- Project website
- Baseline/Assessment Survey
- Open houses, on-Line meetings
- E-Communications Outreach, Newsletters



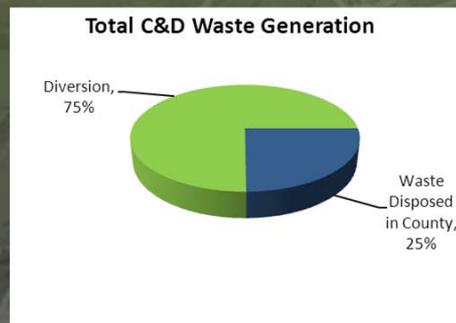
# Vision, Guiding Principles and Goals

- Vision Statement
- Plan Goals
  - Reduce>Reuse>Recycle > Disposal
  - Measureable indicators
- Guiding Principles
  - engage the **COMMUNITY**
  - encourage **PUBLIC-PRIVATE PARTNERSHIPS**
  - ensure sufficient **SYSTEM CAPACITY**
  - emphasize the **WASTE MANAGEMENT HIERARCHY**
  - embrace **SUSTAINABLE PRINCIPLES**



# Needs Assessment Foundation for Planning

- Baseline Assessment/Survey of Community
- Current Conditions



**Q2d. Do you think curbside collection of recyclables should be offered to every home in Lincoln as part of the basic garbage collection services?**

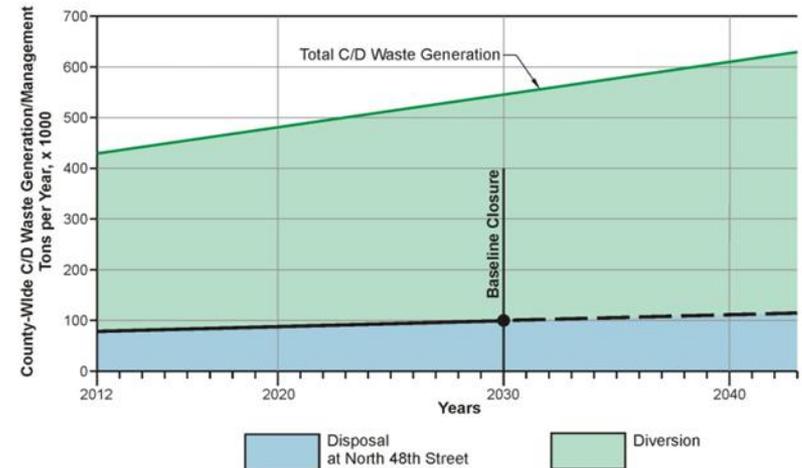
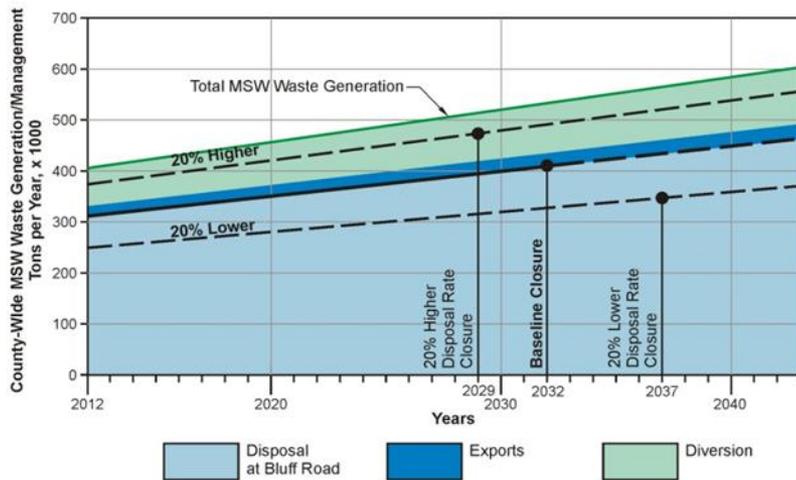


Diversion % includes Yard Waste

# Needs Assessment

## Future Disposal Needs – Status Quo

- Bluff Road MSW Landfill – 2032
- North 48<sup>th</sup> Street C&D Landfill – 2030



