MAPA
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Integrated Solid Waste Management Plan Update

June 2012

Nebraska Department of Environmental Quality

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HDR

INTEGRATED SOLID WASTE MANAGEMENT PLAN UPDATE

Metropolitan Area Planning Agency

Including the following Planning Area
City of Omaha, Douglas and Sarpy Counties, Nebraska

June 2012

Prepared for the
Metropolitan Area Planning Agency

by
HDR Engineering, Inc.

Nebraska Department of Environmental Quality

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The following identifies key project participants involved in preparing this Integrated Solid Waste Management Plan Update.

MAPA STAFF

Paul Mullen, Executive Director

Lynn Dittmer, Project Manager

SOLID WASTE STEERING COMMITTEE

Nina Cudahy, City of Omaha

Marty Grate, City of Omaha

Kent Holm, Douglas County

Duwaine Brigman, Sarpy County

Nebraska Department of Environmental Quality

The Nebraska Environmental Trust

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GLOSSARY OF TERMS

biosolids – sewage sludge that is used or disposed through land application, surface disposal, incineration, or disposal in a municipal solid waste landfill. (Ref. NDEQ Title 119)

bottom ash – the agglomerated, angular ash particles, formed in pulverized coal furnaces that are too large to be carried in the flue gases and collect on the furnace walls or fall through open grates to an ash hopper at the bottom of the furnace. (Ref. USEPA, June 21, 2010)

bulky waste – large items such as furniture, auto parts, and construction debris, which cannot be handled by routine MSW handling procedures.

coal combustion residuals (CCRs) – fly ash, bottom ash, boiler slag, and flue gas desulfurization materials. CCRs are also known as coal combustion wastes (CCWs) and fossil fuel combustion (FFC) wastes. (Ref. USEPA, June 21, 2010)

co-composting – a composting process which combines vegetative wastes or preprocessed mixed MSW with another organic nitrogen source.

commercial solid waste – all types of solid waste generated by stores, offices, restaurants, warehouses, and other non-manufacturing activities, excluding residential and industrial wastes. (Ref. NDEQ Title 132)

commingle – to blend together similar recyclable materials, but keep them separate from disposable materials in the waste stream.

compost – the humus-like material produced from the decomposition of organic materials under controlled conditions.

composting – the controlled aerobic, thermophilic, microbial degradation of solid organic material such as raw or treated sewage sludge, animal manure, paunch manure, plant or food residue or their mixtures, to a stabilized, humus-like material. (Ref. NDEQ Title 132)

conditionally exempt small quantity generator – shall mean a generator who generates no more than 100 kilograms of hazardous waste in a month, and accumulates no more than a total of 1,000 kilograms of hazardous waste. If a conditionally exempt small quantity generator also generates acute hazardous waste, those hazardous wastes are subject to the exemptions and regulations of Title 128 - Nebraska Hazardous Waste Regulations. (Ref. NDEQ Title 132)

construction and demolition waste (C/D waste) – waste that results from land clearing, the demolition of buildings, roads, or other structures, including, but not limited to, fill materials, wood (including painted and treated wood), land clearing debris other than yard waste, wall coverings (including wall paper, paneling, and tile), drywall, plaster, non-asbestos insulation, roofing shingles and other roof coverings, plumbing fixtures, glass, plastic, carpeting, electrical wiring, pipe, and metals. Such waste shall also include the above-listed types of waste that result from construction projects. Construction and demolition waste shall not include friable asbestos waste, special waste, liquid waste, hazardous waste and waste that contains polychlorinated biphenyl,

putrescible waste, household waste, industrial solid waste, corrugated cardboard, appliances, tires, drums, and fuel tanks. (Ref. NDEQ Title 132)

cullet – waste or broken glass, usually suitable as an addition to raw glass melt materials.

disposal – the discharge, deposit, injection, dumping, spilling, leaking or placing of any solid waste or hazardous waste into or on any land or water so that such waste or any constituent thereof may enter the environment or be emitted into the air, land or water of the state. (Ref. NDEQ Title 132)

diversion – source reduction, recycling, composting, and other resource conservation and recovery techniques.

Facility – Any site owned and operated or utilized by any person for the collection, source separation, storage, transportation, transfer, processing, treatment, or disposal or solid waste and shall include a solid waste landfill. (Nebr. Rev. Statutes, Chapter 13, Section 20 Part 13-2010)

ferrous – pertaining to or derived from iron.

final disposal – combustion and landfilling, in accordance with State policy.

flint glass – clear glass.

fly ash – the very fine globular particles of silica glass which is a product of burning finely ground coal in a boiler to produce electricity, and is removed from the plant exhaust gases by air emission control devices. (Ref. USEPA, June 21, 2010)

fossil fuel combustion ash (also referred to as CCR) – fly ash, bottom ash, slag, and flue gas emission control ash generated from utility plants or other facilities in which coal is the primary fuel source. (Ref. NDEQ Title 132)

industrial process waste – solid waste resulting from or incidental to any process of industry or manufacturing, or mining or agri-processing operations.

industrial solid waste – solid waste generated by manufacturing or industrial processes that is not a hazardous waste. (Ref. NDEQ Title 132)

Integrated solid waste management – solid waste management which is focused on planned development of programs and facilities that reduce waste toxicity and volume, recycle marketable materials, and provide for safe disposal of residuals. (Ref. NDEQ Title 132)

Integrated Solid Waste Management Act – Nebraska Revised Statutes Chapter 13 Section 13-2001 to 2043

kraft – the flat board used in corrugated paperboard.

landfill unit – a discrete area of land which has been developed and constructed with containment features according to an operational plan and designed for disposal of solid waste. (Ref. NDEQ Title 132)

materials recovery facility – any facility at which solid waste is processed for the purpose of resource recovery. (Ref. NDEQ Title 132)

monofill – a landfill disposal facility accepting only one type of material, such as fossil fuel combustion ash, or waste tires.

municipal solid waste (MSW) – household waste and/or the combination of household waste with industrial or commercial solid wastes. (Ref. NDEQ Title 132)

NDEQ – Nebraska Department of Environmental Quality.

NDEQ Title 132 – Nebraska Department of Environmental Quality Title 132 – Integrated Solid Waste Management Regulations.

nonferrous metal – a metal which contains no iron, such as aluminum, copper, brass, and bronze.

organic – materials which contain carbon and oxidize or burn easily, contain nitrogen or sulfur or both, and usually give off odorous by-products in decomposition.

Plan – the Integrated Solid Waste Management Plan for the MAPA Region including Douglas, Sarpy, Washington and Cass Counties, Nebraska, and Pottawattamie County, Iowa.

Planning Area – City of Omaha, and Douglas and Sarpy Counties, Nebraska

Planning Period – the 20 year period from 2012 through 2032.

putrescible – capable of being decomposed by microorganisms with sufficient rapidity as to cause nuisances from odors, gases, etc. Kitchen wastes, offal and dead animals are examples of putrescible components of solid waste. (Ref. NDEQ Title 132)

recycled – the use of recovered waste materials, such as post-consumer material, in the manufacture or production of new items. (Ref. NDEQ Title 132)

recycling – the process by which recovered waste materials are transformed into new products in such a manner that the original products may lose their identity. (Ref. NDEQ Title 132)

Region – Douglas, Sarpy, Washington, and Cass Counties, Nebraska, and Pottawattamie County, Iowa.

resource conservation – reduction of the amounts of solid wastes that are generated, reduction of overall resource consumption and utilization of recovered resources. (Ref. NDEQ Title 132)

resource recovery – the recovery of material or energy from solid waste. (Ref. NDEQ Title 132)

reuse – the reintroduction of a commodity into the economic stream without change. (Ref. NDEQ Titles 126 and 132)

sludge – any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar characteristics and effect, exclusive of the treated effluent from a wastewater treatment plant. (NDEQ composite of NDEQ Titles 126 and 132)

solid waste – any garbage, refuse, or sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial and mining operations and from community activities, but solid waste shall not include solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the federal Clean Water Act, as amended, 33 U.S.C. 1251 et seq., or source, special nuclear, or byproduct materials as defined by the Atomic Energy Act of 1954, as amended, 68 Stat. 923. (Ref. NDEQ Title 132)

solid waste disposal – the disposal of solid waste, including any household waste, commercial solid waste, fossil fuel combustion ash, nonhazardous sludge, industrial solid waste, or construction and demolition waste. (Ref. NDEQ Title 132)

solid waste management – the systematic administration of activities which provide for the collection, source separation, storage, transportation, transfer, processing, treatment, and disposal of solid waste. (Ref. NDEQ Title 132)

solid waste management facility – a public or private site, location, tract of land, installation or building which has been used for the collection, source separation, storage, transportation, transfer, processing, treatment, or disposal of solid waste, and shall include solid waste disposal areas and solid waste processing facilities. (Ref. NDEQ Title 132)

solid waste management plan – a plan adopted by a county or municipality, including a joint plan adopted by an agency, for integrated solid waste management. (Ref. NDEQ Title 132)

solid waste transfer station (also referred to as transfer station) – any site, location, tract of land, installation, or building that is used or intended to be used primarily for the purpose of transferring solid wastes that are generated off of the premises of the facility from vehicles or containers, into other vehicles or containers for transportation to a solid waste disposal area or solid waste processing facility. (Ref. NDEQ Title 132)

source reduction – a decrease in the amount of material entering the solid waste stream.

source separated materials – the waste products, for which a market exists, that have not been commingled with solid waste but have been kept separate from other wastes from the point of generation to final disposition. (Ref. NDEQ Title 132)

source separation – sorting at the point of generation of specific discarded materials such as newspapers, glass, metal cans, and vegetative matter, into specific containers for separate collection.

Special Waste – a solid waste, except waste which is regulated as a hazardous waste, which possesses physical, chemical, or biological characteristics that make it different from general municipal solid waste, or construction and demolition waste, and which requires special handling, treatment, or disposal methodologies in order to protect public health, safety and the environment. (Ref. NDEQ Title 132)

Systems – any equipment, vehicles, facilities, personnel, or contractors utilized for the purpose of collection, source separation, storage, transportation, transfer, processing, treatment, or disposal of solid waste. (Nebr. Rev. Statutes, Chapter 13, Section 20 Part 13-2016)

tipping fee – the handling charge to unload waste materials at a transfer station, processing plant, landfill, or other disposal site.

waste oil – any oil that has been refined from crude oil, or any synthetic oil, that has been used, and as a result of such use, is contaminated by physical or chemical impurities or used oil as defined in Title 128 - Nebraska Hazardous Waste Regulations. (Ref. NDEQ Title 132)

waste stream – the waste output of a region, community or facility.

waste tires or scrap tire – a tire that is no longer suitable for its intended purpose because of wear, damage, or defect. (Ref. NDEQ Title 132)

waste-to-energy – combustion of solid waste in an environmentally acceptable manner with energy recovery in the form of steam, which may be used directly or indirectly to generate electricity.

white goods – discarded kitchen and other large, enameled appliances, such as washing machines and refrigerators.

yard waste – grass and leaves. For the purposes of composting, yard waste shall mean 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. (Ref. NDEQ Title 132)

LIST OF ABBREVIATIONS AND ACRONYMS

1985 Recommendations – Regional Waste Management Report and Recommendations

1994 ISWMP – Integrated Solid Waste Management Plan

2003 Plan Update – Solid Waste Management Plan Update

2012 Plan – 2012 MAPA Integrated Solid Waste Management Plan Update

Act – Integrated Solid Waste Management Act, Nebraska Revised Statutes Chapter 13 Section 13-2001 to 2043

BBR – Bureau of Business Research

CCR – coal combustion residues (also referred to as fossil fuel combustion ash)

C/D – construction and demolition

CFR – Code of Federal Regulations

CO_2 – carbon dioxide

e-waste – electronics waste

GHG – greenhouse gas

HDPE – high-density polyethylene

HDR – HDR Engineering, Inc.

HHW – household hazardous waste

ISWMP – Integrated Solid Waste Management Plan

ISWMP Update – 2012 MAPA Integrated Solid Waste Management Plan Update

MAPA – Metropolitan Area Planning Agency

MSW – municipal solid waste

NAISC – North American Industry Classification System

NDEQ – Nebraska Department of Environmental Quality

NDEQ Title 132 –Nebraska Department of Environmental Quality Title 132 – Integrated Solid Waste Management Regulations

Nebr. Rev. Statutes – Nebraska Revised Statutes

NRD – Natural Resources District

NSRA – Nebraska State Recycling Association

OPPD – Omaha Public Power District

PET – polyethylene terephthalate

RCRA – Resource Conservation and Recovery Act

RCRA Subtitle D – 40 CFR Parts 257 and 258 - Solid Waste Disposal Facility Criteria; Final Rule

RDF – Recycling and Disposal Facility

SID – sanitary improvement district

SW Steering Committee – Solid Waste Steering Committee

UNL – University of Nebraska–Lincoln

U.S. – United States

USEPA – United States Environmental Protection Agency

WMN – Waste Management of Nebraska

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PLAN SUMMARY

This Integrated Solid Waste Management Plan Update (ISWMP Update) was prepared to guide the development of solid waste management systems, facilities and programs for participating communities and political jurisdictions for the period from 2012 through 2032 (the "Planning Period").

The ISWMP Update began with a summarization of existing solid waste practices and projection of future needs, an evaluation of waste management programs and alternatives specific to current and projected future needs, and the development of strategy options and general costs. Section 5 of this ISWMP Update includes general and specific recommendations to guide future solid waste systems, facilities, and programs and a schedule of action for implementation of key recommendations. The options and strategies presented will progressively move the integrated solid waste management system along the waste management hierarchy from current diversion and disposal practices toward increasing degrees of diversion (waste minimization, reuse, recycling/composting) and environmental stewardship based on considerations of technological and economic factors. The planning effort identified five key focus areas, which consisted of:

- Identifying sustainable measures for funding solid waste management under current and future conditions
- Identifying opportunities for waste minimization and capturing of the resource value within the waste
- Developing an ongoing system to efficiently track waste generation, diversion and disposal to better monitor the planning goals
- Improving end markets for recyclables
- Improving community involvement and education

1.1 Purpose and Background

In 1994, MAPA prepared an ISWMP ("1994 ISWMP") to determine how Douglas, Sarpy, Washington, and Cass Counties in Nebraska and Pottawattamie County in Iowa (the "Region") would handle its solid waste for the subsequent 20 years. In 2003, MAPA prepared a Solid Waste Management Plan Update ("2003 Plan Update") for Douglas and Sarpy Counties, which among other updates, incorporated a household hazardous waste ("HHW") management facility, now known as UnderTheSink, into the 1994 ISWMP.

Since the development of the 1994 ISWMP, the management system has matured and greater diversion of waste is being achieved through various public and private initiatives. Those changes, along with the pending expiration of the planning timeline identified in the 1994 ISWMP, have led to this ISWMP Update.

The ISWMP Update was prepared in two phases. The first phase was focused on analyses designed to update historic information on waste generation and waste management practices, to prepare projections of needs for the next 20 years, and to

evaluate options and possible alternatives for future consideration. The second phase began with a public involvement program designed to gather input before this ISWMP Update was drafted.

The public involvement process was designed to provide opportunities and several mechanisms for public participation and input, including the following:

- An in-person open house meeting
- An online self-directed open house meeting
- Surveys: one for residents and one businesses
- An open comment form

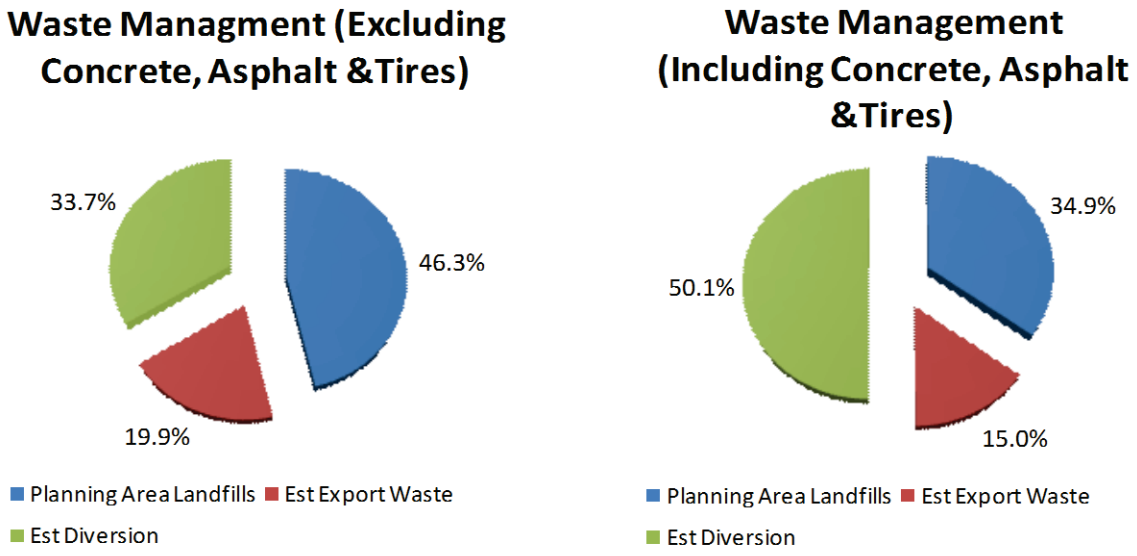
1.2 Goals, Objectives and Needs

An initial part of the planning process was to update the goals and objectives contained in the 1994 ISWMP. These updated goals and objectives served as guidance for this ISWMP Update. The goals and objectives are included in Section 1.3.1.

Also as part of the first phase of activities, a Needs Assessment (summarized in Section 2) was prepared that focused on the following:

- Defining the current solid waste management practices.
- Describing currently available diversion systems, facilities and programs.
- Quantifying waste generation, material diversion and disposal.
- Assessing future disposal capacity needs.

Figure S 1 – 2010 Waste Disposal and Diversion, by Percentage



As shown in Figure S 1, excluding concrete, asphalt and tires, it is estimated that approximately 34 percent of the waste stream is diverted from disposal by reuse, recycling, composting or related techniques, 20 percent is exported to out-of-county landfills and the remaining 46 percent of the generated waste is disposed in Planning Area landfills. Tires are banned from Nebraska landfills. Since 1994, processing facilities have been developed as commercial business as an alternative to landfilling for asphalt and concrete; these business grind and process and estimated 610,000 tons per year of concrete and asphalt for multiple non-disposal uses. If the all the concrete, asphalt and tires currently diverted from Planning Area landfills are included in the total waste generation it is estimated that 50 percent of the total waste stream is diverted by reuse, recycling, composting or related techniques, 15 percent is exported to out-of-county landfills, and the remaining 35 percent of the generated waste is disposed in Planning Area landfills (see Figure S 1).

When the Sarpy County Landfill closes (prior to 2015), the Douglas County/Pheasant Point Landfill will be the only remaining municipal solid waste ("MSW") landfill in the Planning Area. Under the current management practices (status quo) the Pheasant Point Landfill has 92 years of projected remaining life, which significantly exceeds the 20 year Planning Period for this ISWMP Update. As such, no need is forecasted for an additional MSW landfill during the Planning Period. Therefore, the Planning Area will only need to monitor changes in disposal patterns or in waste disposal legislation related to special waste categories such as construction and demolition waste (C/D), combustion ash residues (CCR) or biosolids to verify that they do not significantly impact the remaining MSW landfill life.

1.3 Technical Evaluations

The planning efforts were guided by representatives of the City of Omaha, Douglas County and Sarpy County (the "SW Steering Committee"). The SW Steering Committee identified a number of issues to be addressed or evaluated further in the initial phase of the ISWMP Update planning process. In order to address these issues, HDR Engineering, Inc. (HDR) was retained to prepare a series of technical memoranda (summarized in Section 3) to identify options and alternatives, address issues and provide recommendations for further consideration and inclusion in this ISWMP Update. The topics of these technical memoranda are as follows:

- Solid Waste Management Program Funding (Appendix B-1)
- Waste Tracking (Appendix B-2)
- Zero Waste and Waste Minimization (Appendix B-3)
- Energy Recovery Program Options Assessment (Appendix B-4)
- Public Education and Policy Initiatives Appendix B-5
- Market Analysis (appendix B-6)

The principal areas of concern associated with program and options evaluated and recommended center around sustainable finances and funding, include the following:

1. Increases cost of services with no change in current programs (status quo)

2. Funding for changes and possible new programs
3. Sources of funding or funding options available

Waste tracking evaluations focused on mechanisms that could be used to better determine the quantities of waste materials currently diverted, exported and recycled, and in order to monitor impacts on the ISWMP goals and objectives. It is not currently anticipated that totally voluntary reporting efforts will provide this information.

Waste minimization evaluations focused on the variety of alternatives that could be implemented by the Planning Area members to reduce the quantities of waste sent to disposal in landfills. It is anticipated that the greatest level of diversions can be achieved by:

- Maintaining existing programs
- Ensuring recycling services are available to all residents and business in the Planning Area
- Providing new programs that target underserved diversion opportunities (e.g., increases commercial, institutional and industrial waste recycling, glass recycling)

It is also important to note that while many landfill diversion and waste reduction options are considered technically viable, they may not be considered economically feasible, based increased costs.

With the anticipated closing of the Sarpy County Landfill and anticipated need to relocate the City of Omaha's existing compost facilities, it is also important to define how the services provided at these facilities will be replaced. Additionally, with the closure of the Sarpy County Landfill (prior to 2015) there is may be a need to provide new facilities to handle yard waste, brush/wood, banned wastes and recyclables currently diverted through this facility.

The energy recovery, via waste-to-energy or similar conversion facilities, evaluation focused on major factors that would need to be addressed to make this technology viable. Energy recovery technologies have significantly higher costs for disposal than the current landfill and transfer station alternatives. If classified as a renewable energy source, it would likely see a favorable increase in the economics of such a facility. In addition, whether and/or how carbon dioxide (CO2) emissions are regulated will also affect the viability and cost effectiveness of a facility. Continued monitoring and review of economics and regulatory factors related to feasibility is recommended as a strategy in the ISWMP. The public education evaluation focused on existing programs and various mechanisms to increase public education. Public education is (or can be) a key tool in supporting proper management of wastes destined for disposal and in encouraging diversion. Therefore, fully funding and supporting a "Source Reduction Leader" (staff position) can go a long way to aid in implementation of the source reduction and recycling components of the ISWMP Update. The respondents to the limited public survey (Appendix C3) also suggested that there was a need for additional educational outreach.

The policy initiatives evaluation focused on options and definitive actions by the governing bodies in the Planning Area necessary to provide the funding mechanisms, implement programs and options identified in the ISWMP, and to ensure compliance with and realization of the Plan goals and objectives.

The market evaluations defined current management practices and options for marketing recovered materials. Recovered materials such as papers, glass, metals and plastics are currently sent to brokers, which aggregate and ship materials to regional, national or international end users. Markets and prices for recovered materials can be volatile and are influenced by supply and demand, as well as other factors such as material quantity and quality. Therefore, the Planning Area should seek opportunities to provide local markets to improve and stabilize material markets and revenues.

With emphasis on increasing waste diversion (reduced quantities disposed by landfilling), as well as other changes to enhance current programs, added costs may result and funding sources will need to be addressed.

The above considerations should not be viewed as discouraging efforts to reduce, reuse or recycle/compost. They are meant to suggest that with such new or expanded programs, consideration needs to be given to funding for these programs, especially where the programs themselves do not generate a net positive cash flow.

1.4 Strategy Development

Based on the goals and objectives, needs assessment, and technical evaluations, the Strategy Development section (Section 4) of this ISWMP Update addresses optional programs and general strategies that were considered in the final plan development.

Consistent with the 1994 ISWMP, several alternative strategies were developed. Alternative strategies were developed for each Planning Area member to reflect their individual characteristics and needs, as well as opportunities for regional cooperation.

There is a wide array of system, facility and program options that could be considered to further reduce the percentage of the total waste generation that is currently sent to disposal. As these programs are better defined and integrated into the Plan, more detailed cost and funding evaluations may need to be considered. Such evaluations will need to be program and situation specific and are beyond the scope of this planning effort.

The solid waste management strategies and options are presented in the following groupings:

- **Common Elements** for all planning jurisdictions
- **Alternative Strategies** available to each Planning Area jurisdiction

1.5 Action Plan

To provide maximum flexibility to the counties and municipalities in the Planning Area, no specific option has been selected by Douglas and Sarpy Counties or the City of Omaha. To implement the Plan goals and objectives, specific actions must be taken by

the governing bodies of the appropriate cities and/or counties in the Planning Area. Section 5 of the ISWMP Update addresses actions and implementation considerations. In selecting or approving a change to the current management practices it was recommended that the following be considered:

- Evaluate all systems, facilities and programs to verify that they are consistent with the requirements in state and local laws.
- Evaluate all systems, facilities and programs in terms of their ability to control environmental and economic risks.
- Evaluate future available waste management systems, facilities and program options using the 2012 Plan goals and objectives, strategies, and action plan(s).
- Evaluate new systems, facilities and programs based on technical feasibility, socio-political acceptability and environmental/economical sustainability.

The action plan in Section 5 identifies specific recommendations. These recommendations are summarized below.

1.5.1 General

- Form a joint committee or task force consisting of representatives from the Planning Area members to evaluate funding mechanisms required to implement the Action Plan and Implementation Plan. The committee would also oversee, monitor and annually prepare a report on progress toward achieving the 2012 Plan's goals and objectives for submittal to elected officials and key decision makers.
- Maintain liaison and regional cooperation with other local governments to identify common problems that may have common solutions across jurisdictional boundaries.
- Create, fill and fund a Source Reduction Leader position or similar title to expand existing source reduction programs and implement new community education and awareness programs with the following ultimate goals: i) increasing resource conservation; ii) reducing the percentage of the waste directed to disposal; and iii) reducing the toxicity of the waste.
- Encourage the development of local markets for recovered materials and manufacturing of end products made from these materials.
- Evaluate and adopt changes to purchasing policies used in Planning Area governmental procurement programs to encourage waste reduction, recycling and the use of recycled products.
- Develop necessary ordinances and resolutions to implement the recommended actions and provide adequate levels of funding to ensure that actions to be undertaken are sustainable.
- Seek state support, legislative changes and other approvals that will support financially sustainable solid waste management systems, facilities and programs.

- Pursue funding structures that would allow waste generators and the public to see the value of conservation, reduction, management costs and outcomes.
- Pursue mechanisms to create incentives to expand recycling collection services to the commercial sector.

1.5.2 Organizational Framework

- Coordinate solid waste management activities and public education programs throughout the Planning Area to avoid unnecessary duplication of services, facilities and programs, and potential conflicts.
- Implement appropriate organizational frameworks and structures that allow Planning Area members to better manage waste management and disposal systems, facilities, and programs, including those necessary to capture the inherent value and resource value of solid waste in order to provide sustainable funding and integrated resource conservation and management systems.
- Establish institutional arrangements for local governments within the Planning Area to cooperate on the use of solid waste management systems, facilities and programs.
- Continue to support public-private partnerships that provide solid waste management systems, facilities and programs that are consistent with the 2012 Plan but maintain control over environmental and economic risks to the Planning Area members.
- Develop regional web-based public information linkages to enhance communication on common solid waste management needs and opportunities.
- Implement appropriate organizational frameworks and structures to allow units of government to better:
    - Manage imports and exports of solid waste from the Planning Area and ensure sound, sustainable, environmentally beneficial programs.
    - Capture data and monitor management, diversion and disposal programs to assess their effectiveness.

1.5.3 Source Reduction

- Promote source reduction programs, which minimize the amount of waste that must be managed by the post-consumer programs.
- Expand communications to the public, businesses and communities on the benefits of resource conservation and environmental stewardship as they relate to solid waste.
- Develop and support expanded and coordinated public education programs focused on waste reduction, diversion and environmentally appropriate solid waste management alternatives.

- Implement procurement policies and construction specifications that encourage the use of recycled materials and waste minimization by all governmental units and other institutions throughout the Planning Area.
- Encourage the development of local private enterprises that use recovered or recyclable materials and create jobs.
- Promote “Bag No More” and "Don't Bag It" type programs for self-management of yard waste, including grass clippings and leaves.

1.5.4 Recycling

- Identify and pursue new programs that target underserved diversion opportunities (i.e., increases commercial, institutional and industrial waste recycling), and ensure recycling/diversion services are available to all residents and businesses in the Planning Area.
- Identify and pursue programs to expand recyclable materials programs and facilities to ensure that recycling services are available to all single-family residences and multi-family units.
- Encourage local public and private economic development entities to assist in bringing to the community new or expanded recycled and recovered material markets or manufacturing of end products made from recycled and recovered materials.

1.5.5 Composting and Organic Waste Management

- Evaluate and, if appropriate, provide services, facilities and programs for yard waste, including grass clippings and leaves, generated by households and businesses.
- Evaluate the impacts of possible closing and relocation of the existing governmentally operated yard waste composting sites, and develop a plan to ensure continued availability of large-volume yard waste composting programs.
- Evaluate separate collection and composting or anaerobic digestion of vegetative food waste from households, grocery stores, hotels and restaurants, as appropriate.

1.5.6 Landfilling (Municipal Solid Waste Disposal Area)

- Monitor regulatory changes associated with management of biosolids and CCR regarding their potential impact on permitted disposal capacity in the Planning Area.
- Monitor the effects of changing management practices on the overall life of the Planning Area landfill, including effects of waste exports, competing facilities, changes in diversion practices and changes in the types and quantities of materials disposed and diverted.

1.5.7 Waste Transfer and Processing Facilities

- Provide for efficient transportation and handling of solid waste, recovered materials, processed recyclables, compostable materials and compost products.
- Confirm the need to implement transfer stations and processing facilities to capture and utilize the value of solid waste, to provide an integrated resource conservation and management system, and to ensure safe, sound, environmentally responsible waste management practices.
- Review and evaluate the need for changes to regulations that would be applicable to facilities sited in the Planning Area.
- Establish transfer station and processing facility monitoring and reporting requirements to ensure waste and recyclable materials are managed in an environmentally sound manner and to provide a better accounting of overall management activities in the Planning Area.
- Evaluate transfer station and processing facility permit applications to ensure that such facilities are consistent with Planning Area goals and program requirements.

1.5.8 Other and Special Wastes

- Continue to pursue systems, facilities and programs to reduce the volume of Other and Special Wastes, including HHW, C/D debris, metals/appliances, e-waste (electronics waste), bulky materials, and used motor oil, that currently require disposal.

1.5.9 Waste Combustion or Thermal Chemical Conversion

- Continue to monitor program options for energy and resource recovery from waste materials and, where economically and technically viable, pursue and implement a program for energy and resource recovery from waste materials. The guidance provided in Appendix B4, Technical Memorandum TM-4 – Energy Recovery – Program Options Assessment, should be used as part of subsequent monitoring and evaluation.

1.6 Implementation Process

The process of implementing the solid waste management systems, facilities and programs described above may consist of a wide array of actions. Such actions may involve some or all of the following:

- Changes in laws, regulations and ordinances.
- Cooperative agreements or arrangements between units of government or private entities.
- Additional studies or evaluation.
- Definitive actions to plan, procure, fund, finance, construct or implement specific recommendations.

- Monitoring and enforcement.
- Communications with residents, businesses, and stakeholders.
- Educational initiatives and promotion of programs and the 2012 Plan's goals and objectives.

A more detailed discussion of implementation considerations is included in Section 5.2.

1.7 Monitoring Mechanism and Updates

There are arrays of variables that affect estimates of future diversion; variables include but are not limited to the following: specific program elements, costs, participation levels, public education and implementation timing. Therefore, it will be necessary to monitor systems, facilities and programs as they are implemented to assess their effectiveness and make appropriate modifications.

Solid waste management is a dynamic activity. For the effective realization of actions recommended in the 2012 Plan it will be necessary to monitor the selected systems, facilities and programs as they are implemented to assess their effectiveness and make appropriate modifications to this 2012 Plan.

In order to monitor the implementation of the 2012 Plan, the following actions need to be taken:

Annual

- Annually identify priority systems, facilities and program changes anticipated in the next 1 to 3 years.
- Annually update and report on the progress achieved in the prior year toward achieving the 2012 Plan's goals and objectives.

Five-year

- Update program options for energy and resource recovery from waste materials.
- As major changes occur, review the 2012 Plan and modify the 2012 Plan to reflect changes in goals, objectives, action items and timetables.

Based on changes, as identified in the annual reviews, certain aspects of the 2012 Plan may need updating. These updates may be driven by individual events, outcomes of implementation activities, changes in regulations or other matters.

Section 1 – Introduction

Specialized terminology used in this 2012 Metropolitan Area Planning Agency ("MAPA") Integrated Solid Waste Management Plan Update ("ISWMP Update" or "2012 Plan") is defined when used for the first time. For quick reference, a Glossary of Terms and a List of Abbreviations and Acronyms are located at the front of this document.

1.1 Purpose and Background

In February 1985, MAPA issued a Regional Waste Management Report and Recommendations (the "1985 Recommendations") for Douglas, Sarpy, and Washington Counties, including the cities of Omaha, Bellevue, and Blair in Nebraska; and Pottawattamie and Mills Counties in Iowa, including the City of Council Bluffs. The 1985 Recommendations concluded that the key to developing a workable plan would be to fix responsibility for management with a specific jurisdictional entity, develop a centralized information base, develop and expand programs of alternative uses of wastes, establish a user fee system for financing waste management, and continue expansion of a broad-based community education program that would increase public awareness of the necessity for solid waste planning. The 1985 Recommendations were summarized in the ISWMP. Following the 1985 Recommendations, a full-time staff position was established at MAPA and funded by a portion of the surcharge collected at the landfills in the Region. This position no longer exists.

The ISWMP contained all information from the 1985 Recommendations in summary form, which represents the culmination of the then current planning process. Technical memoranda were also prepared to support each of the steps during the 1994 planning process.

In 1994, MAPA prepared an Integrated Solid Waste Management Plan ("1994 ISWMP") to determine how Douglas, Sarpy, Washington, and Cass Counties in Nebraska and Pottawattamie County in Iowa (the "Region") would handle its solid waste for the subsequent 20 years. The 1994 ISWMP was prepared to guide development of solid waste management programs for participating communities and political jurisdictions. The 1994 ISWMP was completed in October 1994; it was intended to cover the period from 1992 through 2015. The 1994 ISWMP addressed existing solid waste practices and future needs, discussed waste management alternatives, developed strategies and costs, and presented recommendations and a schedule of action.

The 1994 ISWMP was developed to conform to the Integrated Solid Waste Management Act (Nebraska Revised Statutes (Nebr. Rev. Statutes) Chapter 13, Section 13-2001 to 2043) (the "Act") for Nebraska communities and the Waste Reduction - Recycling Act (Iowa Code, Volume 3, Chapter 455D) for Iowa communities. The 1994 ISWMP largely focused on the requirements of the State of Nebraska because the non-recycled and non-composted waste from Pottawattamie County was expected to be disposed at the Douglas County Recycling and Disposal Facility ("RDF") throughout the original planning period.

In 2003, MAPA prepared a Solid Waste Management Plan Update ("2003 Plan Update") for Douglas and Sarpy Counties, which among other updates, incorporated a household hazardous waste ("HHW") management facility, now known as UnderTheSink, into the 1994 ISWMP.

Starting in 2010, Douglas and Sarpy Counties and the City of Omaha began the process of evaluating changes to their solid waste programs. Working with MAPA, they have determined that a further update to the 1994 ISWMP is appropriate for their service areas before the expiration of the prior planning period. Therefore, this ISWMP Update was prepared. To undertake this ISWMP Update, a Solid Waste Steering Committee (the "SW Steering Committee") was formed. The SW Steering Committee includes representatives of MAPA, the City of Omaha, Douglas County, and Sarpy County. In supporting the ISWMP Update, the committee focused on the current and anticipated solid waste planning needs in Omaha and in Douglas and Sarpy Counties (the "Planning Area").

This ISWMP Update is being prepared to guide the development of solid waste management systems, facilities, and programs for participating communities and political jurisdictions for the coming years. Specifically, the ISWMP Update covers the period from 2012 through 2032 (the "Planning Period"). The ISWMP Update began with a summarization of existing solid waste practices and projection of future needs, an evaluation of waste management programs and alternatives specific to current and projected future needs, and the development of strategy options and general costs. Section 5 of this ISWMP Update includes general and specific recommendations to guide future solid waste systems, facilities, and programs and a schedule of action for implementation of key recommendations. The options and strategies presented will progressively move the integrated solid waste management system along the waste management hierarchy from current diversion and disposal practices toward increasing degrees of diversion (waste minimization, reuse, recycling/composting) and environmental stewardship based on considerations of technological and economic factors. Embedded in the principle of environmental stewardship are benefits associated with conservation and preservation of resources, reduction in energy and water usage, and reduction in air emissions (e.g., greenhouse gas (GHG) and carbon).

1.1.1 Solid Waste Types Managed

The entire solid waste stream in the Planning Area is considered in this ISWMP Update. The solid waste streams considered in this ISWMP Update include the following:

- Residential municipal solid waste ("MSW")
- Commercial waste
- Other wastes, including the following:
    - Industrial and manufacturing process wastes
    - Construction and demolition ("C/D") wastes
    - HHW
    - Coal combustion residues ("CCR")

- Wastewater treatment sludge ("biosolids")
- Special handling and banned wastes

For planning purposes, MSW and commercial waste are assumed to include recyclable materials, yard waste, and similar materials currently being diverted from disposal.

1.1.2 Previous Solid Waste Management Planning

In February 1985, MAPA issued a Regional Waste Management Report and Recommendations (the "1985 Recommendations") for Douglas, Sarpy, and Washington Counties, including the cities of Omaha, Bellevue, and Blair in Nebraska; and Pottawattamie and Mills Counties in Iowa, including the City of Council Bluffs. The 1985 Recommendations concluded that the key to developing a workable plan would be to assign responsibility for management to a specific jurisdictional entity, develop a centralized information base, develop and expand programs of alternative uses of wastes, establish a user fee system for financing waste management, and continue expansion of a broad-based community education program that would increase public awareness of the necessity for solid waste planning. The 1985 Recommendations were summarized in the 1994 ISWMP. Following the 1985 Recommendations, a full-time staff position was established at MAPA and funded by a portion of the surcharge collected at the landfills in the Region. This position no longer exists.

The 1994 ISWMP contained all information from the 1985 Recommendations in summary form, which represents the culmination of the then current planning process. Technical memoranda were also prepared to support each of the steps during the 1994 planning process.

1.2 Planning Process and Public Involvement

Community involvement was a central component in preparing the 1994 ISWMP as well as this ISWMP Update. In 1994, two committees were formed to guide the planning process for the 1994 ISWMP. The Technical Committee, with representatives from political jurisdictions throughout the Region, directed the planning process. The Advisory Committee—with representatives of businesses, civic groups, and interested individual members of the community—reviewed technical memoranda, provided input on the planning process, and served as the focal point for community dialogue.

For this ISWMP Update, an SW Steering Committee, with representatives from each of the Planning Area members, helped guide the planning process. The SW Steering Committee focused its efforts on updating historic documents and establishing the core aspects of this ISWMP Update, as described below. These documents served as the basis for public involvement (described in Section 4.9) and ultimately the development of this ISWMP Update.

To prepare this ISWMP Update, supplemental analyses were completed. Technical evaluations were conducted by HDR Engineering, Inc. ("HDR") using input from the SW Steering Committee and data collected from a wide variety of sources. These analyses are documented in a series of technical memoranda, which support the plan development. These technical memoranda were reviewed by the SW Steering Committee, which provided input, changes, clarifications, and direction for completing

this portion of the planning process. Then these technical memoranda were also used for public involvement/dialogue.

Because the 1994 ISWMP included a comprehensive review of many topics and because many of the programs have matured substantially since 1994, this ISWMP Update focuses on specific topics relevant to current and future needs of the Planning Area. The specific topics addressed in the technical memoranda prepared for this ISWMP Update include the following:

- Needs Assessment (see Appendix A)
- Solid Waste Management Program Funding (see Appendix B1)
- Waste Tracking (see Appendix B2)
- Zero Waste and Waste Minimization (see Appendix B3)
- Energy Recovery – Program Options Assessment (see Appendix B4)
- Public Education and Policy Initiatives (see Appendix B5)
- Market Assessment (see Appendix B6)

Consistent with the 1994 ISWMP, the result of the technical evaluations and public involvement process is the Action Plan, which includes recommended actions, an implementation process, and a recommended monitoring mechanism. This Action Plan is presented in Section 5.

