



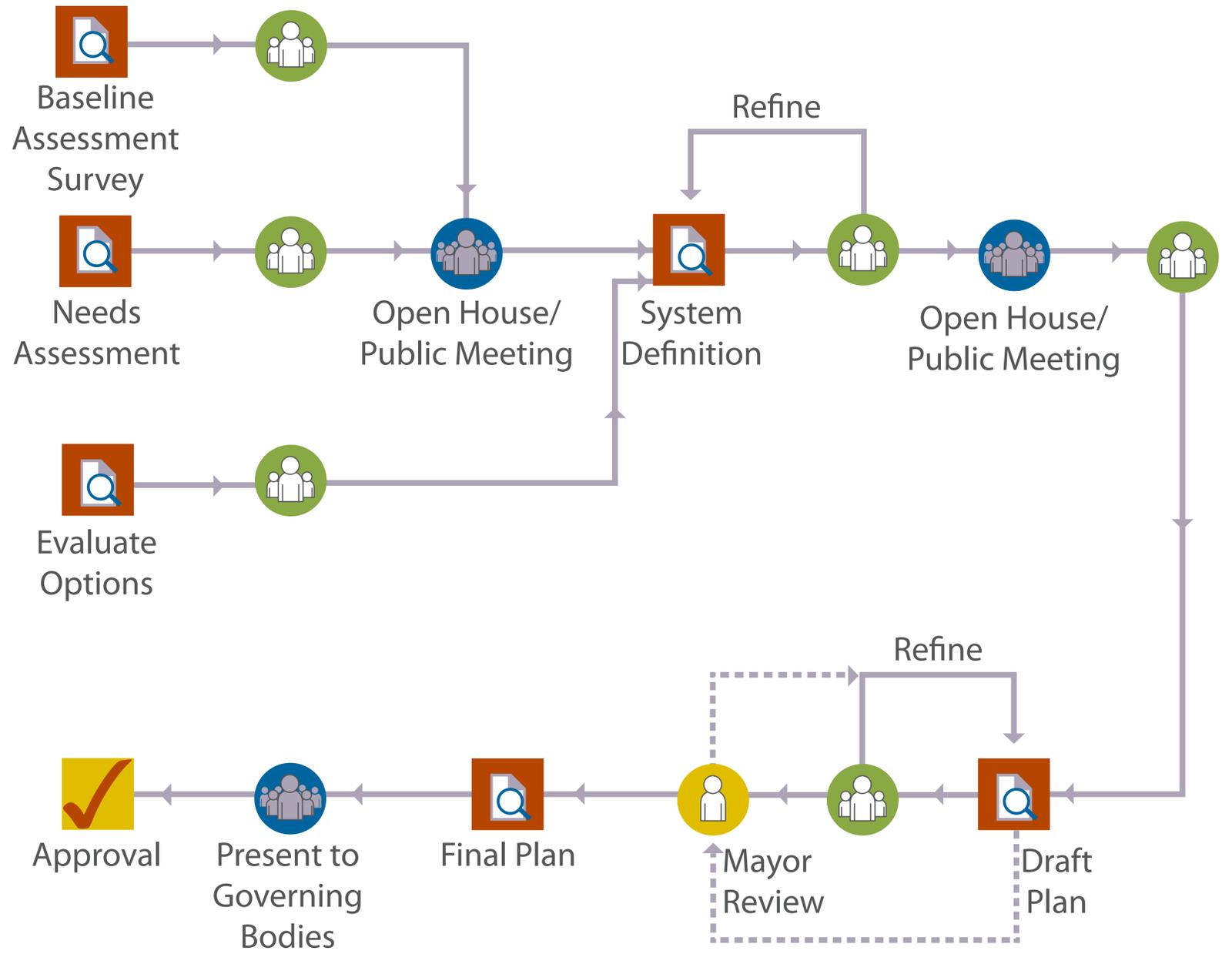
The purpose of this Open House is to:

- Share information on solid waste management planning efforts
- Present information on existing systems, facilities and programs, and the identified future needs
- Seek input and comments

The Planning Process

The key planning milestones include the following:

- A definition of the existing systems
- An assessment of current and future needs
- An evaluation of solid waste systems, facilities, and program alternatives
- A refined definition of systems, facilities, and programs
- A final solid waste management plan



Guiding Principles for the Plan

Guiding Principles Adopted in the **LPlan 2040**

- 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.
- 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.

Solid Waste Plan 2040 Guiding Principles

- Emphasize the **Waste Management Hierarchy**
- Encourage **Public-Private Partnerships**
- Ensure sufficient **System Capacity**
- Engage the **Community**

Waste Management Hierarchy



Regulatory Background

- Nebraska's **Integrated Solid Waste Management Act**
 - Each county and municipality shall provide or contract for facilities and systems as necessary for the safe and sanitary disposal of solid waste generated within its solid waste jurisdictional area
 - A county, municipality, or agency may, by ordinance or resolution, adopt regulations governing collection, source separation, storage, transportation, transfer, processing, treatment, and disposal of solid waste within its solid waste jurisdiction area as necessary to protect the public health and welfare and the environment
- Federal **Resource Conservation and Recovery Act (RCRA)** of 1976, which set national goals to:
 - To protect human health and the environment from the potential hazards of waste disposal
 - To conserve energy and natural resources
 - To reduce the amount of waste generated
 - To ensure that wastes are managed in an environmentally sound manner

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:**
 - Household hazardous waste
 - Conditionally Exempt Small Quantity Generator Wastes
 - Banned wastes
 - Those needing special handling
- **Diverted Material (recycled, composted)**



Needs Assessment Establishes A Baseline For Planning

The following are addressed:

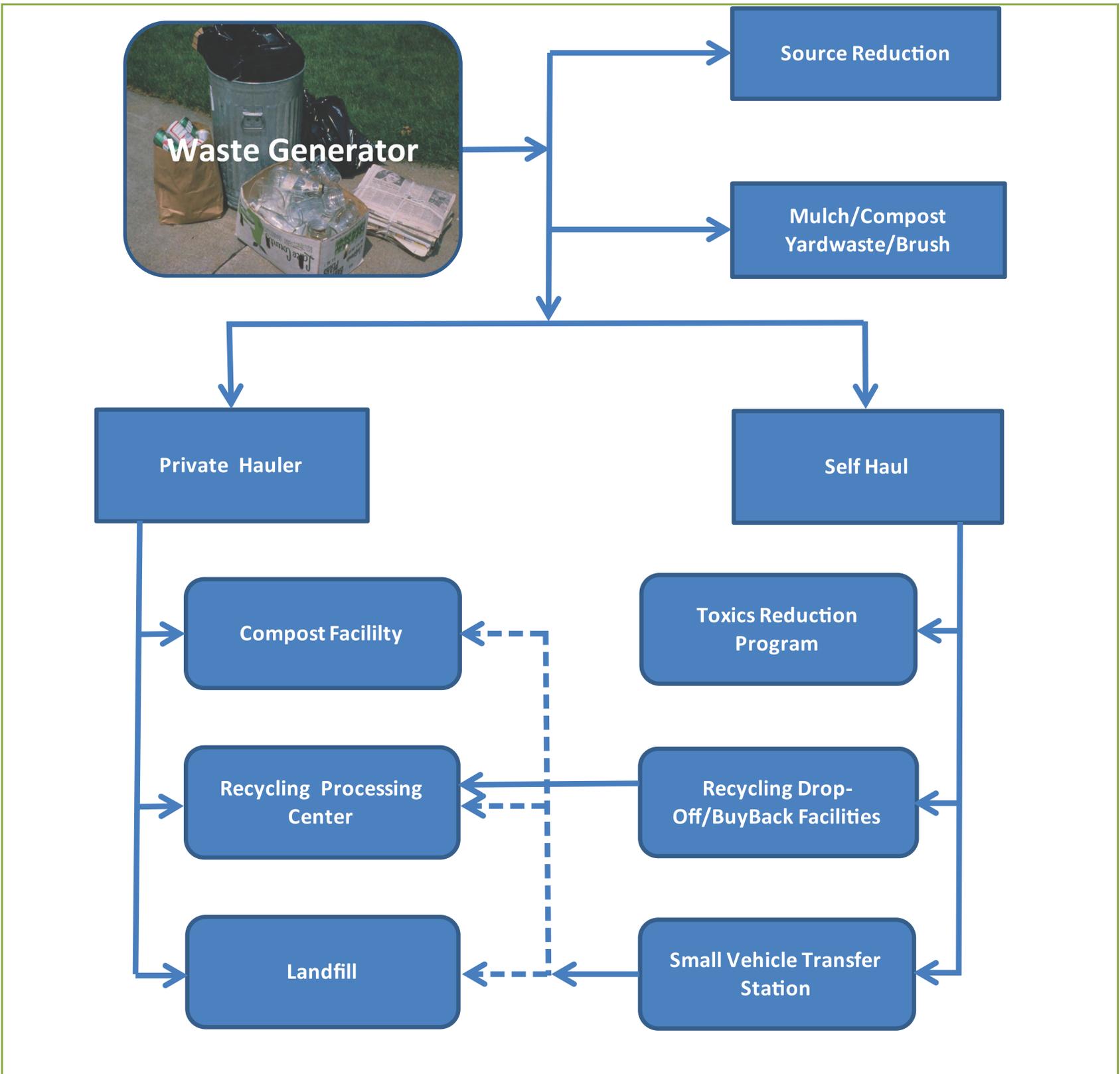
- Volumes and types of waste being generated
- Existing waste management practices
- Anticipated future waste management needs
- Adequacy of landfill/disposal capacity in the planning area

This assessment establishes projected quantities of solid waste to be addressed in the Solid Waste Plan 2040.

Solid Waste Management Practices

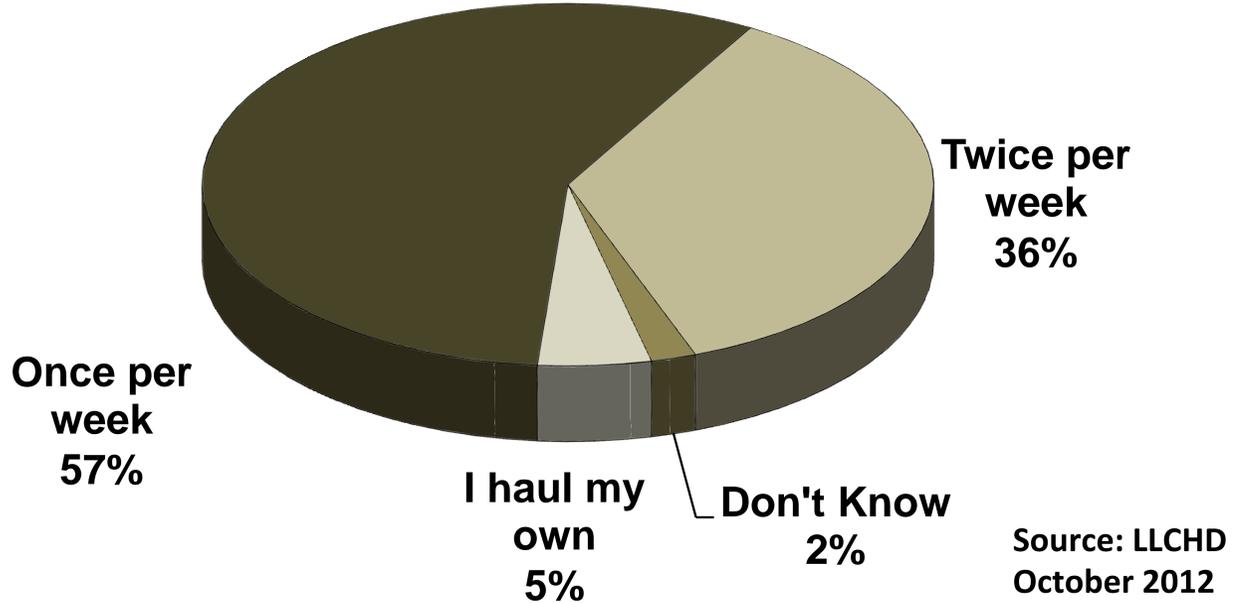
Management Systems and Facilities:

- Collection
- Waste Processing
- Disposal Facilities
- Toxics Reduction

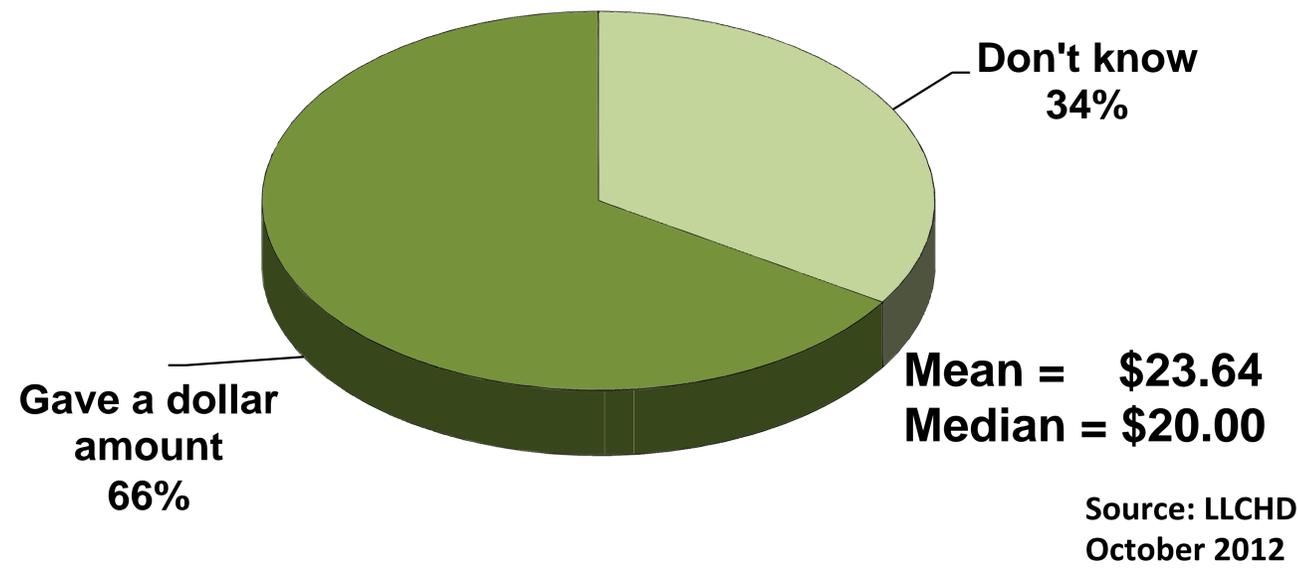


Baseline Assessment Survey

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

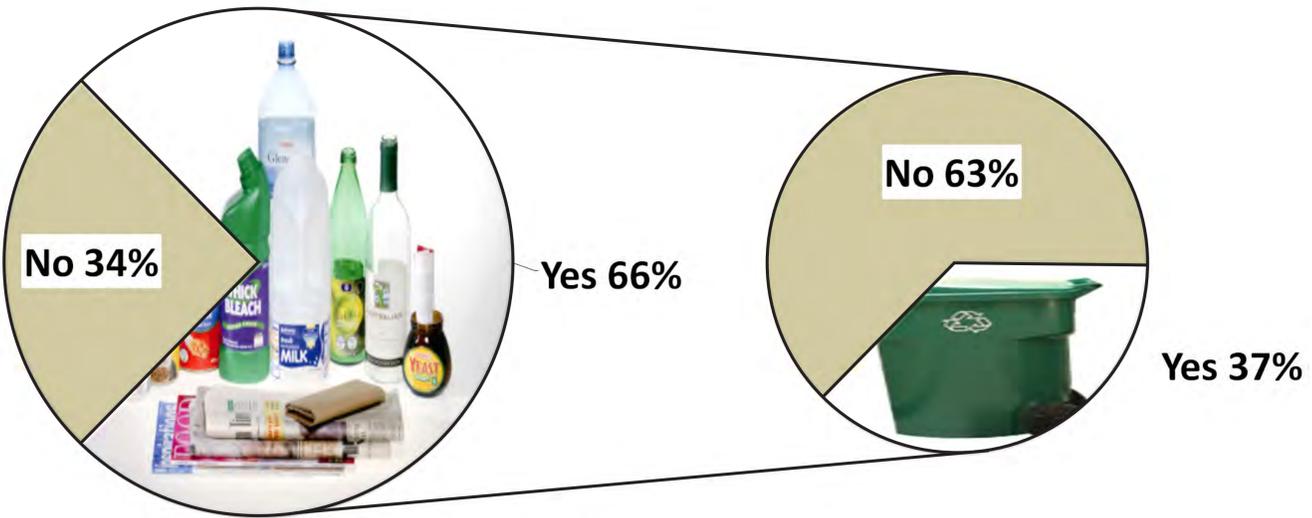


Q1a. How much do you pay per month for garbage service?



Baseline Assessment Survey

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



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

Source: LLCHD
October 2012

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

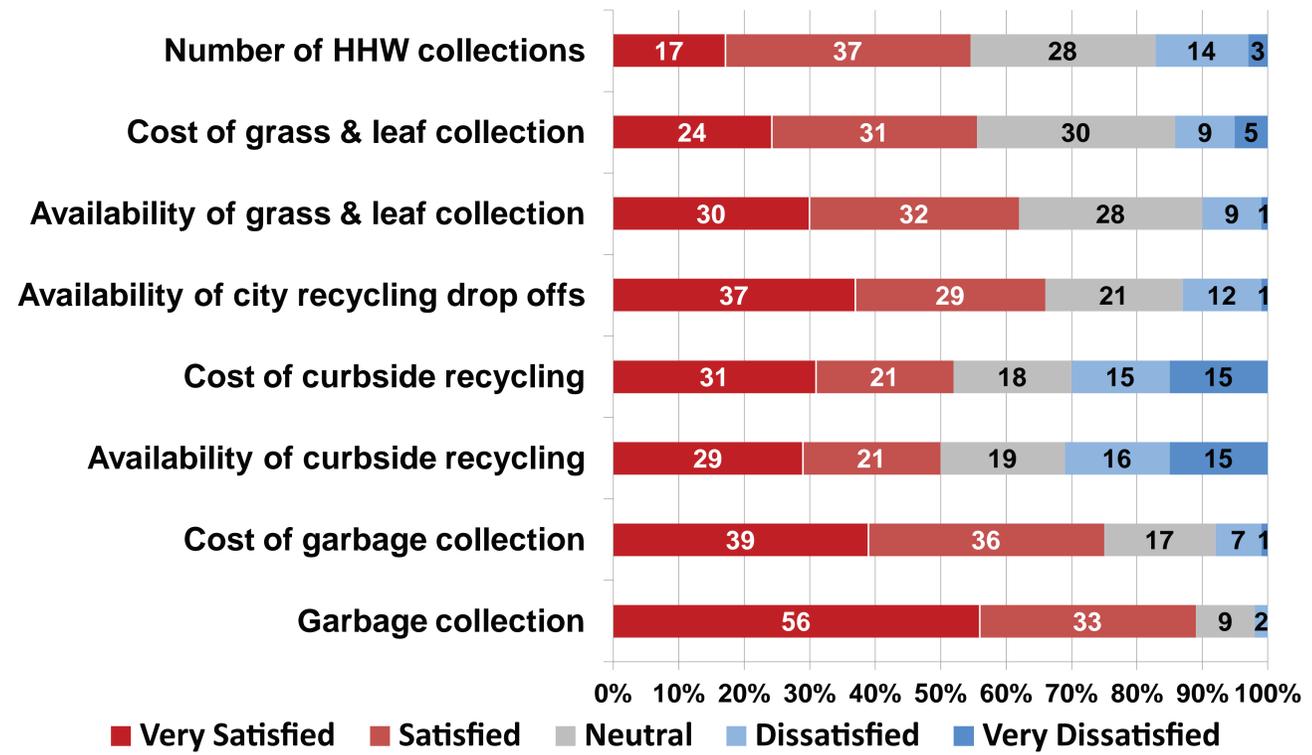
Baseline Assessment Survey

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



Q7. How satisfied are you with:
(not showing don't know responses)