# Alternatives and Technical Evaluations

## The longest journey EVER

1. Source Reduction  
Definitions/Framework/Options
2. Product Stewardship
3. Zero Waste
4. Household Hazardous & Conditionally-Exempt Small Quantity Generator (Small Business) Hazardous Waste
5. Yard Waste
6. Universal, Special and Unique Waste
7. Residential Recycling and Diversion
8. Commercial Recycling and Diversion
9. Organic Waste Diversion (Composting)
10. Construction and Demolition Materials Recycling
11. Recycling Incentives
12. Waste Conversion Technologies
13. Municipal Solid Waste Disposal
14. Bioreactor/Bio-Stabilization Technologies
15. Construction and Demolition Waste Disposal
16. Collection Systems
17. Transfer Station and Processing Facilities
18. Markets (for recovered/recycled materials)

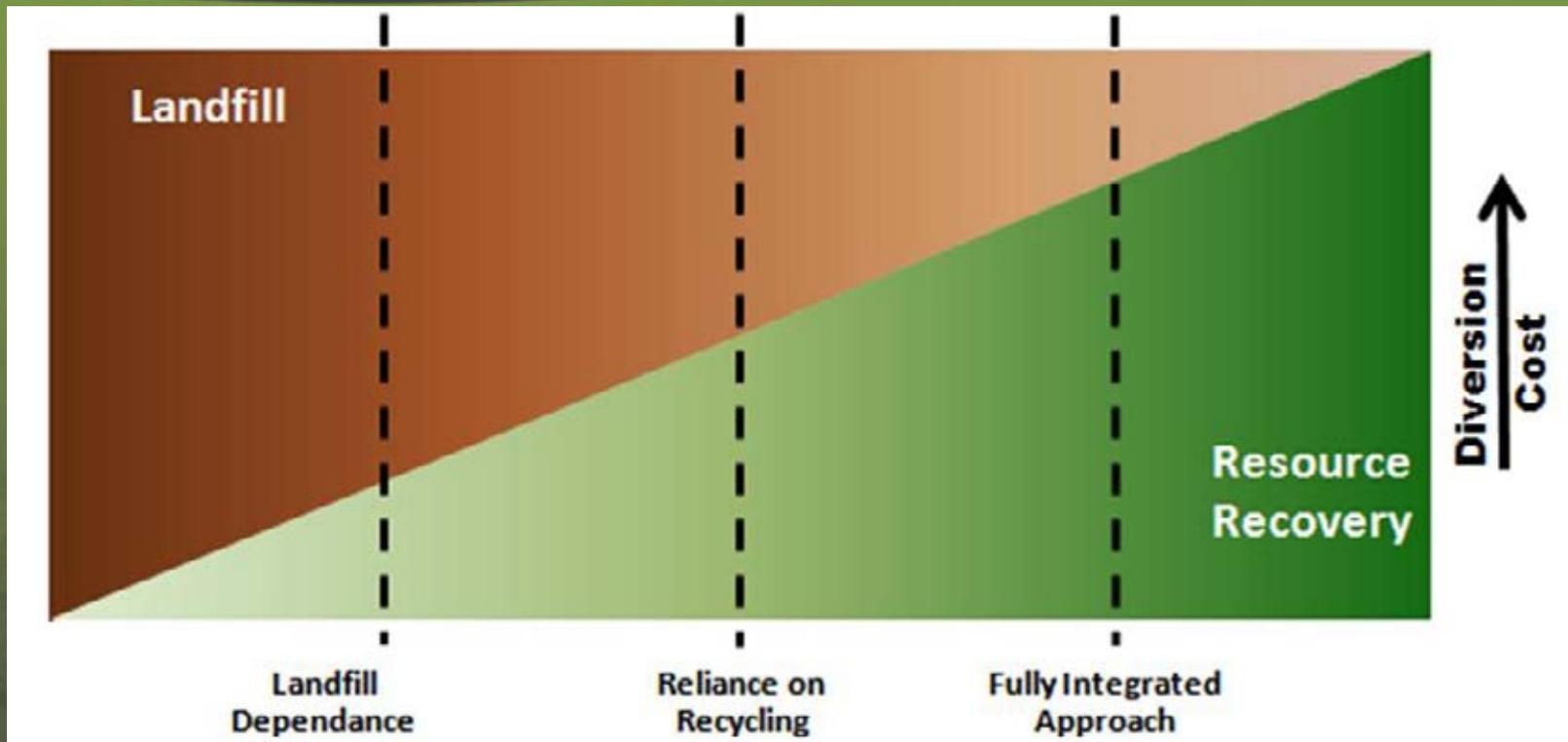
# Alternatives and Technical Evaluations

## Evaluation and Screening Criteria

- Waste reduction/diversion
- Technical requirements
- Environmental impacts
- Economic impacts
- Implementation viability

# System Definition

Will we ever get there?