Implementation activities that take place after adoption of the final ISWMP Update are recommended to be accompanied by continued monitoring of results. Based on the results, adjustments will be made, as required, to the goals, strategies, and activities to keep them consistent with current conditions and opportunities.

1.2.1 Goals, Objectives, and Needs

An initial part of the planning process was to update the goals and objectives contained in the 1994 ISWMP. This was necessary to recognize existing systems, facilities, and programs as well as the progress that has been achieved since 1994. Throughout the planning process, the goals and objectives were periodically refined to reflect the planning effort. It is intended that the goals and objectives contained in this ISWMP Update will evolve as planning efforts continue and as the elements of the 2012 Plan are implemented. The updated goals and objectives developed for the ISWMP Update are provided in Section 1.3.

The Needs Assessment focused on the following:

- Defining the current solid waste management practices
- Describing currently available diversion systems, facilities, and programs
- Quantifying waste generation, material diversion, and disposal
- Assessing future disposal capacity needs

The results of this Needs Assessment are summarized in Section 2, System Evaluation and Needs Assessment.

1.2.2 Technical Evaluations

In undertaking this ISWMP Update, the SW Steering Committee identified a number of issues that needed to be addressed or evaluated further. Then HDR conducted technical evaluations and prepared a series of technical memoranda to identify options and alternatives, address issues, and provide recommendations for further consideration and inclusion in this ISWMP Update. As noted in Section 1.2, the technical memoranda generally focused on specific topics relevant to current and future needs of the Planning Area. In addition, the technical memoranda enhance or expand upon topics previously addressed in the 1994 ISWMP. The topics of these technical memoranda are as follows:

- Solid Waste Management Program Funding – Describes current program costs, current funding mechanisms, and funding options for existing, new, and expanded programs in the future.
- Waste Tracking – Identifies major sources of information available on waste generation, diversion, and disposal by waste types; gaps in data and sources that may provide such data; and options to obtain currently missing or limited data on waste generation, diversion, and disposal by waste types.
- Zero Waste and Waste Minimization – Defines and identifies major strategies and program options that are commonly used or considered for waste minimization.
- Energy Recovery – Program Options Assessment – Provides a general summary of current technologies and identifies the key factors that would need to be considered to make such a technological approach viable.
- Public Education and Policy Initiatives – Provides an overview of various options and actions related to public education and identifies policy initiatives that may be necessary to achieve the goals and objectives identified in this ISWMP Update.
- Market Analysis – Identifies and assesses the adequacy of the existing markets, current market prices, and gaps in market for potentially recovered or diverted materials. The marketable energy from waste or landfill gas combustion and the byproducts from C/D activities were not addressed in this memorandum.

The results of these technical evaluations are summarized in Section 3, Waste Management Alternatives, and the technical memoranda are provided in Appendix B.

1.2.3 Strategy Development

In consideration of the updated goals and objectives, revised assessment of needs, and evaluated technical matters related to this ISWMP Update, Section 4, Strategy Development, was prepared. The Strategy Development section addresses optional programs and general strategies that might be included in the final plan development. These options were prepared in a format that allowed for inclusion in the final plan. The purpose of the Strategy Development section was to present strategies that will progressively move the integrated solid waste management system along the waste management hierarchy from current diversion and disposal practices toward increasing

degrees of diversion (waste minimization, reuse, recycling/composting) and environmental stewardship, based on considerations of technological and economic factors. The strategies incorporated new and expanded programs that attempt to realistically match opportunities for diversion with attainable recovery percentages and available or developable material markets.

1.3 Goals and Objectives

The 1994 ISWMP recognized that to move forward in achieving goals and objectives and to provide comprehensive integrated solid waste management programs, it would be necessary to address various environmental, technical, economic, and socio-political constraints. Since the development of the 1994 ISWMP, the management system has matured and greater diversion of waste is being achieved through various public and private initiatives. Those changes, along with the pending expiration of the planning timeline identified in the 1994 ISWMP, have been key drivers in preparing this ISWMP Update.

Consistent with the 1994 ISWMP, the ISWMP Update attempts to consider the following fundamental objectives and criteria in assessing and identifying options for the future:

- Environmental soundness
- Technical feasibility
- Economic viability
- Socio-political acceptability

Based on a review of the goals and objectives contained in Section 1 of the 1994 ISWMP, the SW Steering Committee updated the goals to serve as guidance for this ISWMP Update. Goals and objectives were grouped into the following categories:

- General
- Organizational Framework
- Source Reduction
- Recycling
- Composting and Organic Waste Management
- Landfills (MSW Disposal Areas)
- Waste Transfer and Processing Facilities
- Other and Special Wastes
- Waste Combustion or Thermal-Chemical Conversion

The updated goals and objectives are presented in Sections 1.3.1 through 1.3.9.

1.3.1 General

G1. Meet the requirements of Nebraska's Integrated Solid Waste Management Act (the Act) (Nebr. Rev. Statutes Chapter 13, Sections 13-2001 to 13-2043):

1-1 Continue to pursue source reduction, recycling, and composting programs to meet the waste diversion goals in the Act.

1-2 Establish and maintain community education programs to inform the community of the ISWMP Update and the available waste management programs.

G2. Continue to evaluate available waste management options for the Planning Area through an objective assessment process:

2-1 Based on subsequent evaluation, select solid waste management systems, facilities, or programs that are environmentally sound; that is, provide a net environmental enhancement when compared to current methods.

2-2 Based on subsequent evaluation, select solid waste management systems, facilities, or programs that are technically feasible; that is, operate successfully on a full-scale and environmentally sustainable basis.

2-3 Based on subsequent evaluation, select solid waste management systems, facilities, or programs that are economically viable; that is, provide a level of environmental benefits with sustainable funding mechanisms and that are affordable to the communities served.

2-4 Based on subsequent evaluation, select new solid waste management systems, facilities, or programs that are socio-politically acceptable; that is, meet federal, state, and local regulatory requirements while being responsive to the expectations of the general public.

1.3.2 Organizational Framework

G3. Maintain control and reduce the risks to local governments:

3-1 Support public-private partnerships that provide a shared control for providing solid waste management systems, facilities, and programs.

3-2 Look for regional opportunities for units of government to cooperatively provide solid waste management systems, facilities, or programs for the various Planning Area members.

3-3 Utilize existing and available resources and web-based linkages to enhance communication of common solid waste management needs and possible solutions.

3-4 Evaluate appropriate regulations or organizational structures to allow units of government to better regulate and control imports and exports of solid waste from the Planning Area so as to capture and utilize the

resource value of solid waste to provide sustainable, integrated, resource conservation and management systems.

G4. Fund solid waste management facilities and programs to assure that they are sustainable:

4-1 Pursue legislative changes to allow individual waste generators to be charged for the cost of programs and services provided in a manner that allows waste generators to see the value of conservation, reduction, management costs, and outcomes.

4-2 Evaluate funding mechanisms whereby the public pays for the level of service that they use in order to encourage more responsible waste management practices.

1.3.3 Source Reduction

G5. Reduce the quantity of waste generated that would otherwise require management through recycling, composting, combustion, or landfilling:

5-1 Enhance the community education programs in the Planning Area to encourage waste reduction by residential, commercial, industrial, and institutional solid waste generators.

5-2 Enhance the community education programs in the Planning Area to encourage the reduction in use of potentially toxic materials.

5-3 Evaluate economic incentives/disincentives to encourage waste reduction by residential, commercial, industrial, and institutional solid waste generators.

5-4 Evaluate options for expanding reuse programs to divert materials from the solid waste management facilities in an environmentally safe manner, including information clearinghouse(s) or association with existing or new waste exchange(s).

5-5 Support private-sector programs to divert or reduce the generation of materials that would otherwise cost to be collected, processed, recycled/composted, or disposed.

1.3.4 Recycling

G6. Recover marketable materials from the waste stream for reuse:

6-1 Enhance existing community education programs in the Planning Area to encourage the recovery and recycling of marketable materials by residential, commercial, industrial, and institutional solid waste generators.

6-2 Support and encourage convenient recyclable collection mechanisms or programs for residential, commercial, industrial, and institutional solid waste generators, taking into account the differences in urban, suburban, and rural residential population densities and commercial levels of activity.

6-3 Support the consolidation, processing, and transport of recovered materials to enhance their marketability.

6-4 Continue to support UnderTheSink for the management of HHWs.

6-5 Evaluate opportunities to cost-effectively expand UnderTheSink to further increase the quantity of hazardous materials diverted from solid waste disposal areas (landfills).

6-6 Encourage local and regional reuse of recovered materials.

6-7 Evaluate changes to purchasing policies, building codes, and material purchase specifications used in Planning Area governmental procurement programs to encourage waste reduction, recycling, and the use of recycled materials in an environmentally sound manner.

1.3.5 Composting and Organic Waste Management

G7. Reduce the volume of the organic portion of the solid waste stream:

7-1 Support community education programs to encourage diversion of the organic portion of the solid waste stream through residential and commercial composting activities.

7-2 Utilize public education programs to encourage reduction in the quantity of yard waste requiring collection and management through “Don’t Bag It,” “Let it Be,” or similar programs.

7-3 Create public education guidance documents to enhance current educational programs that encourage and educate the public on environmentally sound backyard composting practices, including composting of yard waste, food waste, and other potentially putrescible materials.

7-4 Encourage diversion of residential and commercial landscape waste through mulch and compost programs.

7-5 Evaluate options to provide a regional composting facility(ies) for yard waste.

7-6 Evaluate future composting of organic waste, including compost markets.

G8. Support expanded uses for compost and wood mulch products to improve the stormwater run-off quality, increase infiltration (reduce run-off), and improve soil conditions in the urban environment.

8-1 Evaluate changes to purchasing policies, building codes, and material purchase specifications used in Planning Area governmental procurement programs to encourage the use of compost products in an environmentally sound manner.

1.3.6 Landfills (Municipal Solid Waste Disposal Areas)

G9. Continue to provide a minimum of 20 years of landfill capacity in the Planning Area with an MSW disposal area that meets the requirements of Resource Conservation and Recovery Act ("RCRA") Subtitle D and Nebraska Department of Environmental Quality ("NDEQ") Title 132 regulations:

9-1 Continue to support the contract operations of the Pheasant Point Landfill to provide a minimum of 20 years of disposal capacity in the Planning Area.

9-2 Monitor changing regulations related to materials such as biosolids and CCR to determine whether they will affect the remaining life of the Pheasant Point Landfill.

1.3.7 Waste Transfer and Processing Facilities

G10. Provide for efficient transportation and handling of solid waste, recovered materials, processed recyclables, compostable materials, and compost products:

10-1 Evaluate the need for additional transfer station(s) or a combination of solid waste transfer stations and recyclables processing facilities to reduce GHG emissions and cost-effectively transport materials generated and managed within the Planning Area.

10-2 Establish transfer station and processing facility zoning, construction and operations regulations that would be applicable to facilities sited in the Planning Area to improve transportation efficiency and reduce the environmental impacts of these facilities.

10-3 Establish transfer station and processing facility regulations related to monitoring and reporting to ensure waste and recyclable materials are managed in an environmentally sound manner and to evaluate the sustainability of such facilities.

10-4 Establish transfer station and processing facility zoning and permitting requirements that require applicants to demonstrate that such facilities are necessary and are consistent with Planning Area goals and program requirements to maintain sustainable programs.

1.3.8 Other and Special Wastes

G11. Reduce the volume of other and special wastes, including HHW, C/D debris, metals/appliances, electronics waste ("e-waste"), bulky materials, and used motor oil, which currently require disposal:

11-1 Evaluate enhanced community education programs to encourage separation of potentially hazardous and difficult-to-manage materials in the residential, commercial, industrial, and institutional solid waste streams.

11-2 Encourage the use of substitute products (e.g., less toxic material, multi-use containers) and provide guidance on recycling and the proper disposal options available.

11-3 Look for opportunities to provide mechanisms or support private initiatives to provide mechanisms for management of other and special wastes where such mechanisms are not currently available and are deemed appropriate to divert such waste from the mixed municipal waste stream.

11-4 Support privately sponsored programs for the reuse, recycling, or diversion of special wastes and/or other wastes through information on website(s), information clearinghouse(s), or association with existing or new waste exchange(s).

11-5 Encourage product stewardship for difficult-to-recycle products at the retail or wholesale level.

1.3.9 Waste Combustion or Thermal-Chemical Conversion

G12. Continue to monitor the key elements necessary to implement cost-effective energy recovery, volume reduction, and stabilization of solid waste through combustion and other thermal-chemical conversion technologies:

12-1 Monitor criteria necessary for development of viable and sustainable energy recovery technologies and pursue proven economically and environmentally sound opportunities based on criteria identified in this 2012 Plan.

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Section 2 – System Evaluation and Needs Assessment

2.1 Introduction

The information and projections presented in this section of the ISWMP Update were prepared to establish a basis for the update to the long-term solid waste management plan. This Needs Assessment addresses the following: i) the volumes and types of waste being generated; ii) the existing waste management practices; and iii) the anticipated future waste management needs. Because regional market forces external to the Planning Area have some potential to affect the long-term plans, a limited amount of background data on regional solid waste practices has also been provided for informational purposes.

2.1.1 Purpose

Planning effectively for the future calls for a clear picture of the solid waste management system as it now exists. It also requires careful projections of future waste quantities. Therefore, this section contains an inventory of the current system together with an assessment of future capacity needs. This Needs Assessment establishes the foundation for solid waste management planning, system and facility identification, and sizing of system and facility components.

2.1.2 Approach

The current MSW collection, diversion and disposal practices were researched within the Planning Area. The Planning Area members provided data on their existing solid waste management systems along with the associated quantities of materials handled by those systems. Additional data was gathered from the recycling processing facilities and other waste diversion programs servicing the Planning Area to develop a profile of existing waste management practices. Follow-up contacts were made to provide as complete a data base as possible.

2.1.3 Regulatory Framework

In Nebraska, the principal laws related to solid waste are as follows:

- The Environmental Protection Act, originally created in 1971 by LB939
- The Integrated Solid Waste Management Act, originally created in 1992 by LB1257

The Act addresses a wide range of waste management related topics including the following:

- Requiring state and local solid waste plans
- Empowered Units of Government relative to solid waste management program implementation

The following key excerpts from the Act are provided to further define the regulatory structure under which solid waste is to be managed and to identify planning requirements, as outlined in the Act:

13-2002 Legislative findings and declarations

"(5) Local governments are currently authorized to provide solid waste management services. As a group, counties and municipalities are best positioned to develop efficient solid waste management programs;

(6) An assignment of responsibility for integrated solid waste management should not prohibit governmental entities from procuring services from other units of governments or from private persons. It is the intent of the Legislature that natural resources districts, interlocal cooperative entities, tribal governments, and other statutory and voluntary regional organizations be encouraged to cooperatively provide financing or services to governmental entities responsible for solid waste management; and

(7) A variety of benefits results from a policy of integrated solid waste management, including the following environmental, economic, governmental, and public benefits…."

13-2018 Solid waste management hierarchy; established; cooperative program; established

"(1) An effective and efficient program of integrated solid waste management protects the environment and the public and provides the most practical and beneficial use of the solid waste material. While recognizing the continuing necessity for the existence of landfills, alternative methods of managing solid waste and a reduction in the reliance upon land disposal of solid waste are encouraged. In the promotion of these goals, the following solid waste management hierarchy, in descending order of preference, is established as the integrated solid waste management policy of the state:

(a) Volume reduction at the source;

(b) Recycling, reuse, and vegetative waste composting;

(c) Land disposal; …"

13-2020 County, municipality, or agency; provide or contract for disposal of solid waste; joint ownership of facility; governing body; powers and duties; rates and charges

"(1) Effective October 1, 1993, 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….

(3) A county, municipality or agency may, either alone or in combination with any other county, municipality, or agency, contract with any person to provide any service, facility or system required by the Integrated Solid Waste Management Act.

(4) The governing body of a county, municipality, or agency may make all necessary rules and regulations governing the use, operation, and control of a facility or system. Such governing body may establish just and equitable rates or charges to be paid to it for the use of such facility or system…"

13-2023 County, municipality, or agency; regulations authorized; limitations; noncompliance fee

"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."

13-2026 Municipalities, counties, and agencies; regulate solid waste management; when

"In furtherance of the policy of the state as set forth in the Integrated Solid Waste Management Act, municipalities, counties, and agencies may by ordinance or resolution adopt rules and regulations or may adopt bylaws or enter into written agreements between and among themselves or other persons which regulate and govern solid waste management within their solid waste jurisdiction areas, including the establishment of conditions to assure that a specified amount and type of solid waste will be delivered to a specific facility."

13-2032 Integrated solid waste management plan; minimum requirements; waste reduction and recycling program; priorities; updated plan

"(2) The integrated solid waste management plan shall provide for a local waste reduction and recycling program. If technically and economically feasible, the volume of materials disposed of in landfills as of July 1, 1994, shall be reduced by twenty-five percent as of July 1, 1996, by forty percent as of July 1, 1999, and by fifty percent as of July 1, 2002.…The following wastes shall be given first priority when developing reduction and recycling programs and related timetables in relation to an integrated solid waste management plan:

(a) Yard wastes;

(b) Unregulated hazardous wastes, except household hazardous waste, which are exempt from the regulations under the Environmental Protection Act;

(c) Discarded tires;

(d) Waste oil;

(e) Lead-acid batteries; and

(f) Discarded household appliances.

In addition, such plan shall provide a methodology for implementing a program of separation of wastes, including, but not limited to glass, plastic, paper, and metal.

(3) The solid waste management plan shall be updated for compliance with federal and state laws and regulations as required by the department and may be updated, subject to approval by the department, at any time to reflect local needs and conditions."

2.2 Planning Area

The City of Omaha and Douglas and Sarpy Counties have formed an SW Steering Committee to undertake the evaluation of changes to their solid waste programs, which has determined that a plan update (this ISWMP Update) is appropriate for their service areas, before the expiration of the 1994 ISWMP. This ISWMP Update focuses on integrated solid waste planning needs in the Planning Area.

2.2.1 General

In developing long-term plans to manage the solid waste within the Planning Area, solid waste indicators were reviewed based on previous research and multiple sources of third-party data. Based on this review and the availability of data, population and employment were selected as the primary indicators.

2.2.2 Population

According to the 2010 U.S. Census data, there are an estimated 675,950 residents in the Planning Area. This represented an increase of 15.3 percent over the 2000 figure of 568,180, as shown in Table 2-1. In 2008, the University of Nebraska–Lincoln ("UNL") Bureau of Business Research ("BBR") estimated the future annual population growth rates for Douglas County through 2020 and 2030 to be 0.8 percent and 0.6 percent, respectively, and Sarpy County to be 2.0 percent and 1.6 percent, respectively. The resulting population forecast is presented in Table 2-1. Estimates of growth were prepared on a county-wide basis since growth forecasts were not available on a community level.

Table 2-1 – Historical and Projected Populations

COMMUNITY Population	1980 Census	1990 Census	2000 Census	2010 Census	2020 BBR Growth Rates	2030 BBR Growth Rates
Douglas County					0.8%	0.6%
Bennington	631	866	937	1,458	NA	NA
Boystown	622	794	818	745	NA	NA
Elkhorn	1,344	1,398	6,062	Annexed	NA	NA
Omaha	313,939	335,719	390,007	408,958	NA	NA
Ralston	5,143	6,236	6,314	5,943	NA	NA
Valley	1,716	1,775	1,788	1,875	NA	NA
Waterloo	450	479	459	848	NA	NA
Incorporated	323,845	347,267	406,385	419,827	NA	NA
Unincorporated	73,193	69,177	57,200	97,283	NA	NA
Total County	397,038	416,444	463,585	517,110	560,000	594,522
Sarpy County					2.0%	1.6%
Bellevue	21,813	33,550	44,382	50,137	NA	NA
Gretna	1,609	2,249	2,355	4,441	NA	NA
LaVista	9,588	9,840	11,699	15,758	NA	NA
Papillion	6,399	10,378	16,363	18,894	NA	NA
Springfield	782	1,426	1,450	1,529	NA	NA
Incorporated	40,191	57,443	76,249	90,759	NA	NA
Unincorporated	45,824	45,140	46,346	68,081	NA	NA
Total County	86,015	102,583	122,595	158,840	193,625	226,934
Planning Area	**483,053**	**519,027**	**586,180**	**675,950**	**753,625**	**821,456**

2.2.3 Employment

Based on the 2010 Census data, there were a total of 500,982 jobs in the Planning Area. Table 2-2 summarizes the historical employment data by occupational groupings. Table 2-2 also summarizes the 2008 BBR employment growth projections for the Planning Area through 2030. Again, growth estimates were presented on a county-wide basis since growth forecasts were not available on a community level.

Douglas County has the largest number of jobs and actually has more jobs than employed residents. This fact is believed to be responsible for the observed higher per capita generation rate of MSW in Douglas County compared to Sarpy County, as discussed later in this section.

Table 2-2 – Historical and Projected Employment

	US Bureau of Labor			BBR Growth Projections	
Douglas County	**2000**	**2005**	**2010**	**2020**	**2030**
Construction	22,952	22,767	24,422	30,817	36,744
Manufacturing	28,019	23,671	23,775	23,558	22,984
Trade	67,145	60,076	61,922	65,905	67,368
Transportation	14,656	16,516	18,291	21,338	22,876
Information	14,712	12,062	12,782	15,018	16,678
Financial	43,442	41,804	43,518	47,768	52,639
Services	169,887	170,408	190,595	236,731	281,041
Government	39,385	40,190	42,285	46,420	48,686
Total County	400,198	387,494	417,590	487,555	549,016
Total Estimated Employment					
Manufacturing	28,019	23,671	23,775	23,558	22,984
Commercial	372,179	363,823	393,815	463,997	526,032

	US Bureau of Labor			BBR Growth Projections	
Sarpy County	**2000**	**2005**	**2010**	**2020**	**2030**
Construction	4,248	5,736	6,607	9,518	12,651
Manufacturing	2,327	2,697	2,701	2,663	2,592
Trade	7,861	9,429	10,368	12,425	13,923
Transportation	8,273	12,467	14,061	16,948	18,640
Information	950	1,282	1,447	1,898	2,280
Financial	3,293	5,560	6,246	7,815	9,494
Services	15,029	21,936	25,960	35,584	45,894
Government	13,048	15,387	16,002	17,372	18,391
Total County	55,029	74,494	83,392	104,223	123,865
Total Estimated Employment					
Manufacturing	2,327	2,697	2,701	2,663	2,592
Commercial	52,702	71,797	80,691	101,560	121,273
Planning Area Totals	**455,227**	**461,988**	**500,982**	**591,778**	**672,881**

Source: Bureau of Labor employment data 2000 to 2010; 2020 to 2050 based on the UNL BBR 2008 "Omaha Area Projections" study growth rates.

2.3 Solid Waste Management Practices

Comprehensive solid waste management services are available throughout the Planning Area through collection; diversion programs; and solid waste management activities, systems and facilities. The concepts presented below are intended to focus on the key elements of this ISWMP Update. This ISWMP Update was developed based on the concept of environmental stewardship and the integrated hierarchical approach to MSW management as defined by the U.S. Environmental Protection Agency ("USEPA"). The four components of this management approach include the following:

- Source reduction
- Recycling (including composting)

- Combustion
- Landfilling

2.3.1 Collection

The collection and transportation of solid waste, recyclables and yard waste in the Planning Area are provided by private haulers; there are no solid waste collection activities conducted by municipal crews. Collected waste is transported to the various facilities for processing, diversion or disposal. Individuals and businesses can also transport (self-haul) their wastes and recyclables directly to the various drop-off, processing, diversion or disposal sites. Generally, solid waste collection practices for the Planning Area are similar to those reported in the 2003 Plan Update.

(http://www.epa.gov/wastes/nonhaz/municipal/wte/nonhaz.htm Retrieved 06/01/2012)

2.3.1.1 Douglas County

Except for residential MSW, recyclables, and yard waste collection services in the Cities of Omaha and Ralston, collection services in Douglas County are operated on a free market basis. Free market collection services for residential MSW, recyclable materials and yard waste are provided by private haulers under varying arrangements with each household, sanitary improvement district ("SID") or other waste generators. Apartment complexes, commercial and industrial establishments contract directly with private haulers for collection services. For privately provided collection services, the cost for selected services is set by the service provider.

The City of Omaha provides once-per-week collection for MSW, recyclable materials and (seasonal) yard waste to all single-family residences, the Omaha Housing Authority housing units, and up to four-unit multi-family residences within the Omaha City limits. The City provides these collection services to approximately 129,200 households through a private hauler under contract to the City. The City also provides for public space litter can collection, recycling drop-off sites, neighborhood spring clean-up, Christmas trees drop-off sites, and a bulky material drop-off subsidy. The City's costs for these collection and disposal services are paid from the City's general revenue fund derived from property and sales taxes. In cooperation with Keep Omaha Beautiful and over 80 participating Neighborhood Associations, the City of Omaha also funds a series of Spring Clean-up events to accept bulky items, appliances and tires.

The City of Ralston provides once-per-week collection for solid waste, recyclable materials and yard waste to all single-family and up to two-unit multi-family residences within the Ralston city limits. The City of Ralston provides these services through a

private hauler under contract to the City. The City bills each household monthly for the costs of this service through their utility bills.

2.3.1.2 Sarpy County

Solid waste, recyclable materials and yard waste collection in Sarpy County is currently provided on a free market system except for in the City of Bellevue. All other collection services for residential solid waste, recyclable materials and yard waste are provided by private haulers under separate arrangement with each household, SID or other waste generators. Apartment complexes, commercial and industrial establishments contract directly with private haulers for collection services. For privately provided collection services, the cost for the selected services is set by the service provider.

The City of Bellevue provides once-per-week collection services for solid waste, recyclable materials and yard waste to all single-family and up to three-unit multi-family residences within the City of Bellevue. The City of Bellevue contracts for these services through a private hauler. This service is billed by the City to households on a monthly basis through their utility bills. The City also provides citywide clean up at collection sites in the spring and fall for bulky waste, C/D debris and litter.

The Cities of La Vista, Papillion and Gretna only license private MSW haulers to operate in their communities, without placing restrictions on pricing or collection services. These services are billed to household and businesses by the private haulers based on rates negotiated between the collection firm and the MSW generator.

2.3.2 Waste Diversion and Minimization

Waste diversion includes waste source reduction, reuse, recycling, composting and other resource recovery techniques. Source reduction (diversion and minimization) strategies focus on conservation of resources, reduction in waste toxicity, environmental protection (of air and groundwater), reuse, and methods to increase the useful life of manufactured products. A key part of the overall diversion and minimization effort is educating consumers on options to avoid or minimize waste generation and disposal.

Information on existing waste diversion and minimization programs was gathered from City of Omaha, Douglas County, Sarpy County and various private companies currently active in waste management, waste reduction and recycling programs, in the Planning Area.

2.3.2.1 Source Reduction

Source reduction activities reduce the amount of materials or prevent materials from entering the waste stream. Source reduction includes conservation, waste reduction and material reuse. Source reduction is encouraged through limited public education and awareness programs. Source reduction occurs through both public and private efforts. In support of source reduction efforts, the City of Omaha provides information and techniques through its *Wasteline* newsletter and its website (www.wasteline.org). These sources provide information regarding all of the solid waste programs and solid waste management services, systems, facilities, and diversion programs available to Omaha residents and, in part, residents of Douglas and Sarpy Counties. Citizens can find information on material collection, drop-offs, recycling and composting programs and

facilities, and other reuse and diversion options. Alternatives to disposal for management of HHWs and special wastes (for example, batteries, oil and electronic waste) are also identified on this website. The City's website includes a list of some of the private diversion opportunities inside and outside the Planning Area.

The Douglas and Sarpy Counties' websites reference other websites for information on conservation (reduce or reuse options), including *Wasteline* and UnderTheSink (www.underthesink.org). WasteCap (www.wastecapne.org) of Nebraska also provides state-wide information on potential reduce or reuse opportunities for citizens but is not directly linked in the County websites.

Reduction also includes programs to discourage collection of yard waste and promotes backyard composting and mulching of yard waste. Other reuse efforts are also occurring in the Planning Area, including diversion of wood, asphalt and concrete from C/D activities as well as a swap shop provided at the UnderTheSink facility. In addition, clothing, furniture, appliances and other items are put into reuse by charitable organizations (such as Goodwill). The level of waste reduction resulting from source reduction efforts cannot be quantified but represents a potentially significant level of diversion.

2.3.2.2 Recycling/Composting

There are a wide variety of programs that are available to manage the recyclable and compostable materials collected from residential and commercial sources.

2.3.2.2.1 Curbside/Drop-off Recycling

All recycling in the Planning Area is done on a voluntary basis, with varying degrees of service and programs available. The City of Omaha provides curbside collection of single-stream, source-separated, recyclable materials from singe-family residential properties and up to four-unit multi-family residences through its "Omaha Recycles" green-bin program.

The City of Bellevue provides curbside collection of recyclable materials through its contracted private hauler, collecting similar materials to the City of Omaha's program. Some private haulers in the Planning Area offer glass collection as well. Nearly all other households in incorporated and unincorporated parts of the Planning Area have curbside collection of recyclable materials available through private service providers; most of these services are available for a fee.

There are four recycling drop-off sites around the City of Omaha. Drop-off sites accept all materials that are included in the curbside collection program, as well as glass; bulk items are only accepted at the River City site for an additional fee.

Materials collected from these recyclables collection and drop-off programs are generally processed at one of three private businesses operating in the Planning Area. Bulky materials (appliances, white goods and metals) from various sources are also accepted and processed by various scrap metal dealers in the Planning Area.

The City of Omaha currently subsidizes the cost of bulky item drop-off by City residents at the River City Recycling and Transfer Station.

The Sarpy County Landfill provides a designated area for drop-off of yard waste, appliances (white goods), tires, waste oil and lead batteries. The County charges drop-off fees for accepting these materials.

Christmas tree diversion programs are seasonally established for residents in both Douglas and Sarpy Counties.

2.3.2.2.2 Yard Waste Composting and Mulching

A large-scale yard waste composting facility is currently operated by the City of Omaha at the site of the Papillion Creek Wastewater Treatment Plant. This site currently accepts only yard waste collected from within the City of Omaha and by the City's residential contract collection service. The City of Omaha received approximately 30,600 tons of yard waste at the site in 2010. This composting operation produces high-grade finished compost known by its trade name OmaGrow. Plans for the expansion of the Papillion Creek Wastewater Treatment Plant will require the relocation of the yard waste composting facility.

Yard waste composting is also conducted at the Sarpy County Landfill. This operation accepts yard waste from private haulers and residents of Sarpy County. In addition, Sarpy County accepts and grinds trees up to 48 inches in diameter. Sarpy County is expecting to be discontinuing its composting and brush grinding operations sometime before 2015; no definitive plans exist to replace this operation.

2.3.2.2.3 Biosolids

Biosolids (digested sewage sludge) and wastewater treatment grit are generated by wastewater treatment facilities (Papillion Creek Wastewater Treatment Plant and Missouri River Wastewater Treatment Plant) in the Planning Area. Biosolids generated in the Planning Area are typically digested (composted) by anaerobic processes, and the resulting biosolid materials are diverted from disposal. The majority of the biosolids in the Planning Area are currently diverted from disposal through land application on agricultural fields to improve soil quality.

Grit generated from wastewater treatment processes at both the City of Omaha Papillion Creek and Missouri River Wastewater Treatment Plants is disposed by landfilling.

There is still a significant meat packing plant industry in the Planning Area, which processes an estimated 5,000 head per day of cattle. This results in a substantial quantity of paunch manure, most of which is taken back to the feedlots where it is managed separately through land application or land disposal. It has been estimated that approximately 10 percent of the paunch manure is washed into the sanitary sewer system and processed at the wastewater treatment plants.

2.3.2.2.4 Coal Combustion Residues (CCR)

CCR, which generally consists of fly ash and bottom, from Omaha Public Power District's ("OPPD's") North Omaha generating station is generally recovered and sold for beneficial uses. The fly ash is used in making a Portland cement substitute, while the bottom ash is used for fill material and for road base construction. Material not recycled/reused is disposed of in an on-site fossil fuel combustion ash landfill.

2.3.2.2.5 Construction and Demolition Debris Recovery

There are currently three major C/D debris facilities in the region that process concrete, asphalt and masonry components of C/D debris to recover (for reuse) the material as aggregate for road base and other construction activities.

In addition to these processing facilities, there are unreported salvaging and possibly beneficial reuse activities conducted by C/D contractors in the Planning Area.

2.3.2.2.6 Private Diversion Programs

Other source reduction and waste diversion programs are operated by private and not-for-profit businesses in and around the Planning Area. Reuse programs in the Planning Area include, but are not limited to, the following:

- Charitable organizations such as food banks, thrift stores and religious groups that provide family assistance through the reuse of materials such as excess foodstuffs, clothing, furniture, appliances and other merchandise, which would otherwise be disposed of as waste.
- Consignment stores buy or consign goods such as clothing, furniture, appliances and other merchandise (that is in good condition) for resale.
- Habitat for Humanity ReStore provides an outlet for excess construction materials and used appliances (that are in good condition) for resale at discounted prices.

Private waste management services provide diversion of special and recyclable materials, including the following:

- Commercial, industrial, institutional and multi-family residential recycling of materials
- Diversion of the following materials through a wide variety of merchants, retailers, for profit service providers:
    - Lead-acid batteries
    - Household and rechargeable batteries
    - Used motor oil
    - Antifreeze
    - Electronics – fees typically apply. Cell phones may also be donated to local charities
    - Scrap metal, including appliances (certified Freon removal required)
    - Document destruction and paper shredding
    - Fluorescent light bulbs – fees may apply

2.3.2.3 Materials Processing

Processing for curbside-collected residential and commercial recyclables is currently provided at one of three facilities in the Planning Area. These include the following:

- Firstar Fiber
- International Paper
- Omaha Paper Stock

These facilities process a wide variety of paper, plastics and metals for shipment to various markets and may offer confidential document shredding and recycling. These are private businesses and as such have provided limited or no disclosure of the quantities of materials that they process or divert; this makes quantification of diversion materials difficult. Estimates of these diversion rates are included in this Section, based on the limited information available from municipal collection records and information from select processor(s).

2.3.2.4 Waste Reduction/Energy Recovery

There are no permitted MSW combustion facilities in the Planning Area. Burning of small quantities of MSW and agricultural wastes is regulated by counties and is known to occur at individual residences in some rural locations throughout the Planning Area.

Medical waste is separately managed in the Planning Area and is not considered a part of the solid waste stream that is required to be managed under this ISWMP Update. Generally, medical waste collected from hospitals and clinics in the Planning Area is treated and disposed by specialty medical waste service firms, and such waste is generally disposed through thermal destruction methods.

Portions of the tires collected from diversion programs are also used as a fuel outside the Planning Area.

2.3.3 Exports and Disposal Facilities

Portions of the waste generated within the Planning Area are disposed of at landfills outside Planning Area. Waste is generally directed to these remote disposal sites through private transfer operations in the Planning Area. This exporting of waste (current and planned) affects the quantities of solid waste that must be managed through systems, facilities and programs identified in this ISWMP Update.

2.3.3.1 Municipal Waste Landfills

Two MSW disposal facilities (landfills) are currently licensed to operate in the Planning Area: the Pheasant Point Landfill and the Sarpy County Landfill. The Pheasant Point Landfill is located near Elk City in northwest Douglas County. This landfill is owned and operated by Waste Management of Nebraska ("WMN"); this facility is operated under contract with Douglas County. In 2010, this landfill received approximately 486,000 tons of waste material for disposal. The Pheasant Point Landfill has an estimated life through 2104 (92 years) at the current rate of filling.

The Sarpy County Landfill is located near Springfield in western Sarpy County. This landfill is owned and operated by Sarpy County. In 2010, this landfill received approximately 106,000 tons of material for disposal. Sarpy County has elected to close its landfill when it reaches capacity. It is anticipated that the Sarpy County landfill will

close sometime prior to 2015 and after a new privately owned and operated transfer station is completed adjacent to the landfill.

An industrial waste disposal facility was permitted in Douglas County, in proximity to the Pheasant Point Landfill, but use was discontinued in 2010, and closure activities are currently underway; this facility received all of its waste from an agricultural products manufacturer in Washington County, Nebraska.

2.3.3.2 C/D and CCR Landfills

A search of the NDEQ website identified several permitted (privately owned and operated) C/D landfills within or adjacent to the Planning Area. The permitted disposal sites identified include the following:

- Abe's Trash Service, in Washington County, Nebraska
- Anderson Excavating and Wrecking, in Douglas County
- Eco-Storage Investments, in Douglas County
- Hawkins Construction Co, in Douglas County
- Rainwood Hill Properties, LLC, in Douglas County

Detailed information on the quantities of materials currently disposed in these sites is not reported (locally or to NDEQ). Further, while the remaining disposal capacity (volume) of these landfills is identified in NDEQ permit documents, these values do not allow an assessment of remaining site life. Adding to the level of uncertainty is the relationship these sites might have to the potential needs of the Planning Area, for the following reasons:

- At least two of the sites are reported as not open to the public (e.g., they only accept material generated from their owner's C/D business).
- One of the sites was only recently re-opened under new ownership after years of being closed/inactive. As such, while capacity may have existed, it was not accessible.

A Fossil Fuel Combustion Ash Disposal Area is permitted in Douglas County and is located adjacent to OPPD's North Omaha Station. This facility is only licensed to accept CCR from the adjacent power plant. Almost all of the fly ash and bottom ash generated is currently diverted to beneficial use. This site is currently projected to receive approximately 5,000 tons of fly ash annually, which is expected to increase to approximately 88,000 tons when additional air pollution control equipment is installed.

2.3.3.3 Transfer Stations

The River City Recycling facility provides limited separation of recyclables from the MSW delivered and currently hauls the processed residue to landfills outside the Planning Area. It is estimated that this facility transfers between 750 to 1,000 tons of MSW per day. While considered a transfer station, this facility is permitted by NDEQ as a "Material Recovery Facility" rather than a transfer station. The overall River City

Recycling facility site also includes wood processing, tire processing, a citizen recyclables and bulky waste drop-off facility, and other diversion functions.

Sarpy County solicited and procured services for the construction and 20-plus year contract operation of a transfer station to be located on County property, adjacent to the site of their MSW landfill. This transfer station is anticipated to transport solid waste to a landfill outside the Planning Area. The transfer station is scheduled to begin operations in 2013. The transfer station may also provide limited separation of recyclables from the MSW and accept and transfer source separated recyclables.

NDEQ's website does not list any other licensed transfer or processing facility operations in the Planning Area. There may, however, be additional waste that is hauled to disposal sites outside the Planning Area.

2.3.3.4 UnderTheSink

Based on the 2003 Plan Update, the City of Omaha, Douglas County, Sarpy County and the Papio-Missouri River Natural Resources District ("NRD") entered into cooperative agreements and constructed a HHW facility, which was named UnderTheSink. The UnderTheSink facility accepts residential household hazardous materials such as lawn chemicals, pesticides, cleaning chemicals, antifreeze, auto batteries, used oil and oil filters. This facility does not accept certain materials that have other means of disposal including ammunition and explosives, pathological and medical waste, radioactive materials, propane cylinders, garbage, empty containers, and non-hazardous products like soap and detergents.

The Omaha Public Works, Quality Control Division began operating the facility in 2004. The facility accepts HHW from residents in Douglas and Sarpy Counties. Hazardous wastes are not currently accepted from any business or industry or from households outside of Douglas and Sarpy County. HHW must be dropped off by residents; there are no collection programs. Wastes and materials delivered to the facility is sorted, reused, recycled or disposed of through a properly licensed hazardous waste disposal contractor. Operation of the facility is funded by the City of Omaha, and operating costs are intended to be offset by revenues from Douglas and Sarpy Counties, and grants and rebates, including grant money from the NDEQ Waste Reduction and Recycling Incentive Fund.

Certain products that are in good condition and still useable are placed in a store room area where citizens can take them at no charge; there is a 50 pound per day weight limit on material removal. Typical materials available for reuse include paints, household cleaners, garden products, automotive products, and household supplies. The store room is referred to as the ReStore. No appointment is needed to visit the ReStore and there is no residency requirement to take reusable materials. Records indicate the UnderTheSink facility accepted approximately 446 tons of HHW in 2010, of which 188 tons were recycled and 54 tons were redistributed through ReStore.