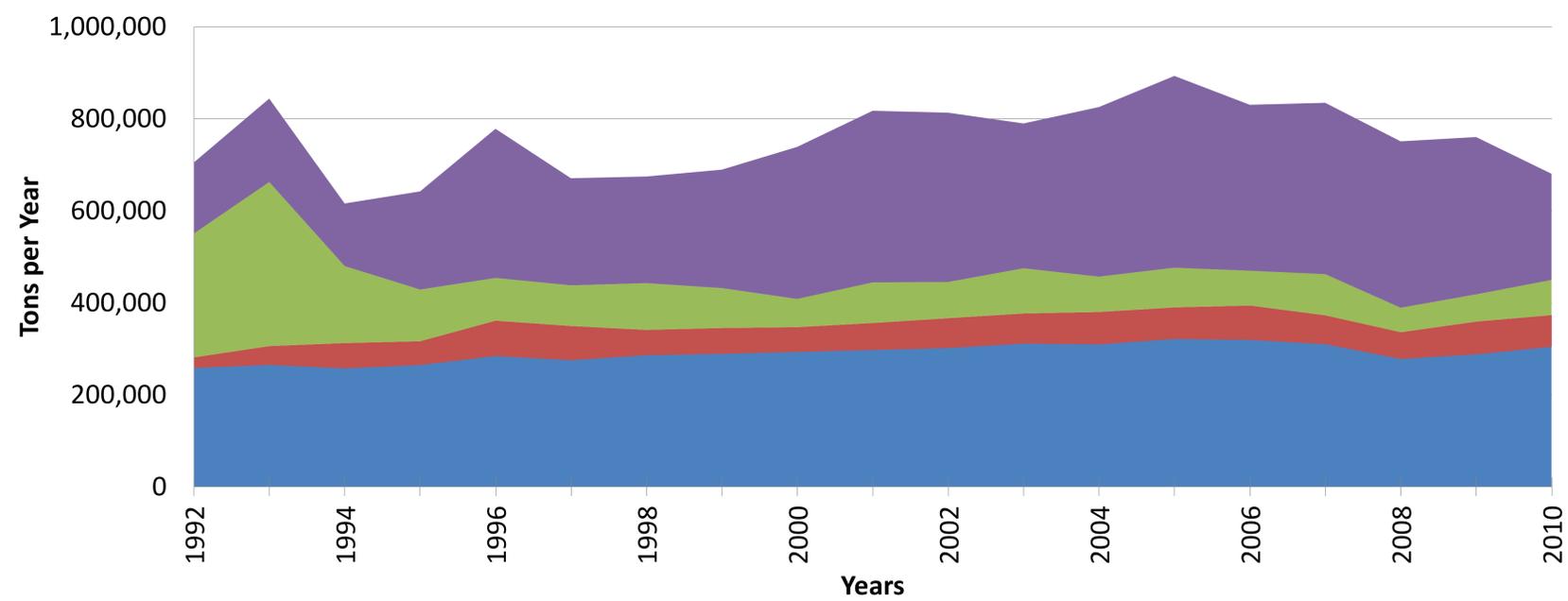
Source: LLCHD 10/12



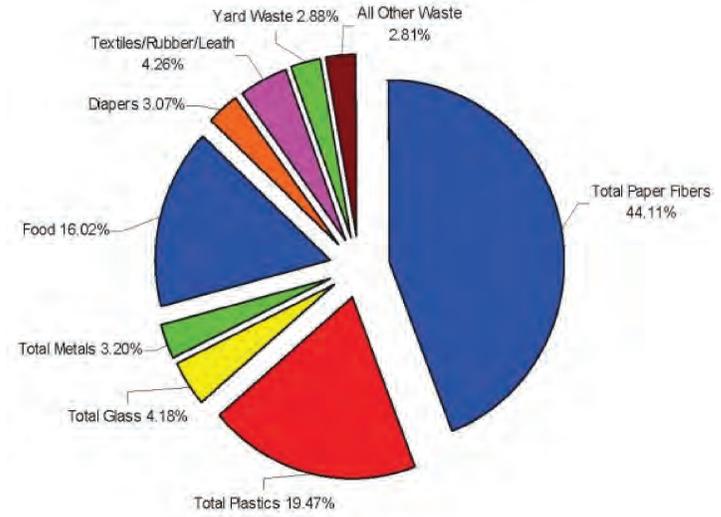
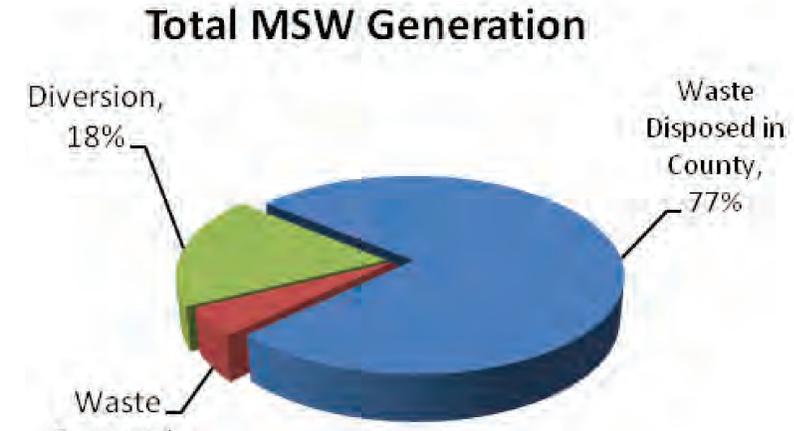
Municipal Solid Waste Generation and Composition

- 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.

Solid Waste Disposal & Diversion



■ Municipal Solid Waste Disposed ■ MSW Recycled & Composted
■ Construction & Demolition Waste Disposed ■ Construction & Demolition Recycled

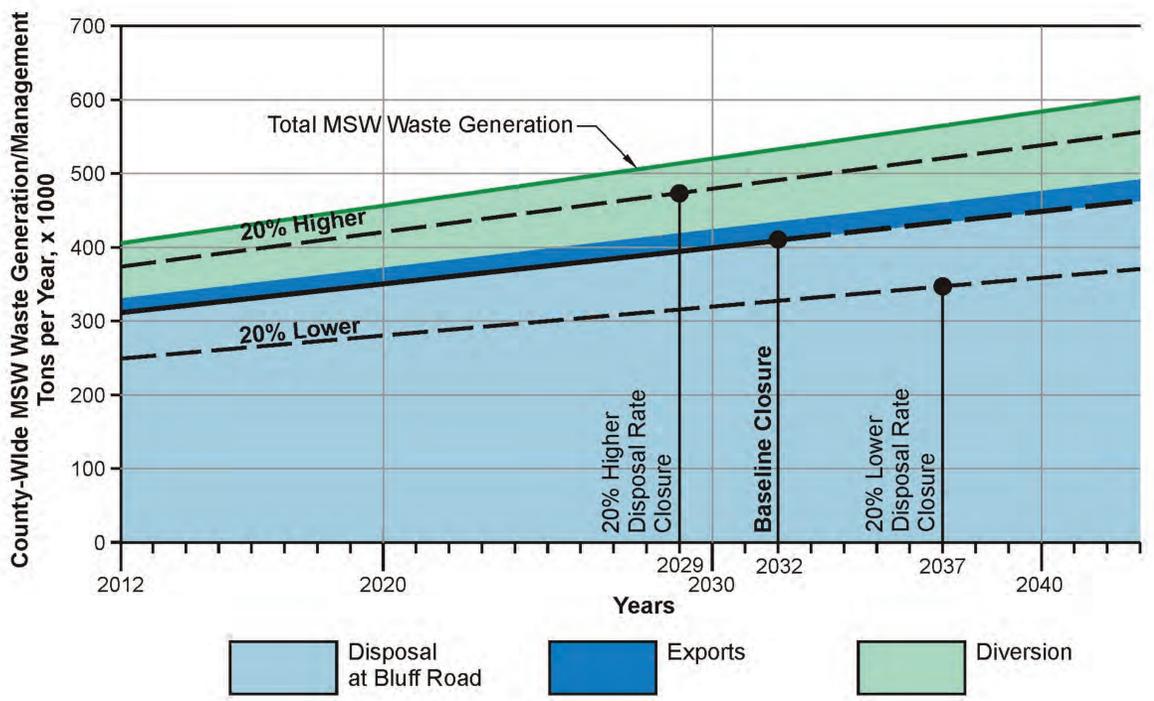


Municipal Solid Waste Composition, by Weight (NDEQ Composition Study, 2008)