# System Definition

Are we there yet?

## Preferred Path for System Definition

Option/Topic	Options Decision for System Definition
Source Reduction	Expand Programs that Lead to Greater Source Reduction.
Toxics Reduction	Expand the Toxics Reduction program and create a place to provide year round access.
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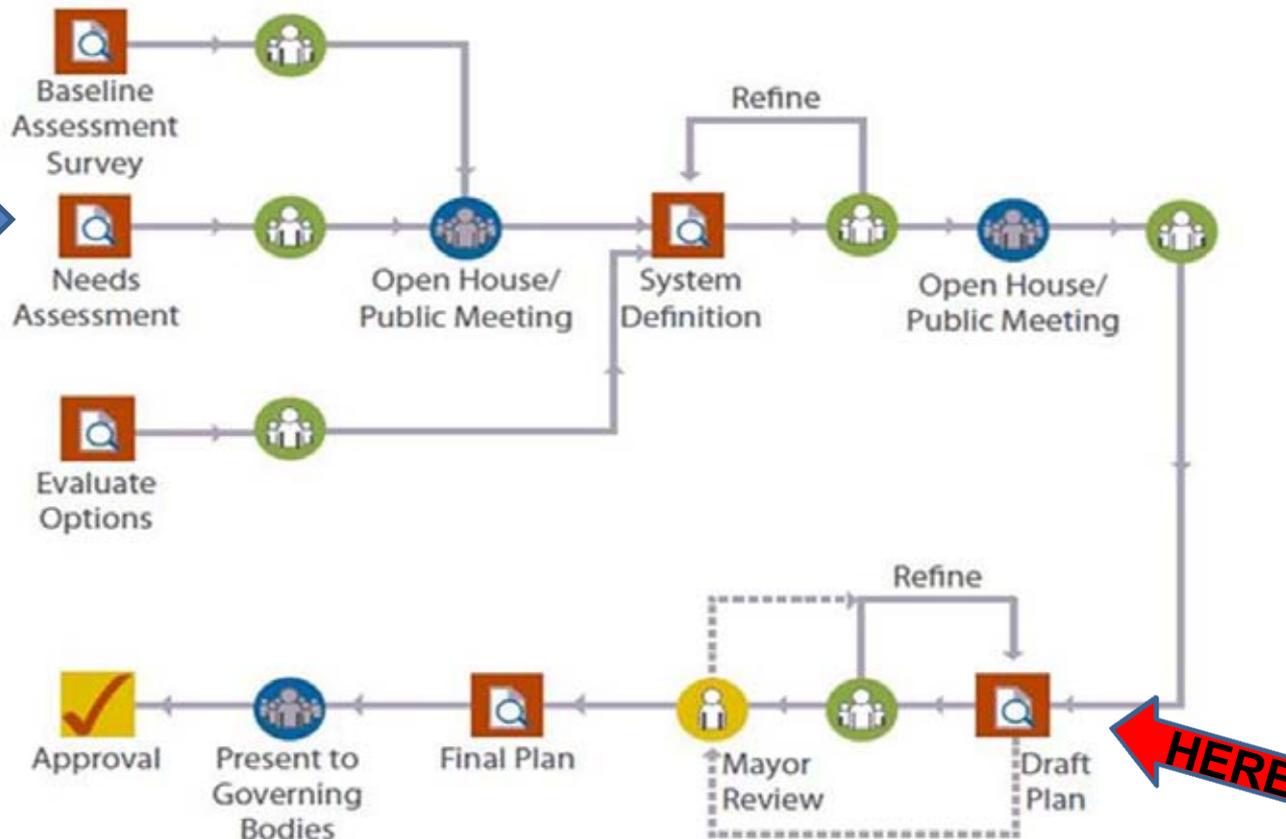
# Advisory Committee Recommendations

Almost there, almost there, almost there ...

- Much discussion over several meetings resulted in 20 recommendations being approved by a super-majority of the Advisory Committee

# Planning Process Review

So, that is how we got **HERE** from **THERE**



# Solid Waste Plan 2040 Summary with Final Recommendations

## We are finally **here!**



# 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.*

# Solid Waste Plan 2040 Summary with Final Recommendations

## Committee approval of the Solid Waste Plan 2040 Summary

Jack Coogan, Chair

# Public Comment

## Guidelines:

- State name and address
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# 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.*

# Advisory Committee

## Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

November 5, 2013



Solid Waste Management Plan for Lincoln and Lancaster County

 **Solid Waste Plan 2040** 