2.3.3.5 Competing Regional Facilities

There are a number of landfills outside the Planning Area which can be accessed by either direct haul or through transfer stations. Three of these regional landfills are

known to accept MSW from the Planning Area. These competing disposal facilities include the Loess Hills Regional Sanitary Landfill in Mills County, Iowa; the Butler County Landfill near David City, Nebraska; and G&P Development, Inc. Landfill near Milford, Nebraska. At the time the Needs Assessment was developed, there was an ongoing effort to locate and construct a new MSW landfill in Saunders County, Nebraska. The quantity of exported waste to these three landfills could not be determined but has been estimated at approximately 230,000 to 255,000 tons per year.

2.4 Generation and Composition

Records exist that allow for a reasonable determination of the historic and current waste quantities disposed in the Planning Area, but only limited data is available on waste diversion and waste exports.

2.4.1 Data Accessibility

Although landfill disposal records from the Sarpy County and Pheasant Point Landfills provide good records of the waste disposal quantities from the Planning Area, there are insufficient records available on the quantity of solid waste exported and diverted by privately operated programs. As such, the quantities of waste generated and diverted in the Planning Area have been estimated using best available information. The estimation of the waste generation and diversion rates is further complicated by questions of the reliability of the limited data on diversion, the adequacy of using nationwide statistics to supplement local data, and the uncertainty of the sources of waste generation.

Despite these uncertainties, valuable information was provided through interviews with recyclable service providers, waste management firms, City and County officials and businesses. Not all businesses contacted would assist or contribute information since they considered this information proprietary. Therefore, data from other communities and HDR's judgment were used to estimate certain quantities. Because of the proprietary nature of some of the information provided, a full disclosure of the sources has not been included in this Section. The following provides a description of the analysis methodology that was utilized to correlate the data that was accumulated.

2.4.2 Analysis Methodology

In order to estimate the waste generation and diversion quantities in the Planning Area for the ISWMP Update, the methodology developed in the 1994 ISWMP was updated. Two methods of waste quantity estimating were employed, and the results were compared. One method used actual measured and reported quantities, and the other used various generation rates and estimating techniques typically used for projecting waste generation based on solid waste industry data.

2.4.2.1 Method One

Method One consisted of totaling the quantity of solid waste disposed in the Planning Area and the quantity of materials recycled, composted or otherwise diverted from final disposal, using measured and reported data. After adjustment for waste imports and estimated exports, these data were added to estimate the quantity of waste currently

generated within the Planning Area. This data collection effort included available data from disposal and transfer sites as well as recyclers and material brokers. The waste hauler survey conducted in the 1994 ISWMP development did not produce viable results; as such, no attempt was made to survey the haulers for this ISWMP Update.

To analyze the existing diversion levels, information from interviews with local solid waste managers and other commercial processors of recovered materials was used in conjunction with data from Nebraska Ash, C/D contractors and the City of Omaha wastewater treatment facilities. To minimize the risk of double counting of material quantities, every effort was made to identify the source and destination of materials counted as recycled. In many cases, the information was incomplete, which made it impossible to confirm that no materials had been double counted or omitted in the analysis of existing programs.

Douglas County and the Sarpy County both provided recorded disposal data based on scaled tonnages at their landfills. The Cities of Omaha and Bellevue reported collected tonnage for MSW, yard waste and recyclables including disposal records from the Pheasant Point Landfill and diverted tonnages based on records furnished through Firstar Fiber and Omaha Paper. These data were utilized to estimate and project the residential generation and diversion rates by household for each county.

2.4.2.2 Method Two

Method Two consisted of estimating waste quantities based on generation, disposal and diversion rates form other communities. Sources of data included studies conducted by USEPA, recent waste composition studies conducted by NDEQ, and data compiled by HDR from sources across the United States ("U.S."). The waste was classified by source into commercial, manufacturing and other categories using the Department of Labor North American Industry Classification System ("NAISC") employment classification categories.

2.4.3 Generation Rates

To establish a 2010 baseline for waste generation planning purposes, the data gathered for Method One were supplemented with the estimates from Method Two. Using this approach, the total quantity of solid waste generated in 2010 can be estimated using waste generation rates for the various waste types (residential, commercial, other). The following method was used to estimate the Planning Area waste generation:

- The 2010 residential quantities for waste and recyclables from the Omaha and Bellevue collection programs were divided by the number of households served under the program and divided by the U.S. Census data on average number of persons per household for each Planning Area county to arrive at a generation rate per capita. This rate was then applied to the total population in each County to estimate residential waste generation.
- The commercial/industrial waste generation rate was calculated by using U.S. Bureau of Labor NAISC data for each Planning Area county and estimates of average daily waste generation per employee for each labor classification, based on various previous studies (see Table 2-3).

- The generation rates for C/D and nonhazardous manufacturing process waste categories are calculated based on generation factors from other communities/sources, as shown in Table 2-3.

Table 2-3 – Estimated Generation Rates

Employment Classification	**Estimated Generation Rate** (tons/employee/year)
Construction	4.67
Manufacturing	1.28
Trade	2.30
Transportation	0.78
Information	0.32
Financial	0.61
Services	1.12
Government	0.92

Other waste generated includes the following: HHW (approximately 0.3 percent of total waste stream), used motor oils (estimated at 2.8 gallons or 21 pounds per capita year), CCR (reported data by the local recycler), and biosolids (reported data from the City of Omaha).

These waste generation rates are applied to the Planning Area population and employment projections for 2010 and converted to tons per year. The resulting estimates of total waste generation in 2010 are shown in Table 2-4.

Table 2-4 – Estimated 2010 Waste Generation

Waste Generation	Douglas	Sarpy	Total
Residential	266,968	79,853	346,821
Commercial	440,455	82,988	523,443
Other Waste	362,409	38,838	401,247
Total	1,069,832	201,679	1,271,511

The 2010 waste generation estimates compare favorably to the following observed data and estimated diversion and export quantities, as shown in Table 2-5.

Table 2-5 – Observed 2010 Waste Generation

Management Data	Douglas	Sarpy	Total	Percent
County Landfill	485,973	106,388	592,361	46.3%
Estimated Export Waste	205,000	50,000	255,000	19.9%
Estimated Diversion	383,418	47,456	430,874	33.7%
Total	1,074,391	203,844	1,278,235	100.0%

Since haulers are not constrained by geographic boundaries, the haulers often cross county lines and select disposal sites that are closest to the end of the collection routes. As such, the quantities disposed in a specific landfill may not have originated in that county.

The estimated diversion quantities were developed based on diversion records from Omaha and Bellevue and extrapolated to the Planning Area. The estimated 2010 waste stream diversion quantities by county are provided in Appendix A, Needs Assessment.

The tables above do not include the following materials: manure, asphalt, concrete, tires and scrap yard metals. Discussions with the major concrete and asphalt processors in the Planning Area indicate that this material represents approximately 610,000 tons per year, which is processed for reuse. At the time of the 1994 ISWMP, major C/D processing facilities did not exist, and much of this material was disposed and not reused.

2.4.4 Waste Composition

NDEQ conducted a series of waste composition studies in 2007 and 2008. National data and recent waste composition studies completed by NDEQ are available and provide useful data and insights into total waste generation and diversion quantities. While estimates of detailed waste composition may be useful in evaluating future waste management systems (including increased diversions, waste bans, HHW, waste-to-energy and/or other programs), it is equally important to recognize that waste is a heterogeneous mix and that most of these waste materials are not currently collected or managed in a form conducive to large volume recovery (e.g., they are all mixed together and cross-contaminated by other waste products).

NDEQ's composition study included four seasonal sampling events (2007 to 2008) at the Pheasant Point Landfill in Douglas County. The main objectives of this study were to determine the characteristics of Nebraska's solid waste stream and establish a baseline of waste characterization data for the state. In addition, the results of the study provide a differentiation of the characteristics of Nebraska's solid waste stream among the following: i) facilities based on size; ii) the four seasons; iii) the generating sectors—residential, commercial, and mixed; and iv) items sighted during the visual inspection process.

Table 2-6 shows both the USEPA and NDEQ composition study results.

Table 2-6 – Waste Composition Comparisons

Municipal Solid Waste Components	Waste Composition	
	USEPA Generation 2009	NDEQ Disposal 2007-08
OCC	11.2%	7.0%
ONP	3.2%	5.5%
High Grade Paper	6.6%	12.8%
Mixed Paper	7.2%	14.9%
Subtotal Paper	28.2%	40.2%
Ferrous	6.4%	1.8%
Aluminum	1.4%	1.5%
Other Nonferrous	0.8%	0.4%
Subtotal Metals	8.6%	3.8%
Bottles and Containers	3.9%	4.8%
Other Glass	0.9%	0.1%
Subtotal Glass	4.8%	5.0%
PET Containers	1.5%	3.1%
HDPE Containers	2.1%	1.6%
LDPE Film	2.6%	7.3%
Other Plastic	6.1%	7.9%
Subtotal Plastic	12.3%	20.0%
Rubber and Leather	3.1%	6.1%
Textiles	5.2%	0.0%
Wood	6.5%	0.7%
Food Waste	14.1%	15.4%
Yard Waste	13.7%	2.9%
Miscellaneous MSW	3.5%	6.0%
	46.1%	31.1%
Total MSW	100.0%	100.0%

The NDEQ study reports that the three main components of Douglas County Pheasant Point Landfill's waste stream (by weight) are paper fibers (40.2 percent), plastics (20.0 percent) and food (15.4 percent). The NDEQ composition study also suggested that of the 20.0 percent plastics, 7.3 percent by weight were "plastic film/wrap/bags."

2.5 Future Management and Disposal Needs

Projections of future waste generation quantities for the Planning Area are presented below. In planning for waste management systems, facilities and programs, it is important to reasonably and realistically project the potential quantity of waste expected to be managed or disposed of by the various systems/facilities/programs. Underestimating quantities of waste and/or overestimating recycling and diversion can reduce the life of the landfill, increasing the need for further planning adjustments. USEPA has reported that the growth in unit waste generation rates, which had increased from the 1960s through the early 1990s, have leveled off between 1990 and 2007 and have shown a decrease through 2009 (USEPA, December 2010). Because the decrease is assumed to be associated with the economic recession, it was

assumed that previously calculated generation rates (pounds per capita per day or pounds per employee per day) will remain constant and that only population and employment growth will affect increases in quantities in future projections.

2.5.1 Future Quantity Forecasts

The unit generation rates listed in Table 2-3 were applied to population and employment projections summarized in Table 2-1 and Table 2-2 to arrive at waste generation estimates presented in Table 2-7. These forecasts represent the waste quantities expected to be generated and disposed from the Planning Area. Table 2-7 includes projections of total waste quantities generated and disposed of in landfills in and outside of the Planning Area. The difference between total generation and total disposal is considered to be diversion, based on current practices (status quo).

Table 2-7 – Waste Generation Projections

Year	2010	2015	2020	2025	2030
Douglas County	**Base Year**				
Residential	266,968	277,819	289,111	297,889	306,934
Commercial	440,455	458,357	476,987	491,469	506,392
Other Waste	362,409	371,794	381,561	389,153	396,976
Total	1,069,832	1,107,970	1,147,659	1,178,512	1,210,301
Total Landfill Disposal	690,973	715,605	741,239	761,166	781,698
Sarpy County					
Residential	79,853	88,164	97,340	105,381	114,085
Commercial	82,988	91,625	101,162	109,518	118,564
Other Waste	39,838	43,984	48,562	52,573	56,916
Total	202,679	223,774	247,064	267,472	289,566
Total Landfill Disposal	158,822	175,353	193,604	209,595	226,908
Planning Area					
Residential	346,821	365,983	386,451	403,270	421,019
Commercial	523,443	549,983	578,149	600,987	624,956
Other Waste	402,247	415,778	430,123	441,727	453,892
Total	1,272,510	1,331,744	1,394,723	1,445,984	1,499,867
Total Landfill Disposal	849,795	889,352	931,410	965,642	1,001,626

These forecasts assume no significant change in disposal, exportation and diversion practices. The disposal quantities forecasted served as the basis for further evaluation of alternatives and identification of Planning Area needs. Waste generation projections are presented in Table 2-7 for the years 2015, 2020, 2025 and 2030 based on population growth rates provided by MAPA and the UNL-BBR research, as noted above and further discussed in Appendix A, Needs Assessment. A variety of factors can affect the accuracy of these projections, including fluctuations in economic activities, yard waste management practices, and the limited availability of data used to derive waste generation rates (e.g., lack of formal data reporting mechanisms).

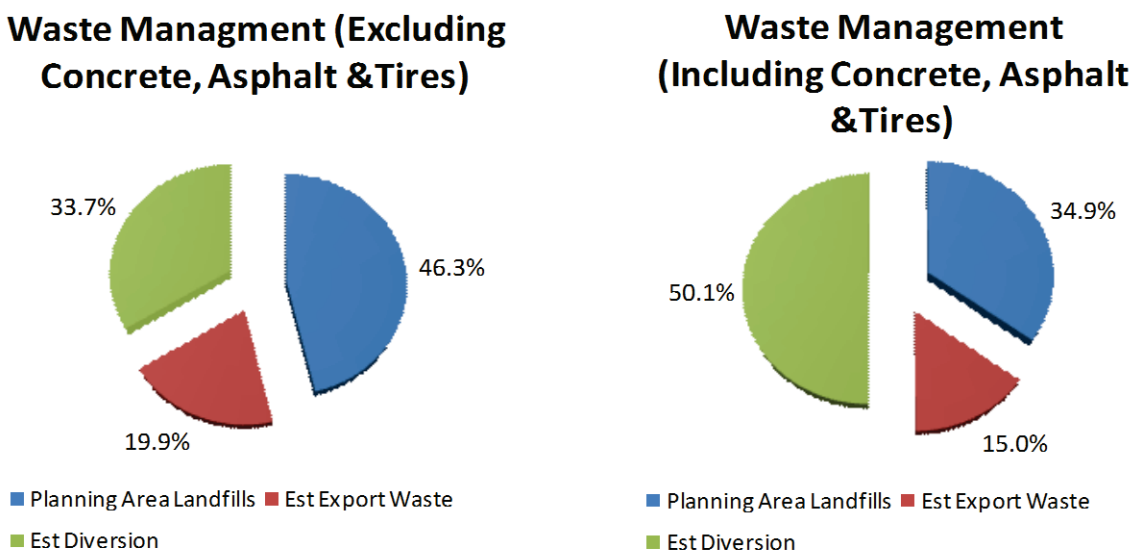
In addition, the generation data in Table 2-7 do not include the quantities of recycled concrete and asphalt, which based on the conducted surveys, are estimated to represent an additional diversion of approximately 610,000 tons per year, and recycled tires, which are estimated to represent approximately another 13,500 tons per year.

C/D processing firms report this 610,000 tons per year rate has remained relatively constant for several years.

2.5.2 Waste Disposal Capacity

As shown in Figure 2-1, it is estimated that approximately 46 percent of the generated waste (excluding concrete, asphalt and tires) is disposed in Planning Area landfills, another 20 percent is exported to out-of-county landfills, and the remaining 34 percent is diverted by reuse, recycling, composting or related techniques. If the all the concrete, asphalt and tires are included in the total waste generation, approximately 35 percent of the generated waste is disposed in Planning Area landfills, another 15 percent is exported to out-of-county landfills, and the remaining 50 percent is diverted by reuse, recycling, composting or related techniques (see Figure 2-1).

Figure 2-1 – 2010 Waste Disposal and Diversion, by Percentage



When the Sarpy County Landfill closes (prior to 2015), the Douglas County/Pheasant Point Landfill will be the only remaining MSW landfill in the Planning Area. When the Sarpy County transfer station is completed (projected to be 2013), it is anticipated that the new transfer station will export the majority of Sarpy County's waste to landfills outside of the Planning Area. The existing River City Recycling and transfer station is also anticipated to be used to export waste from the Planning Area. Also, it is possible that there may be additional waste that is hauled to disposal sites outside the Planning Area. In the future, under current free market conditions, a portion of the waste generated in Douglas County is anticipated to be exported through these transfer stations.

The landfill disposal projections, shown in Table 2-7 – Waste Generation Projections, include export waste. Table 2-5 – Observed 2010 Waste Generation shows the current estimated total landfill disposal rates in Douglas County, Sarpy County and exported from the Planning Area. Based on the values presented in Table 2-5, it is estimated that 37 percent of the waste generated in the Planning Area is currently disposed of in

the Pheasant Point Landfill. – Total Waste Generation and Management Baseline illustrates the projected total waste generation (excluding 610,000 tons of concrete and asphalt, and 13,500 tons of tires) and the projected annual disposal requirements for the Planning Area. This figure also attempts to estimate the quantities being directed to disposal at the Pheasant Point Landfill, assuming that the only significant change in current conditions is that waste currently disposed of in the Sarpy County Landfill will be exported from the Planning Area. These quantities are not intended to be firm estimates or to be used in establishing policies on future waste management; rather, they are presented as an "estimate" for purposes of establishing a planning baseline and an evaluation of disposal needs. Because the Pheasant Point Landfill's projected remaining life (92 remaining years) significantly exceeds the planning period for this ISWMP Update, no need is forecasted for an additional MSW landfill during the Planning Period.

Based on the current diversion rates, projected annual disposal quantities and permitted final grades, the OPPD CCR landfill is expected to provide disposal capacity to year 2028. As such, additional disposal capacity will be required for CCR during the planning period. Additionally, changes in law proposed by USEPA and related to characterization and disposal of CCR have the potential to reduce recycling rates and increase disposal requirements. These changes will need to be monitored and their effects evaluated relative to management of CCR by disposal.

The adequacy of or need for added C/D disposal landfill capacity in the region is uncertain. With the increase in diversion of concrete and asphalt, since the 1994 ISWMP, the disposal volumes have almost certainly decreased. Further, all existing C/D disposal sites are privately owned and operated and do appear to have contractual relationships with units of government, which serve to provide guaranteed disposal capacity. Because state regulations allow certain C/D material to be used as beneficial "fill," there may also be other undocumented sites where C/D material has been placed or are in operations in the Planning Area. Siting and permitting a C/D disposal area is also considered easier to accomplish than an MSW disposal site, although certain restrictions apply, and approvals are required. The key issues that may exist for C/D disposal site capacity may be the adequacy in the event of a significant natural disaster, and to what extent the Planning Area members wish to ensure the availability of that capacity for such events. Because C/D debris can be disposed of in MSW landfills and the Pheasant Point Landfill has capacity well beyond the 20-year planning horizon, this ISWMP Update has not identified the need to provide additional C/D disposal capacity within the Planning Area.

2.5.3 Forecast Variables

Due to the limited uncertainty associated with preparing waste projections, there are three major factors that have the potential to significantly impact the estimates of local disposal capacity needed:

- Regulatory changes related to management of biosolids and CCR
- Changes in waste export quantities due to the new transfer station

- Changes in diversion practices associated with NDEQ allowing disposal of yard waste in landfills with landfill gas collection systems in place

The current management practices for diversion of CCR and biosolids are being evaluated by USEPA. Changes to regulations regarding biosolids have the potential to require this material to be directed to a landfill-type disposal site rather than land application. Biosolids represent approximately 6 percent of the total waste stream; if all biosolids were directed to the Pheasant Point Landfill, it would represent an increase of 15 percent in projected disposal quantities at this landfill. While this would theoretically decrease the overall life of the landfill by 15 percent (to 80 years), the remaining disposal capacity at the landfill would still significantly exceed the planning period for this ISWMP Update.

Currently CCR materials are largely recycled with only a small portion (3–4 percent) disposed of in a dedicated landfill (Monofill). Total CCR currently generated represents approximately 10 percent of the total waste stream. While regulatory changes may reduce the quantities that can be diverted, it is not currently projected that CCR materials will be directed to the Pheasant Point Landfill. Changes in regulation may reduce diversion rates but are not anticipated to affect the MSW landfill capacity in the Planning Area. If all such CCR were directed to the Pheasant Point Landfill, it would reduce the expected life by slightly more than 27 percent.

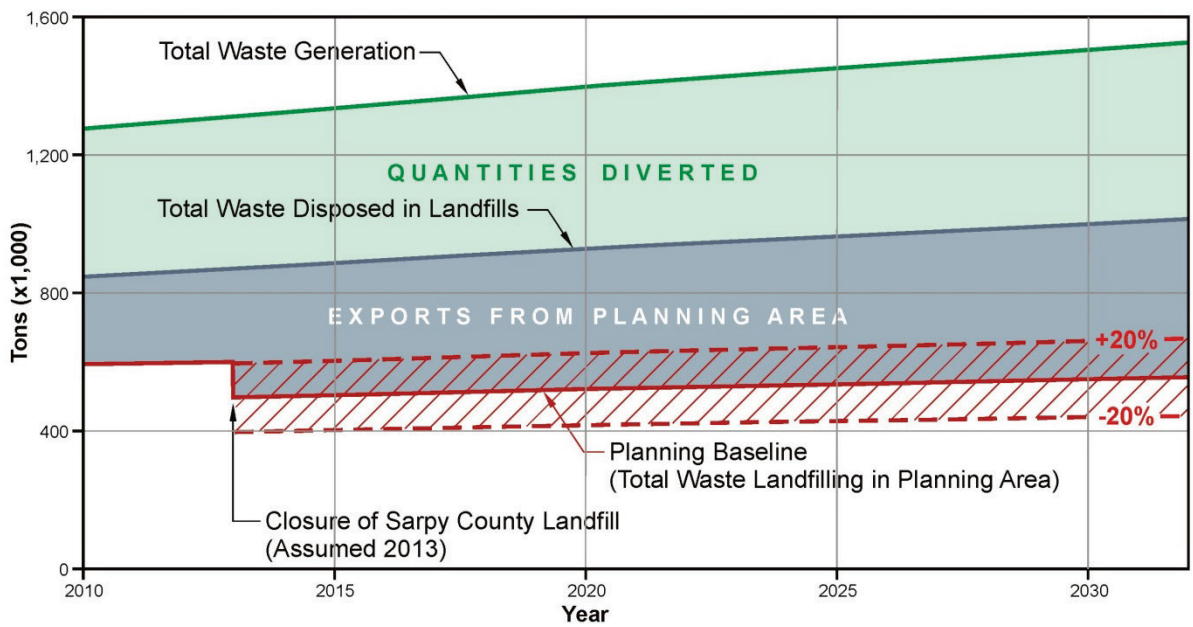
The majority of solid waste currently directed to the River City Recycling transfer station is exported to landfills outside of the Planning Area. A significant portion of the waste received at the River City Recycling facility may be redirected to the Sarpy County transfer station when it becomes operational. While the Sarpy County transfer station is anticipated to increase the quantities of waste exported from the Planning Area, it is not projected to significantly reduce the quantities directed to the Pheasant Point Landfill. The increase in exported quantities is anticipated to largely reflect the quantities currently disposed of at that Sarpy County Landfill. If additional transfer stations are built in the Planning Area, this could change the quantities exported. Absent such additional transfer stations, it is beyond the scope of this planning effort to speculate on how such uncertain changes could affect waste exports.

As shown in Table 2-6 – Waste Composition Comparisons, above, only 3 percent of the material currently disposed of at the Pheasant Point Landfill was estimated to be yard waste. However, as shown in the Needs Assessment, approximately 9 percent of the total waste generation in the Planning Area is yard waste. Of the total yard waste generation in the Planning Area, 28 percent is currently estimated to be managed by composting (through the City of Omaha and Sarpy County composting sites). When the Sarpy County Landfill closes, it is uncertain whether its existing composting operations will remain operational. By agreement, the transfer station being constructed in Sarpy County is allowed to direct yard waste to a landfill, provided the landfill is approved by NDEQ to accept yard waste. If the yard waste materials collected in Douglas County were directed to the Pheasant Point Landfill, they would represent an increase of 7 percent in projected disposal quantities. While this would decrease the overall life of the landfill, it would not change the fact that the remaining disposal capacity significantly exceeds the planning period for this ISWMP Update.

While it is possible to examine a wide range of factors that might affect variations in waste generation (e.g., changes in growth projections for population and employment) or improvements in waste reduction and recycling, the results of any such assumptions are only reflective of the values assumed. As such, the baseline value for landfilled waste at the Pheasant Point Landfill has been shown with an upper and lower range of plus or minus 20 percent. The upper range may reflect one or more of the following considerations: higher than projected employment, higher than projected increase in population, lower than projected exports, increased imports, disposal of biosolids, or disposal of increase quantities of yard waste. The lower range may reflect one or more of the following considerations: lower than projected employment, lower than projected increase in population, increased diversions, increased waste exports or reduced quantities of waste imports.

The results of these variations from the baseline are shown graphically in Figure 2-2. Figure 2-2 is intended to further illustrate the uncertainties associated with biosolids disposal, waste exports and imports, yard waste management, and growth forecasts, as discussed above. The baselines and banding are shown as a basis for evaluation of future diversion options and to illustrate how future programs may affect disposal capacity.

Figure 2-2 – Total Waste Generation and Management Baseline



2.5.4 Waste Tracking Needs

To more accurately assess the quantity of waste generated and materials diverted from disposal, a better waste tracking system is needed. Where organized and municipally managed programs are in place, the collected, diverted and disposed quantities of material are tracked, and the information is available. Currently, information on waste collection and recycling done on a free market and voluntary basis is not readily

available and in some instance is guarded by the businesses as confidential information. Absent this data, more precise estimates of the true waste generation and diversion rates are not possible.

Section 2.3, Solid Waste Management Practices, and Appendix B2, Technical Memorandum TM-2 – Waste Tracking, address options to track and compile this information. If the Planning Area members wish to have a more accurate assessment of these quantities, added regulations may be required. It is not currently anticipated that totally voluntary reporting efforts will provide this information. Additionally, to undertake this tracking will require added costs to compile the information and enforce requirements on reporting. It is generally anticipated that the most reliable means of obtaining accurate records will be through business and hauler licensing and reporting requirements tied to those licenses.

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Section 3 – Waste Management Alternatives

3.1 Introduction

The 1994 ISWMP included a comprehensive review of the solid waste management alternatives and diversion program options, which were relevant to the establishment of the 1994 ISWMP. Since that time, the overall solid waste management systems, facilities and programs have evolved and matured. For the 2012 Plan, the review of alternatives focused on those systems, facilities and program elements that were identified as having relevance to the 2012 Plan by the SW Steering Committee and HDR. The areas of focus included the following:

- Funding of solid waste management programs
- Tracking of waste and waste diversion
- Zero waste and waste minimization options
- Energy recovery program options
- Public education and policy Initiatives
- Assessment of markets for recyclable materials

Alternatives were examined as a foundation for the development of the strategies presented in Section 4 of this ISWMP Update. Each of the alternatives or options was presented in the form of technical memoranda; these technical memoranda make up Appendix B and include the following:

- Appendix B1: TM-1 – Solid Waste Management Program Funding
- Appendix B2: TM-2 – Waste Tracking
- Appendix B3: TM-3 – Zero Waste and Waste Minimization
- Appendix B4: TM-4 – Energy Recovery – Program Options
- Appendix B5: TM-5 – Public Education and Policy Initiatives
- Appendix B6: TM-6 – Market Assessment

Key elements of each of these technical memoranda are summarized below.

3.2 Solid Waste Management Program Funding

The key to having a sustainable solid waste system, facility or program is to have sound and secure funding. Funding needs to ensure that programs can address both short- and long-term needs without sacrificing key goals and objectives or environmental protection requirements. As a general rule, the cost of waste management paid by the waste generator increases as the quantity of waste being diverted from disposal increases. As such, while many landfill diversion and waste reduction options are technically viable, they may not be considered economically feasible, based increased costs. As noted in the USEPA website, “an integrated waste management system considers fluctuating recycling markets, energy potential, and long-term landfill cost and

capacity to make a waste management strategy that is sustainable…. What is economically preferable one year is not always environmentally preferable in the long run. However, by following the hierarchy of environmental preference, communities can ensure their economic decisions regarding MSW management are environmentally sound as well…community decisions are based both on environmental and economic factors."

3.2.1 Areas of Concern

The principal areas of concern associated with program finances and funding include the following:

4. Increase cost of services with no change in current programs (status quo)
5. Funding for changes and possible new programs
6. Sources of funding or funding options

With no significant changes to current programs, the following are viewed as key areas of concern for funding in the future:

1. Collection costs are anticipated to increase in the City of Omaha when the current contracts are renewed or rebid. Cost increase are expected to occur in the following areas:
   - Physical collection costs for MSW, recyclables and yard waste
   - Costs for recyclables processing

   If future collection and handling costs in Omaha increase to rates similar to those in Bellevue and Ralston, the overall program costs could increase in the range of $3 to $4 per household per month or the equivalent of $4.7 to $6.3 million per year. Absent other funding sources, additional taxes may be required to maintain existing levels of service since funding for these services comes from the City of Omaha's general tax fund.
2. UnderTheSink currently recovers approximately 80 percent of its operating costs from grants. If grant funding is reduced or eliminated, and existing services are to be maintained, there would be an approximately $300,000 shortfall that would need to be made up by Douglas and Sarpy Counties. The source(s) of funding for this short-fall would need to be identified.

In addition, with some emphasis on increasing waste diversion or reduce quantities disposed by landfilling, changes to current programs will likely require added costs and may result in a reduction in funding from current sources. The following are viewed as key areas of funding and costs, which will need to be addressed in the future:

1. If collection programs expand their scope of services, such as adding additional collection events for organic materials, the overall collection program costs will increase.
2. If waste reduction and minimization efforts result in added staffing, promotional materials and educational efforts, subsidies or incentives, more convenience facilities more types of materials collected and processed, then program costs

will increase. While some offset of costs will result from reduced landfill disposal costs, the overall program costs are expected to increase, and added funding will be required.

3. If added diversion does significantly reduce the quantity of material directed to disposal, directly or through a transfer station, Douglas County and possibly Sarpy County would see a reduction in the amount of revenue it receives, but not Sarpy County's minimum guaranteed amount.
4. Cost increases or added revenue might be necessary for continued operations of the UnderTheSink facility. Recent bids reflect a material disposal cost of $83,000 per year for this facility; if usage were to increase due to further promotion and utilization, both the disposal costs and the operating cost would increase. Since this program does not collect fees from users and relies heavily on fixed amounts of grant money, it would also require added funding.
5. Future increases in fuel, labor and other program costs, even escalation at rates such as the Consumer Price Index, will result in increased collection, transportation, processing, management, diversion and disposal costs.
6. Uncertain future regulation or changes in laws typically increase overall program costs; additionally, environmental compliance requirements can add to overall program costs.

The above considerations should not be viewed as discouraging efforts to reduce, reuse, or recycle/compost. They are meant to suggest that with such new or expanded programs, consideration needs to be given to funding for these programs, especially where the programs themselves do not generate a net positive cash flow.

3.2.2 Funding Options

From a planning perspective, costs are addressed based on City of Omaha, Douglas County, Sarpy County and Planning Area program requirements. It is also important to note that future planning and implementation efforts will need to focus on program costs and funding sources. The concepts below are offered to identify a framework for funding the various options evaluated. The solid waste related services provided by various Planning Area members vary significantly. Therefore, the individual funding options were prepared for each of the Planning Area members.

3.2.2.1 City of Omaha

Funding for solid waste, recyclables, and yard waste collection, transportation, processing and waste disposal services is provided through the City's general tax fund. Based on state legislation (Nebr. Rev. Statute Chapter 13, Section 13-2020), Omaha cannot currently charge a fee to individual residences for use of facilities and systems that manage solid waste unless a majority of those voting in a regular or special election vote to approve or authorize establishment of such a rate or charge.

Program Options:

1. Seek a vote of the people to allow a fee to be charged.
2. Seek a legislative change to statutes in Section 13-2020.

3. Increase taxes or impose special assessments to cover increased costs. There may be a variety of tax options (e.g., occupation taxes, licensing fees, special assessments) that could be used.
4. Seek alternate sources of funding such as assessment of fees to waste haulers through the existing City Municipal Code waste vehicle licensing ordinance (Chapter 33, Article VI, Solid Waste Hauling and Disposal Permit).
5. Discontinue certain programs such as collection of recyclables or yard waste.
6. Privatize or assign responsibility for collection. There may be a variety of options (e.g., contracts, agencies, other units of government, franchises) that could allow the City to control management practices but place the responsibility for setting and collecting fees with entities outside of City government.

The cost of processing recyclables and possibly yard waste collection is also anticipated to increase in the future. With the uncertain and always fluctuating costs of recovered materials, the City cannot forecast available revenues with any real certainty. Many of the options to provide additional funding for non-waste (recycling and yard waste) services may be similar to those associated with collection programs. It may be important to note that while state statutes do not allow Omaha to charge for "facilities" and "systems," such rules may or may not extend to items not defined as solid waste. Because the definition of solid waste in statutes does not clearly include recyclables or yard waste, it may be possible to impose fees on households for the management of such materials as a non-solid waste. If such an option were to be considered, it may require legal or legislative clarification.

The City owns and operates the UnderTheSink HHW facility and is responsible for personnel and activities at the site. The current funding structure represents some financial risks for the City of Omaha and Douglas and Sarpy Counties. Financial risks are related to possible decreases in tonnage at disposal facilities or transfer stations (resulting in reduced revenues), loss of grant funding, and increased operations and disposal costs.

Program Options:

1. Seek alternate sources of grant funding (both short- and long-term).
2. Establish user fees to help offset costs.
3. Increase taxes or impose special assessments to cover increased costs. There may be a variety of tax options (e.g., occupation taxes, licensing fees, special assessments) that could be used.
4. Expand services to conditionally exempt small-quantity generators with associated fee.
5. Expand services to adjacent counties and their associated communities and charge fees accordingly. This might include allowing out-of-county residents to use the facility, or becoming a hub facility for receiving and packaging materials from local clean-up events.

3.2.2.2 Douglas County

Douglas County provides for a regional landfill (disposal site) through a contract with WMN. The county does not in any significant manner provide for collection, recycling, diversion, transfer station, yard waste composting, or related waste management programs. The County-collected fees help fund the regional HHW management facility (UnderTheSink). As such, the major areas of current financial risk to Douglas County are deemed to include the following:

- Loss of the inherent value of the waste in terms of revenues and recyclable resources due to exports from the County to competing disposal sites
- Increase cost obligations to UnderTheSink due to loss of grant funding
- Increased program funding obligations in implementing components of the ISWMP Update
- Increased costs for environmental monitoring and compliance at closed landfills in the County

Because potential increases in various program costs are currently considered less than the revenues derived from landfill surcharges, no specific program funding options are identified. However, many of the funding options identified for the City of Omaha are applicable to or could require participation with Douglas County.

The ongoing exports and loss of waste to competing disposal facilities outside the County represents a loss in both revenue collected at the Pheasant Point Landfill and a lost opportunity to increase recycling/diversion rates. The uncontrolled exports also represent a potential liability to the County if such exports are not properly managed and such out-of-county facilities experience environmental impairment liabilities that could be transferred to the community where the wastes were generated. The lost value resulting from waste exports could also limit funding available to expand waste management services and increase diversion. To better capture the value inherent in the solid waste, the County may need to look at measures to secure the flow of waste and recyclables generated within the County. Flow control and revenue generating measures could take several forms, including the following:

Program Options:

1. Contracted disposal with entities capable of delivering waste/recyclables to the Douglas County designated facilities
2. Economic flow control through rate structures that encourage use of the County's landfill and local diversion opportunities over other disposal options
3. Legislated flow control, through such mechanisms as franchises or cooperative agreements with communities with ordinance powers
4. Construction of transfer stations to help capture and direct the flow of waste within the region
5. Increased locally available programs, such as providing regional yard waste composting services

3.2.2.3 Sarpy County

Sarpy County owns and operates a regional landfill (disposal site), which is scheduled to close before 2015. This landfill site currently includes limited recycling and diversion programs through recyclables drop-off, wood waste processing, yard waste composting, metal and tire recycling; the site also utilizes paint collected from UnderTheSink in its daily covering operations. Beyond those ancillary services at the landfill, the County does not directly provide for collection, recycling, diversion or related waste management programs in any significant manner. The County collected fees do help fund the regional HHW management facility (UnderTheSink). With the pending (2012/2013) implementation of a privately owned and operated transfer station and closure of the Sarpy County landfill, the major areas of current financial risk to Sarpy County are deemed to include the following:

- Increased cost obligations to UnderTheSink due to loss of grant funding
- Increased program funding obligations in implementing components of the ISWMP Update
- Increased costs for environmental monitoring and compliance at closed landfills in the County

Additionally, with the closure of the current landfill and related operations, there is an anticipated need for additional public or private facilities to handle wastes and recyclables previously diverted through the landfill (e.g., yard waste composting, wood waste, metals, batteries, tires). The private transfer station operator has the right to handle and process recyclables at the transfer station, but not the obligation. Because the private transfer station operator is providing a guaranteed but limited revenue to Sarpy County via tipping fees and host community fees, the County will need to evaluate how to provide funding for the costs of potential increases in various programs associated with the ISWMP Update (versus available funding). Some of the funding options identified for the City of Omaha and Douglas County are applicable to or could require participation with Sarpy County.

Similar to Douglas County, Sarpy County may wish to look at measures to secure the flow of waste, targeted for management through the Sarpy County transfer station or expand services. At this time, the flow of waste to the transfer station is anticipated to occur principally through pricing structures and the waste collection operations of the transfer station owner/operator. Additional measure to increase host community related revenue could take several forms, including the following:

Program Options:

1. Agreements with entities capable of delivering waste to the transfer station that would not otherwise be directed to that facility.
2. Legislated flow control, through such measures as franchises or cooperative agreements with communities with ordinance powers. The County may require changes in state law to implement certain flow control measures.
3. Supplemental programs, such as providing regional yard waste composting services.

Because pricing at the transfer station is set by agreement with the private owner/operator, economic flow control through rate structures may not be an option.

3.3 Waste and Diversion Tracking

Although records exist that allow for a reasonable determination of the waste disposal in the Planning Area, only limited data are available on waste generation, waste diversion and waste exports. As such, the waste generation information presented in Section 2 represents a best estimate for the Planning Area. As a part of the ISWMP Update process, efforts were made to identify the following:

- Major sources of information available on waste generation, diversion and disposal by waste types
- Data gaps and sources that may provide such data
- Options to obtain currently missing or limited data on waste generation, diversion and disposal by waste types

In planning for waste management systems, facilities and programs, it is important to reasonably and realistically project the potential quantity of waste expected to be managed or disposed of by the various programs/facilities. Overestimating quantities of waste or recyclable material recovered could result in less than full system utilization, resulting in increased overall costs. Conversely, underestimating quantities of waste and/or overestimating recycling and diversion can reduce the life of the landfill, increasing the need for further planning adjustments.

To more accurately assess the quantity of waste generated and materials diverted from disposal, a waste tracking system is needed. Where organized and municipally managed programs are in place, the collected, diverted and disposed quantities of material are tracked and the information is generally available. Currently, information on waste collection and recycling/diversion done on a free market and voluntary basis is not always readily available and in some instances is guarded by the businesses as confidential information. Precise determination of the true waste generation and diversion rates is not currently possible and can only be estimated.

The following is a summary of options that might be implemented within the Planning Area to track and compile additional waste disposal and diversion information.

3.3.1 Residential and Commercial/Industrial MSW

The principal mechanisms available to track the generation, diversion and disposal of MSW may include the following:

- Requiring private waste service companies to report information on waste collection, recycling, yard waste and diversion programs.
- Requiring landfills and transfer stations operating in the Planning Area to report quantities of material delivered for disposal by type and origin.
- Requiring waste processing facilities, including composting and transfer stations facilities, to report quantities of materials delivered for processing by type and origin.

- Seeking a change in state rules and regulations that require waste disposal and processing facilities to report quantities of materials delivered by type and origin and, in the case of processing and transfer station facilities, destination of materials.

In Omaha, it may be possible to obtain information from private waste haulers through existing waste collection vehicle licensing regulations and by establishing this reporting requirement as a permit condition. In other communities, similar hauler licensing ordinances may be appropriate but will require enactment of such ordinances.

While it is possible that voluntary reporting by haulers and processing facilities (including transfer stations and composting facilities) would yield the desired information, a regulatory basis would better ensure timely and accurate information.