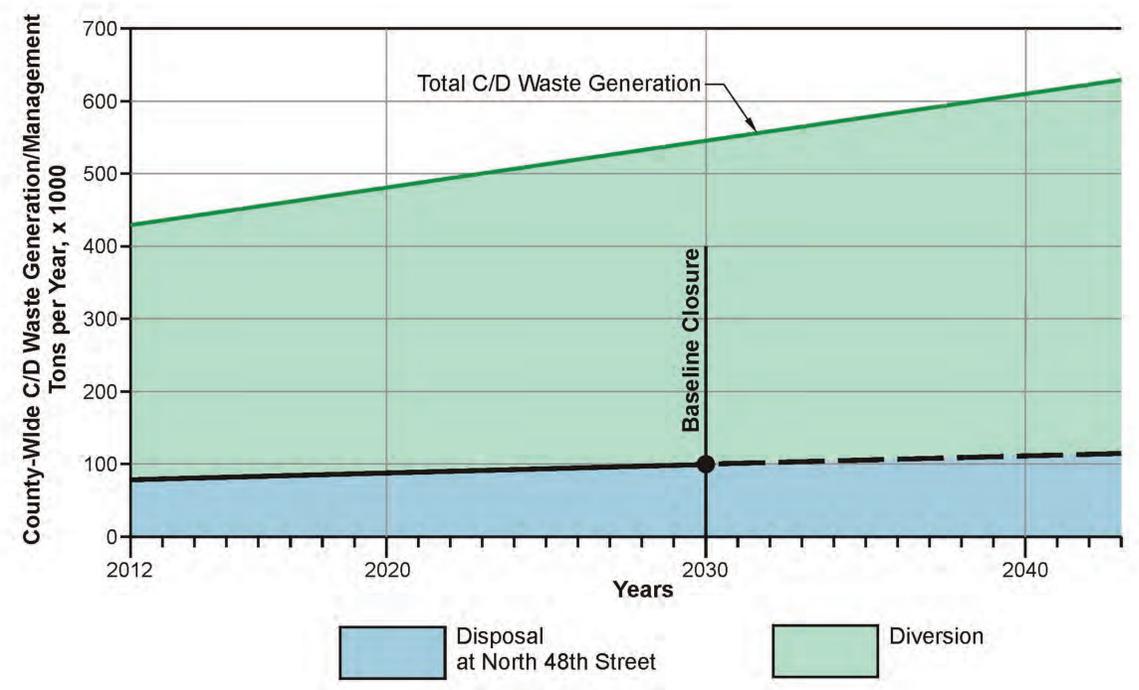
Additional Management and Disposal Capacity Needs

The Planning Area has disposal capacity for:

- Municipal Solid Waste through approximately 2032
- Construction and Demolition waste through approximately 2030
- Both of which are less than the timeframe being addressed in the Solid Waste Plan 2040.



**Municipal Solid Waste Landfill
Bluff Road Landfill**



**Construction & Demolition Waste Landfill
North 48th Street Landfill**

■ ■ ■ ■ Topics Being Evaluated & Evaluation Criteria

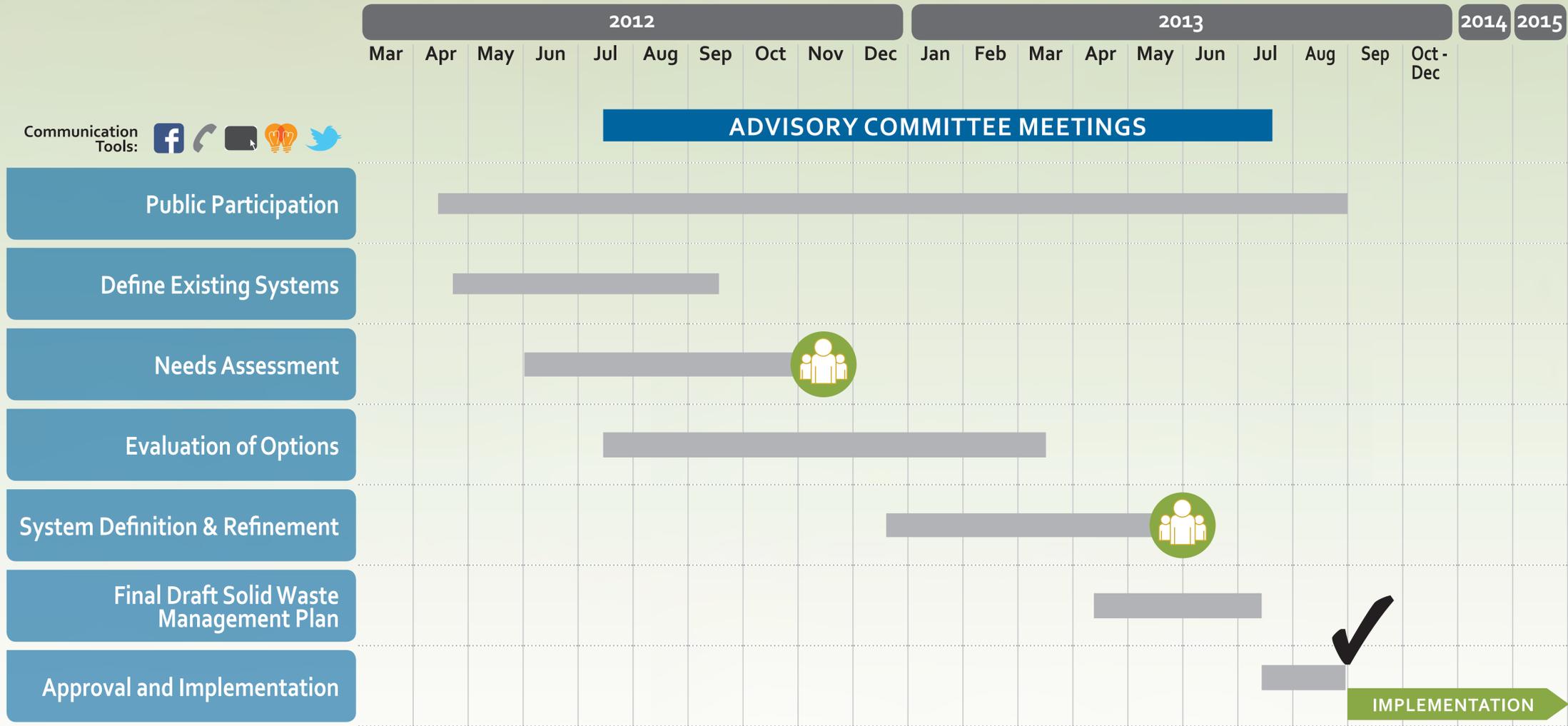
Topics

- Source Reduction
- Recycling and Composting
- Disposal Capacity
- Disposal Refinements
- Implementation Considerations
- Collection and Handling Programs

Evaluation and Screening Criteria for Solid Waste Management Options/Strategies

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

Overall Project Schedule



Final Plan



Public Meeting



Public Participation

Provide Input

- Submit comments
- Call (402) 441-7738
- Attend an in-person or online public open house meeting
- Attend an Advisory Committee meeting; a schedule is available online

Stay Up-to-Date

- Visit the project website at **Lincoln.ne.gov**
(keyword: **solid waste plan**)
- Follow the planning effort on Facebook and Twitter at Solid Waste Plan 2040
- Join the mailing list online or by phone