In the case of the MSW disposal sites in the Planning Area, the scale houses are currently managed by either Douglas County or Sarpy County, and as such, minor refinements in data collection could facilitate the availability of data in a more readily manageable means. When the Sarpy County transfer station becomes operational, Sarpy County should have the ability to request this data from those delivering waste to the facility.

Currently, there are only limited regulations on transfer stations in the Planning Area and no regulations (locally or at the state level) requiring transfer stations to report tonnages handled or information on type, source or destination of waste/materials received. If such information cannot be readily accessed, it may be necessary to establish such requirements by ordinance or as a condition of a permit.

3.3.2 Other Wastes and Recyclables

There is a wide variety of waste and diverted materials that have been classified under the heading of “Other” wastes. Each such material has its own set of regulatory constraints, management options, management infrastructure and programs. As such, obtaining added information or data, where such data is not currently readily available, may require significant efforts and varying data collection methods. The following is a general list of program options that may be appropriate to obtain data that would allow a more accurate quantification of management practices and quantities of materials disposed or diverted.

- Require private waste service companies to report information on waste collection, recycling, diversion and disposal, by source and ultimate destination.
- Require landfills and transfer stations operating in the Planning Area to report quantities of material delivered for disposal and diverted, by type, origin and ultimate destination.
- Require waste processing facilities to report quantities of materials delivered for processing by type and origin, as well as destination.

- Seek a change in state rules and regulations that require waste disposal and processing facilities to report quantities of materials delivered by type and origin, and in the case of processing facilities, by destination of materials.
- Seek cooperative agreements with recyclers of various materials to report on diversion quantities, including origin and destination.

3.4 Zero Waste and Waste Minimization

As defined by the Grass Roots Recycling Network, Zero Waste is a philosophy and a design principle for the 21st Century. It includes "recycling" but goes beyond to address the reduction of "upstream" waste created through mining, extraction, and manufacturing of products. Zero waste maximizes recycling, minimizes waste, reduces consumption and encourages the development of products that are made to be reused, repaired or recycled back into nature or the marketplace.

Zero waste:

- Recognizes that "waste" is not inevitable.
- Discarded materials are potentially valuable resources.
- Goes beyond "end of the line" strategies.
- Maximizes recycling and composting.
- Reduces materials consumption.

Certain components of this philosophy are more easily implemented at a local governmental level; others, involve large scale societal and industrial changes in such things as mining and manufacturing. As a part of the ISWMP Update, an evaluation was undertaken (See Appendix B3) to identify additional program options for Planning Area consideration.

The waste reduction program concepts presented below are intended to summarize the existing Planning Area programs and key options and elements for future consideration as part of the ISWMP Update implementation. The strategies presented in Sections 4 and 5 consider waste minimization options and are based on the concept of environmental stewardship, the integrated hierarchical approach to MSW management (defined by USEPA), and considerations of technological and economic factors.

3.4.1 Source Reduction

The purpose of source reduction is to reduce the volume and toxicity of waste and to increase the useful life of manufactured products.

3.4.1.1 Existing Programs

The following summary of existing programs is provided as a baseline for consideration in the identification and possible implementation of additional source reduction programs:

- Public information is provided by City of Omaha and Bellevue and to a lesser extent by the Counties and other communities. Through newsletters, websites

and links to other resources residents and business can find information on the following:

  - Policies
  - Publications and printed materials:
    - Wasteline newsletter
    - Internet website
  - Educational outreach (via Keep Omaha Beautiful)
  - Facility tours

- Organized diversion programs exist, including but not limited to the following:
  - Nebraska Materials Exchange for schools and businesses
  - Habitat Restore for surplus building materials
  - Omaha Habitat Restore for construction, demolition, remodeling materials
- Private diversion programs exist, including but not limited to the following:
  - Charitable organizations such as food banks, thrift stores and religious groups provide family assistance through the reuse of materials such as excess foodstuffs, clothing, furniture, appliances and other merchandise that would otherwise be disposed of as waste.
  - Consignment stores buy or consign goods such as clothing, furniture, appliances and other merchandise in good condition for resale.
  - Diversion of the following materials is accomplished through various private sector companies and services:
    - Lead-acid batteries - through a battery deposit/exchange program
    - Household and rechargeable batteries
    - Used motor oil recovery
    - Tires
    - Power plant coal combustion residuals (ash) reuse
    - Electronics, such as computers, printer/ink cartridges, laser printer toner cartridges and cell phones. Fees may apply. Cell phones may also be donated to local charities.
    - Ferrous metal, aluminum and other non-ferrous metals, through scrap metal recyclers.
    - Shopping bags and other “film plastics.”
    - Fluorescent light bulbs. Fees may apply.
- Enforcement of government (Nebraska) restrictions and bans exists and provides a mechanism to remove certain materials from the MSW waste stream and disposal in landfills in the Planning Area.

3.4.1.2 Future Programs/Options

The following is a summary of possible future programs and options to provide for additional source reduction of wastes:

- Better establish and promote solid waste program information source as it relates to source reduction
- Identify, fully fund and support a "Source Reduction Leader" (position responsible for implementing program improvements in the area of source reduction and possibly also in support of various recycling program elements as presented below)
- Expand public education:
    - K-12 education programs
    - Promote "Don't Bag It" or similar yard waste source reduction programs
- Evaluate expansion of material reuse center/waste exchange (public/private partnerships), including such items as construction materials, household furnishings and cleaning supplies
- Provide waste audits to planning area businesses
- Evaluate the following groups or program options to educate residents and business on source reduction:
    - Keep Omaha Beautiful/Keep Nebraska Beautiful/Keep America Beautiful
    - WasteCap Nebraska
    - Local ad agency
    - Shows and conventions
    - Planning Area-wide website
- Implement the ReUse center concept to help provide a second-life option for various materials
- Develop Special Waste diversion programs for items such as electronics and medical wastes (to be successful, this is a program that requires a commitment to full staffing and funding)

3.4.2 Recycling (including Composting)

Recycling, which includes composting, is the next preferred waste management approach to divert waste from landfills and combustion facilities. These techniques are available to varying degrees and at varying price structures in the current Planning Area programs and through existing physical facilities.

3.4.2.1 Existing Programs

The following summary of existing programs is provided as a baseline for consideration in the identification and possible implementation of additional recycling and composting programs:

- Curbside collection of recyclables to residential family units within the Planning Area.
    - City sponsored curbside programs (Omaha, Ralston and Bellevue)
    - Subscription programs (balance of Planning Area)
- UnderTheSink, an HHW drop-off/collection center. This is both a source reduction and a recycling facility.
- Four City of Omaha recyclable drop-off site; these are available to both City and out-of-City users and accept glass.
- Seasonal curbside yard waste collection.
    - Seasonal Christmas tree drop-off program
    - City sponsored curbside programs (Omaha, Ralston and Bellevue)
    - Subscription programs (balance of Planning Area)
- Privately operated material processing facilities for source separated recyclables.
- Yard waste composting site.
    - Yard waste composting programs (Omaha and Sarpy County). Note: Sarpy County site will likely close when its landfill closes (prior to 2015).
- Biosolids land application program.
- Receipt of and diversion/recycling of specific targeted material streams, including the following:
    - Tires
    - Scrap metal, including white goods (appliances)
    - Asphalt and concrete processing
    - Brick
    - Dirt and street sweepings
    - Wood, brush, and pallets
- Power plant coal combustion residuals reuse. This is both a source reduction and recycling program.
- Private haulers provide collection of recyclable materials to commercial, industrial and institutional establishments.
- Private recycling/processing companies provide recycling of major materials (document destruction and paper shredding, magazines and office paper, appliances, etc.).

3.4.2.2 Future Programs/Options

The following is a summary of possible future programs and options to provide for additional recycling and composting of wastes:

- Increased commercial, institutional and industrial waste recycling
  - Paper
  - Plastics
  - Containers
- Mandated and incentivized recycling programs
  - Evaluate a volume-based waste collection program for providing additional price-based incentives to encourage more waste reduction and recycling.
    - (Omaha would require a change in law or alternate service delivery systems to allow residents to be charged directly for collection services. Volume-based systems would also require standard size containers and adequate funding to implement).
  - Use pay-as-you-throw rate structures for yard waste.
  - Require that recycling be made available to customers of waste haulers operating in the Planning Area.
    - Commercial and institutional facilities
    - Unincorporated waste generators (residential, commercial, industrial, institutional)
    - Multi-family residences within the Planning Area not served by the current curbside recycling programs.
    - Require one price fee structures for waste and recycling service.
- Identify programs to reduce the quantity of plastics in the waste stream, especially film plastics and single-use containers.
- Evaluate strategies to improve local markets for recyclable materials.

3.4.3 Regional Approach

In the 1994 ISWMP, it was recognized that opportunities exist for regional cooperation in the development of solid waste diversion programs and may provide economic benefits to communities within the Planning Area or Region. It was also recognized that opportunities for regionalization should be developed with consideration for the unique characteristics and needs of participating communities. Based on the 1994 ISWMP and the above-listed existing systems, facilities, programs, future programs/options, and evaluations and discussions during the ISWMP Update development, the following additional opportunities have been identified as having the potential to be both technically and economically viable on a regional basis:

- Public education and awareness targeting source reduction, recycling and composting

- Establishing and funding a Source Reduction Leader to help better promote programs, provide education, distribute information and track results
- Regional yard waste composting facility
- Marketing of materials and development of new local markets
- Promotion of available public and private diversion options

Additional regional or Planning Area-wide opportunities that may require further cooperative evaluation include the following:

- Organic waste composting (vegetative, food, restaurant, etc. wastes)
- Expanded residential and commercial/industrial recycling
    - Including incentivized programs

In addition to creating or designating an organizational structure to implement and evaluate increased diversion programs, to be successful, the regional partners will need to establish funding mechanisms for programs and evaluation processes.

3.5 Energy Recovery – Program Options Assessment

The 1994 ISWMP included an evaluation of combustion alternatives in Appendix D3, Final Disposal Alternatives. As part of the 1994 ISWMP, a goal was also established relative to combustion to "monitor the steam and/or electricity market opportunities for potential long-term (20+ years) development." As part of the ISWMP Update, the energy recovery options were updated, and a further identification was provided of key factors that would need to be considered to make such a technological approach viable.

Potential energy recovery technologies span a wide range of developmental progress. The technologies range from those that have been successfully demonstrated at various scales of operation to those in development but yet to be successfully and/or economically demonstrated on a commercial scale. Energy recovery technologies in 2012 can generally be categorization as "demonstrated" or "developing." Demonstrated technologies include those that have been reliably operating for at least five years on MSW at a scale similar to what would be required for the Planning Area. Because some of these technologies are in operation only in overseas locations, differences in how waste management systems are funded (subsidized) in the U.S. may limit the application opportunities of these technologies in the U.S.

To what extent the energy generated from a waste-to-energy facility will be classified as "green" or "renewable" is uncertain as of the writing of this ISWMP Update. If classified as a renewable energy source, it would likely see a favorable increase in the economics of a facility. In addition, whether and/or how carbon dioxide (CO_2) emissions are regulated will also affect the viability and cost effectiveness of a facility. These issues are being debated by Congress. Because a waste-to-energy facility is a "dispatchable" power source as compared to some other intermittent renewable sources, such as solar or wind, there is some additional benefit to a utility company. It is likely that once an "Energy Bill" becomes law, the economics of waste-to-energy will need to be re-evaluated. While the economic feasibility is a function of a wide range of variables, it is

not unreasonable to estimate that such facilities would have an equivalent tipping fee of $75 to $125 per ton, as compared to current landfill rates of $24.20 per ton (November 2011 Pheasant Point tipping fee). This $50 to $100 per ton cost differential is equivalent to an increase of approximately $5 to $11 per household per month. The cost per ton will be heavily influenced by the sale price for the recovered energy (steam or electricity).

To be successful in implementing a solid waste management system or major technical component such as a waste-to-energy facility, the following six key factors need to be considered and addressed:

1. The need for such a system or facility
2. A reliable waste supply
3. An approvable Site
4. Financial assurance or commitment
5. A driving force or project sponsor
6. An energy market

These implementation factors are described in more detail in Appendix B4, Technical Memorandum TM-4 – Energy Recovery – Program Options Assessment.

The decision of whether to implement a waste-to-energy facility is beyond the scope of this planning process. However, if implementation is eventually selected, the following list of major actions has been developed to facilitate the refinement of future planning, scheduling and implementation and procurement strategies.

- Secure a commitment from a long-term viable energy market.
- Secure a long-term supply and control of waste.
- Refine or confirm the sizing analysis, technology selection and basis of design.
- Identify the siting, permitting and approval processes and timeline for critical approvals.
- Determine the site location to be utilized and confirm that it can be permitted at all levels of required approval.
- Identify site-specific environmental considerations (such as neighbor concerns), and establish reasonable mitigation strategies.
- Identify any auxiliary facilities required and any space set-asides for expansion or future management functions.
- Identify the system implementation strategy related to procurement, ownership, operation, residuals haul and disposal.
- Identify all road improvements, utility locations and fire protection requirements, and refine the strategy for providing such infrastructure.
- Re-assess project economics to confirm that all key assumptions remain valid at all key implementation milestones.

3.6 Public Education and Policy Initiatives

Diversion practices (e.g., source reduction, recycling and composting) in the Planning Area are currently encouraged through limited public education and awareness programs. Public education can be provided in a passive (information available on request) and/or active (public outreach) manner. Source reduction and diversion education also occurs through both individual public and private efforts. Public education is (or can be) a key tool in supporting proper management of wastes destined for disposal. Public education can also encourage diversion by providing a wide array of relevant information on existing program options, system and facility locations, rates, handling, management, and other alternatives. Appendix B-5, Technical memorandum TM-5 – Public Education and Policy Initiatives, provides the following:

- An overview of various options and actions related to public education
- Policy initiatives that may be necessary to achieve the goals and objectives identified in the 2012 Plan

3.6.1 Planning Area Wide

Assuming availability of funding, the following are options for public education initiatives that might be undertaken within the Planning Area on an area-wide basis:

- Launch a Planning Area-wide public awareness campaign that encourages behavior changes related to the implementation of the initiatives in the 2012 Plan.
- Develop a Planning Area-wide website that addresses all aspects of solid waste management. This may be a new site or built upon the existing sites (e.g., DOTComm) created by the City of Omaha, Douglas County or other communities.
- Fully fund and support a “Source Reduction Leader” (staff position) in order to aid in implementation of the source reduction and recycling components of the ISWMP Update. The Source Reduction Leader responsibilities could include implementing program improvements, including the data collection and educational initiative identified in this ISWMP Update. This may include many of those listed above under the goals and objectives (Section 1) and those listed below.
- Collaborate with local businesses that have existing resource conservation programs to further encourage public education and waste reduction through the model programs they have created; encourage others to view existing programs as models for their business.
- Provide expanded K-12 education programs, including assistance in developing environmental stewardship curriculum, especially as it relates to solid waste management, environmental protection, conservation and preservation of resources, reduction in energy and water usage, and reduction in air emissions. This may build upon or use information currently available from Keep America Beautiful or other sources.

- Develop and expand educational outreach programs for residents and businesses on conservation, source reduction, recycling and the associated benefits. Specific programs should separately target residential and commercial waste generators and should recognize that each has its own special needs. Options that might be explored include potential partnerships with local organizations such as Keep Omaha Beautiful, WasteCap of Nebraska, Green Omaha Coalition, Omaha By Design, public service organizations, and through a comprehensive communications outreach program.
- Encourage innovation and ongoing improvements to community education programs that reflect a regional vision for conservation, environmental stewardship and waste reduction. Look for partnering opportunities with other organizations in the Planning Area (e.g., NRD, Extension Service, universities, utilities) to achieve these goals.
- Collaborate with organizations such as the Extension Services, NRD or other community organizations to offer training/classes on residential waste composting that can be done at individual residences.
- Support private waste reduction and recycling programs (e.g., charitable organizations and thrift stores) through website and informational outreach programs targeting alternatives to waste disposal, to the extent they are not in conflict with the ISWMP Update programs or goals.
- Expand educational outreach programs to residents and businesses through attendance and participation in conferences, public forums and local conventions. This might be accomplished in conjunction with existing programs or through a Source Reduction Leader, as noted above.
- Develop advertising campaigns to reach the public.
- Work with local waste haulers to advertise and promote waste reduction programs on diversion and proper management options.
- Work with local broadcast media to provide public service announcements.

3.6.2 Douglas County

Assuming availability of funding, the following are options for public education initiatives that might be undertaken within Douglas County. These may be implemented by the County or could be cooperatively implemented on a multi-jurisdictional basis with communities within the County.

- Enhance the County's existing website with information on all aspects of integrated solid waste management, with emphasis on diversion options. This may initially target residential waste generators, with a goal of adding commercial diversion options.
- Provide literature and promotional information at County facilities and at the Pheasant Point Landfill on integrated solid waste management, with emphasis on diversion options.

- Provide educational placards at strategic points at the Pheasant Point Landfill and in County facilities with a goal of increasing public awareness of resource conservation and environmental stewardship.
- Promote waste reduction as a part of other County environmental services outreach efforts. This might include structured presentations for various audiences on conservation, environmental stewardship and waste management alternatives.
- Provide outreach to County residents and businesses through brochures, newsletters (paper or email), social media, and a booth at the County fair with a goal of increasing public awareness of resource conservation and environmental stewardship.
- Encourage and participate in tours of the landfill, landfill gas and related management systems, and extend invitation to interested stakeholders and educational groups throughout the County.

3.6.3 Sarpy County

Assuming availability of funding, the following are options for public education initiatives that might be undertaken within Sarpy County. Again, these may be implemented by the County or could be cooperatively implemented on multi-jurisdictional basis with communities within the County.

- Enhance the County's existing website with information on all aspects of integrated solid waste management, with emphasis on diversion options. This may initially target residential waste generators, with a goal of adding commercial diversion options.
- Provide literature and promotional information at County facilities and at the Sarpy County Landfill or Transfer Station on integrated solid waste management, with emphasis on diversion options.
- Provide educational placards at strategic points at the Sarpy County Landfill/Transfer Station and in County facilities, with a goal of increasing public awareness of resource conservation and environmental stewardship.
- Promote waste reduction as a part of other County environmental services outreach efforts. This might include structured presentations for various audiences on conservation, environmental stewardship and waste management alternatives.
- Provide outreach to County residents and businesses through brochures, newsletters (paper or email), social media, a booth at the County fair with a goal of increasing public awareness of resource conservation and environmental stewardship.
- Encourage and participate in tours of the landfill, transfer station and related management systems and extend invitation to interested stakeholders and educational groups throughout the County.

3.6.4 City of Omaha

Assuming availability of funding, the following are options for public education initiatives that might be undertaken by the City of Omaha. As noted above, these may also be implemented cooperatively on a multi-jurisdictional basis.

- Continue to maintain the City's websites, and look for additional options to enhance available information on all aspects of integrated solid waste management, including diversion options. Enhancement may target adding commercial waste diversion options.
- Expand information on the City website related to organic waste composting that can be done at individual residences.
- Collaborate with other City or City related social media initiatives (including but not limited to EcoOmaha, Environment Omaha, Green Omaha Coalition, social media) to further promote the goals and objectives of the ISWMP Update and to provide access to public education information.
- Provide literature and promotional information at City facilities on integrated solid waste management, with emphasis on diversion options and with a goal of increasing public awareness of resource conservation and environmental stewardship.
- Promote waste reduction as a part of other City environmental services outreach efforts. This might include structured presentations for various audiences on environmental stewardship and waste management.
- Encourage and participate in tours of the landfill, composting site and related management systems, and extend invitation to interested stakeholders and educational groups throughout the City.

Currently, a key funding source for public education for the City of Omaha is through contract collection and recycling service vendor payments. These payments generally fund the *Wasteline* newsletter, publication and distribution.

3.7 Market Assessment

The 1994 ISWMP included a comprehensive review of the markets for recovered recyclables. As a part of the ISWMP Update, a further review was undertaken to provide a more current assessment of markets, current market prices, and gaps in market for potentially recovered or diverted materials.

For a material to be considered 100 percent recyclable, it must be able to meet the requirements of the "closed loop" cycle. The closed loop cycle requires that the material can be completely utilized in a manufacturing process and that the material manufactured is also recyclable. Many materials that can be recovered or removed from the waste stream do not conform to the closed loop description. For example, high-density polyethylene ("HDPE") bottles can be reprocessed into secondary products, such as plastic lumber; however, these secondary products are not currently recoverable or recyclable and, therefore, may be ultimately disposed or used in a non-recoverable manner. This is generally considered delayed disposal or landfill diversion.

Glass and aluminum containers for drink products can in theory be endlessly recycled into new containers for the same use and, therefore, do meet the requirements of a closed loop cycle. The closed loop cycle is the ideal system for recovery and reuse programs because materials are truly and permanently diverted from final landfill disposal.

Educating consumers to choose products that are recycled or are packaged in recycled containers, to purchase reusable items and refillable containers and to purchase bulk items will help promote changes in the management ethos. With approximately two-thirds of the American economy fueled by consumer purchasing, "green consumerism," as it is being called, has the potential to change packaging technologies as well as the mix of packaging content.

Marketing recovered materials is affected by the volume of material recovered (fluctuating supply), market demand (consistent end markets) and consumer demand. This leads to volatile markets and prices. In addition, in the production of many products, raw materials are frequently more abundant, less expensive, of higher quality and available in more consistent quantities. Many of the recovered materials must be reprocessed to make them suitable for remanufacturing.

Materials such as papers, glass, metals and plastics recovered in the Planning Area are sent to brokers, which aggregate and ship materials to regional, national or international end users. As a result, the revenue from these recycled materials is reduced by the costs for transportation and possibly by added processing costs. The following discussion on pricing is based on the delivery of a market grade material, excluding transportation/shipping costs.

Markets and prices for recovered materials can be volatile and are influenced by supply and demand, as well as other factors such as material quantity and quality.

Papers, metals and plastics (and possibly glass) generally targeted for diversion are often sorted locally and shipped to manufacturer's or secondary processors outside the Planning Area. For over a decade markets have existed for the following:

- Paper
- Polyethylene terephthalate ("PET") and HDPE plastics
- Ferrous and non-ferrous metals
- Yard waste compost
- Wood mulch

In addition, alternative management options have existed for the following:

- Biosolids
- CCR

3.7.1 Future Market Needs

In evaluating increased material recovery, it is important to recognize where limited opportunities or cost may be a barrier to increased diversion. This is not intended to

suggest that opportunities may not exist to create additional processing facilities or end markets for targeted materials. While free market efforts tend to find markets, where opportunities exist, it is possible that the combined efforts of the public and private entities may be necessary to create markets or increase market opportunities.

3.7.1.1 Glass and Other Plastics

Limited cost effective markets exist for glass and "other plastics" (non-PET and non-HDPE (Type 1 and Type 2) plastics); even when properly sorted and processed, the revenue stream for glass and other plastics has been small in comparison to the costs associated with collection, processing and transporting. Since glass is inert, it does not pose a toxicity risk in landfills. Glass is also viewed as a potential contaminant in most single stream recycling operation. Therefore glass recycling has been a low priority target in the Planning Area; at least one company in the Planning Area collects glass, and the glass is also accepted at drop-off sites. Of the other plastic streams, film plastics may have the greatest near term market potential, assuming they can be made suitable for the end market.

3.7.1.2 Compostable Materials

Compostable material markets are also well established but again rely upon a high quality product to generate a commercial demand and revenues. If future waste management programs pursue food or similar organic waste (excluding yard waste and leaves) composting on a commercial scale, it will be very important to focus on product purity and to have established markets/outlets before investing in collection infrastructure, processing and distribution facilities.

An important aspect of long-term diversion of materials such as yard waste will be the existence of processing facilities and marketing efforts. The two existing large scale yard waste composting facilities have uncertain futures. While the goals and objectives of the ISWMP Update included providing for such yard waste composting facilities, the method by which a sustainable program and market for such materials will be established has not yet been identified.

3.7.2 Market Development Needs

As a part of the overall 2012 Plan implementation strategy, Planning Area members should continue to look for local market opportunities and opportunities to provide sustainable revenue streams. These will help offset collection and management costs associated with diverted/recycled materials. Where national or regional markets are utilized, local efforts should also support the consolidation, processing and transport of recovered materials to enhance their marketability. Additional attention may also need to be given to development of new local markets to reduce reliance on national and international markets or markets outside the Planning Area. As such, Planning Area members may wish to pursue opportunities for local markets for items such as glass and certain plastics.

Marketing of recovered materials may be managed by private entities, individual communities or may be coordinated as a multi-jurisdictional effort. Existing local processing capabilities (e.g., for single stream recyclable sorting and marketing) are

anticipated to be maintained to the extent that they are adequate to meet the needs of the Planning Area and effectively support the goals and objectives of this ISWMP Update.

In looking at local market development opportunities, Planning Area members may also need to consider the added potential to attract businesses and create jobs in the Planning Area.

To further the stated goals and objectives contained in the ISWMP Update, it has been recommended that Planning Area members evaluate and adopt changes to purchasing policies, building codes and material purchase specifications used in Planning Area governmental procurement programs to encourage waste reduction, recycling and the use of recycled and compost products in an environmentally sound manner.

3.8 Final Disposal

Because the Pheasant Point Landfill in Douglas County is projected to have a remaining life of 92 years, no further evaluation was undertaken on means to provide landfill disposal capacity during the 20-year period addressed with this ISWMP Update. This is not intended to suggest that emphasis should not be placed on waste diversion and landfill volume conservation.

As part of the recommended annual review and update of the Action Plan, in Section 5, it would be appropriate to examine changes in landfill volumes and disposal-related impacts of various programs or changes in the waste stream to ensure that long-term disposal capacity remains available for the Planning Area.

Section 4 – Strategy Development

4.1 Introduction

This section presents the strategies that were developed to gradually move the integrated solid waste management system along the waste management hierarchy from current diversion and disposal practices toward increasing degrees of diversion (waste minimization, reuse, recycling/composting) and environmental stewardship, based on considerations of technological and economic factors. Embedded in the principle of environmental stewardship are benefits associated with conservation and preservation of resources, reduction in energy and water usage, and reduction in air emissions (e.g., GHG and carbon).

The 1994 ISWMP focused on reaching a diversion goal of 50 percent by 2002, and the 2003 ISWMP Update focused on reducing the toxicity of the waste through the implementation of a permanent HHW facility (UnderTheSink). Since the 1994 ISWMP was developed and updated, the Planning Area has implemented a wide array of systems, facilities and programs that support integrated waste management. Many of the goals established in these earlier planning efforts have been met, new systems and facilities have been implemented, portions of the 1994 ISWMP are no longer applicable, and certain conditions have changed.

Consistent with the 1994 ISWMP, several alternative strategies were developed to reflect current conditions, the updated goals and objectives, and identified program options. The Planning Area members differ in size and demographic characteristics, current types of solid waste management programs, level of public/private program involvement, available funding sources, and the existing diversion activities. Therefore, alternative strategies were developed for each Planning Area member to reflect the individual characteristics and needs as well as opportunities for regional cooperation.

The solid waste management strategy and options presented below were developed from the options presented in various technical memoranda (see Appendices B1 through B6), discussions with SW Steering Committee members, and alternatives described in the 1994 ISWMP. These options are outlined in the following subsections:

- **Common Elements** - including: a description of solid waste management programs and activities which are recommended for implementation in more than one of the Planning Area jurisdictions. The level of diversion that may be achieved by each of these programs is not estimated but would be a function of the specific programs selected and the target materials.
- **Alternative Strategies** - including: a description of three or more alternative strategies available for each Planning Area jurisdiction. Again, the level of diversion that may be achieved by each of these programs or program elements is not estimated but would be a function of the specific programs selected and the target materials.

- **Final Disposal Requirements** - based on the capacity existing in the Pheasant Point Landfill, no further evaluation of landfill disposal needs or requirements are presented for the Planning Period.
- **System Costs** - presents planning level costs for major elements of the alternative strategies. Refinement of these costs will be prepared as a result of the selection of a system, facility or program alternative(s) and development of an implementation plan.

4.2 Common Elements

In this subsection, the recommended program elements described are common to each of the members of the Planning Area. Options for regionalization or multi-jurisdictional solid waste management programs are discussed, followed by descriptions of specific common solid waste management programs.

4.3 Regional Approach

It is recognized that opportunities for regional or multi-jurisdictional cooperation in the development of solid waste management programs may provide significant benefits and economies to members of the Planning Area. It is also recognized that opportunities for approaches should be developed with consideration for the unique characteristics and needs of the participating jurisdictions.

The following principles serve as guidance for the development of regional and local program options:

- **Collection activities** will be determined at the local level and managed by individual communities (i.e., city, town, village), SIDs or the counties for unincorporated areas unless the implementation of a multi- jurisdictional management system is adopted. Such a coordinated system would serve to reduce air emissions, minimize public confusion on available programs, serve to better ensure planning goals, and further the implementation of select systems, facilities and programs.
- **Existing waste reduction and diversion programs** will continue to be maintained and supported to the extent that they are adequate to meet the needs of the Planning Area and effectively support the goals and objectives of this 2012 Plan. Additional programs may be needed to address sectors where program options are considered minimally effective or inadequate.
- **Marketing of recovered materials** may be managed by private entities, individual communities, or may be coordinated as a multi-jurisdictional effort. Existing local facilities will still be maintained to the extent that they are adequate to meet the needs of the Planning Area and effectively support the goals and objectives of this 2012 Plan. Additional attention may need to be given to **development of new local markets** (to reduce reliance on sometimes volatile national and international markets or markets outside the Planning Area with the associated transportation costs) with the added potential to attract businesses and create jobs in the Planning Area. Further, the adoption of purchasing practices and construction specifications that encourage the use of

recycled materials and minimize waste disposal can help support local markets for recovered materials.

- **Public education and consumer awareness** activities can be coordinated at a regional (Planning Area) level. Local implementation may still be required to meet the specific information needs of the local area.
- A **reporting mechanism** should be developed or coordinated at the regional level to provide accurate monitoring and reporting of solid waste management practices and diversion rates; however, local implementation may still be required to ensure specific information is fully and properly reported. This may also involve changes in state laws or regulations, or it may involve the development and enforcement of local ordinances, codes or rules and regulations to require reporting of all materials managed (diverted, beneficially reused or disposed). (See Appendix B2, Technical Memorandum TM-2 – Waste Tracking.) Such reporting mechanisms may also be tied to permits for construction and demolition. Any such added reporting or tracking is anticipated to require added effort to manage the collected information.

  Another key aspect for the successful implementation of the 2012 Plan may be the formation of a joint committee or task force to oversee, monitor and annually report on progress toward achieving the 2012 Plan's goals and objectives.

The coordination and possible implementation of these activities on a multi-jurisdictional basis will help to further the goals of environmental protection, conservation and preservation of resources, reduction in energy and water usage, and reduction in air emissions (e.g., GHG and carbon).

4.3.1 Multi-jurisdictional Strategies

In this subsection, the recommended program elements are considered common to each of the Planning Area members. These may be implemented cooperatively on a Planning Area-wide or multi-jurisdictional basis.

In the 1994 ISWMP, it was recognized that there may be opportunities for regional cooperation in the development of solid waste diversion programs that provide economies to communities within the Planning Area or region. It was also recognized that policies, agreements and possibly organizational structures for implementing regional initiatives should be developed with consideration for the unique characteristics and needs of participating communities. While portions of the existing waste diversion system/facilities/programs may be considered regional/multi-jurisdictional, the programs for processing and marketing of diverted materials are currently managed in part by private initiatives. This may or may not continue to be sustainable without the future cooperation of Planning Area members. Because various programs are not always coordinated or integrated, they can encounter barriers to capturing the inherent value of the solid waste, maximizing diversion and maximizing environmental benefits.

A key aspect of the 1994 ISWMP as it relates to public education, source reduction, and diversion programs was the funding and establishment of a staff position (e.g., "Source Reduction Leader" or similar title), which would aid in the implementation and

tracking of various programs and initiatives. Such a Source Reduction Leader is still considered a key recommendation in implementing the various elements of this ISWMP Update. The primary responsibilities of the Source Reduction Leader would be to expand existing programs and implement new community education and awareness programs with the following ultimate goals: i) increasing resource conservation; ii) reducing the percentage of the waste directed to disposal; and iii) reducing the toxicity of the waste. These goals are anticipated to be accomplished through efforts directed at increasing awareness of the impact of consumer habits on waste generation, and encouraging participation in the new and existing diversion activities. The Source Reduction Leader's responsibilities may also include monitoring and coordinating efforts regarding the 2012 Plan's goals and objectives, coordinating the efforts associated with the various programs listed below, compiling records on waste disposal and diversion efforts, and annual status reporting on progress towards the 2012 Plan's goals and objectives. A Source Reduction Leader is likely best established and funded by a multi-jurisdictional initiative; such a person may also best be employed by an entity with broad planning and waste management responsibilities.

4.3.1.1 Public Education Programs

It is anticipated that Douglas and Sarpy counties will support and will participate in an expanded and coordinated public education program. This program would provide information on waste reduction, diversion and environmentally appropriate solid waste management alternatives available within each community. Such a public education program is anticipated to include the following elements:

- Launch a Planning Area-wide public awareness campaign that encourages behavior changes related to the implementation of the initiatives in the 2012 Plan.
- Develop a Planning Area-wide website that addresses all aspects of solid waste management. This may be a new site or one built upon the existing sites (e.g., DOTComm) created by the City of Omaha, Douglas County or other communities.
- Provide expanded K-12 Education Programs, including assistance in developing environmental stewardship curriculum, especially as it relates to solid waste management, environmental protection, conservation and preservation of resources, reduction in energy and water usage, and reduction in air emissions. This may build upon or use information currently available from Keep America Beautiful or other sources.
- Develop and expand educational outreach programs for residents and for businesses on conservation, source reduction and recycling and the associated environmental benefits. Specific programs should be targeted separately at residential and commercial waste generators and recognize that each has its own special needs. Options that might be explored include potential partnerships with local organizations such as Keep Omaha Beautiful, WasteCap of Nebraska, Green Omaha Coalition, Omaha By Design, public service organizations, and through comprehensive communications outreach programs.
- Encourage innovation and ongoing improvements to community education programs that reflect a regional vision for conservation, environmental

stewardship and waste reduction. Look for partnering opportunities with other organizations in the Planning Area (e.g., NRD, Extension Service, universities, utilities) to achieve these goals.

- Support private waste reduction and recycling programs (e.g., charitable organizations and thrift stores) through Planning Area-wide website(s) and informational outreach programs targeting alternatives to waste disposal to the extent they are not in conflict with the 2012 Plan's programs or goals.
- Expand educational outreach programs to residents and businesses through attendance and participation in conferences, public forums and local conventions. This might be accomplished in conjunction with existing programs or through a Source Reduction Leader, as noted above.

4.3.1.2 Waste Reduction and Diversion

It is anticipated that Douglas and Sarpy counties will continue to support the following solid waste management elements:

- Existing waste reduction and diversion programs, including:
  - Community based collection of **source separated recyclables programs** from residential wastes
  - **Yard waste self-management** including such programs as "Don't Bag It" and home mulching and composting for select organic materials; and
  - **Existing yard waste collection and composting programs** to manage the residential and commercially generated yard waste.

As indicated in Figure 4-2, the amount of increased diversion that is expected to be achieved through new or expanded yard waste management programs (drop-off and composting sites) may be somewhat limited. However, effective yard-waste diversions though a self-management program has the potential to significantly reduce the volume managed (collected, transported, processed, remarketed) by large-scale composting systems.

It is further recommended that Douglas and Sarpy Counties pursue and support the following solid waste management elements:

- Collaborate with local businesses that have existing resource conservation programs to further encourage public education and waste reduction through the model programs they have created. Encourage others to view existing programs as models for their business.
- Collaborate with organizations such as the Extension Service, NRD, the Nebraska State Recycling Association ("NSRA") or other community organizations to offer training/classes on residential waste composting that can be done at individual residents.
- Support private waste reduction and recycling programs (e.g., charitable organizations and thrift stores) through website and informational outreach

programs targeting alternatives to waste disposal to the extent they are not in conflict with the 2012 Plan's programs or goals.

- Work with local waste haulers to advertise and promote waste reduction programs on diversion and proper management options.
- Develop programs to increase commercial, institutional and industrial waste recycling.
- Develop programs to ensure recycling services are available to all residents in the counties.

4.3.1.3 Funding Mechanisms

It is anticipated that Douglas and Sarpy Counties will continue to provide funding and support for the regional programs provided by UnderTheSink for the removal of HHWs from the solid waste stream. New or expanded programs will likely require additional funding and may require other revenue sources.

4.3.1.3.1 Douglas County

To help secure revenues that would fund waste management programs, the County may look at implementing policy or program measures (initiatives) to secure the flow of waste targeted for disposal at the Pheasant Point Landfill, expand services and waste sources managed, or impose fees to capture the value of the solid waste resource currently being exported from Douglas County. Such policy measures could take several forms, including the following:

- Economic flow control through rate structures, taxes, or other methods to capture/retain the value of the solid waste resource that in turn helps to fund waste management programs.
- Legislative flow control through cooperative agreements with communities with ordinance powers or possibly solid waste service franchises, again, to capture/retain the value of the solid waste resource.
- Construction of transfer station(s) to help capture and direct the flow of waste and recyclable materials within the region.
- Additional and/or increased programs, such as providing regional yard waste composting services and added wood waste processing services.
- Vehicle licensing programs.
- Implementation of County managed recycling/diversion services at the landfill (or other locations) for select materials, such as appliances/metals, that may have a revenue value.

4.3.1.3.2 Sarpy County

Similar to Douglas County, Sarpy County may wish to look at policy measures to secure the flow of waste, targeted for management through the Sarpy County transfer station or expand services. To increase revenues, the County may look at implementing policy or program measures (initiatives) to expand services and target other waste sources.

Such policy or program measures could take several forms. Additional policy initiatives that might serve to increase host community related revenue could take several forms, including the following:

- Agreements with entities capable of delivering waste to the transfer station that would not otherwise be directed to the facility.
- Economic flow control through taxes or other methods to capture/retain the value of the solid waste resource that in turn helps to fund waste management programs.
- Legislative flow control through cooperative agreements with communities with ordinance powers or possibly solid waste services franchises, again, to capture/retain the value of the solid waste resource.
- Additional and/or increased programs, such as providing regional yard waste composting services and added wood waste processing services.
- Vehicle licensing programs.
- Implementation of County managed recycling/diversion services at the transfer station (or other locations) for select materials, such as appliances/metals, that may have a revenue value.

4.3.1.3.3 City of Omaha

With the exception of biosolids management, funding for these services is provided through the City's general tax fund. Based on state legislation (Section 13-2020 of the Act), Omaha cannot currently charge a fee to individual residences for use of facilities and systems that manage solid waste unless a majority of those voting in a regular or special election vote to approve or authorize establishment of such a rate or charge. To alter such funding approaches, one or more of the following policy, program, regulatory or legal initiatives may be necessary:

- Seek a vote of the people to allow a fee to be charged.
- Seek a legislative change to Statute 13-2020.
- Increase taxes to cover increased costs. There may be a variety of tax options (e.g., occupation taxes, licensing fees, special assessments) that could be used.
- Seek alternate sources of funding, such as assessment of fees to waste haulers through the existing City Municipal Code waste vehicle licensing ordinance (Chapter 33, Article VI, Solid Waste Hauling and Disposal Permit).
- Discontinue certain programs, such as collection of recyclables and/or yard waste.
- Privatize or assign responsibility for collection services.

In terms of the City owned UnderTheSink HHW facility, policy/program changes that might increase revenues or create added program funding include the following:

- Establish user fees to help offset costs.
- Increase taxes to cover increased costs.

- Expand services with an associated fee to conditionally exempt small quantity generators.
- Legislative funding based sources such as the Integrated Solid Waste Management Cash Fund or Waste Reduction and Recycling Incentive Fund (e.g., funds derived from the $1.25/ton disposal fee established in Nebr. Rev. Statues 13-2042).

4.3.1.4 Waste Tracking

It is anticipated that Douglas and Sarpy Counties will continue to maintain records and will modify their current record keeping operations at their existing solid waste facilities to better quantify waste management practices in the Planning Area. It is further recommended that Douglas and Sarpy Counties require reporting of waste disposal and diversion through the available contract mechanisms.

It is further anticipated that the new Source Reduction Leader will i) monitor progress toward the ISWMP Update goals and objectives; ii) develop annual reports for presentation and discussion with a committee/task force or representatives from the Planning Area and their elected officials; and iii) promote regional/Planning Area-wide solutions.