Welcome to Solid Waste Plan 2040

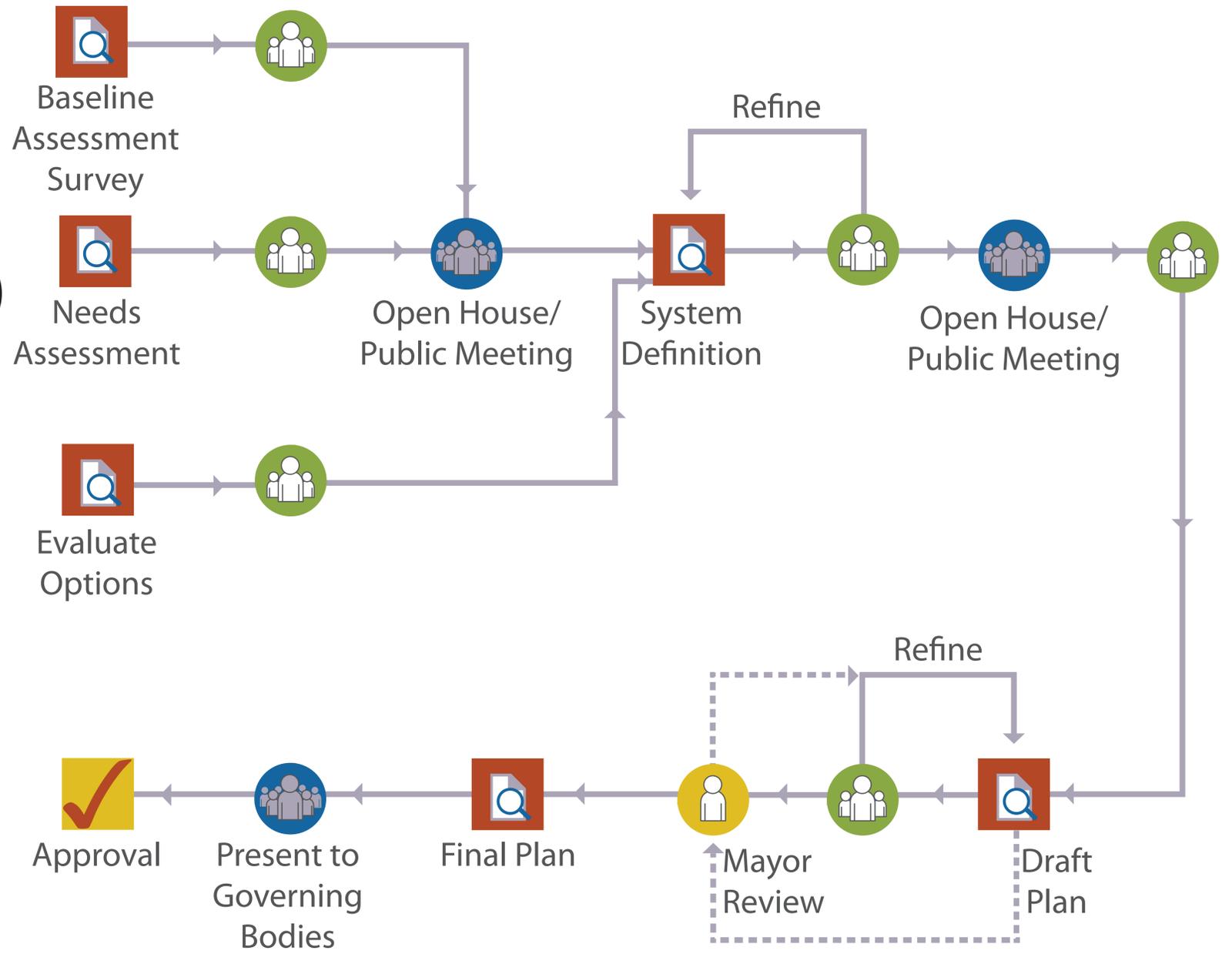
The purpose of this Open House is to:

- Hear your recommendations
- Share information on planning efforts
- Present information on existing programs and program options considered for managing trash (solid wastes) in the future

The Planning Process

Planning activities include the following:

- 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 options (completed February 2013)
- A definition of systems, facilities, and programs
- A final plan for solid waste management



Types of Solid Waste

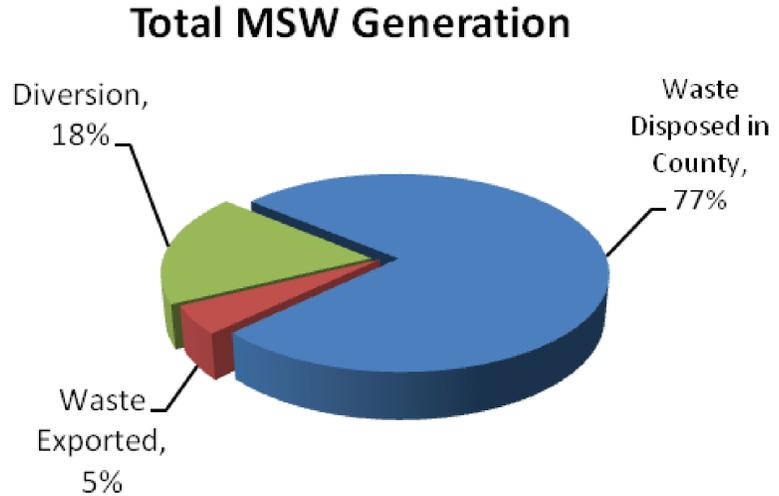
Solid Waste: commonly known as refuse, garbage, trash and junk, and otherwise more technically defined as:

- **Municipal Solid Waste**
 - From residential sources
 - From commercial (business, industrial, and institutional) sources
- **Construction and Demolition Waste**
- **Recycled and Composted Materials**
- **Other Wastes including:**
 - Household Hazardous Waste
 - Hazardous waste from small businesses (small quantity generators)
 - Wastes needing special handling
 - Wastes banned from disposal in City landfills

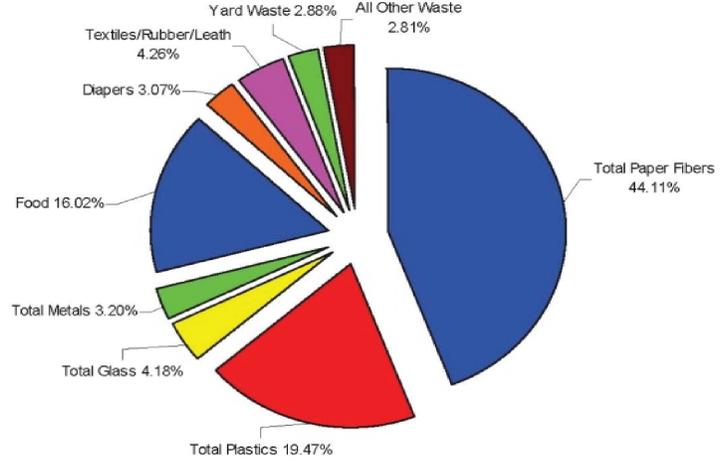
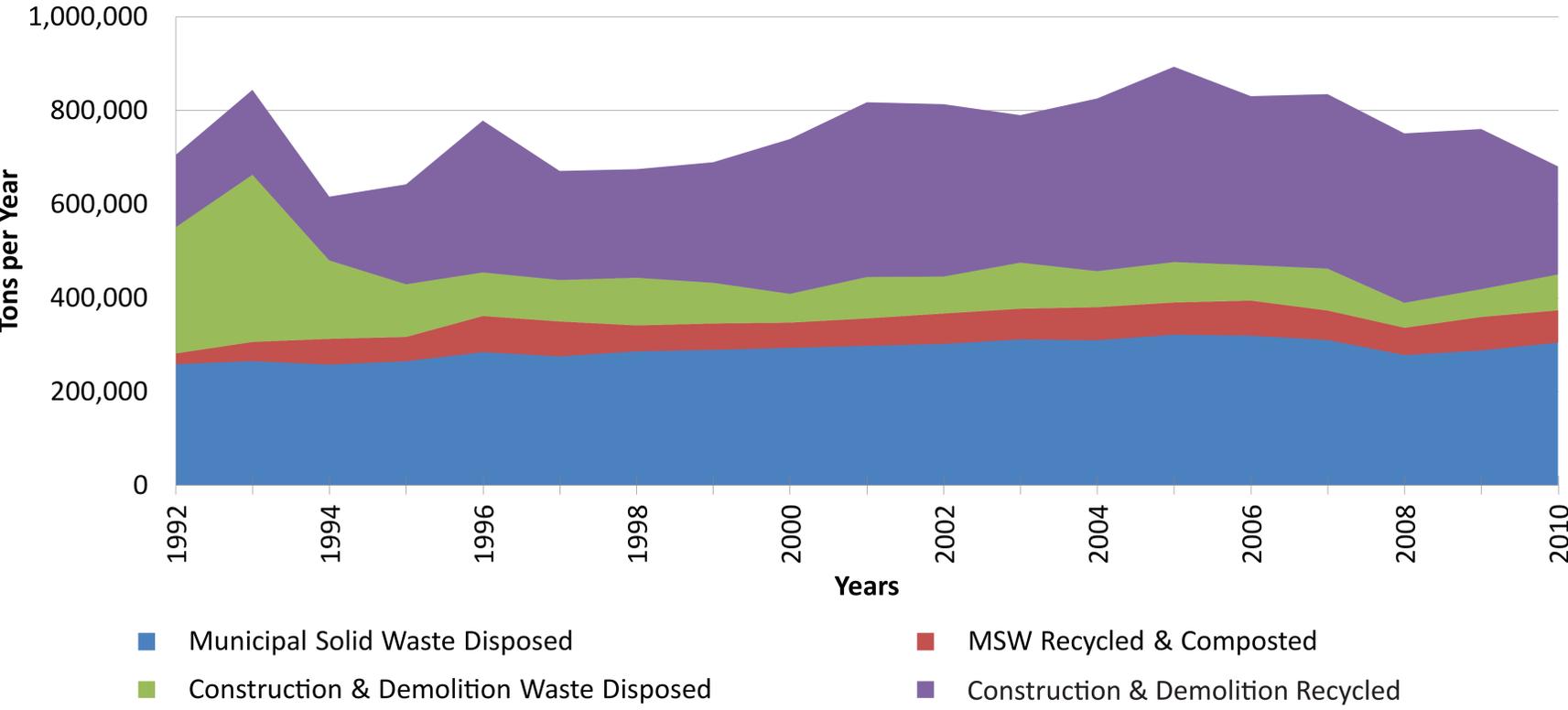


Solid Waste Generation and Composition

- The population of Lancaster County:
 - was 285,407 in 2010
 - will be 412,000 by 2040
- The average household in Lincoln:
 - generates 1.7 tons of trash per year
 - 1.4 tons goes to a landfill
 - 0.3 tons is recycled



Solid Waste Disposal & Diversion



Solid Waste Management System Definition

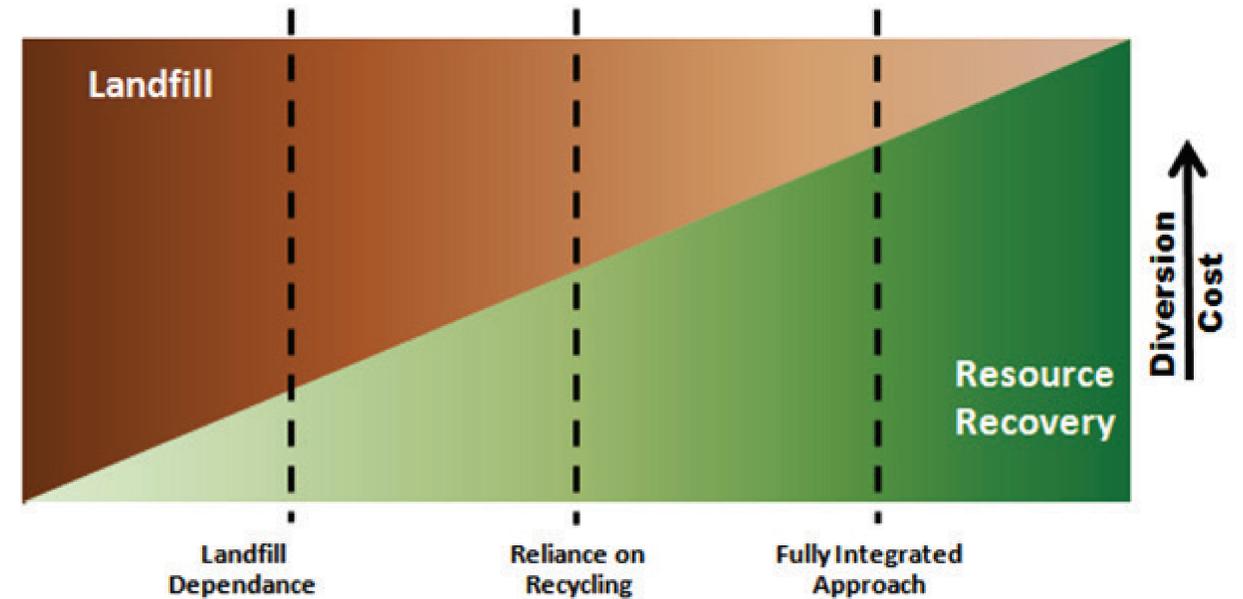
The System Definition will serve as the basis for the development of the Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)

- Combines information on existing programs and options for managing solid waste for the next couple decades.
- Describes programs and options that move Lincoln from current management practices toward more integrated solid waste management, and greater resource conservation, waste reduction, waste diversion, and resource recovery efforts.

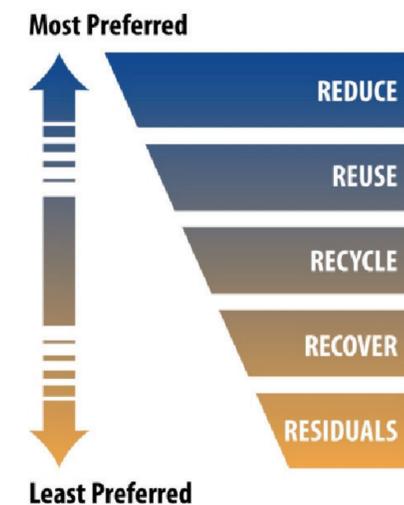
Solid Waste Management

Solid Waste Management System Definition:

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



- 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



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 ⁽¹⁾ to all single family and duplex dwellings City wide.
Commercial Recycling and Diversion	Commercial Recycling to be provided ⁽²⁾ 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.