4.4 Alternative Strategies

After considering the diversion currently achieved through the existing programs and the implementation of common program elements, each Planning Area member may implement additional diversion activities to meet the goals and objectives of the 2012 Plan.

4.4.1 Douglas County

The following program elements may be implemented cooperatively on a Planning Area-wide or multi-jurisdictional basis; these might also be applicable to only Douglas County. These could also be cooperatively implemented with the City of Omaha and communities within the County.

4.4.1.1 Public Education

Based on the establishment of an acceptable funding strategy, the following public education initiatives might be undertaken within Douglas County:

- Enhance the County's existing website with information on all aspects of integrated solid waste management, with emphasis on diversion options. This may initially target residential waste generators, with a goal of adding commercial diversions options.
- Provide literature and promotional information at County facilities and at the Pheasant Point Landfill on integrated solid waste management, with emphasis on diversion options.
- Provide educational placards at strategic points at the Pheasant Point Landfill and in County facilities with a goal of increasing public awareness of resource conservation and environmental stewardship.

- Promote waste reduction as a part of other County environmental services outreach efforts. This might include structured presentations for various audiences on conservation, environmental stewardship and waste management alternatives.
- Provide outreach to County residents and businesses through brochures, newsletters (paper or email), social media, and a booth at the County Fair with a goal of increasing public awareness of resource conservation and environmental stewardship.
- Encourage and participate in tours of the landfill, landfill gas and related management systems, and extend invitations to interested stakeholders and educational groups throughout the County.

4.4.1.2 New and Expansion of Existing Diversion Programs

Based on the establishment of an acceptable funding strategy, the following are waste diversion program options that might be undertaken within Douglas County:

- Provide expanded opportunities for waste diversion and recycling at County facilities, including recyclables drop-off sites at strategic locations within the County and at the Pheasant Point Landfill.
- Establish a yard waste drop-off and composting program for County residents and landscape businesses.
- Provide drop-off facilities at the Pheasant Point Landfill for banned wastes such as tires, appliances, batteries, motor oil and the like.
- Expand solid waste services to adjacent communities and counties to serve as a regional solid waste management "facility/system," within the context provided by the Act.
- Develop programs to increase commercial, institutional and industrial waste recycling.
- Develop programs to ensure recycling services are available to all residents in the County.
- Work with county departments to develop and implement specifications, purchasing practices, and approved products that support recycling, are considered environmentally friendly, have reduced environmental impacts, and encourage markets for recovered materials.
- Continue to monitor program options for energy recovery from waste materials.

4.4.2 Sarpy County

The following program elements may be implemented cooperatively on a Planning Area-wide or multi-jurisdictional basis; these might also be applicable to only Sarpy County. These could also be cooperatively implemented with communities within the County.

4.4.2.1 Public Education

Based on the establishment of an acceptable funding strategy, the following public education initiatives might be undertaken within Sarpy County:

- Enhance the County's existing website with information on all aspects of integrated solid waste management, with emphasis on diversion options. This may initially target residential waste generators, with a goal of adding commercial diversion options.
- Provide literature and promotional information at County facilities and at the Sarpy County Landfill or Transfer Station on integrated solid waste management, with emphasis on diversion options.
- Provide educational placards at strategic points at the Sarpy County Landfill/Transfer Station and in County facilities with a goal of increasing public awareness of resource conservation and environmental stewardship.
- Promote waste reduction as a part of other County environmental services outreach efforts. This might include structured presentations for various audiences on conservation, environmental stewardship and waste management alternatives.
- Provide outreach to County residents and businesses through brochures, newsletters (paper or email), social media, and a booth at the County fair with a goal of increasing public awareness of resource conservation and environmental stewardship.
- Encourage and participate in tours of the landfill, transfer station and related management systems, and extend invitations to interested stakeholders and educational groups throughout the County.

4.4.2.2 New and Expansion of Existing Diversion Programs

Based on the establishment of an acceptable funding strategy, the following are waste diversion program options that might be undertaken within Sarpy County:

- Provide expanded opportunities for waste diversion and recycling at County facilities, including recyclables drop-off sites at strategic locations within the County and at the Sarpy County Landfill/Transfer Station.
- Ensure the continued availability of a yard waste drop-off and composting program for County residents and landscape businesses.
- Ensure the continued availability of drop-off facilities at the Sarpy County Landfill/Transfer Station for banned wastes, such as tires, appliances, batteries, and the like.
- Develop programs to increase commercial, institutional and industrial waste recycling.
- Develop programs to ensure recycling services are available to all residents in the counties.

- Work with county departments to develop and implement specifications, purchasing practices, and approved products that support recycling, are considered environmentally friendly, have reduced environmental impacts, and encourage markets for recovered materials.

4.4.3 City of Omaha

The following program elements may be implemented cooperatively on a Planning Area-wide or multi-jurisdictional basis; these might also be applicable to the City of Omaha. These could also be cooperatively implemented with Douglas County.

4.4.3.1 Public Education

Based on the establishment of an acceptable funding strategy, the following public education initiatives might be undertaken by the City of Omaha:

- Continue to maintain the City's websites, and look for additional options to enhance available information on all aspects of integrated solid waste management, including diversion options. Enhancement may target adding commercial waste diversions options.
- Expand information available on the City website related to organic waste composting that can be done at individual residences.
- Collaborate with other City or City related initiatives (including but not limited to EcoOmaha, Environment Omaha, Green Omaha Coalition, social media) to further promote the goals and objectives of the 2012 Plan and to provide access to public education information.
- Provide literature and promotional information at City facilities on integrated solid waste management, with emphasis on diversion options and with a goal of increasing public awareness of resource conservation and environmental stewardship.
- Promote waste reduction as a part of other City environmental services outreach efforts. This might include structured presentations for various audiences on environmental stewardship and waste management.
- Encourage and participate in tours of the landfill, composting site and related management systems, and extend invitations to interested stakeholders and educational groups throughout the City.

4.4.3.2 New and Expansion of Existing Diversion Programs

Based on the establishment of an acceptable funding strategy, the following are waste diversion program options that might be undertaken within or by the City:

- Ensure the continued availability of a yard waste diversion program for City residents and landscape businesses.
- Provide expanded opportunities for waste diversion and recycling at recyclables drop-off sites at strategic locations within the City.

- Develop programs to increase commercial, institutional and industrial waste recycling
- Develop programs to ensure recycling services are available to all residents in the City.
- Work with City departments to develop and implement specifications, purchasing practices, and approved products that support recycling, are considered environmentally friendly, have reduced environmental impacts, and encourage markets for recovered materials.
- Continue to monitor program options for energy recovery from waste materials.

4.5 System Alternatives

The following options and concepts are provided to guide decision making and were developed based on the evaluation of programs and alternatives available and needs identified. No regional/multi-jurisdiction options are presented; however, options presented for individual Planning Area members may include multi-jurisdictional options. The grouping of elements into "Options" is intended to reflect various levels of increased diversion; these Options are not intended to suggest future programs are limited to one or another option or that elements of various options could not be combined, changed, modified or implemented in a specific grouping or order. Section 5, Action Plan further outlines actions necessary to implement elements or content of the following options. Final selection of a preferred strategy is included in Section 5 and is based on further prioritization of strategies and input received during the public comment period. Additionally, where options are identified for Douglas and Sarpy Counties, it was assumed that the Counties would cooperate and work with their member communities to effectively implement the various elements of this plan.

4.5.1 Douglas County

Option A

- Enhance the County's existing website and public education programs.
- Provide expanded opportunities for waste diversion and recycling at County facilities.
- Ensure the availability of a yard waste drop-off and composting program for County residents and landscape businesses.
- Support current waste diversion efforts, and look for opportunities to expand existing diversion programs.

Option B

All of Option A, plus the following:

- Provide drop-off facilities at the Pheasant Point Landfill for banned wastes, such as tires, appliances, batteries, motor oil and the like.

- Expand solid waste services to adjacent communities and counties to serve as a regional solid waste management "facility/system," within the context provided by Nebraska's Integrated Solid Waste Management Act.
- Develop policies or programs to increase commercial, institutional and industrial waste recycling. Appendix B5, Technical Memorandum TM-5 – Public Education and Policy Initiatives, discusses potential program alternatives.
- Develop policies or programs to ensure minimum levels of recycling services are available to all residents in the County by all waste haulers operating in the County. Appendix B5, Technical Memorandum TM-5 – Public Education and Policy Initiatives, discusses potential program alternatives.
- Provide for multi-jurisdictional management facilities, where needs exist, (e.g., transfer station(s), yard waste composting, wood waste management)

Option C

All of Options A and B, plus the following:

- Form a solid waste partnership, and establish appropriate regulations to more pro-actively control and manage all solid waste generated within Douglas County. This could involve such actions as franchised collection and recycling services, flow control, transfer stations (where economically viable) and other actions, where necessary to capture and utilize the value of solid waste to provide an integrated resource conservation and management system, protect the County from liability, and ensure safe, sound, environmentally responsible waste management practices.
- Pursue programs that would reduce GHG emissions and reduce the County's carbon footprint associated with solid waste management.
- Continue to monitor program options for energy and resource recovery from waste materials.

Option D

All of Options A, B and C, plus the following:

- Where economically viable, pursue and implement a program for energy and resource recovery from waste materials.

4.5.2 Sarpy County

Option A

- Enhance the County's existing website and public education programs.
- Provide expanded opportunities for waste diversion and recycling at County facilities.
- Ensure the availability of a yard waste drop-off and composting program for County residents and landscape businesses.

- Support current waste diversion efforts, and look for opportunities to expand existing diversion programs.

Option B

All of Option A, plus the following:

- Provide or continue to provide drop-off facilities at the Sarpy County Landfill/Transfer Station for banned wastes such as tires, appliances, batteries, motor oil and the like.
- Develop policies or programs to increase commercial, institutional and industrial waste recycling. Appendix B5, Technical Memorandum TM-5 – Public Education and Policy Initiatives, discusses potential program alternatives.
- Develop policies or programs to ensure minimum levels of recycling services are available to all residents in the County by all waste haulers operating in the County. Appendix B5, Technical Memorandum TM-5 – Public Education and Policy Initiatives, discusses potential program alternatives.
- Provide for multi-jurisdictional management facilities, where needs exist, (e.g., yard waste composting, wood waste management)

Option C

All of Options A and B, plus the following:

- Pursue programs that would reduce GHG emissions and reduce the City's carbon footprint associated with solid waste management.
- Form a solid waste partnership, and establish appropriate regulations to more pro-actively control and manage all solid waste generated within the Sarpy County. This could involve such actions as franchised collection and recycling services, flow control, transfer stations (where economically viable) and other actions, where necessary, to capture and utilize the value of solid waste to provide an integrated resource conservation and management system, protect the County from liability, and ensure safe, sound, environmentally responsible waste management practices.

4.5.3 City of Omaha

Option A

- Continue to enhance the City's existing website and public education programs.
- Provide expanded opportunities for waste diversion and recycling at City facilities.
- Develop policies or programs to increase commercial, institutional and industrial waste recycling. Appendix B5, Technical Memorandum TM-5 – Public Education and Policy Initiatives, discusses potential program alternatives.
- Develop policies or programs to ensure minimum levels of recycling services are available to all residents in the City, including multifamily residential dwellings.

Appendix B5, Technical Memorandum TM-5 – Public Education and Policy Initiatives, discusses potential program alternatives.

- Support current waste diversion efforts and look for opportunities to expand existing diversion programs.

Option B

All of Option A, plus the following:

- Work with Douglas County to provide for multi-jurisdictional management facilities, where needs exist, (e.g., transfer stations, yard waste composting, wood waste management)

Option C

All of Options A and B, plus the following:

- Form a solid waste partnership, and establish appropriate regulations to more pro-actively control and manage all solid waste generated within the City and Douglas County. This could involve such actions as franchised recycling and yard waste collection services, flow control, transfer stations (where economically viable) and other actions, where necessary, to capture and utilize the value of solid waste to provide an integrated resource conservation and management system, protect the City and County from liability, and ensure safe, sound, environmentally responsible waste management practices.
- Pursue programs that would reduce GHG emissions and reduce the City's carbon footprint associated with solid waste management.
- Continue to monitor program options for energy and resource recovery from waste materials.

Option D

All of Options A, B and C, plus the following:

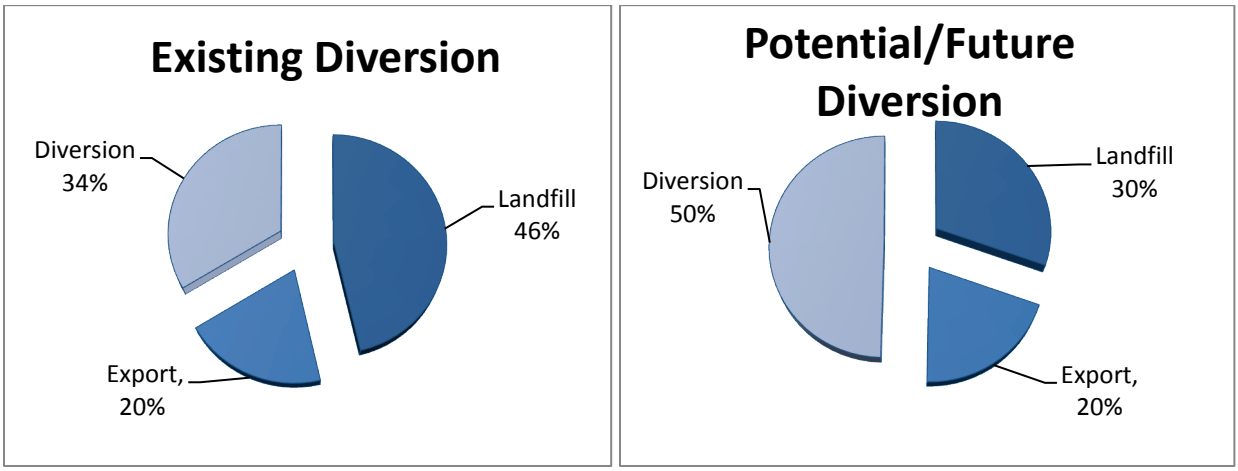
- Where economically viable, pursue and implement a program for energy and resource recovery from waste materials.

4.6 Types and Quantities of Materials Diverted

The types and quantities of materials currently diverted within the Planning Area as a whole are summarized in the Appendix A, Needs Assessment. Estimates suggest that the overall diversion rates currently being achieved generally match the 50 percent diversion goal established in the Act. The current estimate of 50 percent diversion includes a significant volume of concrete and asphalt reprocessing. As noted in the Needs Assessment, if that quantity is excluded from the calculations, the diversion rate is approximately 34 percent, as illustrated in Figure 4-1. As noted previously, the 50 percent diversion rate also has the potential to be negatively impacted by changes in management practices, waste exports and regulations.

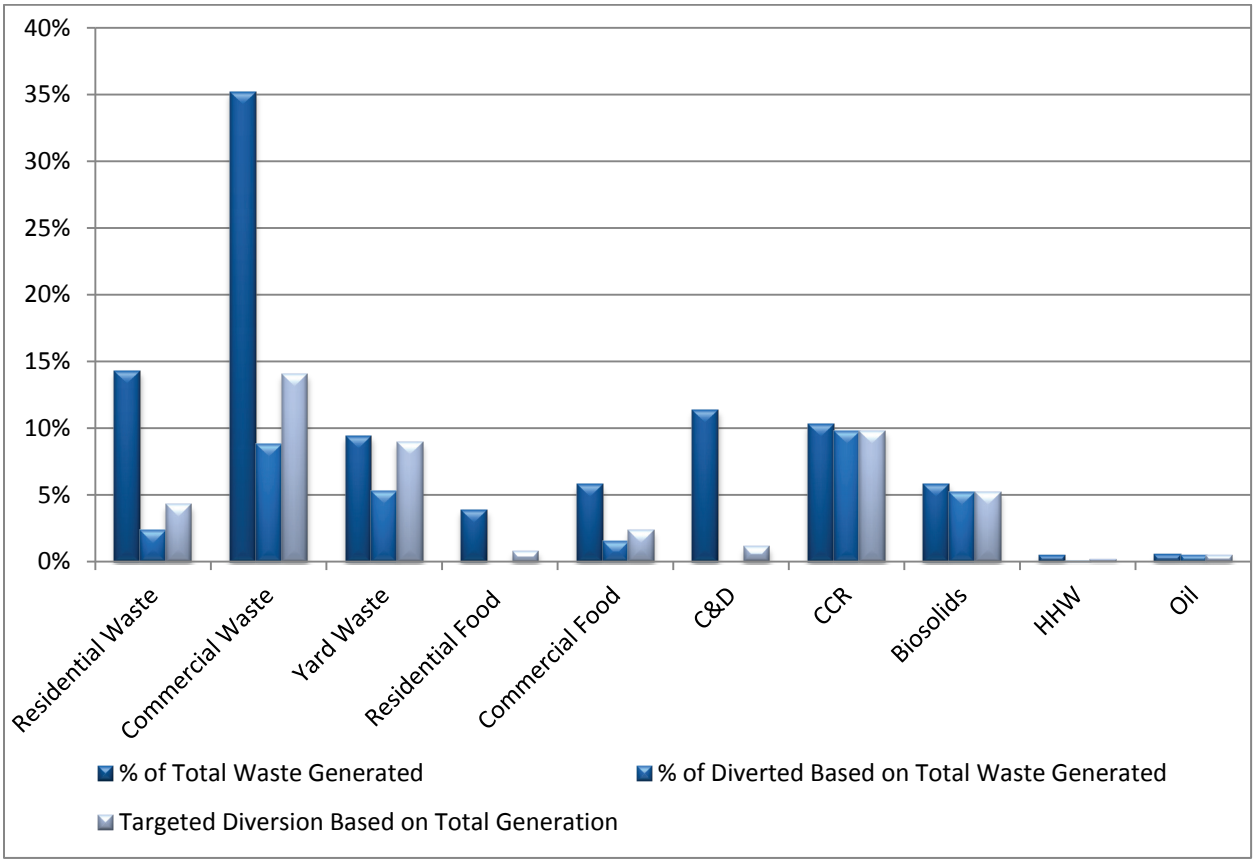
Figure 4-2 summarizes current estimates of waste generation and diversion, excluding concrete and asphalt reprocessing, and includes estimates of potential increases from the optional programs and policies presented for the Planning Area.

Figure 4-1 – Current Waste Diversion and Potential/Future Waste Diversion



There are arrays of variables that affect estimates of future diversion; variables include but are not limited to the following: specific program elements, costs, participation levels, public education and implementation timing. Therefore, it will be necessary to monitor systems, facilities and programs as they are implemented to assess their effectiveness and make appropriate modifications. It is anticipated that the greatest level of diversions can be achieved by maintaining existing programs and by providing new programs that target underserved diversion opportunities (e.g., increases commercial, institutional and industrial waste recycling) and ensuring recycling services are available to all residents and business in the Planning Area. Figures 4-1 and 4-2 illustrate the potential increases in diversion achievable with the program options identified. The diversion goal shown in Figure 4-2 under Potential/Future Diversion represents a 50 percent increase in diversion over current levels. Even though the Potential/Future Diversion chart excludes concrete and asphalt reprocessing, it achieves the 50 percent targeted diversion rate established in the Act. Figures 4-1 and 4-2 assume that the percentage of export remains unchanged. However, if the program options are implemented proportionally on a Planning Area-wide basis, which may be necessary to achieve these goals, the percentages shown under the Potential/Future Diversion chart for exports will decrease to 15 percent and the percentage of waste landfilled in the Planning Area will increase to 34 percent.

Figure 4-2 – Waste Generation, Current Diversion and Potential Diversion



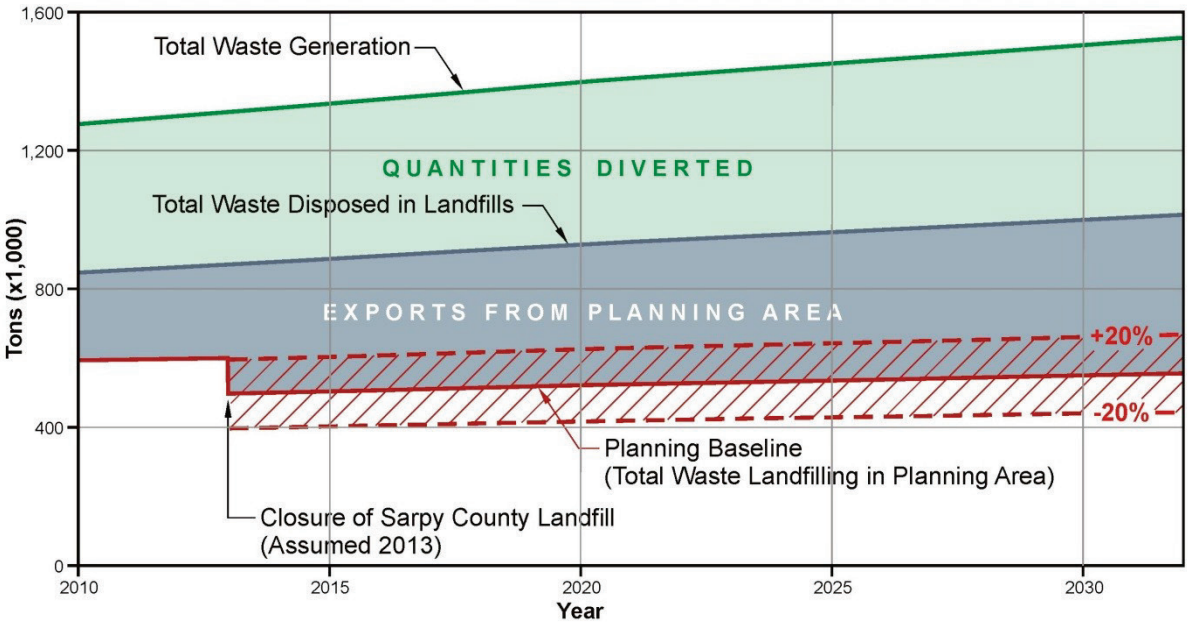
Note: Residential waste and commercial waste as represented in the chart exclude yard waste or food waste.

4.7 Final Disposal Requirements

As identified in Section 2, the Pheasant Point Landfill will serve as a regional landfill within the context of the Act. Figure 4-3 provides a graphic illustration of the baseline for waste disposal planning that is discussed in more detail in Appendix A, Needs Assessment. Based on the baseline estimates of waste disposal, the required disposal capacity for the 20-year planning horizon (including exports) is approximately 18 to 19 million tons (equivalent of approximately 29 million cubic yards at a density of 1,260 pounds per cubic yard). Estimates of disposal capacity, measured as air space volume, indicate that the Pheasant Point Landfill has a total disposal capacity of slightly less than 90 million cubic yards, of which approximately 7 million cubic yards have been consumed through 2011 (83 million cubic yards of remaining capacity). Section 2 projects a total required Planning Area disposal capacity (before exports) of approximately 29 million cubic yards and a required disposal capacity after exports of 17 million cubic yards to meet the Planning Areas needs over the next 20 years. This would indicate that the Pheasant Point Landfill has a useful life well beyond the 20-year planning horizon present in this 2012 Plan. With increased diversion and no change in imports or exports, the quantity of waste requiring final disposal will be reduced. However, if the quantity of waste exported to landfills outside the Planning Area decreases, the annual disposal volume may increase.

Based on useful life projections, the Planning Area members can reasonably certify or demonstrate that the sufficient capacity exists to meet the Planning Area disposal needs through the Planning Period and beyond.

Figure 4-3 – Total Waste Generation and Management Baseline



4.8 System Costs

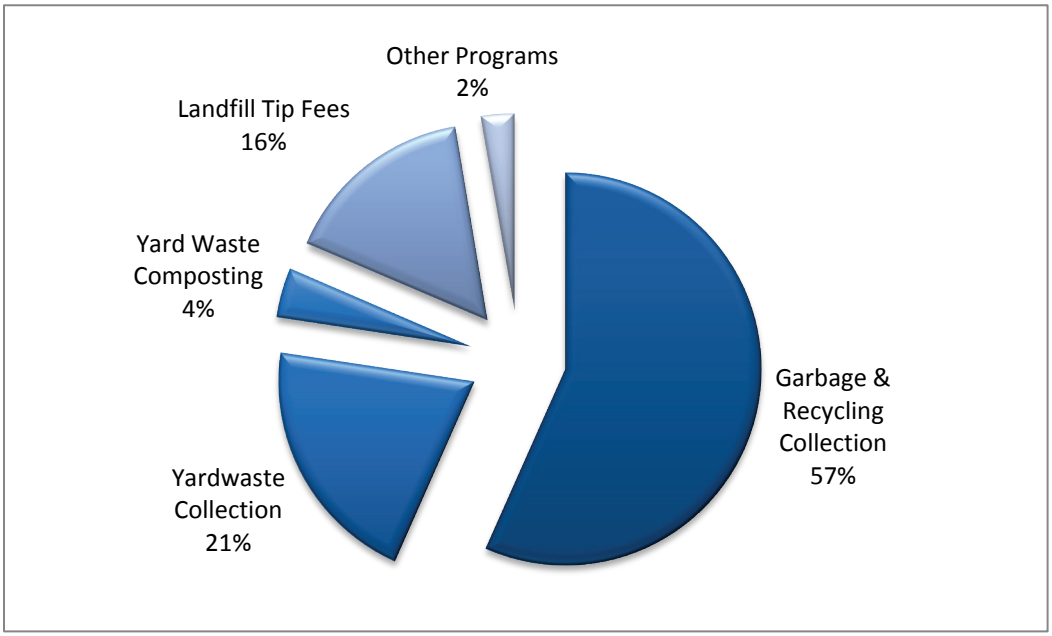
Solid waste management systems and facilities include a broad mix of public and private service providers and programs. For purposes of the following discussion of costs and funding, it was assumed that this mix of public and private service providers and programs will remain relatively unchanged in terms of roles and programs. Also, while costs are presented on an overall program or service unit basis, the cost of certain residential services is also presented, on a cost per household per month basis, to provide a relative measure of comparison. Because of the mix of systems, facilities and service providers, it is not possible to identify all costs. A best effort is provided to present cost on an equitable basis to allow for comparison of alternatives.

Based on information gathered from the various municipalities in the Planning Area, the 2010 cost for municipally sponsored collection/disposal services for solid waste, recyclables and yard waste vary from $9.43 to $13.38 per household per month, with the City of Omaha currently having the lowest rate. It is important to note that because City residential waste management costs are derived from General Fund taxes, the City rate was derived from various contract services costs and City cost accounting information. It is also important to note that the Omaha rate is expected to increase in the next City contract to more closely match that of other municipally sponsored programs in the Planning Area. Figure 4-4 provides a graphic approximation of how the City of Omaha monthly residential solid waste services costs are distributed in terms of systems and facilities and other program costs. In general, this breakdown of costs illustrates that

collection of solid waste, recyclables and yard waste represents approximately 78 percent of the total waste management costs. Values presented exclude possible revenues from recycled materials and yard waste compost.

The free market cost for similar residential solid waste services is higher and can generally be described as in the range of $15 to $20 per month, excluding recycling and yard waste services.

Figure 4-4 – Waste Management Cost Breakdown



4.8.1 New Management and Diversion Program Costs

The diversion strategies presented above and graphically depicted in Figures 4-1 and 4-2 consist of a variety of components. Costs for modification or new programs may include capital costs, operational and maintenance costs, administrative costs, and profit for privately provided services. Where possible, ranges of costs for certain programs have been estimated. These cost ranges are based on known costs for similar existing programs. Actual costs of the selected system/facility/program may, however, vary substantially because there are many variables that will affect the costs of a management facility or system. These include material targets, market availability, land costs, need for new or expanded facilities, transportation requirements, and many more. Due to the uncertainty of future revenue from recyclable and compost materials markets, the range of costs presented does not include income from the sale of recovered/diverted materials. However, it is anticipated that a portion of the estimated program costs will be offset by revenue from the sale of recovered material.

Appendix E1 from the ISWMP also provides cost information based on estimated total costs and per ton of material diverted, for a wide array of program elements considered in the original planning effort.

To aid in decision making and understanding of options, the following discussion of costs was provided for key elements that may be incorporated into the final implementation strategy, as further discussed in Section 5.

4.8.1.1 General

The planning process has identified a minimum of two general features for further implementation. These include the following:

- Development of an annual reporting mechanism
- Cooperative efforts to develop additional local markets for reusable materials

The annual cost of implementing an annual reporting mechanism can vary significantly, depending upon how the program is established, data management efforts and enforcement requirements. For planning purposes, this was assumed to cost $30,000 per year. If this cost were assigned as a surcharge to each ton of waste from the Planning Area, currently sent to a transfer station or landfill for disposal, it would represent an increase in disposal costs of approximately $0.035 per ton; further, if this increase in disposal costs were reflected in the estimated costs per household for residential waste management services, it would represent a cost increase of approximately $0.004 per household per month. If the entire $30,000 were paid by the approximate 260,000 households in the Planning Area, it would cost each household an average of $0.01 per month. No revenue would be directly associated with this effort.

It is not possible to estimate costs to develop local markets since such costs are highly dependent upon the particular market and how such a market might affect a community. One concept to encourage private market development could be the establishment of a revolving grant/loan fund. Such a program could involve a certain amount of risk and potentially significant administrative cost. Grants for such programs may be available from existing sources; however, the amount of funds available may not be adequate to help develop a large-scale material processing or remanufacturing facility. While no revenue is directly associated with local markets, if a viable local market(s) could be established, they could provide both jobs and tax revenue to the host community.

4.8.1.2 Source Reduction

Historic and current planning processes have identified the need to establish and fund a person to lead various diversion initiatives. This person has been described as the "Source Reduction Leader," although alternate titles may be appropriate. At a minimum, such a person is anticipated to be involved in a wide array of educational initiatives, which may include an initial effort to expanded local web-based program to provide information on solid waste diversion and proper management and disposal options. The Source Reduction Leader would also help with education efforts geared to the following:

- Conservation of resources.
- Reduction in the quantity and toxicity of waste generated.
- Reduction in the percentage of the total generated waste that is sent to disposal.

- Tracking waste generation, disposal and recyclables for annual reporting on progress toward meeting goals.
- Facilitation and promotion of other diversion programs.

Because of the wide array of web-based development and hosting options available to each Planning Area member, no estimate has been provided for initial website development. For planning purposes, however, the salary for the Source Reduction Leader, along with support materials, was estimated to cost $100,000 per year. If this cost were assigned as a surcharge to each ton of waste from the Planning Area, currently sent to a transfer station or landfill for disposal, it would represent an increase in disposal costs of approximately $0.12 per ton; further, if this increase in disposal costs was reflected in the estimated costs per household for residential waste management services, it would represent a cost increase of approximately $0.013 per household per month. If the entire $100,000 were paid by the approximate 260,000 households in the Planning Area, it would cost each household an average of $0.03 per month.

While no revenue is directly associated with this effort, if the net result of the educational efforts was a reduction in tons generated that required collection, processing, management and disposal, it could result in cost savings that significantly exceed the $100,000 per year.

4.8.1.3 Recycling

The planning process has identified a minimum of three added recycling opportunities for further implementation. These include the following:

- Extending recycling services to single- family residential properties in the underserved areas of the Planning Area
- Extending recycling services to all multi-family residential properties
- Extending recycling services to all commercial/industrial businesses in the Planning Area

The estimated annual cost of implementing single-family services to 59,000 households in the unincorporated portion of the Planning Area would likely be in the range of $3,600,000 to $4,200,000 per year or approximately $5 to $6 per household per month if the cost of service was universally distributed to each household. The estimated cost to extend recycling services to multi-family residents is anticipated to be slightly less ($4 to $5 per household per month) due to the increased population density and reduced collection costs (e.g., fewer truck stop locations).

Commercial recycling services prices can vary substantially depending on the level of services provided, container size and frequency of collection events, but could range from $100 to $175 per collection event for a medium-size business; for many commercial facilities, it would also be expected that they would see some level of cost decrease associated with lesser quantities of waste sent to disposal.

4.8.1.4 Organic Waste Diversion

The planning process has identified several diversion opportunities associated with the organic fraction of the waste stream, most specifically yard and food waste, for further implementation. These include the following:

- Extending the availability of yard waste composting (and possibly collection) systems and facilities beyond the customers (residential properties) currently being served.
- Encouraging current yard waste generators to participate in source reduction efforts (i.e., "Bag No More," "Don't Bag It" or backyard composting).
- Development of food waste diversion programs (via redistribution, composting or anaerobic digestion); such a program could involve various collection methods.

The estimated annual cost of extending separate yard waste collection to un-served or underserved residents would be approximately $5.50 to $6.20 per household per month, assuming all households pay an equal amount of the collection costs. In addition, there would be a processing/composting charge that would be dependant upon the volume generated. This processing/composting charge is estimated to be approximately $18 to $24 per ton. Assuming that the average household generates approximately 350 pounds of yard waste per year, composting costs would add approximately $3.15 to $4.20 per household per month. Again, this assumes all households pay an equal amount of the collection costs.

In Omaha, Bellevue and Ralston, all residents pay directly or indirectly for the availability of yard waste collection service, even if they do not use these services. An effective "Bag No More/Don't Bag It" or backyard composting program could substantially reduce collection and composting costs.

There is currently only a limited number of food waste collection programs in the U.S. As such, there is limited information on costs associated with processing facilities and markets. Collection cost for a food waste program might be assumed to be similar to the costs for other collection programs or approximately $4 to $5 per household per month. A new anaerobic digestion or composting facility capable of handling food waste is estimated to cost approximately $65 to $90 per ton, including capital amortization and costs to operate and maintain. These costs are highly dependent on the contamination levels and the size of the operation.

4.8.1.5 C/D Recycling

The planning process has identified several diversion opportunities associated with C/D material for further implementation. Because this is an industry that in part already sends material to diversion, if they deem it cost effective, the initial opportunities identified include the following:

- Diversion through mandates in municipal construction projects
- Diversion mandates to all C/D construction projects

Diversion through mandates on municipal construction projects would likely be addressed through the project specifications. As such, there would be an initial cost required to

develop such specifications. In terms of enforcement, the costs are assumed to be minimal if the compliance verification could be performed by the municipal project manager or construction observer as a part of their routine duties. For estimation purposes, it was assumed that such requirements would add $200 to $1,000 to each project for added paperwork; this excludes any costs that might be incurred by the contractor for actual implementation.

If construction projects were required under local permitting regulations to submit a waste diversion and recycling plan, it is estimated that the additional permit application review process would cost approximately $100 to $200 per project, excluding any actual diversion costs. The cost for governmental monitoring of compliance with waste diversion and recycling plans, during the demolition and/or construction period, is estimated to be approximately $500 to $2,000 per project but could vary substantially based on project size and complexity. Funding of such program costs could be assessed to the contractor as a permit fee.

4.8.1.6 Household Hazardous Waste

Although the UnderTheSink HHW facility does not significantly reduce the total quantities of waste diversion, it does provide a significant benefit in terms of reduced toxicity of the disposed waste. Therefore, increased use of the UnderTheSink HHW facility is an overall goal of the 1994 ISWMP and the ISWMP Update. This increased diversion would likely be implemented through enhanced educational efforts promoted by the Source Reduction Leader and expanded education efforts. This program currently realizes a landfill cost avoidance of approximately $105,000 per year through reuse and redistribution. The program also incurs an HHW disposal cost for non-reusable, non-diverted materials of approximately $70,000 per year. Current funding is a mix of City of Omaha funding, grant funding, and contributions from Douglas and Sarpy County, based on tonnage received at their respective disposal facilities.

A significant concern is that grant funding to help offset operating costs could be reduced or eliminated in the future; grant funding currently pays for approximately $277,000 per year of the facility's operation budget. As such, developing a sustainable source of funding could mean that Planning Area members might be required to fund the entire $470,000 per year for staffing, operation and maintenance and disposal. If the $277,000 were assigned as a surcharge to each ton of waste currently sent to disposal in both Douglas and Sarpy Counties, it would represent an increase in disposal costs of approximately $0.33 per ton; further if this increase in disposal costs were reflected in the estimated costs per household for residential waste management services, it would represent a cost increase of approximately $0.04 per household per month. If the entire $277,000 were paid by the approximate 260,000 households in the Planning Area, it would cost each household an average of $0.09 per month. No revenue would be directly associated with this effort.

Assuming educational efforts double the effectiveness of this program, the most significant impact may be the doubling of costs for HHW disposal. Although no new facilities were anticipated for planning purposes, it was assumed that the annual costs would increase as a function of increased disposal costs. Assuming the diversion quantity could be doubled, the net annual cost increase might be in the range of $70,000. If these costs

were assigned as a surcharge to each ton of waste currently sent to disposal, it would represent an increase in disposal costs of approximately $0.083 per ton. Further, if the increase in disposal costs were reflected in the estimated costs per household for residential waste management services, it would represent a cost increase of approximately $0.009 per household per month. If the entire $70,000 were paid by the approximate 260,000 households in the Planning Area, it would cost each household an average of $0.02 per month.

4.8.1.7 Others

As noted above, there is a wide array of system, facility and program options that could be considered to further reduce the percentage of the total waste generation that is currently sent to disposal. As these programs are better defined and integrated into the Plan, more detailed cost and funding evaluations may need to be considered. Such evaluations will need to be program and situation specific and are beyond the scope of this planning effort.

4.8.2 Net System Costs

A portion of the general public may expect that their current solid waste services costs will be reduced when new diversion activities are in place. Depending upon how programs are funded, the avoided costs of disposal can, to a certain extent, offset a portion of the costs of the new diversion activities; however, the cost for new or expanded programs is generally anticipated to exceed the disposal costs savings. For programs such as Omaha's, where the City manages all funds associated with collection, transportation, diversion and disposal it is theoretically possible that significant reductions in the quantities of waste disposed and reductions in the quantities of yard waste collected and managed could, to varying degrees, offset added costs associated with increased recyclables collection and other costs associated with diversion programs.

In the case of Douglas and Sarpy Counties, where fees are collected at the disposal (or future Sarpy County Transfer Station) site, a decrease in materials delivered to the site would reflect a decrease in revenues (except that Sarpy County has a guaranteed minimum revenue from the transfer station operator). Also, in the case of Douglas County, the material diverted to disposal outside the County (exported) represents a lost opportunity to capture the inherent value of the solid waste and recyclable components of the solid waste stream. As such, the greater the volume exported, the less revenues the County may have available to support waste diversion programs (and the less waste materials available from which to target for diversion from disposal).

Under new or expanded programs, it may be possible to better capture the inherent value of the solid waste and to use this money to fund added programs. A key aspect of various long-term shifts in solid waste management strategies may include shifting emphasis to a concept of "pay-as-you-throw," which tends to allocate financial burden based on actual waste generation; this concept is in some respects already used in certain commercial waste managements services where a business is charged per load of waste collected and disposed or may pay separately for collection and disposal costs.

A key aspect of pay-as-you-throw may also apply to residential solid waste and yard waste management, where in various communities in the Planning Area, all households bear

an equal costs for solid waste services including unlimited yard waste disposal; while not all residents tend to generate solid waste at the same rate, certain residents generate no yard waste, and other resident set out large volumes of yard waste on a weekly basis. Under a pay-as-you-throw concept, large volume yard waste generators would pay for the burden they place on the yard waste management system, while those that do not use the service would not be required to pay or would pay a more nominal charge to retain the ability to use the services, if needed. Such pay-as-you-throw programs also serve as an educational tool to help waste generators better understand how their disposal decisions translate into costs.

4.9 Public Involvement

The ISWMP Update was prepared in two phases. The first phase was focused on analyses designed to update historic information on waste generation and waste management practices, to prepare projections of needs for the next 20 years, and to evaluate options and possible alternatives for future consideration. The second phase, which was initiated in 2012, began with a public involvement program designed to gather input before this ISWMP Update was drafted.

The public involvement process was designed to provide opportunities and several mechanisms for public participation and input, including the following:

- An in-person open house meeting
- An online self-directed open house meeting
- Surveys: one for residents and one businesses
- An open comment form

Surveys and comment forms could be obtained via the in-person or online meetings and could be submitted at the in-person meeting, via the website, or paper copies could be mailed to MAPA.