Increased Solid Waste Diversion, Estimates by Scenario

Program Area	Scenario 1	
	Strategy	% increase in TOTAL MSW Diversion
Source Reduction	Increased Education	1-2%
Toxics Reduction	Year round facility	<1%
Yard Waste	Status Quo	0%
Residential Recycling	Universal with Minimum Levels of Service	5-7%
Commercial Recycling	Universal with Minimum Levels of Service	6-8%
Organic Waste Diversion	Status Quo with added educational emphasis	<1%
Waste Conversion Technologies	Status Quo	0%
Transfer Station	Transfer Station with no processing	<1%
% INCREASE in TOTAL MSW Diversion (above current 18%)		12-18%
% TOTAL MSW Diversion (including current 18%)		30-36%

Scenario 2	
Strategy	% increase in TOTAL MSW Diversion
Increased Education in conjunction with more progressive diversion efforts	2-4%
Year round facility	<1%
Status Quo	0%
Universal - more enhanced program	6-8%
Universal - more enhanced program	8-10%
Pilot Program for food composting	<1%
Status Quo	0%
Transfer Station with no processing	<1%
	17-24%
	35-42%

Scenario 3	
Strategy	% increase in TOTAL MSW Diversion
Increased Education in conjunction with incentivized programs (e.g. “volume-based” residential recycling and waste exchange)	4-6%
Year round facility	<1%
Year round landfill ban for grass and leaves	1-2%
Universal with incentives (e.g. volume-based rates)	8-10%
Universal with incentives (e.g. volume-based rates and space provisions for recycling in new construction)	10-12%
Commercial scale organics composting/digestion, food and soiled papers	5-10%
Waste Conversion facility targeting majority of non-diverted wastes	40-50%
Transfer Station with limited diversion of materials delivered as waste	2-5%
	57-62%
	75-80%

Current System

82% Disposal 18% Diversion



Scenario 1

64-70% Disposal 30-36% Diversion



Scenario 2

58-65% Disposal 35-42% Diversion



Scenario 3

20-25% Disposal 75-80% Diversion



Evaluation & Screening for Options/Strategies

Evaluation/Screening Criteria Options/Strategies	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	--	--	↑	--	--

Residential Recycling

Nationally, about 34% of waste is recycled. Lincoln currently recycles about 18% of its waste, or a little more than half the national average. Increasing the recycling rate can help extend the life of our landfill, avoid future landfill cost, and conserves natural resources.

A strategy many communities use to encourage greater recycling is the provision of curbside recycling service to all households. It is estimated that this could reduce the amount of waste entering Lincoln's landfill by an additional 5 to 10 percent or 20,600 to 41,200 tons each year.

Curbside recycling can be accomplished in two ways:

1. Require trash haulers to also provide curbside recycling, OR
2. The City of Lincoln would contract with a recycling provider.

Under either scenario, all Lincoln households would have curbside recycling service and pay a monthly fee for that service.

Commercial Recycling (apartments, businesses, industries, institutions)

Nationally, about 34% of waste is recycled. Lincoln currently recycles about 18% of its waste, or a little more than half the national average. Increasing the recycling rate can help extend the life of our landfill, avoid future landfill cost, and conserves natural resources.

A strategy many communities use to encourage greater recycling is the provision of commercial recycling service to multi-family dwellings (apartments), businesses, industries and institutions. Approximately half of the waste disposed of in Lincoln's landfill comes from commercial businesses. It is estimated that this strategy could reduce the amount of waste entering Lincoln's landfill an additional 6 to 12 percent or 24,700 to 49,400 tons each year.

Providing commercial recycling can be accomplished in two ways:

1. Require trash haulers to provide recycling, OR
2. The City of Lincoln would contract with a commercial recycling service provider.

Under either scenario, all Lincoln commercial businesses would have recycling service and pay a monthly fee for that service that would vary greatly depending upon the needs of the business and the level of service. For some businesses, the cost increase would be very minor. For others, the proposal might require increased capital investment and/or operating expense.

Toxics Reduction

Many common household products are toxic and, if not managed and disposed of properly, pose health and environmental risks. Lincoln's current toxics reduction program offers five to eight mobile collection events for the public and two small business hazardous waste collections per year. This approach does not offer year-round access to proper toxics disposal.

A strategy many communities use to manage toxics from homes and small businesses is to create a strong toxic-reduction program that combines education with the safe and convenient collection at a toxic waste collection facility with year around access. It is estimated that Lincoln could divert 1% or less and prevent more than 100,000 pounds of hazardous waste from entering the landfill each year. The program would offer the added benefit of better protecting public health and the environment.

Under this scenario, each household would pay 8 cents to 29 cents per month as part of their garbage bill depending on how often the toxic waste facility would be open to the public.

Source Reduction

Nationally, about 34% of waste is recycled. Lincoln currently recycles about 18% of its waste, or a little more than half the national average. Increasing the recycling rate can help extend the life of our landfill, avoid future landfill cost, and conserves natural resources.

A strategy many communities use to diminish the amount of waste entering the landfill is to reduce the amount of waste created. By increasing education, supporting manufacturer and retail take-back and producer responsibility programs, and increasing support of reuse and waste exchange programs, it is estimated that Lincoln could reduce its waste by an additional 1 to 6 percent and prevent 4,100 to 24,600 tons per of waste from entering the landfill each year.

Under this scenario, each household would pay 21 cents to 63 cents per month on their garbage bill depending on how extensive the program is.

Organic (Food) Waste Composting

Nationally, about 34% of waste is recycled. Lincoln currently recycles about 18% of its waste, or a little more than half the national average. Increasing the recycling rate can help extend the life of our landfill, avoid future landfill cost, and conserves natural resources.

A strategy some communities use to reduce the amount of waste entering the landfill is to divert commercially produced (restaurants, grocery stores, etc) organic or food waste. In Lincoln, food waste makes up 16% of the waste that enters the landfill. It is estimated that this strategy could reduce the amount of commercial waste entering Lincoln's landfill by 5 to 10 percent or 10,000 to 20,000 tons each year.

Commercial food waste composting options include:

1. Identify opportunities for public-private partnerships to increase commercial food waste diversion and use, AND
2. Support a pilot food waste diversion program for commercial businesses

The cost of organic (food) waste composting programs varies greatly depending upon the type of program developed. Large scale programs will charge trash haulers delivering food waste to their facility a fee ranging from \$25 to \$100 per ton. This fee would be passed on to the businesses generating the food waste.

Public Participation

Provide Input

- Submit comments via:
 - project website: lincoln.ne.gov keyword: solid waste plan
 - email: email@solidwasteplan.com
 - project phone line: (402) 441-7738
 - mail: Solid Waste Plan 2040
2400 Theresa Street
Lincoln, NE 68521
 - an Advisory Committee meeting: check project website for meeting dates, times and locations
- Participate in the Virtual Town Hall Meeting (available until August 20, 2013)

Stay Up-to-Date

Visit the project website at lincoln.ne.gov