To inform the public, businesses and stakeholders of opportunities for involvement and input, Planning Area members used several outreach tools to attempt to reach and engage interested parties. These outreach mechanisms include the following:

- Press release
- Email meeting invitations
- Website content
- Social media

A copy of those announcements is included in Appendix C, Public Involvement and Comments. The press release was sent to KIOS-FM, WOWT-TV, KMTV-TV, KPTM-TV, KXVO-TV, Omaha World-Herald, and The Reader.

MAPA, with input from Planning Area members, created an email mailing list to invite the public, businesses, stakeholders and others to participate in the in-person and on-line open house meetings. The email invitation and social media announcement was

principally distributed by MAPA. The website content was created by HDR and hosted at www.mapa-swplan.com.

4.9.1 Open House Meeting Content

The open house meetings used display boards structured to provide a wide range of information, including the following:

- History and timeline.
- What is involved in the planning process?
- Guiding principles associated with the ISWMP Update development.
- Focus areas for planning.
- A synopsis of evaluations associated with the draft phase 1 documents, including: the Needs Assessment; Program Funding Needs, Waste Tracking; Waste Minimization; Energy Recovery; Public Education and Policy Initiatives; Market Assessment; and Strategy Development.
- Access links to all phase 1 documents.

The same display boards, along with links to all phase 1 documents, the surveys and the comment form, were provided on the website. The display boards and website content are included in Appendix C2.

4.9.2 In-person Open House

The in-person open house was held on Monday, May 7, 2012, from 4 pm to 7 pm at the South Omaha Library, located at the Metropolitan Community College South Campus. This open house used 14 display boards, as shown in Appendix C2, Presentation Boards and Website Content. The survey and comment form (see description below) were available to attendees of the meeting. Five members of the public attended this meeting.

4.9.3 Online Self-Directed Open House

The online self-directed open house was hosted on the **www.MAPA-SWplan.com** website and was available from April 30 through May 15, 2012. Display boards used on the online open house were identical to those displayed during the in-person open house. The online open house meeting also included additional content that further explained the information provided on the display boards. A copy of the added web content is shown in Appendix C2. One hundred seventy-nine people visited the website during this timeframe.

4.9.4 Survey

Survey forms were created to solicit input from both residents and businesses on the ISWMP Update. Survey forms were available both at the in-person open house and through the website. Sixty-three residents and one business submitted responses to the survey during the period from April 30 through May 15, 2012 All survey responses

are included in Appendix C3 and a summary of overall responses is included in Appendix C4.

4.9.5 Comment Form

A comment form was available both at the in-person open house and through the website. Five comment forms were submitted via the website and two written comments were submitted. All comments are included in Appendix C5.

4.9.6 Input Summary

The key avenue of input from the public, businesses, and stakeholders was through the surveys and comments. Although these responses do not represent a statistically valid sampling of the overall community opinion (because of the limited number and the voluntary nature of the responses), there may be conclusions taken from this input that are relevant to the planning process. The following are general conclusions taken from the limited survey responses and comments received:

- The majority of respondants were from Omaha; the majority also indicted that they were familiar with solid waste, recyclables and yard waste collection services.
- The majority of respondents did not indicate a strong familiarity with recyclables drop-off centers, yard waste composting facilities, the HHW drop-off center, the landfills, transfer stations or facilities that accept banned waste (e.g., tires, appliances, batteries, motor oil).
- More respondents indicated they bagged their yard waste than the combined number that let it lie or did home composting.
- A majority of respondents indicated everyone should pay equally for curbside yard waste collection, even if they are not using the service or only use it occasionally.
- The majority of respondents indicated that they recycled, but more people than not indicated that the current programs were not adequate. Of those indicating it was inadequate, most commented that they were interested in glass collection, followed by an interest in improved containers.
- A majority of respondents indicated that they did not feel that the current level of residential recycling was not acceptable. Those indicating recycling was not at acceptable levels also indicated that education and incentives were the main types of policies, programs and actions that are need to reach acceptable levels.
- A strong majority of respondents indicated that current public education and information programs were inadequate in the areas of waste management resource conservation, waste reduction, waste diversion and environmental stewardship opportunities.
- Most respondents indicated that their most likely source for information on their waste management needs was a website.

- Of the few respondents residing outside the City of Omaha, those without organized waste collection programs paid significantly more per month for solid waste services than did respondents residing in communities with organized collection programs.
- When asked whether they supported a collection program where residents would pay a service fee based on the amount of material set out, respondents gave no clear preference for volume-based garbage, recyclables or yard waste collection fees.

Section 5 – Action Plan

The action plan and implementation plans presented below include both definitive items and evaluation activities, which are intended to guide in the development of future systems, facilities and programs. They are also intended to provide a framework for future decision making. As further described under Section 5.2, Implementation Process, in the development of this ISWMP Update, a set of "Guiding Principles" were identified to aid in both the ISWMP Update development and in the evaluation of implementation alternatives. The formal adoption of this ISWMP Update is also intended to aid Planning Area members in setting policies and priorities, as well as providing guidance on options that may arise in the future. In simple terms, future systems, facilities, or programs should be in conformance with the ISWMP Update, or the ISWMP Update should be modified to incorporate these future changes.

A key action associated with the ISWMP Update is monitoring and periodic review to ensure that actions items are being pursued and that the ISWMP Update is kept current with changing conditions.

5.1 Action Plan

To provide maximum flexibility to the counties and municipalities in the Planning Area, no specific option (from Section 4) has been selected by Douglas and Sarpy Counties or the City of Omaha. To implement the goals and objectives contained in Section 1.3 and the strategies developed in Section 4 of this 2012 Plan, specific actions must be taken by the appropriate cities and/or counties in the Planning Area. In selecting or approving a change to the current management practices, such changes should be evaluated based on the following:

- Evaluate all systems, facilities and programs to verify that they are consistent with the requirements in state and local laws and meet the requirements of the Nebraska Integrated Solid Waste Management Act (Nebr. Rev. Statues Chapter 13, Sections 13-2001 to 13-2043).
- Evaluate all systems, facilities and programs, including public-private solid waste management partnerships, in terms of their ability to control environmental and economic risks.
- Evaluate future available waste management systems, facilities and program options using the goals and objectives, strategies, and action plan(s) contained in the 2012 Plan.
- Evaluate new systems, facilities and programs based on technical feasibility, socio-political acceptability and environmental/economical sustainability.

The action plan identifies specific items that address the following program areas:

- General
- Operational frameworks
- Source reduction

- Recycling
- Composting and organic waste management
- Landfilling
- Waste transfer and processing facilities
- Other Special Wastes
- Waste combustion or thermal chemical conversion

The action plan items, associated with source reduction, recycling, and composting, are generally geared toward diversion of materials from disposal. As such, many of the action plan items and options presented may have synergistic relationships or benefits. For example, the Source Reduction Leader (reference bullet #3 in section 5.1.1 below) may undertake educational efforts with goals of promoting conservation, recycling and reuse, and other diversion options and at the same time aid in implementing other aspects of the 2012 Plan.

5.1.1 General

These general action plan items are intended to better ensure the success of the 2012 Plan and progress toward the ISWMP Update goals and objectives:

- Form a joint committee or task force consisting of representatives from the Planning Area members to evaluate funding mechanisms required to implement the Action Plan and Implementation Plan. The committee would also oversee, monitor and annually prepare a report on progress toward achieving the 2012 Plan's goals and objectives for submittal to elected officials and key decision makers.
- Maintain liaison and regional cooperation with other local governments to identify common problems that may have common solutions across jurisdictional boundaries.
- Create, fill and fund a Source Reduction Leader position or similar title to expand existing source reduction programs and implement new community education and awareness programs with the following ultimate goals: i) increasing resource conservation; ii) reducing the percentage of the waste directed to disposal; and iii) reducing the toxicity of the waste. The Source Reduction Leader's responsibilities could also include many of those listed under the 2012 Plan's goals and objectives, selected strategy options or those further listed below, such as compiling records on waste disposal and diversion efforts and annual status reporting on progress towards the 2012 Plan's goals and objectives.
- Encourage the development of local markets for recovered materials and manufacturing of end products made from these materials.
- Evaluate and adopt changes to purchasing policies used in Planning Area governmental procurement programs to encourage waste reduction, recycling and the use of recycled products.

- Develop necessary ordinances and resolutions to implement the recommended actions and provide the responsible departments, solid waste management divisions and Planning Area staff with adequate levels of funding to ensure that actions to be undertaken are sustainable.
- Seek state support, legislative changes and other approvals that will support financially sustainable solid waste management systems, facilities and programs.
- Pursue funding structures that would allow waste generators and the public to see the value of conservation, reduction, management costs and outcomes.
- Pursue mechanisms to create incentives to expand recycling collection services to the commercial sector.

5.1.2 Organizational Framework

- Coordinate solid waste management activities and public education programs with the other communities throughout the Planning Area to avoid unnecessary duplication of services, facilities and programs, and potential conflicts.
- Implement appropriate organizational frameworks and structures that allow Planning Area members to better manage waste management and disposal systems, facilities, and programs, including those necessary to capture the inherent value and resource value of solid waste in order to provide sustainable funding and integrated resource conservation and management systems.
- Establish institutional arrangements for local governments within the Planning Area to cooperate on the use of solid waste management systems, facilities and programs.
- Continue to support public-private partnerships that provide solid waste management systems, facilities and programs that are consistent with the 2012 Plan but maintain control over environmental and economic risks to the Planning Area members.
- Develop regional web-based public information linkages to enhance communication on common solid waste management needs and opportunities.
- Implement appropriate organizational frameworks and structures to allow units of government to better:
    - Manage imports and exports of solid waste from the Planning Area and ensure sound, sustainable, environmentally beneficial programs.
    - Capture data and monitor management, diversion and disposal programs to assess their effectiveness.

5.1.3 Source Reduction

The following action items and program development may be implemented through a variety of mechanisms and may be lead by the Source Reduction Leader:

- Promote source reduction programs, which minimize the amount of waste that must be managed by the post-consumer programs.

- Expand communications to the public, businesses and communities on the benefits of resource conservation and environmental stewardship as they relate to solid waste.
- Develop and support expanded and coordinated public education programs focused on waste reduction, diversion and environmentally appropriate solid waste management alternatives, including the following:
    - A public awareness campaign that encourages behavior changes related to the 2012 Plan initiatives.
    - A Planning Area-wide website (or common web linkages) that address all aspects of solid waste management.
    - An expanded K-12 education program focused on solid waste management, environmental stewardship, environmental protection, conservation and preservation of resources, reduction in energy and water usage, and reduction in air emissions
    - An expanded educational outreach program for residents and for businesses on conservation, source reduction and recycling and the associated environmental benefits.
- Implement procurement policies and construction specifications that encourage the use of recycled materials and waste minimization by all governmental units and other institutions throughout the Planning Area.
- Encourage the development of local private enterprises that use recovered or recyclable materials and create jobs.
- Promote “Bag No More” and "Don't Bag It" type programs for self-management of yard waste, including grass clippings and leaves.

5.1.4 Recycling

- Identify and pursue new programs that target underserved diversion opportunities (i.e., increases commercial, institutional and industrial waste recycling), and ensure recycling/diversion services are available to all residents and businesses in the Planning Area.
- Identify and pursue programs to expand recyclable materials programs and facilities to ensure that recycling services are available to all single-family residences and multi-family units.
- Encourage local public and private economic development entities to assist in bringing to the community new or expanded recycled and recovered material markets or manufacturing of end products made from recycled and recovered materials.

5.1.5 Composting and Organic Waste Management

- Evaluate and, if appropriate, provide services, facilities and programs for yard waste, including grass clippings and leaves, generated by households and businesses.

- Evaluate the impacts of possible closing and relocation of the existing governmentally operated yard waste composting sites, and develop a plan to ensure continued availability of large-volume yard waste composting programs.
- Evaluate separate collection and composting or anaerobic digestion of vegetative food waste from households, grocery stores, hotels and restaurants, as appropriate.

5.1.6 Landfilling (Municipal Solid Waste Disposal Area)

- Monitor regulatory changes associated with management of biosolids and coal combustion residues (CCR) regarding their potential impact on permitted disposal capacity in the Planning Area.
- Monitor the effects of changing management practices on the overall life of the Planning Area landfill, including effects of waste exports, competing facilities, changes in diversion practices and changes in the types and quantities of materials disposed and diverted.

5.1.7 Waste Transfer and Processing Facilities

- Provide for efficient transportation and handling of solid waste, recovered materials, processed recyclables, compostable materials and compost products.
- Confirm the need to implement transfer stations and processing facilities to capture and utilize the value of solid waste, to provide an integrated resource conservation and management system, and to ensure safe, sound, environmentally responsible waste management practices. Additional evaluation criteria may include the following:
    - Reduction in GHG emissions.
    - Cost effectively transport materials generated and managed within the Planning Area.
- Review and evaluate the need for changes to regulations that would be applicable to facilities sited in the Planning Area.
- Establish transfer station and processing facility monitoring and reporting requirements to ensure waste and recyclable materials are managed in an environmentally sound manner and to provide a better accounting of overall management activities in the Planning Area.
- Evaluate transfer station and processing facility permit applications to ensure that such facilities are consistent with Planning Area goals and program requirements.

5.1.8 Other and Special Wastes

- Continue to pursue systems, facilities and programs to reduce the volume of Other and Special Wastes, including HHW, C/D debris, metals/appliances, e-waste, bulky materials, and used motor oil, that currently require disposal, including:

- Enhanced community education programs.
- Encourage and promote the use of substitute products (e.g., less toxic material, multi-use containers).
- Encourage product stewardship for difficult to recycle products at the retail or wholesale level.
- Encourage and promote private initiatives to provide mechanisms for management of other and special wastes where such mechanisms are not currently available and are deemed appropriate.
- Encourage and promote privately sponsored programs for the reuse, recycling or diversion of special wastes.

5.1.9 Waste Combustion or Thermal Chemical Conversion

- Continue to monitor program options for energy and resource recovery from waste materials and, where economically and technically viable, pursue and implement a program for energy and resource recovery from waste materials. The guidance provided in Appendix B4, Technical Memorandum TM-4 – Energy Recovery – Program Options Assessment, should be used as part of subsequent monitoring and evaluation.

5.2 Implementation Process

The process of implementing the solid waste management systems, facilities and programs described above may consist of a wide array of actions. Such actions may involve some or all of the following:

- Changes in laws, regulations and ordinances.
- Cooperative agreements or arrangements between units of government or private entities.
- Additional studies or evaluation.
- Definitive actions to plan, procure, fund, finance, construct or implement specific recommendations.
- Monitoring and enforcement.
- Communications with residents, businesses, and stakeholders.
- Educational initiatives and promotion of programs and the 2012 Plan's goals and objectives.

Additionally, as options are considered or presented to members of the Planning Area, it will be necessary to evaluate them, based on numerous criteria, including consistency with the 2012 Plan. In the development of this 2012 Plan, a set of "Guiding Principles" were identified to aid in both the Plan development and in the evaluation/implementation of alternatives. The project implementation process will vary depending on the type and magnitude of the project.

5.2.1 Guiding Principles

The principles listed below are intended to further guide the implementation and decision making process associated with this 2012 Plan.

1. Ensure existing recycling, composting and other diversion programs remain economically sustainable.
2. Expand communications to the public, businesses and communities on the benefits of resource conservation and environmental stewardship as they relate to solid waste.
3. Promote source reduction programs, which minimize the amount of waste that must be managed by the post-consumer programs.
4. Encourage regional cooperation in and coordination of solid waste management activities and public education programs.
5. Capture the inherent value and resource value of solid waste to provide sustainable funding and integrated resource conservation and management systems.
6. Pursue funding structures developed in a manner that would allow waste generators and the public to see the value of conservation, reduction, management costs and outcomes.
7. Implement appropriate systems, facilities and programs to allow units of government to better manage imports and exports of solid waste from the Planning Area, and to capture data and monitor management, diversion and disposal programs to assess their effectiveness and make appropriate modifications.
8. Pursue implementation of new programs that target underserved diversion opportunities (i.e., increases commercial, institutional and industrial waste recycling), and ensure recycling/diversion services are available to all residents and business in the Planning Area.
9. Evaluate new programs based on technical feasibility, socio-political acceptability and environmental/economical sustainability.
10. Support public-private solid waste management partnerships, but maintain control over environmental and economic risks to the Planning Area members.

5.2.2 Timetable and Implementation Plan

Table 5-1 summarizes the general action plan activities that are required on a short-, intermediate- and long-range basis in order to meet key goals established in the 2012 Plan.

5.3 Monitoring Mechanism and Updates

Solid waste management is a dynamic activity, which evolves to reflect social, political, economic, regulatory, environmental and technical considerations. Therefore, it will be necessary to monitor the selected systems, facilities and programs as they are implemented to assess their effectiveness and make appropriate modifications to this

2012 Plan. This 2012 Plan serves as a guidance document for short- and long-term management of solid waste and the needs of the Planning Area and, as such, needs to be monitored and updated to reflect the decisions, priorities and economics of the Planning Area. Consistent with the Act, " the solid waste management plan shall be updated for compliance with federal and state laws and regulations … and may be updated…at any time to reflect local needs and conditions." It is important to recognize that the timing of future updates can also affect community budgets, potential diversion quantities, and other aspects of the 2012 Plan.

As noted in Section 5.1.1, a key aspect for the successful implementation of the 2012 Plan may be the formation of a joint committee or task force (consisting of representatives from the Planning Area members) to oversee, monitor and annually report on progress toward achieving the 2012 Plan's goals and objectives (for submittal to elected officials and key decision makers). Another key action item recommended is the development of a Source Reduction Leader, or similar title, whose responsibilities could also include monitoring and annual status reporting.

A key recommendation of the 2012 Plan is that a waste management reporting mechanism be developed or coordinated at the regional level to provide accurate monitoring and reporting of solid waste management practices and diversion rates; local implementation or reporting activities may still be required to ensure specific information is fully and properly reported. The recommendation for a reporting or tracking mechanism is anticipated to require added effort (cost) to manage the collected information.

Certain aspects of this 2012 Plan may also involve changes in state laws or regulations or the development and enforcement of local ordinances, codes or rules and regulations to require reporting of all materials managed (diverted, beneficially reused, or disposed).

Table 5-1 – Implementation Plan

Action Item	General Timeline	Expenditures	Key Implementation Requirements
Form a joint committee or task force to oversee, monitor and annually prepare a report on progress toward achieving the 2012 Plan's goals and objectives	Within 3 months of 2012 Plan adoption	None identified	a. Establish the composition of the committee. b. Appoint representatives. c. Establish committee duties, roles and responsibilities. d. Identify how annual reporting will be accomplished.
Establish (create, fund and hire) a Source Reduction Leader or similar position.	1-2 years	$100,000 per year	a. Determine who will establish the staff position. b. Determine how the position will be funded and obtain commitment of required funds. c. Implement any required inter-local agreements to establish and fund the position. d. Establish leader's duties, role and responsibilities. e. Hire the position and initiate defined activities.
Establish a Planning Area wide, coordinated Public Education Program	1-2 years	$75,000 per year. Additional portion of costs are included in Source Reduction Leader	a. Create web-based public information site and linkages to provide solid waste and waste reduction information throughout the Planning Area. b. Coordinate messages and information with various governmental waste and recycling/diversion outreach programs. c. Expand K-12 education outreach program. d. Develop and support expanded and coordinated public education and communications program.

Action Item	General Timeline	Expenditures	Key Implementation Requirements
Implement programs, procedures, and other mechanisms to establish solid waste diversion/disposal reporting system	1-3 years	$30,000 per year. Additional portion of data management and tracking costs are included in Source Reduction Leader	a. Identify voluntary and mandatory reporting options and select and preferred strategy. b. Identify means of collecting, managing and reporting data. c. Implement regulatory changes necessary to insure reporting and provide viable enforcement mechanisms. d. Capture data and monitor management, diversion and disposal programs to assess their effectiveness.
Encourage and where feasible expand local markets for recovered and recyclable materials	On-going	None identified	a. Monitor local market development opportunities for recovered/recyclable materials. b. Identify incentives and investments necessary to encourage private industry to create manufacturing of end-products made from these materials.
Evaluate and adopt changes to purchasing policies used in Planning Area governmental programs to encourage use of recovered/recycled materials and to encourage waste minimization as a part of construction and demolitions projects.	1-3 years	None identified	a. Identify changes that would support a wider use of recovered and recycled materials.
	2-4 years		b. Identify modifications to local standard specifications and identify specification requirements to be included in projects procured by units of government. c. Undertake appropriate changes to purchasing policies necessary to implement requirements for use of recycled and recovered products and to encourage waste minimization as a part of construction and demolitions projects.

Action Item	General Timeline	Expenditures	Key Implementation Requirements
Implement appropriate organizational frameworks/structures, strategies and mechanisms to allow Planning Area members to better manage systems, facilities and programs.	1-3 years	None identified	a. Identify changes that would allow units of government to capture the inherent and economic value of waste materials exported from the Planning Area. b. Undertake modifications to organizational structures, systems, facilities and programs to allow units of government to better manage solid waste practices, including imports and exports of solid waste from the Planning Area and assure sound, sustainable, environmentally beneficial programs. c. Undertake changes to organizational frameworks/structures, where appropriate, that would be applicable to facilities sited in the Planning Area.
Develop sustainable funding mechanisms for solid waste diversion and disposal programs	1-3 years to initiate changes; 3-5 years for full implementation	None Identified	a. Pursue legislative changes to allow City of Omaha to charge residents for solid waste services. b. Implement programs to insure sustainable funding for the UnderTheSink facility. c. Evaluate and implement sustainable funding options for solid waste collection and diversion programs.
Expand Recycling Services Opportunities	1-3 years	$30,000 to $50,000 for study.	a. Evaluate improvements to residential recycling programs in under serviced areas. b. Evaluate improvements and remove impediments to business recycling programs.
	3-5 years	None identified	c. Undertake changes or actions necessary to encourage and promote improved recycling programs.

Action Item	General Timeline	Expenditures	Key Implementation Requirements
Organic Waste Management Strategy	1-3 years	$10,000/year. Additional portions of costs are included in Source Reduction Leader. None identified for Item c and d.	a. Promote a "Don't Bag It" program for yard waste b. Develop a plan for relocation/replacement of existing government operated yard waste compost operations. c. Evaluate and, if appropriate, provide additional services, facilities and programs for yard waste, including grass clippings and leaves generated by households and businesses.
Organic Waste Management Strategy (cont)	3-5 years	To be determined by study. $30,000 to $50,000 for item f study.	d. Implement yard waste compost operations relocations plan and possibly supplemental facilities. e. Evaluate options for diversion or food waste and other organic wastes (other than yard wastes), including associated markets. f. Where economically feasible pursue implementation of additional organic waste diversion programs.
Evaluate waste handling system program improvements	1-2 years	$30,000 to $50,000 study	a. Confirm the need for transfer stations and processing facilities.
	2-5 years	To be determined by study	b. Implement findings from the transfer station and processing facility evaluation.

In order to monitor the implementation of the 2012 Plan, the following actions need to be taken:

Annual

- Annually identify priority systems, facilities and program changes anticipated in the next 1 to 3 years.
- Annually update and report on the progress achieved in the prior year toward achieving the 2012 Plan's goals and objectives.

Five-year

- Update program options for energy and resource recovery from waste materials.
- As major changes occur, review the 2012 Plan and modify the 2012 Plan to reflect changes to goals, objectives, action items and timetables.

Based on changes in systems, facilities and programs (as identified in the annual reviews), certain aspects of the 2012 Plan may need updating. These updates may be driven by individual events, outcomes of implementation activities, changes in regulations or other matters.

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APPENDIX A

NEEDS ASSESSMENT

MAPA
A Council of Governments

Integrated Solid Waste Management Plan Update

Needs Assessment

December 2011

Nebraska Department of Environmental Quality

The Nebraska Environmental Trust
preserving NATURAL NEBRASKA™ for future generations

HDR

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Chapter 1 - Introduction

The purpose of this Needs Assessment is to assist the Metropolitan Area Planning Agency (MAPA) and its members in assessing the existing solid waste management programs and future program needs in the planning area. The information and projections presented in this report were prepared to establish a basis for the update to the long-term solid waste management plan. This Needs Assessment addresses: 1) the volumes and types of waste being generated; 2) the existing waste management practices; and 3) the anticipated future waste management needs. Because regional market forces external to the planning area have some potential to affect the long-term plans, a limited amount of background data on regional solid waste practices has also been provided for informational purposes.

This Needs Assessment establishes the foundation for solid waste management planning, facility identification, and sizing of system components. This report will also serve as a tool for use in communicating its overall strategy and basis for future actions. This Needs Assessment provides an update on the status of the current program activities, documents the progress toward meeting diversion goals in the existing Integrated Solid Waste Management Plan (ISWMP), and serves as a resource in updating the ISWMP.

1.1 Background

In 1994, MAPA prepared a Regional Integrated Solid Waste Management Plan (the "Plan") to determine how Douglas, Sarpy, Washington and Cass Counties in Nebraska and Pottawattamie County in Iowa (the "Region") would handle its solid waste for the subsequent 20 years. The Plan was completed in October 1994 and was intended to cover the period from 1992 through 2015.

The original Plan was developed to conform to the Integrated Solid Waste Management Act (Nebraska Revised Statutes Section 13-2001 to 2043) for Nebraska communities and the Waste Reduction - Recycling Act (Iowa Code, Volume 3, Chapter 455D) for Iowa communities. The Plan largely focused on the requirements of the State of Nebraska since the non-recycled and non-composted waste from Pottawattamie County was expected to be disposed at the Douglas County Recycling and Disposal Facility (the "Douglas County RDF") throughout the original planning period.

In 2003, Douglas and Sarpy Counties prepared a Solid Waste Management Plan update, which among other updates, incorporated a household hazardous waste management facility, now known as UnderTheSink, into the Plan.

Currently (2011/2012), Douglas and Sarpy Counties, as well as the City of Omaha, are in the process of evaluating changes to their solid waste programs and have determined that a further Plan update (ISWMP Update) is appropriate for their service areas, before the expiration of the prior plan. To undertake this ISWMP Update a Solid Waste Steering Committee (the "SW Steering Committee") was formed. The SW Steering Committee includes representatives of MAPA, the City of Omaha, Douglas County and Sarpy County and focuses on integrated solid waste planning needs in Omaha, and Douglas and Sarpy Counties (the "Planning Area").

The goals of this forthcoming ISWMP Update are to:

- Gather and review waste generation and diversion and disposal data for the Planning Area portion of the MAPA region.
- Develop an ongoing system to efficiently track waste generation, diversion and disposal.
- Engage regional stakeholders (including the general public) to identify priorities to develop end markets for recyclables and increase landfill diversion.
- Develop an implementation plan that includes community involvement and education.
- Evaluate opportunities to expand the service area for UnderTheSink.
- Identify sustainability measures for solid waste management under current and future conditions.

1.1.1 Solid Waste Types Managed

The solid waste streams considered in this ISWMP Update include:

- Residential municipal solid waste (MSW);
- Commercial waste;
- Other wastes, including the following:
  - Manufacturing process wastes;
  - Construction and demolition ("C/D") wastes;
  - Household hazardous waste ("HHW");
  - Coal combustion residues
  - Wastewater treatment sludge ("biosolids"); and,
  - Special Handling and Banned Wastes.

1.2 Needs Assessment Contents

In order to continue to provide for the orderly, efficient and safe collection, recycling and disposal of solid waste, the Planning Area is updating its current integrated solid waste management plan to address its needs for the twenty years period from 2012 to 2032. In order to achieve this objective, it is necessary to compile and update the available data on the existing solid waste management system and to project the quantities of waste that need to be managed in the future.

The Needs Assessment report is divided into five chapters. This first chapter is an introduction, describing the regulatory and planning background, and identifies the Planning Area's goals.

Chapter 2 – Planning Area describes the Planning Area and various demographic and geographic data sources related to this Needs Assessment. Included in this chapter are the historic population and employment data and current estimates of population and employment that are used to help identify and project future solid waste quantities.

Chapter 3 – Current Waste Management Practices describes current waste management practices, including the collection, transportation, waste reduction, and disposal of solid waste generated in the Planning Area.

Chapter 4 – Generation and Composition presents waste generation and compositional data and establishes relationships and the methodology used to estimate future waste quantities.

Chapter 5 – Future Management and Disposal Needs presents waste quantity projections based on historic generation rates and forecasted changes in demographics of the Planning Area. Additionally, Chapter 5 creates sensitivity analyses to examine the potential impacts that changes in management practices and regional disposal could have on the quantity of waste managed and identifies additional needs related to future system to efficiently track waste generation, diversion and disposal.

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Chapter 2 - Planning Area

Solid waste management is a dynamic industry and is affected by changes in the economy, laws and other considerations. As such, this Needs Assessment looked at various demographic factors as key predictors of waste management and disposal needs within the Planning Area. This is done, in part, to identify other factors that have the potential to influence the amount of solid waste that might require management at the various existing and future facilities. Some variables directly affecting the generation of solid waste are:

- Population
- Levels of employment in various business and industry types
- Economic conditions, such as per capita income levels
- Level of commuter and transient visitors/business

In developing long-term plans to manage the solid waste within the Planning Area, solid waste indicators were reviewed based on previous research and multiple sources of third-party data. Based on this review and the availability of data, population and employment were selected as the primary indicator. The following chapter describes the Planning Area and various demographic and geographic data sources related to this Needs Assessment. Included in this chapter are the historic population and employment data and current estimates of population and employment, which are used to help identify and project future solid waste quantities.

2.1 Population

According to the 2010 U. S. Census data, there is an estimated 675,950 residents in the Planning Area. This represented an increase of 15.3 percent over the 2000 figure of 568,180, as shown in Table 1. In 2008, the University of Nebraska at Lincoln (UNL) Bureau of Business Research (BBR) estimated the future annual population growth rates for Douglas County through 2020 and 2030 to be 0.8 percent and 0.6 percent, respectively and Sarpy County to be 2.0 percent and 1.6 percent, respectively. The resulting population forecast is presented in Table 1. Estimates of growth were prepared on a county wide basis, since growth forecasts were not available on a community level.

Table 1 – Historical and Projected Populations

COMMUNITY Population	1980 Census	1990 Census	2000 Census	2010 Census	2020 BBR Growth Rates	2030
Douglas County					0.8%	0.6%
Bennington	631	866	937	1,458	NA	NA
Boystown	622	794	818	745	NA	NA
Elkhorn	1,344	1,398	6,062	Annexed	NA	NA
Omaha	313,939	335,719	390,007	408,958	NA	NA
Ralston	5,143	6,236	6,314	5,943	NA	NA
Valley	1,716	1,775	1,788	1,875	NA	NA
Waterloo	450	479	459	848	NA	NA
Incorporated	323,845	347,267	406,385	419,827	NA	NA
Unincorporated	73,193	69,177	57,200	97,283	NA	NA
Total County	397,038	416,444	463,585	517,110	560,000	594,522
Sarpy County					2.0%	1.6%
Bellevue	21,813	33,550	44,382	50,137	NA	NA
Gretna	1,609	2,249	2,355	4,441	NA	NA
LaVista	9,588	9,840	11,699	15,758	NA	NA
Papillion	6,399	10,378	16,363	18,894	NA	NA
Springfield	782	1,426	1,450	1,529	NA	NA
Incorporated	40,191	57,443	76,249	90,759	NA	NA
Unincorporated	45,824	45,140	46,346	68,081	NA	NA
Total County	86,015	102,583	122,595	158,840	193,625	226,934
Planning Area	**483,053**	**519,027**	**586,180**	**675,950**	**753,625**	**821,456**

2.2 Employment Data

Based on the 2010 Census Data, there were a total of 500,982 jobs in the Planning Area. Table 2 summarizes the historical employment data by occupational groupings. Table 2 also summarizes the 2008 BBR employment growth projections for the Planning Area through 2030. Again, growth estimates were prepared on a county wide basis, since growth forecasts were not available on a community level.

Douglas County has the largest number of jobs and actually has more jobs than employed residents. This fact is believed to be responsible for the observed higher per capita generation rate of MSW in Douglas County compared to Sarpy County, as discussed later in this document.

Table 2 - Historical and Projected Employment

	US Bureau of Labor			BBR Growth Projections	
Douglas County	**2000**	**2005**	**2010**	**2020**	**2030**
Construction	22,952	22,767	24,422	30,817	36,744
Manufacturing	28,019	23,671	23,775	23,558	22,984
Trade	67,145	60,076	61,922	65,905	67,368
Transportation	14,656	16,516	18,291	21,338	22,876
Information	14,712	12,062	12,782	15,018	16,678
Financial	43,442	41,804	43,518	47,768	52,639
Services	169,887	170,408	190,595	236,731	281,041
Government	39,385	40,190	42,285	46,420	48,686
Total County	400,198	387,494	417,590	487,555	549,016
Total Estimated Employment					
Manufacturing	28,019	23,671	23,775	23,558	22,984
Commercial	372,179	363,823	393,815	463,997	526,032

	US Bureau of Labor			BBR Growth Projections	
Sarpy County	**2000**	**2005**	**2010**	**2020**	**2030**
Construction	4,248	5,736	6,607	9,518	12,651
Manufacturing	2,327	2,697	2,701	2,663	2,592
Trade	7,861	9,429	10,368	12,425	13,923
Transportation	8,273	12,467	14,061	16,948	18,640
Information	950	1,282	1,447	1,898	2,280
Financial	3,293	5,560	6,246	7,815	9,494
Services	15,029	21,936	25,960	35,584	45,894
Government	13,048	15,387	16,002	17,372	18,391
Total County	55,029	74,494	83,392	104,223	123,865
Total Estimated Employment					
Manufacturing	2,327	2,697	2,701	2,663	2,592
Commercial	52,702	71,797	80,691	101,560	121,273
Planning Area Totals	**455,227**	**461,988**	**500,982**	**591,778**	**672,881**

Source: Bureau of Labor employment data 2000 to 2010; 2020 to 2050 based on the UNL BBR 2008 "Omaha Area Projections" study growth rates

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Chapter 3 - Current Waste Management Practices

Comprehensive solid waste management services are available throughout the Planning Area through collection, diversion programs, and solid waste management activities and facilities. The concepts presented below are intended to initiate discussion on the key elements of ISWMP Update. The plan update will be developed based on the concept of environmental stewardship and the integrated hierarchical approach to MSW management as defined by the U.S. Environmental Protection Agency (USEPA). The four components of this management approach include:

- Source reduction
- Recycling (including composting)
- Combustion
- Landfilling

The overall quantity of solid waste or MSW ultimately disposed in landfills is a function of numerous variables including effectiveness of waste diversion programs (e.g., source reduction, recycling, composting, and other resource conservation and recovery techniques), regulations, cost, convenience, contracts, business practices and other factors.

Solid waste management practices start at the source of generation. Generation sources typically include residential, institutional, governmental, business, industrial and construction sites. Generators make the decisions on whether a waste material is to be reused, recycled, collected and/or sent to disposal.

Transfer stations are facilities used to help efficiently transport large volumes of MSW or other materials from remote waste generation areas to waste management and disposal sites. Two private transfer stations were identified as operating within the City of Omaha and a new transfer station is currently under construction in Sarpy County. No publicly owned transfer stations currently exist within the Planning Area. Seasonal collection events also serve as a form of mini-transfer station.

3.1 Waste Collection Practices

The collection and transportation of solid waste, recyclables and yard waste in the Planning Area are provided by the private haulers; there are no solid waste collection activities conducted by municipal crews. Collected waste is transported to the various facilities for processing, diversion or disposal. Individuals and businesses can also transport (self-haul) their wastes and recyclables directly to the various processing, diversion or disposal sites. For the most part, solid waste collection practices for the Planning Area are similar to those reported in the 2003 Plan.

3.1.1 Douglas County

Except for residential MSW, recyclables and yard waste collection services in the Cities of Omaha and Ralston, collection services in Douglas County are operated on a free market basis. Free market collection services for residential MSW, recyclable materials and yard waste are provided by private haulers under varying arrangements with each

household, sanitary improvement district (SID) or other waste generators. Apartment complexes, commercial and industrial establishments contract directly with private haulers for collection services. For privately provided collection services, the cost for selected services is set by the service provider.

The City of Omaha provides once per week collection for MSW, recyclable materials and (seasonal) yard waste to all single-family residences, Omaha Housing Authority housing units and up to four-unit multi-family residences within the Omaha City limits. The City provides these collection services to approximately 129,200 households through a private hauler under contract to the City. The City also provides for public space litter can collection, recycling drop off sites, neighborhood spring clean-up, Christmas trees drop off sites, and bulky material drop off subsidy. The City costs for these collection and disposal services are paid from the City's general revenue fund, derived from property and sales taxes. In cooperation with Keep Omaha Beautiful and over 80 participating Neighborhood Associations, the City of Omaha also funds a series of Spring Clean-up events to accept bulky items, appliances and tires.

The City of Ralston provides once a week collection for solid waste, recyclable materials and yard waste to all single family and up to two-unit multi-family residences within the Ralston city limits. The City of Ralston provides for these services through a private hauler under contract to the City. The City bills each household monthly for the costs of this service through their utility bills.

3.1.2 Sarpy County

Solid waste, recyclable materials and yard waste collection in Sarpy County is currently provided on a free market system except for in the City of Bellevue. All other collection services for residential solid waste, recyclable materials and yard waste are provided by private haulers under separate arrangement with each household, SID or other waste generators. Apartment complexes, commercial and industrial establishments contract directly with private haulers for collection services. For privately provided collection services, the cost for the selected services is set by the service provider.

The City of Bellevue provides once per week collection services for solid waste, recyclable materials and yard waste to all single family and up to three-unit multi-family residences within the City of Bellevue. The City of Bellevue contracts for these services through a private hauler. This service is billed by the City to households on a monthly basis through their utility bills. The City also provides citywide clean up at collection sites in the spring and fall for bulky waste, C/D debris and litter.

The Cities of La Vista, Papillion and Gretna only license private MSW haulers to operate in their communities, without placing restrictions on pricing or collection services. These services are billed to household and businesses by the private haulers based on rates negotiated between the collection firm and the MSW generator.

3.2 Waste Diversion and Minimization Programs

Nationally, USEPA data indicate that the quantities of waste recycled and diverted from disposal are increasing; USEPA also shows that the quantities of MSW disposed are remaining relatively steady (USEPA Municipal Solid Waste in the United States: 2007

Facts and Figures, November 2008). USEPA estimated that in 2000, 22.1 percent of solid waste was recycled and 6.9 percent was composted. In 2007, USEPA estimated 24.9 percent of solid waste was recycled and 8.5 percent was composted.

Waste diversion includes waste source reduction, reuse, recycling, composting and other resource recovery techniques. Source reduction (diversion and minimization) strategies focus on conservation of resources, reduction in waste toxicity, environmental protection (of air and groundwater), reuse, and methods to increase the useful life of manufactured products. A key part of the overall diversion and minimization effort is educating consumers on options to avoid or minimize waste generation and disposal.

Information on existing waste diversion and minimization programs was gathered from City of Omaha, Douglas County, Sarpy County and various private companies currently active in waste management, waste reduction and recycling programs, in the Planning Area.

3.2.1 Source Reduction (Conserve, Reduce, Reuse)

Source reduction activities reduce the amount of materials or prevent material entering the waste stream. Source reduction includes conservation, waste reduction and material reuse. Source reduction is encouraged through limited public education and awareness programs. Source reduction occurs through both public and private efforts. In support of source reduction efforts, the City of Omaha provides information and techniques through its *Wasteline* newsletter and an Internet website www.wasteline.org. These sources provide information regarding all of the solid waste programs and solid waste management services, facilities, and diversion programs available to Omaha residents and in part residents of Douglas and Sarpy Counties. Citizens can find information on collections, drop-offs, recycling and composting programs and facilities, and other reuse and diversion options. Alternatives to disposal for management of household hazardous wastes and special wastes (for example, batteries, oil and electronic waste) are also identified on this website. The City's website includes a list of some of the private diversion opportunities inside as well as outside the Planning Area.

The Douglas and Sarpy Counties' websites reference other websites for information on conservation (reduce or reuse options), including *Wasteline* and UnderTheSink (www.underthesink.org/). WasteCap (www.wastecapne.org/) of Nebraska also provides state-wide information on the potential reduce or reuse opportunities for citizens, but is not directly linked in the County websites.

Reduction also includes programs to discourage collection of yard waste and backyard composting and mulching of yard waste. Other reuse efforts are also occurring in the Planning Area, including diversion of wood and concrete from construction and demolition activities as well as a swap shop provided at the household hazardous waste facility. In addition, clothing, furniture, appliances and other items are put into reuse by charitable organizations (such as Goodwill). The level of waste reduction resulting from source reduction efforts cannot be quantified, but represents potentially significant level of diversion.

3.2.2 Recycling/Composting

There are a wide variety of programs that are available to manage the recyclable and compostable materials collected form residential and commercial sources.

3.2.2.1 Curbside/Drop-off Recycling

All recycling in the Planning Area is done on a voluntary basis, with varying degrees of service and programs available. The City of Omaha provides curbside collection of single-stream, source-separated, recyclable materials from singe-family residential properties and multi-family units of fours or less, through its "Omaha Recycles" green-bin program. Materials accepted in the program include: aluminum, clean paper and cardboard, plastics (number 1, 2, 3, and 5) and does not include glass, soiled cardboard (such as pizza boxes), and any HHW. The City of Bellevue provides curbside collection of recyclable materials through their contracted private hauler collecting similar materials as the City of Omaha's program; some private haulers offer glass collection as well. Nearly all other households in incorporated and unincorporated parts of the Planning Area have curbside collection of recyclable materials available through private service providers; most of these services are available for a fee. Private haulers also provide an array of recyclables collection programs to commercial and industrial establishments.

There are four recycling drop-off site around the City of Omaha. Drop off sites will accept all materials that are included in the curbside collection program and additionally accept glass; bulk items are only accept at the River City site and an additional fee. The four recycling drop-off sites are currently at the following locations:

- **Northwest**
  Parking Lot at 75th and Corby Streets
- **Northeast**
  International Paper Co., 7202 N 16th St
- **Southwest**
  Firstar Fiber, 10330 I Street
- **Southeast**
  River City Recycling and Transfer Station, 6404 S 60th St.

Materials collected from these curbside collection and drop-off programs are generally processed at one of three private businesses operating in the Planning Area. Bulky materials (appliances, white goods and metals) from various sources are also accepted and processed by various scrap metal dealers in the Planning Area.

The City of Omaha currently subsidizes the bulky item drop-off by City residents at the River City Recycling and Transfer Station. Acceptable bulky items include, but are not limited to;

- Auto parts
- Furniture
- Appliances (there is an additional fee if the appliance contains freon)
- Boxes
- Swing sets
- Bicycles and tricycles

- Concrete
- Lumber
- Drywall
- Empty cans, pails and buckets

Items accepted, but that are not included in subsidized prices include the following:

- Tires (there is a fee for tires)
- Yard waste
- Tree and bush branches

The Sarpy County Landfill provides designated areas for drop off of yard waste, appliances (white goods), tires, waste oil and lead batteries. The County charges drop-off fees for accepting these materials.

3.2.2.2 Yard Waste Composting and Mulching

A large scale yard-waste composting program is currently operated by the City of Omaha at the site of the Papillion Creek Wastewater Treatment Plant. This site currently accepts only yard waste collected from within the City of Omaha and by the City's contract collection service. The City of Omaha received approximately 30,600 tons of yard waste at the site in 2010. This composting operation produces high-grade finished compost known by its trade name OmaGrow. During the 2011Missouri River flooding at the compost site, all yard waste collected by the City of Omaha was disposed of in the Douglas County Pheasant Point Landfill.

Plans for the expansion of the Papillion Creek Wastewater Treatment Plant will require the relocation of the yard waste composting program. The City is starting to explore its options for relocation and future management of the compost operations.

Yard waste composting is also conducted at the Sarpy County Landfill. This operation accepts yard waste from private haulers and residents of Sarpy County. In addition Sarpy County accepts and grinds trees up to 48 inches in diameter. Sarpy County principally uses its compost and wood chips for vegetative cover and erosion control at its landfill. Some of the mulch and compost material is sold to the public. Sarpy County is expecting to be discontinuing its compost and brush grinding operations sometime before 2015; no definitive plans exist to replace this operation.

Lawn service companies often use mulching mowers, which leave the grass clippings on the lawn and charge extra if a customer requests bagging/collection of the lawn clippings. Landscapers and tree trimming services generally grind the brush and branches and produce mulch that they can reuse or sell. While not a diversion program, the Pheasant Point Landfill in Douglas County and others in the region are allowed to accept yard waste for disposal, since the facility has a landfill gas collection and energy recovery system installed.

Christmas trees diversion programs are offered in both Douglas and Sarpy Counties. Sites are seasonally established where citizens can drop-off their Christmas trees. Volunteers from the Rotary Clubs of Omaha and the Douglas/Sarpy Master Gardeners staff the sites. These sites are sponsored by Douglas and Sarpy County, Papillion-Missouri Rive DNR, and University of Nebraska – Lincoln Master Gardeners.

3.2.2.3 ***Biosolids***

Biosolids (digested sewage sludge) and wastewater treatment grit are generated by wastewater treatment facilities (Papillion Creek Wastewater Treatment Plant and Missouri River Wastewater Treatment Plant) in the Planning Area. Biosolids generated in the Planning Area are typically digested (composted) by anaerobic processes and the resulting biosolid materials are diverted from disposal. The majority of the biosolids in the Planning Area are currently diverted from disposal through land application on agricultural fields, to improve soil quality.

Grit generated from wastewater treatment processes at both the City of Omaha Papillion Creek and Missouri River Wastewater Treatment Plants is disposed by landfilling.

There is still a significant meat packing plant industry in the Planning Area which processes an estimated 5,000 head per day of cattle. This results in a substantial quantity of paunch manure most of which is taken back to the feedlots where it is managed separately through land application or land disposal. It has been estimated that approximately ten percent of the paunch manure is washed into the sanitary sewer system and processed at the wastewater treatment plants.

3.2.2.4 ***Coal Combustion Residues***

Coal combustion residue (CCR), which generally consists of fly ash and bottom, from Omaha Public Power District's (OPPD) North Omaha generating station is generally recovered and sold for beneficial uses. The fly ash is used in making a Portland cement substitute while the bottom ash is used for fill material and for road base construction. Material not recycled/reused is disposed of in an on-site fossil fuel combustion ash landfill.

3.2.2.5 ***Construction and Demolition Debris Recovery***

There are currently three major construction and demolition debris facilities in the region that process concrete, asphalt and masonry components of C/D debris to recover and reuse the material as aggregate for road base and other construction activities. The current processing facilities include:

- Conreco (broken concrete, asphalt, brick, concrete blocks, etc)
- Heimes (concrete and asphalt),
- Midwest Aggregate Recyclers (concrete and asphalt)

In addition to these processing facilities, there are unreported salvaging and possibly beneficial reuse activities conducted by construction and demolition contractors in the Planning Area. Salvaging activities can include recovery and recycling of used and surplus building materials e.g., wood, metal and brick. Beneficial use may include use material such as sand, gravel, stone, soil, rock, brick, concrete rubble, asphalt rubble, or similar material as "fill". NDEQ Title 132 regulations exclude from regulations the use of "fill" for the purpose of erosion control, erosion repair, channel stabilization, landscaping, roadbed preparation or other land improvement.

3.2.2.6 Private Diversion Programs

Other source reduction and waste diversion programs are operated by private and not for profit businesses in and around the Planning Area. Reuse programs in the Planning Area include, but are not limited to, the following:

- Charitable organizations such as food banks, thrift stores and religious groups provide family assistance through the reuse of materials such as excess foodstuffs, clothing, furniture, appliances and other merchandise that would otherwise be disposed of as waste.
- Consignment stores buy or consign goods such as clothing, furniture, appliances and other merchandise in good condition for resale.
- Habitat for Humanity ReStore provides an outlet for excess construction materials and used appliances in good condition for resale at discounted prices.

The private waste management services provide diversion of special and recyclable materials including the following:

- Commercial, industrial, institutional and multi-family residential recycling of materials by private waste collection/haulers.
- Diversion of the following materials through a wide variety of merchants, retailers, for profit service providers:
    - Lead-acid batteries
    - Household and rechargeable batteries
    - Used motor oil
    - Antifreeze
    - Electronics – Fees typically apply. Cell phones may also be donated to local charities
    - Scrap metal, including appliances (certified Freon removal required)
    - Document destruction and paper shredding
    - Appliances (certified Freon removal required)
    - Fluorescent light bulbs – Fees may apply

These waste reduction, reuse, recycling and diversion efforts assist in reducing waste quantities and toxicity of materials requiring management, processing or disposal. Private programs do not report material quantities, so it is difficult to determine total quantities of materials diverted from disposal by such programs. As such, they are not included in estimates of current or future diversion quantities. A portion of these programs are discussed in greater detail below.

3.2.2.7 Materials Processing

Local processing facility for curbside collected residential and commercial recyclables is currently provided at one of three facilities in the Planning Area. These include the following:

- Firstar Fiber
- International Paper
- Omaha Paper Stock

These facilities process a wide variety of paper, plastics and metals for shipment to various markets and may offer confidential document shredding and recycling.

These are private businesses and as such have provided limited or no disclose the quantities of materials that they process or divert; this makes quantification of diversion materials difficult. Estimates of this diversion are included in this report, based on the limited information available from municipal collection records and information from select processor(s).

3.2.2.7.1 Scrap Metals

Local metal scrap dealers and regional processors also accept and recycle ferrous, aluminum, copper and other metals. A number of auto salvage yards accept and process out of service vehicles for parts and usable resources. After such recovery operations are complete they often ship the remaining carcass and metals to processors for further metals recovery and preparation for remanufacturing. Alter Metal Recycling is one of the leading scrap metal processors, recyclers and brokers in the region; they handle large volumes of scrap from the Planning Area, including automobile and demolition scrap metals.

3.2.2.7.2 Tires

Automotive servicing dealers in the Planning Area, especially those that sell tires, accept tires, normally for a fee, as a service to their customers. Most of these tires are currently being ground/shredder for use in products or processed into tire-derived fuel ("TDF") for recovery of the energy resource as a fossil fuel substitute. Tires are accepted and processes at River City Recycling. The Sarpy County Landfill accepts tires for additional fees. Clean up events in various cities located in the Planning Area accept tires for no fee. Except for the River City Recycling facility, tires are currently shipped out of the Planning Area for further processing.

3.2.2.7.3 Oil

Automobile service stations and certain parts suppliers throughout the Planning Area provide used motor oil collection and diversion programs. Used oil quantities are typically restricted per customer per visit. This recovered oil is bulked and are either sent to markets for re-processing or used as a fossil fuel replacement. Used oil and oil filters are also accepted at UnderTheSink and the oil is used for heating of the facility during the winter.

3.2.2.7.4 Batteries

Many types of batteries, including lead acid and rechargeable, are recycled through various battery sales retailers. Auto parts stores that sell lead acid batteries collect and will generally provide a customer rebate and recycle lead acid vehicle batteries

3.2.2.7.5 Electronics

Many electronic stores in the Planning Area will accept and recycle select electronics equipment. In addition, there are several recycling/recovery programs in the Planning Area that will accept and recycle batteries and electronics. Some components can be

reused others are shipped out of state for processing and materials recovery. Examples of typical materials accepted at these facilities include:

- Video tapes
- Cell phones
- Circuit board
- Computers
- Fax machines
- Microwaves
- Monitors
- Printers

3.2.2.7.6 Household Items

There are several non-for-profit organizations that operate thrift stores to help fund their programs and provide for the reuse of clothing, appliances, electronics, toys and furniture items. Carpeting, foam padding and other flooring materials are also currently being recycled through at least two businesses in the Planning Area.

3.2.2.7.7 Food Wastes

Currently one company has been identified in the Planning Area (Darling International) that provides rendering, recycling and recovery solutions for the food industry. This company has four processing facilities in the region, which recover grease and animal byproducts from restaurants and packing plants for processing into an animal feed supplement.

3.2.3 Waste Reduction/Energy Recovery

There are no permitted MSW combustion facilities in the Planning Area. Burning of small quantities of MSW and agricultural wastes is regulated by counties and is known to occur at individual residences in some rural locations throughout the Planning Area.

Medical waste is separately managed in the Planning Area and is not considered a part of the solid waste stream to be managed under this ISWMP Update. For the most part, medical waste collected from hospitals and clinics in the Planning Area is treated and disposed by specialty medical waste service firms and such waste is generally disposed through thermal destruction methods.

As noted above portions of the tires collected from diversion programs is used as a fuel outside the Planning Area.

3.3 Export and Disposal Facilities

Portions of the waste generated within the Planning Area are disposed of at landfills outside Planning Area. Waste is generally directed to these remote disposal sites through the two private transfer stations in the Planning Area. This exporting of waste (current and planned) will affect the quantities of solid waste that must be managed through programs identified in the ISWMP Update.

3.3.1 Municipal Solid Waste Landfills

Two municipal solid waste disposal facilities (landfills) are currently licensed to operate in the Planning Area: the Pheasant Point Landfill and the Sarpy County Landfill. The Pheasant Point Landfill is located near Elk City in northwest Douglas County. This landfill is owned and operated by Waste Management of Nebraska ("WMN"); this facility is operated under contract with Douglas County. In 2010, this landfill received approximately 486,000 tons of waste material for disposal. The Pheasant Point Landfill has an estimated life through 2104 (93 years) at the current rate of filling.

The Sarpy County Landfill is located near Springfield in western Sarpy County. This landfill is owned and operated by Sarpy County. In 2010, this landfill received approximately 106,000 tons of material for disposal. Sarpy County has elected to close its landfill when it reaches capacity. It is anticipated that the Sarpy County landfill will close sometime prior to 2015 and after a new privately owned and operated transfer station is completed adjacent to the landfill.

An industrial waste disposal facility was permitted in Douglas County, in proximity to the Pheasant Point Landfill but use was discontinued in 2010 and closure activities are currently underway; this facility received all of its waste from an agricultural products manufacturer in Washington County, Nebraska.

3.3.2 C/D and CCR Landfills

A search of the NDEQ website identified several permitted (privately owned and operated) C/D landfill within or adjacent to the Planning Area. The permitted disposal sites identified includes the following:

- Abe's Trash Service, in Washington County, Nebraska
- Anderson Excavating and Wrecking, in Douglas County
- Eco-Storage Investments, in Douglas County
- Hawkins Construction Co, in Douglas County
- Rainwood Hill Properties, LLC, in Douglas County

Detailed information on the quantities of materials currently disposed in these sites is not reported (locally or to NDEQ). Further, while the remaining disposal capacity (volume) of these landfills is identified in NDEQ permit documents, these values do not allow an assessment of remaining site life. Adding to the level of uncertainty is the relationship these sites might have to the potential needs of the Planning Area, for the following reasons:

- At least two of the sites are reported as not open to the public, e.g., they only accept material generated from their own construction and demolition business.
- One of the sites was only recently re-opened under new ownership, after years of being closed/inactive. As such, while capacity may have existed, it was not accessible.

A Fossil Fuel Combustion Ash Disposal Area is permitted in Douglas County and is located adjacent to OPPD's North Omaha Station. This facility is only licensed to accept coal combustion residue (CCR) from the adjacent power plant. Almost all of the fly ash and bottom ash generated is currently diverted to beneficial use. This site is

currently projected to receive approximately 5,000 tons of fly ash annually, which is expected to increase to approximately 88,000 tons when additional air pollution control equipment installed.

3.3.3 Transfer Stations

The River City Recycling facility provides limited separation of recyclables from the MSW delivered and hauls the process residue to landfills outside the Planning Area. It is estimated that this facility transfers between 750 to 1000 tons of MSW per day. While considered a transfer station, this facility is permitted by NDEQ as a "Material Recovery Facility" rather than a transfer station. The overall River City Recycling facility site also includes wood processing, tires process, a citizen recyclables and bulky waste drop-off facility and other diversion functions.

Sarpy County solicited and procured services for the construction and 20-plus year contract operation of a transfer station to be located on County property, adjacent to the site of their MSW landfill. This transfer station is anticipated to transport solid waste to a landfill outside the Planning Area. The transfer station is scheduled to begin operations in 2013. The transfer station may also provide limited separation of recyclables from the MSW and accept and transfer source separated recyclables.

The NDEQ's web sites does not list any other licensed transfer or processing facility operations in the Planning Area. There may, however, be additional waste that is hauled to disposal sites outside the Planning Area.

3.3.4 UnderTheSink

Based on the 2003 Plan update, the City of Omaha, Douglas County, Sarpy County and the Papio-Missouri River Natural Resources District (NRD) entered into cooperative agreements and constructed a household hazardous waste facility, which was named UnderTheSink. The UnderTheSink facility accepts residential household hazardous materials such as lawn chemicals, pesticides, cleaning chemicals, antifreeze, auto batteries, used oil and oil filters. This facility does not accept certain materials that have other means of disposal including ammunition and explosives, pathological and medical waste, radioactive materials, propane cylinders, garbage, empty containers, and non-hazardous products like soap and detergents.

The Omaha Public Works, Quality Control Division began operating the facility in 2004. The facility accepts household hazardous wastes from residents in Douglas and Sarpy Counties. Wastes are not currently accepted from any business or industry or from households outside of Douglas and Sarpy Count. Wastes must be dropped off by residents; there are no collection programs. Waste delivered to the facility is sorted, reused, recycled or disposed of through a properly licensed hazardous waste disposal contractor. Operation of the facility is funded by the City of Omaha and operating costs are intended to be off-set by revenues from Douglas and Sarpy Counties and grants and rebates, including grant money from the NDEQ Waste Reduction and Recycling Incentive Fund.

Certain products, which are in good condition and still useable, are placed in a store room area where citizens can take them at no charge; there is a 50 pound per day

weight limit on material removal. Typical materials available for reuse include paints, household cleaners, garden products, automotive products, and household supplies. The store room is referred to as the ReStore. No appointment is needed to visit the ReStore and there is no residency requirement to take reusable materials. Records indicate the UnderTheSink facility accepted approximately 446 tons of HHW in 2010 of which 188 tons was recycled and 54 tons was redistributed through ReStore.

3.3.5 Competing Regional Facilities

There are a number of landfills outside the Planning Area which can be accessed by either direct haul or through transfer stations. Three of these regional landfills are known to accept MSW from the Planning Area. These competing disposal facilities include the Loess Hills Regional Sanitary Landfill in Mills County, Iowa; the Butler County Landfill near David City, Nebraska and G&P Development, Inc. Landfill near Milford, Nebraska. At the time of this Needs Assessment development, an effort has been identified as ongoing to locate and construct a new MSW landfill in Saunders County, Nebraska. The quantity of exported waste is unknown, but has been estimated at approximately 230,000 to 255,000 tons per year. The State of Nebraska and the Planning Area communities do not have a complete and uniform reporting system that tracks waste (or recyclables) by origin or destination and private haulers have not shared this information.

Some waste is known to be imported to the Douglas and Sarpy County landfills from Washington and Cass Counties as well as other locations. Douglas County records only distinguish the origin of the waste by hauler and not by generation source. Sarpy County has established a separate rate structure for in-county and out-of-county wastes. However, this information is subject to voluntary reporting and may not provide an accurate means of determining the exact amount of imported waste. Sarpy County has estimated that 4 to 5 percent of the waste received at their landfill comes from out-of-county sources.

Table 3 lists the landfills and transfer station located in and in proximity of the Planning Area, along with the distance from the Pheasant Point and Sarpy County landfill, and tipping fees, where such information was available. The tipping fees at these private facilities are sometimes variable and posted rates may note represent actual rates to all customers. These private facilities may use discounted or volume based rates to induce movement of waste generated in Douglas and Sarpy Counties to their facilities. If tipping fees at regional facilities increase significantly, the quantities of waste exported would be anticipated to decrease (e.g., will likely be disposed in the Pheasant Point Landfill).

Table 3 – Regional Landfills and Transfer Station (2011$)

	Posted Tipping Fee (per ton)		Distance from Sarpy County Landfill	Distance from Pheasant Point Landfill
	In County	Out of County		
Pheasant Point Landfill	$24.20	$24.20	28 miles	-
Sarpy County Landfill	$22.78	$28.76	-	28 miles
River City Transfer Station	$28.90	$28.90	14 Miles	25 miles
Sarpy Transfer Station (starting 12/01/2014)	$27.95	$27.95	-	28 miles
Mills County Landfill	$40.50	$23.50	42 miles	57 miles
Butler County Landfill	$38.75	$38.75	64 miles	58 miles
Milford Landfill	$45.00	$45.00	63 miles	77 miles

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Chapter 4 – Generation and Composition

Solid waste generation data and the methodology used for determining current and future waste quantities are presented below. Waste generation will be discussed by type, including MSW (residential and commercial sources), C/D waste, and special waste. Estimated quantities of diverted materials (e.g., yard waste and recyclables) are also discussed; however, the principal focus of this Needs Assessment is to establish the current disposal quantities for use in later forecasts and evaluation of management alternatives. Records exist that allow for a reasonable determination of the historic and current waste quantities disposed in the Planning Area, but only limited data is available on waste diversion and waste exports. As such, waste generation in the Planning Area can only be estimated. The analysis of waste generation rates is based on both historical waste quantities and the demographic data presented in Chapter 2.

4.1 Data Accessibility

Although landfill disposal records from the Sarpy County and Pheasant Point Landfills provide good records of the waste disposal quantities from the Planning Area, there are insufficient records available on the quantity of solid waste exported and diverted by privately operated programs. As such, the quantities of waste generated and diverted in the Planning Area have been estimated using best available information. The estimation of the waste generation and diversion rates is further complicated by questions of the reliability of the limited data on diversion, the adequacy of using nationwide statistics to supplement local data, and the uncertainty of the sources of waste generation.

Despite these uncertainties, valuable information was provided through interviews with recyclable service providers, waste management firms, City and County officials and businesses. Not all businesses contacted would assist or contribute information, since they considered this information proprietary. Therefore, data from other communities and HDR's judgment were used to estimate certain quantities. Because of proprietary nature of some of the information provided, a full disclosure of the sources has not been included in this Needs Assessment. The following paragraphs provide a description of the analysis methodology that was utilized to correlate the data that was accumulated.

4.2 Analysis Methodology

In order to estimate the waste generation and diversion quantities in the Planning Area for the ISWMP Update, the methodology developed in the original Plan was updated. Two methods of waste quantity estimating were employed and the results were compared. One method used actual measured and reported quantities and the other used various generation rates and estimating techniques typically used for projecting waste generation based on solid waste industry data.

4.2.1.1 Method One

Method One consisted of totaling the quantity of solid waste disposed of in the Planning Area and the quantity of materials recycled, composted or otherwise diverted from final

disposal, using measured and reported data. After adjustment for waste imports and estimated exports, these data were added to determine the quantity of waste currently generated within the Planning Area. This data collection effort included available data from disposal and transfer sites as well as recyclers, and material brokers. The waste hauler survey conducted in the original Plan development did not produce viable results; as such, no attempt was made to survey the haulers for this ISWMP Update.

To analyze the existing diversion levels, information from interviews with local solid waste managers and other commercial processors of recovered materials was used in conjunction with data from Nebraska Ash, construction and demolition contractors and the City of Omaha wastewater treatment facilities. To minimize the risk of double counting of material quantities, every effort was made to identify the source and destination of materials counted as recycled. In many cases the information was incomplete, which made it impossible to confirm that no materials had been double counted or omitted in the analysis of existing programs.

Douglas County and the Sarpy County both provided recorded disposal data based on scaled tonnages at their landfills. The Cities of Omaha and Bellevue reported collected tonnage for waste, yard waste and recyclables including disposal records from the Pheasant Point Landfill and diverted tonnages based on records furnished through Firstar Fiber and Omaha Paper. This data was utilized to estimate and project the residential generation and diversion rates by household for each county.

4.2.1.2 Method Two

Method Two consisted of estimating waste generation based on generation, disposal and diversion rates form other communities. Sources of data included studies conducted by the USEPA; recent waste composition studies conducted by the NDEQ; and data compiled by HDR from sources across the United States. The waste was classified by source into commercial, manufacturing and other categories using the Department of Labor NAISC employment classification categories.

4.3 Generation Rates

To establish a 2010 baseline for waste generation planning purposes, the data gathered for Method One was supplemented with the estimates from Method Two. Using this approach, the total quantity of solid waste generated in 2010 can be estimated using waste generation rates for the various waste types (residential, commercial, other). The following method was used to estimate the Planning Area waste generation:

- The 2010 residential quantities for waste and recyclable from the Omaha and Bellevue collection programs were divided by the number of households served under the program and divided by the U.S. Census data on average number of persons per household for each Planning Area county to arrive at a generation rate per capita. This rate was then applied to the total population in each County to estimate waste generation.
- The commercial/industrial waste generation rate was calculated by using US Bureau of Labor NAISC data for each Planning Area county (from Section 2) and

estimates of average daily waste generation per employee for each labor classification, based on various previous studies (See Table 4).

- The generation rates for C/D and nonhazardous manufacturing process waste categories are calculated based on generation factors from other communities/sources, as shown in Table 4.

Table 4– Estimated Generation Rates

Employment Classification	**Estimated Generation Rate** (tons/employee/year)
Construction	4.67
Manufacturing	1.28
Trade	2.30
Transportation	0.78
Information	0.32
Financial	0.61
Services	1.12
Government	0.92

Other waste generated wastes include: household hazardous waste (approximately 0.3 percent of total waste stream), used motor oils (estimated at 2.8 gallons or 21 pounds per capita year), coal combustion residues (CCR reported data by recycler) and biosolids (reported data from the City of Omaha).

These waste generation rates are applied to the Planning Area population and employment projections for 2010 and converted to tons per year. The resulting estimates of total waste generation in 2010 are shown in Table 5.

Table 5 – Estimated 2010 Waste Generation

Waste Generation	**Douglas**	**Sarpy**	**Total**
Residential	266,968	79,853	346,821
Commercial	440,455	82,988	523,443
Other Waste	362,409	38,838	401,247
Total	1,069,832	201,679	1,271,511

The 2010 waste generation estimates compares favorably to the following observed data and estimated diversion and export quantities, as shown in Table 6.

Table 6 – Observed 2010 Waste Generation

Management Data	**Douglas**	**Sarpy**	**Total**	**Percent**
County Landfill	485,973	106,388	592,361	46.3%
Estimated Export Waste	205,000	50,000	255,000	19.9%
Estimated Diversion	383,418	47,456	430,874	33.7%
Total	1,074,391	203,844	1,278,235	100.0%

Since haulers are not constrained by geographic boundaries, the haulers often cross county lines and select disposal sites that are closest to the end of the collection routes. As such, the quantities disposed in a specific landfill may not have originated in that county.

The estimated diversion quantities were developed based on diversion records from Omaha and Bellevue and extrapolated to the Planning Area. The estimated 2010 waste stream diversion quantities by county are provided in Appendix A.

The tables above do not include materials manure, asphalt, concrete, tires and scrap yard metals. Discussions with the major concrete and asphalt processors in the Planning Area indicate that this material represents approximately 610,000 tons per year, which is processed for reuse. The processors did not provide information on the percentage of the materials that originated in the Planning Area. At the time of the 1994 plan, major C/D processing facilities did not exist and much of this material was disposed and not reused.

4.4 Seasonal Fluctuations

Solid waste unit generation rates were developed based on total annual waste quantities divided by 365 days per year. Variations also occur daily and weekly. Factors that contribute to seasonal variation include: summer festivities, growing season (i.e., yard wastes), weather patterns and seasonal outdoor activities, such as construction and special events. Another factor that can create dramatic fluctuations in waste quantities is natural disasters such as floods, tornados and building fires. Because existing facilities are equipped to deal with such fluctuations, no further evaluation of the affects of fluctuation is considered in this Needs Assessment.

4.5 Waste Composition

In evaluating possible changes to solid waste management programs; it is helpful to have an understanding of the composition of the waste stream.

The NDEQ conducted a series of waste composition study in 2007 and 2008. National data and recent waste composition studies completed by NDEQ are available and can provide useful data and insights into total waste generation and diversion quantities. While estimates of detailed waste composition may be useful in evaluating future waste management systems (including increased diversions, waste bans, household hazardous waste, waste-to-energy and/or other programs), it is equally important to recognize that waste is a heterogeneous mix and that most of these materials are not currently collected or managed in a form conducive to large volume recovery (e.g., they are all mixed together and cross-contaminated by other waste products).

NDEQ's composition study included four seasonal sampling events (2007 to 2008) at the Pheasant Point Landfill. The main objectives of this study were to determine the characteristics of Nebraska's solid waste stream and establish a baseline of waste characterization data for the state. In addition, the results of the study provide a differentiation of the characteristics of Nebraska's solid waste stream among: (1) facilities based upon size; (2) the four seasons; (3) the generating sectors – residential, commercial, and mixed; and (4) items sighted during the visual inspection process.

Table 7 shows both the USEPA and NDEQ composition study results. Diversion from land disposal will be explored through other source reduction, recycling and composting, and resource recovery programs.

Table 7 – Waste Composition Comparisons

Municipal Solid Waste Components	Waste Composition	
	EPA Generation 2009	NDEQ Disposal 2007-08
OCC	11.2%	7.0%
ONP	3.2%	5.5%
High Grade Paper	6.6%	12.8%
Mixed Paper	7.2%	14.9%
Subtotal Paper	28.2%	40.2%
Ferrous	6.4%	1.8%
Aluminum	1.4%	1.5%
Other Nonferrous	0.8%	0.4%
Subtotal Metals	8.6%	3.8%
Bottles and Containers	3.9%	4.8%
Other Glass	0.9%	0.1%
Subtotal Glass	4.8%	5.0%
PET Containers	1.5%	3.1%
HDPE Containers	2.1%	1.6%
LDPE Film	2.6%	7.3%
Other Plastic	6.1%	7.9%
Subtotal Plastic	12.3%	20.0%
Rubber and Leather	3.1%	6.1%
Textiles	5.2%	0.0%
Wood	6.5%	0.7%
Food Waste	14.1%	15.4%
Yard Waste	13.7%	2.9%
Miscellaneous MSW	3.5%	6.0%
	46.1%	31.1%
Total MSW	100.0%	100.0%

The NDEQ study reports that the three main components of Douglas County Pheasant Point Landfill's waste stream (by weight) are paper fibers (40.2 percent), plastics (20.0 percent) and food (15.4 percent). The NDEQ composition study also suggested that of the 20.0 percent plastics, 7.3 percent by weight were "plastic film/wrap/bags."

Details of the data from the 526 page NDEQ report, relative to the Pheasant Point Landfill, are included in Appendix B and summarized below. Because of the extensive nature of the composition study and the fact that this landfill is the principal disposal site in the Planning Area this composition information is considered accurate for planning additional diversion program and has not been modified by national data. The national composition data was only used to assist in estimating generation and the diversion potential. Data on composition present in Table 7 represents material disposed of in MSW landfills and does not include C/D landfill or coal combustion residue disposal sites.

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Chapter 5 - Future Management and Disposal Needs

Projections of future waste generation quantities for the Planning Area are presented below. In planning for waste management facilities, it is important to reasonably and realistically project the potential quantity of waste expected to be managed or disposed of by the various programs/facilities. Underestimating quantities of waste and/or overestimating recycling and diversion can reduce the life of the landfill, increasing the need for further planning adjustments. As described more fully below, the unit generation rates established in Chapter 4 have been applied to population and employment projections summarized in Chapter 2. USEPA has reported that the growth in waste generation rates, which had increased from the 1960s through the early 1990s, have leveled off between 1990 and 2007 and shown a decrease through 2009 (USEPA, December 2010). Because the decrease is assumed to be associated with the economic recession, it was assumed that previously calculated generation rates (pounds per capita per day or pounds per employee per day) will remain constant and that only population and employment growth will affect increases in quantities in future projections.

5.1 Future Quantity Forecasts

Future waste quantities are forecasted using the unit waste generation rates derived in Chapter 4 and the population and employment projections presented below. These forecasts represent the waste quantities expected to be generated and disposed from the Planning Area. Table 8 show projections of total waste quantities generated and disposed (in-county and out-of-county landfills). The difference between total generation and total disposal is considered to be diversion, based on status quo.

Table 8 – Waste Generation Projections

Year	2010	2015	2020	2025	2030
Douglas County	**Base Year**				
Residential	266,968	277,819	289,111	297,889	306,934
Commercial	440,455	458,357	476,987	491,469	506,392
Other Waste	362,409	371,794	381,561	389,153	396,976
Total	1,069,832	1,107,970	1,147,659	1,178,512	1,210,301
Total Landfill Disposal	690,973	715,605	741,239	761,166	781,698
Sarpy County					
Residential	79,853	88,164	97,340	105,381	114,085
Commercial	82,988	91,625	101,162	109,518	118,564
Other Waste	39,838	43,984	48,562	52,573	56,916
Total	202,679	223,774	247,064	267,472	289,566
Total Landfill Disposal	158,822	175,353	193,604	209,595	226,908
Planning Area					
Residential	346,821	365,983	386,451	403,270	421,019
Commercial	523,443	549,983	578,149	600,987	624,956
Other Waste	402,247	415,778	430,123	441,727	453,892
Total	1,272,510	1,331,744	1,394,723	1,445,984	1,499,867
Total Landfill Disposal	849,795	889,352	931,410	965,642	1,001,626

These forecasts assume no significant change in disposal, export and diversion practices. The disposal quantities forecasted will serve as the basis for further evaluation of alternatives and identification of Planning Area needs. Waste generation projections are presented in Table 8 for the years 2015, 2020, 2025 and 2030 based on population growth rates provided by MAPA and the UNL-BBR research, as discussed in Section 2. Detailed annual projections are provided in Appendix C. A variety of factors can affect the accuracy of these projections including fluctuations in economic activities, yard waste management practices, and the limited availability of data used to derive waste generation rates (e.g., lack of formal data reporting mechanisms).

In addition, the generation and diversion data in Table 8 does not include the quantities of recycled concrete and asphalt, which based on the conducted surveys, is estimated to represent an additional diversion of approximately 610,000 tons per year and recycled tires, which are estimated to represent approximately another 13,500 tons per year. C/D processing firms report this 610,000 tons per year rate has remained relatively constant for several years. The 1994 ISWMP strategy assumed that all communities would provide for the diversion of materials banned from landfill disposal (e.g., tires).

5.2 Waste Disposal Capacity

As shown in Table 6, it is estimated that approximately 46 percent of the generated waste (excluding concrete, asphalt and tires) is disposed in Planning Area landfills, another 20 percent is exported to out-of-county landfills and the remaining 34 percent is diverted by reuse, recycling, composting or related techniques. If the all the concrete, asphalt and tires are included in the total waste generation, then approximately 35 percent of the generated waste is disposed in Planning Area landfills, another 15 percent is exported to out-of-county landfills and the remaining 50 percent is diverted by reuse, recycling, composting or related techniques (see Figure 1).

Figure 1 – 2010 Waste Disposal and Diversion, by Percentage

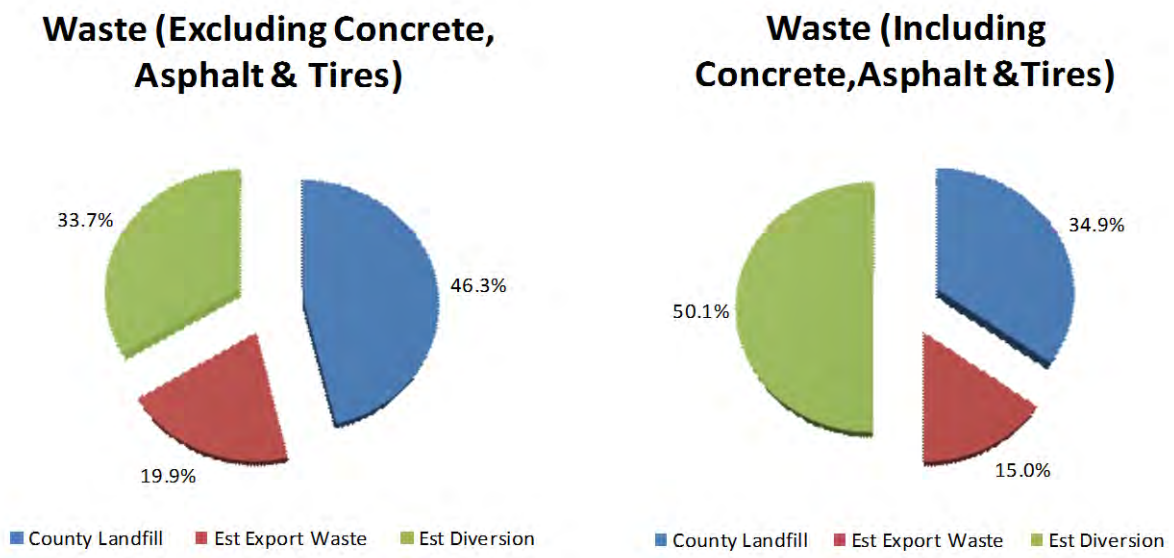


Figure 2 – 2010 Waste Disposal and Diversion, by Percentage

The 1994 ISWMP estimated the then current diversion rate for construction and demolition materials at 65,000 tons per year for the entire region; the 1994 plan also established strategy options and action plans to expand existing C/D collection and processing activities. As such, the calculations of diversion rates are presented with and without C/D diversion.

When the Sarpy County Landfill closes (prior to 2015), the Douglas County/Pheasant Point Landfill will be the only remaining landfill in the Planning Area. When the Sarpy County transfer station is completed (projected to be 2013) it is anticipated that the new transfer station will export the majority of Sarpy County's waste to landfills outside of the Planning Area. The existing River City Recycling and transfer station is also anticipated to be used to export waste from the Planning Area. Also, it is possible that there may be additional waste that is hauled to disposal sites outside the Planning Area. In the future, under current free market conditions, a portion of the waste generated in Douglas County is anticipated to be exported through these transfer stations.

The landfill disposal projections shown in Table 8, includes export waste. Table 6 shows the current estimated total landfill disposal rates in Douglas County, Sarpy County and exported from the Planning Area. Based on the values presented in Table 6, it is estimated that 37 percent of the waste generated in the Planning Area is currently disposed of in the Pheasant Point Landfill. Figure 2 illustrates the projected total waste generation (excluding 610,000 tons of concrete and asphalt, and 13,500 tons of tires) and the projected annual disposal requirements for the Planning Area. This figure also attempts to estimate the quantities being sent to disposal at the

Pheasant Point Landfill, assuming that the only significant change in current conditions is that waste currently disposed of in the Sarpy County Landfill will be exported from the Planning Area. These are not intended to be firm estimates or to be used in establishing policies on future management; rather they are presented as an "estimate" for purposes of establishing a planning baseline and evaluation of disposal needs. Because the Pheasant Point Landfill's projected remaining life (93 remaining years) significantly exceeds the planning period for this ISWMP Update, no need is forecasted for an additional MSW landfill.

Based on the current diversion rates, projected annual disposal quantities and permitted final grades, the OPPD CCR landfill is expected to provide disposal capacity to year 2028. As such, additional disposal capacity will be required for CCR during the planning period. Additionally, changes in law proposed by the USEPA and related to characterization and disposal of CCR have the potential to reduce recycling rates and increase disposal requirements. These changes will need to be monitored and their affects evaluated relative to management of CCR by disposal.

The adequacy or need for added C/D disposal landfill capacity in the region is uncertain. With the increase in diversion of concrete and asphalt, since the 1994 ISWMP, the disposal volumes have almost certainly decreased. Further, all existing C/D disposal sites are privately-owned and operated and do appear to have contractual relationships with units of government, which serve to provide guaranteed disposal capacity. Because state regulations allow certain C/D material to be used as beneficial "fill", there may also be other undocumented site where C/D material has been placed or are in operations in the Planning Area. Siting and permitting a C/D disposal area is also consider easier to accomplish than a MSW disposal site, although certain restrictions apply and approvals are required. The key issues that may exist for C/D disposal site capacity may be the adequacy in the event a significant natural disaster, and to what extent the Planning Area members wish to ensure the availability of that capacity for such events. Because C/D debris can be disposed of in MSW landfills and the Pheasant Point Landfill has capacity well beyond the 20-year planning horizon, this ISWMP Update has not identified the need to provide additional guaranteed C/D disposal capacity within the Planning Area.

5.3 Forecast Variables

Due to the limited uncertainty associated with preparing waste projections, there are three major factors that have the potential to significantly impact the estimates of local disposal capacity needed:

- Regulatory changes related to management of biosolids and CCR
- Changes in waste export quantities due to the new transfer station
- Changes in diversion practices associated with NDEQ allowing disposal of yard waste in landfills with landfill gas collection systems in place

The current management practices for diversion of CCR and biosolids are being evaluated by the USEPA. Changes to regulations regarding biosolids have the potential to require this material to be directed to a disposal site, rather than land application. As illustrated in Appendix C, biosolid represent approximately six percent of the total waste

stream; if all biosolids were directed to the Pheasant Point Landfill it would represent an increase of 15 percent in projected disposal quantities at this landfill. While this would theoretically decrease the overall life of the landfill by 15 percent (to 80 years), the remaining disposal capacity at the landfill would still significantly exceed the planning period for this ISWMP Update.

Currently CCR materials are largely recycled with only a small portion (3-4 percent) disposed of in a dedicated landfill (Monofill). Total CCR currently generated represents approximately 10 percent of the total waste stream. While regulatory changes may reduce the quantities that can be diverted, it is not currently projected that CCR materials will be directed to the Pheasant Point Landfill; as such, changes in regulation may reduce diversion rates, but are not anticipated to affect the MSW landfill capacity in the Planning Area. If all such CCR were directed to the Pheasant Point Landfill, it would reduce the expected life by slightly more than 27 percent.

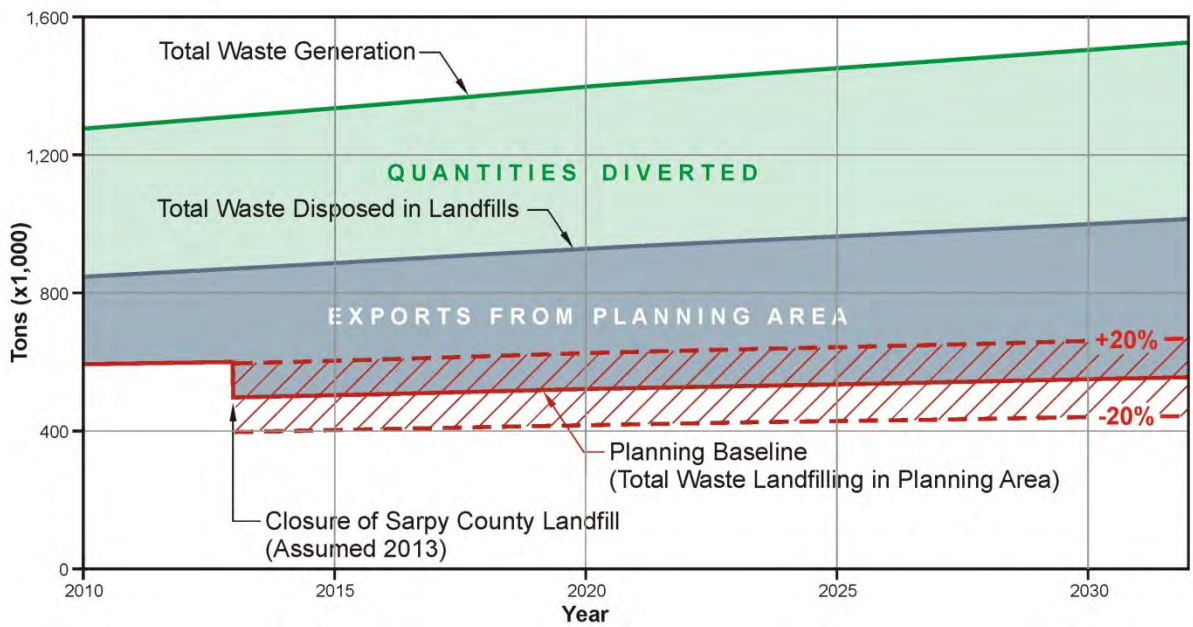
The majority of solid waste currently directed to the River City Recycling transfer station is exported to landfills outside of the Planning Area. A significant portion of the waste received at the River City Recycling facility may be redirected to the Sarpy County transfer station when it becomes operational. While the Sarpy County transfer station is anticipated to increase the quantities of waste exported from the Planning Area is not projected to significantly reduce the quantities directed to the Pheasant Point Landfill. The increase in exported quantities is anticipated to largely reflect the quantities currently disposed of at that Sarpy County Landfill. If additional transfer stations are build in the Planning Area, they could change the quantities exported, but absent such decision, it is beyond the scope of this Needs Assessment to speculate on how such uncertain changes could affect waste exports.

As shown in Table 7, above, only 3 percent of the material currently disposed of at the Pheasant Point Landfill was estimated to be yard waste. However, as shown in Appendix C, approximately nine percent of the total waste generation in the Planning Area is yard waste. Of the total yard waste generation in the Planning Area 28 percent is currently estimated to be managed by composting (through the City of Omaha and Sarpy County composting sites). When the Sarpy County Landfill closes, it is uncertain whether their existing composting operations will remain. By agreement, the transfer station being constructed in Sarpy County is allowed to direct yard waste to a landfill, provided the landfill is approved by NDEQ to accept yard waste. If the yard waste materials collected in Douglas County were directed to the Pheasant Point Landfill they would represent an increase of 7 percent in projected disposal quantities. While this would decrease the overall life of the landfill, it would not change the fact that the remaining disposal capacity significantly exceeds the planning period for this ISWMP Update.

While it is possible to examine a wide range of factors that might affect variations in waste generation (e.g., changes in growth projections for population and employment) or improvements in waste reduction and recycling, the results of any such assumptions are only reflective of the values assumed. As such, the baseline value for landfilled waste at the Pheasant Point Landfill has been shown with an upper and lower range of plus or minus 20 percent. The upper range may reflect one or more of the following

considerations: higher than projected employment, higher than projected increase in population, lower than projected exports, increased imports, disposal of biosolids, or disposal of increase quantities of yard waste. The lower range may reflect one or more of the following considerations: lower than projected employment, lower than projected increase in population, increased diversions, increased waste exports or reduced quantities of waste imports.

Figure 3 - Total Waste Generation and Management Baseline



The results of these variations from the baseline are shown graphically in Figure 2. Figure 2 is intended to further illustrate the uncertainties associated with biosolids disposal, waste exports and imports, yard waste management, and growth forecasts, discussed above. The baselines and banding are also intended to be used to as a basis of evaluation for future diversion options and to illustrate how future programs may affect disposal capacity.

5.4 Waste Tracking Needs

To more accurately assess the quantity of waste generated and materials diverted from disposal, a better waste tracking system is needed. Where organized and municipally managed programs are in place the collected, diverted and disposed quantities of material are tracked and the information is available. Currently, information on waste collection and recycling done on a free market and voluntary basis is not readily available and in some instance is guarded by the businesses as confidential information. Because of this, more precise estimates of the true waste generation and diversion rates are not possible.

A separate technical memorandum addresses options to track and compile this information. If the Planning Area members wish to have a more accurate assessment

of these quantities then added regulations may be required; it is not currently anticipated that totally voluntary reporting efforts will provide this information. Additionally, to undertake this tracking will require added costs to compile the information and enforce requirements on reporting. It is generally anticipated that the most reliable means of obtaining accurate records will be through business and hauler licensing and reporting requirements tied to those licenses.

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Appendix A – Estimated 2010 Waste Diversion Quantities

	Planning Area				Douglas County				Sarpy County			
Waste Composition	Residential	Commercial	Total	% Diversion	Residential	Commercial	Total	% Diversion	Residential	Commercial	Total	% Diversion
Year	**2010**				**2010**				**2010**			
Municipal Solid Waste												
OCC	3,692	72,000	75,692	77.18%	3,017	56,160	59,177	74.64%	675	15,840	16,515	87.86%
ONP	15,562	-	15,562	55.60%	12,716		12,716	56.20%	2,846		2,846	53.06%
High Grade Paper	-	32,200	32,200	56.04%		25,116	25,116	54.07%		7,084	7,084	64.32%
Mixed Paper	1,735	15,200	16,935	26.77%	1,417	11,856	13,273	25.95%	317	3,344	3,661	30.19%
Total Paper	20,989	119,400	140,389	56.88%	17,150	93,132	110,282	55.28%	3,839	26,268	30,107	63.65%
Ferrous	496	1,098	1,593	2.84%	405	839	1,244	2.75%	91	259	349	3.25%
Aluminum	496	1,252	1,747	14.26%	405	1,161	1,566	15.81%	91	91	181	7.72%
Other Nonferrous	-	8	8	0.11%		8	8	0.14%			-	0.00%
Total Metals	991	2,357	3,348	4.45%	810	2,008	2,818	4.63%	181	349	530	3.68%
Bottles and Containers	743	383	1,126	3.27%	607	124	731	2.63%	136	259	395	5.98%
Other Glass	-	-	-	0.00%			-	0.00%			-	0.00%
Total Glass	743	383	1,126	2.68%	607	124	731	2.15%	136	259	395	4.91%
PET Containers	991	900	1,891	14.85%	810	800	1,610	15.64%	181	100	281	11.52%
HDPE Containers	818	-	818	4.35%	668		668	4.40%	150		150	4.15%
LDPE Film	-	360	360	1.58%		281	281	1.53%		79	79	1.82%
Other Plastic	248	-	248	0.46%	202		202	0.47%	45		45	0.44%
Total Plastic	2,057	1,260	3,317	3.08%	1,681	1,081	2,761	3.17%	376	179	555	2.69%
Est. Total Curbside	24,781		24,781	2.83%	20,248		20,248	7.58%	4,532		4,532	5.35%
Rubber and Leather	-	-	-	0.00%			-	0.00%			-	0.00%
Textiles	-	-	-	0.00%			-	0.00%			-	0.00%
Wood	-	7,820	7,820	13.75%		*4,992*	4,992	10.86%		*2,828*	2,828	25.93%
Food Waste	-	-	-	0.00%			-	0.00%			-	0.00%
Yard Waste	32,548	-	32,548	27.15%	30,618		30,618	31.59%	1,929		1,929	8.40%
Miscellaneous MSW	-	-	-	0.00%			-	0.00%			-	0.00%
Total Other MSW	32,548	7,820	40,367	10.01%	30,618	4,992	35,610	10.92%	1,929	2,828	4,757	6.15%
Subtotal MSW	**57,329**	**131,220**	**188,548**	**21.54%**	**50,867**	**101,337**	**152,204**	**21.52%**	**6,462**	**29,883**	**36,345**	**21.67%**
	16.3%	25.1%			19.1%	23.0%			7.6%	36.0%		
Other Waste												
Manufacturing Process	-	-	-	0.00%			-	0.00%			-	0.00%
C/D waste	-	43,472	43,472	30.00%		*34,215*	34,215	30.00%		*9,256*	9,256	30.00%
HHW	188	-	188	7.15%	169		169	7.96%	19		19	1.61%
Used Motor Oil	21	44	65	0.92%		*21*	21	0.39%	21	23	44	3.12%
OPPD Ash	-	-	124,500	94.68%			124,500	94.68%				
E-Waste	-	810	810	9.49%		660	660	9.57%		150	150	9.77%
Biosolids	72,839	-	72,839	98.64%	*71,649*		71,649	99.44%	*1,190*		1,190	77.62%
Subtotal Other Waste	73,048	44,326	241,873	60.12%	71,818	34,896	231,214	63.80%	1,230	9,429	10,659	18.67%
		TOTAL	**430,422**	**33.69%**		**TOTAL**	**383,418**	**35.84%**		**TOTAL**	**47,004**	**27.08%**

Appendix B – NDEQ Waste Composition Data

TABLE A.19
CONSOLIDATED WEIGHT DATA SUMMARY FOR THE PHEASANT POINT LANDFILL

Material Category/Component	Net Weight (pounds)	% of Material Category	% of Sorted Sample
Cardboard	3,414.48	17.46%	7.02%
Office Paper	1,998.39	10.22%	4.11%
Newsprint	2,663.04	13.62%	5.48%
Magazines	1,630.35	8.34%	3.35%
Paperboard/Liner Board	2,612.51	13.36%	5.37%
Mixed Paper	7,234.02	37.00%	14.88%
TOTAL PAPER FIBERS	**19,552.79**		**40.21%**
PET #1	1,505.67	15.51%	3.10%
HDPE #2	771.86	7.95%	1.59%
Other Numbered Containers	1,184.63	12.20%	2.44%
Plastic Film/Wrap/Bags	3,565.21	36.72%	7.33%
Other Plastics	2,680.50	27.61%	5.51%
TOTAL PLASTICS	**9,707.87**		**19.96%**
Clear Glass Containers	1,244.68	51.65%	2.56%
Brown Glass Containers	793.08	32.91%	1.63%
Green Glass Containers	290.91	12.07%	0.60%
Blue Glass Containers	16.11	0.67%	0.03%
Other Glass	64.88	2.69%	0.13%
TOTAL GLASS	**2,409.66**		**4.96%**
Aluminum Cans	584.84	33.66%	1.20%
Tin Cans	672.36	38.69%	1.38%
Other Aluminum	163.13	9.39%	0.34%
Other Tin	105.95	6.10%	0.22%
Other Mixed Metals	211.40	12.17%	0.43%
TOTAL METALS	**1,737.68**		**3.57%**
Food	7,507.47		15.44%
Diapers	1,937.30		3.98%
Textiles/Rubber/Leather	2,967.31		6.10%
Yard Waste	1,402.96		2.89%
Household Hazardous Waste	9.52		0.02%
Electronic Waste	145.88		0.30%
Dry-Cell Batteries	33.81		0.07%
Misc. C/D Waste	201.77		0.41%
Wood	328.83		0.68%
Empty Aerosol Cans	96.11		0.20%
Non-Distinct Waste	538.63		1.11%
Other Misc. Wastes	48.99		0.10%
TOTAL WEIGHT OF SORTED SAMPLE	**48,626.58**		**100.00%**

Page A-32 *Engineering Solutions & Design, Inc.*

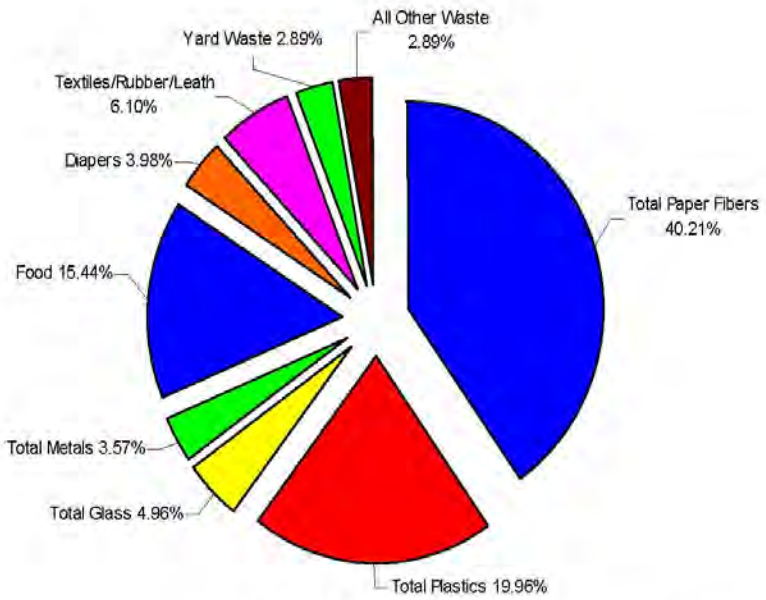

CHART A.1
DISTRIBUTION OF THE CONSOLIDATED WEIGHT DATA
FOR THE PHEASANT POINT LANDFILL

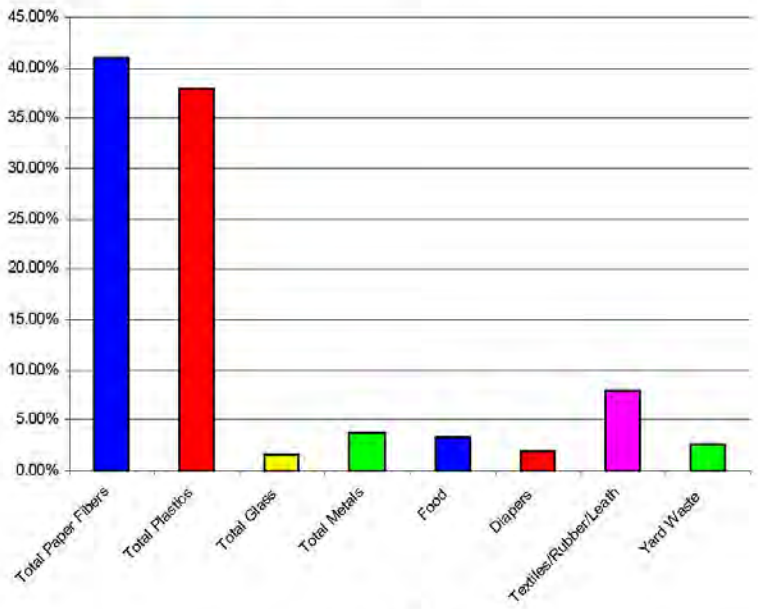

CHART A.2
DISTRIBUTION OF THE CONSOLIDATED VOLUME DATA
FOR THE PHEASANT POINT LANDFILL

TABLE A.20
CONSOLIDATED VOLUME DATA SUMMARY FOR THE PHEASANT POINT LANDFILL

Material Category/Component	Volume (cubic feet)	% of Material Category	% of Sorted Sample
Cardboard	457.09	10.58%	4.33%
Office Paper	371.45	8.59%	3.52%
Newsprint	414.80	9.60%	3.93%
Magazines	296.97	6.87%	2.81%
Paperboard/Liner Board	1,008.69	23.34%	9.56%
Mixed Paper	1,773.04	41.02%	16.80%
TOTAL PAPER FIBERS	**4,322.05**		**40.96%**
PET #1	607.13	15.16%	5.75%
HDPE #2	476.46	11.90%	4.52%
Other Numbered Containers	604.40	15.09%	5.73%
Plastic Film/Wrap/Bags	1,443.40	36.04%	13.68%
Other Plastics	873.13	21.80%	8.27%
TOTAL PLASTICS	**4,004.52**		**37.95%**
Clear Glass Containers	110.93	64.52%	1.05%
Brown Glass Containers	45.22	26.30%	0.43%
Green Glass Containers	15.78	9.18%	0.15%
Blue Glass Containers			
Other Glass			
TOTAL GLASS	**171.93**		**1.63%**
Aluminum Cans	215.01	55.01%	2.04%
Tin Cans	130.05	33.27%	1.23%
Other Aluminum	45.82	11.72%	0.43%
Other Tin			
Other Mixed Metals			
TOTAL METALS	**390.89**		**3.70%**
Food	349.67		3.31%
Diapers	202.22		1.92%
Textiles/Rubber/Leather	842.99		7.99%
Yard Waste	267.23		2.53%
TOTAL VOLUME OF SORTED SAMPLE	**10,551.50**		**100.00%**

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Appendix C – Waste Generation Projections

Table 9 - Planning Area Waste Generation Projections

Service Area	Base Year																						
Year	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**
Population[1]	675,950	683,264	690,674	698,182	705,791	713,500	721,313	729,230	737,253	745,384	753,625	760,083	766,611	773,209	779,879	786,622	793,438	800,328	807,294	814,336	821,456	883,148	948,688
Generation Rate Adjust.	1.0014	1.0014	1.0014	1.0014	1.0014	1.0014	1.0014	1.0014	1.0014	1.0014	1.0014	1.0014	1.0014	1.0014	1.0014	1.0014	1.0014	1.0014	1.0014	1.0014	1.0014	1.0014	1.0014
Waste Generation																							
1.35 Residential	351,719	355,549	359,431	363,365	367,351	371,390	375,484	379,634	383,839	388,101	392,421	395,809	399,234	402,695	406,195	409,733	413,310	416,926	420,582	424,279	428,016	460,407	494,710
Commercial	523,443	528,626	533,871	539,178	544,548	549,983	555,482	561,047	566,680	572,380	578,149	582,629	587,153	591,720	596,332	600,987	605,689	610,435	615,228	620,068	624,956	667,200	714,128
Other Waste	402,309	404,954	407,630	410,338	413,076	415,847	418,651	421,487	424,357	427,261	430,199	432,478	434,778	437,099	439,443	441,809	444,197	446,609	449,043	451,500	453,981	475,417	499,406
Total	1,277,470	1,289,130	1,300,932	1,312,880	1,324,975	1,337,220	1,349,617	1,362,168	1,374,875	1,387,742	1,400,770	1,410,916	1,421,164	1,431,515	1,441,970	1,452,530	1,463,196	1,473,970	1,484,854	1,495,847	1,506,953	1,603,024	1,708,245
Composition Breakdown																							
Municipal Solid Waste[2]																							
OCC	98,076	99,086	100,109	101,145	102,193	103,255	104,330	105,419	106,521	107,638	108,768	109,650	110,541	111,441	112,350	113,268	114,195	115,133	116,080	117,036	118,003	126,367	135,470
ONP	27,991	28,279	28,571	28,867	29,166	29,469	29,776	30,086	30,401	30,720	31,042	31,294	31,548	31,805	32,064	32,327	32,591	32,859	33,129	33,402	33,678	36,065	38,663
High Grade Paper	57,461	58,052	58,652	59,258	59,873	60,495	61,125	61,762	62,408	63,062	63,725	64,241	64,763	65,290	65,823	66,361	66,905	67,454	68,008	68,569	69,135	74,035	79,369
Mixed Paper	63,268	63,920	64,579	65,247	65,924	66,609	67,302	68,005	68,716	69,436	70,165	70,734	71,309	71,889	72,476	73,068	73,666	74,271	74,882	75,499	76,122	81,518	87,390
Total Paper	246,796	249,337	251,911	254,517	257,156	259,827	262,533	265,272	268,046	270,856	273,701	275,920	278,161	280,425	282,712	285,023	287,358	289,716	292,099	294,506	296,938	317,985	340,892
Ferrous	56,010	56,587	57,171	57,763	58,362	58,968	59,582	60,204	60,833	61,471	62,117	62,620	63,129	63,643	64,162	64,686	65,216	65,751	66,292	66,838	67,390	72,167	77,366
Aluminum	12,252	12,378	12,506	12,636	12,767	12,899	13,034	13,170	13,307	13,447	13,588	13,698	13,809	13,922	14,035	14,150	14,266	14,383	14,501	14,621	14,742	15,786	16,924
Other Nonferrous	7,001	7,073	7,146	7,220	7,295	7,371	7,448	7,525	7,604	7,684	7,765	7,828	7,891	7,955	8,020	8,086	8,152	8,219	8,286	8,355	8,424	9,021	9,671
Total Metals	75,264	76,039	76,824	77,619	78,423	79,238	80,063	80,899	81,745	82,601	83,469	84,146	84,829	85,520	86,217	86,922	87,634	88,353	89,080	89,814	90,556	96,974	103,960
Bottles and Containers	34,448	34,803	35,162	35,526	35,894	36,267	36,644	37,027	37,414	37,806	38,203	38,513	38,826	39,142	39,461	39,784	40,109	40,439	40,771	41,107	41,447	44,384	47,582
Other Glass	7,560	7,638	7,717	7,796	7,877	7,959	8,042	8,126	8,211	8,297	8,384	8,452	8,521	8,590	8,660	8,731	8,802	8,875	8,948	9,021	9,096	9,741	10,442
Total Glass	42,008	42,440	42,878	43,322	43,771	44,226	44,686	45,153	45,625	46,103	46,587	46,965	47,347	47,732	48,121	48,515	48,912	49,313	49,719	50,129	50,543	54,125	58,024
PET Containers	12,738	12,870	13,002	13,137	13,273	13,411	13,551	13,692	13,835	13,980	14,127	14,242	14,357	14,474	14,592	14,712	14,832	14,954	15,077	15,201	15,327	16,413	17,595
HDPE Containers	18,801	18,995	19,191	19,389	19,590	19,794	20,000	20,208	20,420	20,634	20,851	21,020	21,190	21,363	21,537	21,713	21,891	22,071	22,252	22,435	22,621	24,224	25,969
LDPE Film	22,734	22,968	23,205	23,446	23,689	23,935	24,184	24,436	24,692	24,951	25,213	25,417	25,624	25,832	26,043	26,256	26,471	26,688	26,907	27,129	27,353	29,292	31,402
Other Plastic	53,371	53,921	54,478	55,041	55,612	56,190	56,775	57,367	57,967	58,575	59,190	59,670	60,154	60,644	61,139	61,638	62,143	62,653	63,168	63,689	64,215	68,767	73,721
Total Plastic	107,645	108,754	109,876	111,013	112,164	113,329	114,509	115,704	116,914	118,139	119,380	120,348	121,326	122,313	123,311	124,319	125,337	126,365	127,405	128,455	129,516	138,696	148,687
Rubber and Leather	27,130	27,409	27,692	27,979	28,269	28,563	28,860	29,161	29,466	29,775	30,088	30,332	30,578	30,827	31,078	31,332	31,589	31,848	32,110	32,375	32,642	34,956	37,474
Textiles	45,508	45,977	46,452	46,932	47,419	47,911	48,410	48,915	49,427	49,945	50,470	50,879	51,292	51,710	52,131	52,557	52,988	53,423	53,862	54,306	54,755	58,636	62,860
Wood	56,885	57,471	58,065	58,665	59,273	59,889	60,513	61,144	61,784	62,431	63,087	63,599	64,115	64,637	65,164	65,697	66,235	66,778	67,328	67,883	68,443	73,294	78,574
Food Waste	123,398	124,669	125,956	127,259	128,578	129,914	131,266	132,636	134,023	135,428	136,850	137,960	139,081	140,213	141,356	142,512	143,679	144,858	146,049	147,253	148,469	158,993	170,446
Yard Waste	119,897	121,132	122,382	123,648	124,930	126,228	127,542	128,873	130,221	131,586	132,968	134,046	135,135	136,235	137,346	138,469	139,603	140,749	141,906	143,076	144,257	154,482	165,611
Miscellaneous MSW	30,631	30,946	31,266	31,589	31,916	32,248	32,584	32,924	33,268	33,617	33,970	34,245	34,524	34,805	35,088	35,375	35,665	35,958	36,253	36,552	36,854	39,466	42,309
Total Other MSW	403,449	407,605	411,812	416,072	420,385	424,753	429,175	433,654	438,189	442,782	447,433	451,060	454,724	458,426	462,165	465,942	469,758	473,614	477,509	481,444	485,420	519,827	557,275
Subtotal MSW	**875,161**	**884,176**	**893,302**	**902,543**	**911,899**	**921,373**	**930,966**	**940,681**	**950,518**	**960,481**	**970,570**	**978,439**	**986,387**	**994,416**	**1,002,527**	**1,010,721**	**1,018,998**	**1,027,361**	**1,035,811**	**1,044,347**	**1,052,972**	**1,127,607**	**1,208,838**
Other Waste[3]																							
Manufacturing Process	33,801	34,113	34,428	34,746	35,068	35,394	35,722	36,055	36,391	36,730	37,074	37,338	37,605	37,874	38,145	38,419	38,695	38,973	39,254	39,537	39,823	42,287	45,135
C/D waste	144,905	146,435	147,984	149,553	151,143	152,752	154,383	156,035	157,709	159,404	161,122	162,465	163,822	165,193	166,579	167,979	169,394	170,824	172,269	173,730	175,206	187,990	201,734
HHW	2,625	2,653	2,680	2,708	2,736	2,764	2,793	2,822	2,852	2,881	2,912	2,935	2,959	2,983	3,008	3,032	3,057	3,082	3,107	3,133	3,159	3,383	3,627
Used Motor Oil	7,097	7,174	7,252	7,331	7,411	7,492	7,574	7,657	7,741	7,827	7,913	7,981	8,049	8,119	8,189	8,260	8,331	8,403	8,477	8,551	8,625	9,273	9,961
OPPD CCR	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500
e-Waste	8,533	8,779	8,871	8,965	9,059	9,155	9,252	9,350	9,450	9,550	9,652	9,732	9,813	9,894	9,976	10,060	10,144	10,228	10,314	10,401	10,488	11,247	12,065
Biosolids	73,847	74,459	75,077	75,700	76,328	76,962	77,601	78,246	78,897	79,553	80,215	80,719	81,225	81,735	82,248	82,765	83,285	83,809	84,336	84,867	85,401	89,991	95,663
Subtotal Other Waste	**402,309**	**405,113**	**407,792**	**410,502**	**413,244**	**416,019**	**418,826**	**421,666**	**424,539**	**427,446**	**430,388**	**432,670**	**434,973**	**437,298**	**439,645**	**442,014**	**444,406**	**446,820**	**449,258**	**451,719**	**454,203**	**475,670**	**499,685**
Total	**1,277,470**	**1,289,288**	**1,301,094**	**1,313,045**	**1,325,144**	**1,337,392**	**1,349,792**	**1,362,346**	**1,375,057**	**1,387,927**	**1,400,959**	**1,411,109**	**1,421,360**	**1,431,714**	**1,442,172**	**1,452,735**	**1,463,404**	**1,474,182**	**1,485,069**	**1,496,066**	**1,507,175**	**1,603,277**	**1,708,524**

Table 10 - Douglas County Waste Generation Projections

Douglas County	Base Year																							
Year	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**
Population[1]	517,110	521,247	525,417	529,620	533,857	538,128	542,433	546,772	551,147	555,556	560,000	563,360	566,740	570,141	573,562	577,003	580,465	583,948	587,452	590,976	594,522	624,926	663,450
Waste Generation																							
Residential	266,968	269,104	271,257	273,427	275,614	277,819	280,042	282,282	284,540	286,816	289,111	290,846	292,591	294,346	296,112	297,889	299,676	301,474	303,283	305,103	306,934	322,630	342,519
Commercial 35%	440,455	443,978	447,530	451,110	454,719	458,357	462,024	465,720	469,446	473,202	476,987	479,849	482,728	485,625	488,538	491,469	494,418	497,385	500,369	503,371	506,392	532,288	565,102
Other Waste	362,409	364,256	366,118	367,995	369,887	371,794	373,716	375,654	377,607	379,576	381,561	383,061	384,571	386,089	387,617	389,153	390,699	392,254	393,819	395,393	396,976	410,553	427,755
Total	1,069,832	1,077,338	1,084,905	1,092,532	1,100,220	1,107,970	1,115,782	1,123,656	1,131,594	1,139,594	1,147,659	1,153,756	1,159,890	1,166,060	1,172,267	1,178,512	1,184,794	1,191,114	1,197,471	1,203,867	1,210,301	1,265,471	1,335,376
Composition Breakdown																							
Municipal Solid Waste[2]																							
OCC	79,278	79,913	80,552	81,196	81,846	82,501	83,161	83,826	84,496	85,172	85,854	86,369	86,887	87,408	87,933	88,461	88,991	89,525	90,062	90,603	91,146	95,808	101,714
ONP	22,626	22,807	22,989	23,173	23,359	23,546	23,734	23,924	24,115	24,308	24,503	24,650	24,798	24,946	25,096	25,247	25,398	25,550	25,704	25,858	26,013	27,343	29,029
High Grade Paper	46,447	46,819	47,193	47,571	47,952	48,335	48,722	49,112	49,505	49,901	50,300	50,602	50,905	51,211	51,518	51,827	52,138	52,451	52,765	53,082	53,401	56,131	59,592
Mixed Paper	51,142	51,551	51,963	52,379	52,798	53,220	53,646	54,075	54,508	54,944	55,383	55,716	56,050	56,386	56,725	57,065	57,407	57,752	58,098	58,447	58,798	61,805	65,615
Total Paper	199,493	201,089	202,698	204,319	205,954	207,602	209,262	210,937	212,624	214,325	216,040	217,336	218,640	219,952	221,271	222,599	223,935	225,278	226,630	227,990	229,358	241,087	255,949
Ferrous	45,275	45,637	46,002	46,370	46,741	47,115	47,492	47,872	48,255	48,641	49,030	49,324	49,620	49,918	50,218	50,519	50,822	51,127	51,434	51,742	52,053	54,715	58,088
Aluminum	9,904	9,983	10,063	10,144	10,225	10,306	10,389	10,472	10,556	10,640	10,725	10,790	10,854	10,920	10,985	11,051	11,117	11,184	11,251	11,319	11,387	11,969	12,707
Other Nonferrous	5,659	5,705	5,750	5,796	5,843	5,889	5,937	5,984	6,032	6,080	6,129	6,166	6,203	6,240	6,277	6,315	6,353	6,391	6,429	6,468	6,507	6,839	7,261
Total Metals	60,838	61,325	61,816	62,310	62,809	63,311	63,818	64,328	64,843	65,362	65,884	66,280	66,677	67,077	67,480	67,885	68,292	68,702	69,114	69,529	69,946	73,523	78,055
Bottles and Containers	27,845	28,068	28,293	28,519	28,747	28,977	29,209	29,443	29,678	29,916	30,155	30,336	30,518	30,701	30,885	31,070	31,257	31,444	31,633	31,823	32,014	33,651	35,725
Other Glass	6,111	6,160	6,209	6,259	6,309	6,359	6,410	6,462	6,513	6,565	6,618	6,658	6,697	6,738	6,778	6,819	6,860	6,901	6,942	6,984	7,026	7,385	7,840
Total Glass	33,956	34,228	34,502	34,778	35,056	35,336	35,619	35,904	36,191	36,481	36,773	36,993	37,215	37,439	37,663	37,889	38,117	38,345	38,575	38,807	39,040	41,036	43,566
PET Containers	10,297	10,379	10,462	10,546	10,630	10,715	10,801	10,888	10,975	11,062	11,151	11,218	11,285	11,353	11,421	11,489	11,558	11,628	11,698	11,768	11,838	12,444	13,211
HDPE Containers	15,197	15,319	15,442	15,565	15,690	15,815	15,942	16,069	16,198	16,327	16,458	16,557	16,656	16,756	16,856	16,958	17,059	17,162	17,265	17,368	17,472	18,366	19,498
LDPE Film	18,377	18,524	18,672	18,821	18,972	19,124	19,277	19,431	19,586	19,743	19,901	20,020	20,141	20,261	20,383	20,505	20,628	20,752	20,877	21,002	21,128	22,208	23,577
Other Plastic	43,142	43,487	43,835	44,186	44,539	44,895	45,255	45,617	45,982	46,349	46,720	47,000	47,282	47,566	47,852	48,139	48,428	48,718	49,010	49,304	49,600	52,137	55,351
Total Plastic	87,013	87,709	88,411	89,118	89,831	90,550	91,274	92,004	92,740	93,482	94,230	94,795	95,364	95,936	96,512	97,091	97,674	98,260	98,849	99,442	100,039	105,155	111,637
Rubber and Leather	21,930	22,106	22,282	22,461	22,640	22,821	23,004	23,188	23,374	23,561	23,749	23,892	24,035	24,179	24,324	24,470	24,617	24,765	24,913	25,063	25,213	26,502	28,136
Textiles	36,786	37,080	37,377	37,676	37,977	38,281	38,587	38,896	39,207	39,521	39,837	40,076	40,317	40,558	40,802	41,047	41,293	41,541	41,790	42,041	42,293	44,456	47,196
Wood	45,982	46,350	46,721	47,095	47,472	47,851	48,234	48,620	49,009	49,401	49,796	50,095	50,396	50,698	51,002	51,308	51,616	51,926	52,237	52,551	52,866	55,570	58,995
Food Waste	99,747	100,545	101,349	102,160	102,977	103,801	104,631	105,468	106,312	107,163	108,020	108,668	109,320	109,976	110,636	111,300	111,967	112,639	113,315	113,995	114,679	120,544	127,975
Yard Waste	96,917	97,692	98,474	99,262	100,056	100,856	101,663	102,476	103,296	104,122	104,955	105,585	106,219	106,856	107,497	108,142	108,791	109,444	110,100	110,761	111,426	117,124	124,344
Miscellaneous MSW	24,760	24,958	25,158	25,359	25,562	25,766	25,972	26,180	26,390	26,601	26,813	26,974	27,136	27,299	27,463	27,628	27,793	27,960	28,128	28,297	28,466	29,922	31,767
Total Other MSW	326,122	328,731	331,361	334,012	336,684	339,377	342,092	344,829	347,588	350,368	353,171	355,290	357,422	359,567	361,724	363,894	366,078	368,274	370,484	372,707	374,943	394,118	418,413
Subtotal MSW	**707,423**	**713,082**	**718,787**	**724,537**	**730,333**	**736,176**	**742,066**	**748,002**	**753,986**	**760,018**	**766,098**	**770,695**	**775,319**	**779,971**	**784,651**	**789,359**	**794,095**	**798,859**	**803,652**	**808,474**	**813,325**	**854,919**	**907,621**
Other Waste[3]																							
Manufacturing Process	30,353	30,596	30,840	31,087	31,336	31,586	31,839	32,094	32,351	32,609	32,870	33,067	33,266	33,465	33,666	33,868	34,071	34,276	34,482	34,688	34,897	36,681	38,942
C/D waste	114,051	114,963	115,883	116,810	117,744	118,686	119,636	120,593	121,558	122,530	123,510	124,251	124,997	125,747	126,501	127,260	128,024	128,792	129,565	130,342	131,124	137,830	146,327
HHW	2,122	2,139	2,156	2,174	2,191	2,209	2,226	2,244	2,262	2,280	2,298	2,312	2,326	2,340	2,354	2,368	2,382	2,397	2,411	2,425	2,440	2,565	2,723
Used Motor Oil	5,430	5,473	5,517	5,561	5,606	5,650	5,696	5,741	5,787	5,833	5,880	5,915	5,951	5,986	6,022	6,059	6,095	6,131	6,168	6,205	6,242	6,562	6,966
OPPD CCR	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500	131,500
e-Waste	6,897	6,953	7,008	7,064	7,121	7,178	7,235	7,293	7,351	7,410	7,469	7,514	7,559	7,605	7,650	7,696	7,742	7,789	7,836	7,883	7,930	8,335	8,849
Biosolids	72,056	72,632	73,214	73,799	74,390	74,985	75,585	76,189	76,799	77,413	78,032	78,501	78,972	79,446	79,922	80,402	80,884	81,369	81,858	82,349	82,843	87,079	92,448
Subtotal Other Waste	**362,409**	**364,256**	**366,118**	**367,995**	**369,887**	**371,794**	**373,716**	**375,654**	**377,607**	**379,576**	**381,561**	**383,061**	**384,571**	**386,089**	**387,617**	**389,153**	**390,699**	**392,254**	**393,819**	**395,393**	**396,976**	**410,553**	**427,755**
	362,409																						
Total	**1,069,832**	**1,077,338**	**1,084,905**	**1,092,532**	**1,100,220**	**1,107,970**	**1,115,782**	**1,123,656**	**1,131,594**	**1,139,594**	**1,147,659**	**1,153,756**	**1,159,890**	**1,166,060**	**1,172,267**	**1,178,512**	**1,184,794**	**1,191,114**	**1,197,471**	**1,203,867**	**1,210,301**	**1,265,471**	**1,335,376**

Table 11 - Sarpy County Waste Generation Projections

Sarpy County	Base Year																						
Year	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**
Population	158,840	162,017	165,257	168,562	171,934	175,372	178,880	182,457	186,106	189,829	193,625	196,723	199,871	203,069	206,318	209,619	212,973	216,380	219,842	223,360	226,934	258,222	285,238
Waste Generation																							
Residential	84,751	86,446	88,174	89,938	91,737	93,571	95,443	97,352	99,299	101,285	103,310	104,963	106,643	108,349	110,083	111,844	113,634	115,452	117,299	119,176	121,082	137,777	152,191
Commercial	82,988	84,648	86,341	88,067	89,829	91,625	93,458	95,327	97,234	99,178	101,162	102,780	104,425	106,096	107,793	109,518	111,270	113,051	114,859	116,697	118,564	134,911	149,026
Other Waste	39,900	40,698	41,512	42,342	43,189	44,053	44,934	45,833	46,750	47,685	48,638	49,416	50,207	51,010	51,827	52,656	53,498	54,354	55,224	56,107	57,005	64,865	71,651
Total	207,639	211,792	216,027	220,348	224,755	229,250	233,835	238,512	243,282	248,148	253,111	257,160	261,275	265,455	269,703	274,018	278,402	282,856	287,382	291,980	296,652	337,553	372,868
Waste Composition																							
Municipal Solid Waste																							
OCC	18,798	19,174	19,557	19,948	20,347	20,754	21,169	21,593	22,025	22,465	22,914	23,281	23,654	24,032	24,417	24,807	25,204	25,607	26,017	26,433	26,856	30,559	33,756
ONP	5,365	5,472	5,582	5,693	5,807	5,923	6,042	6,163	6,286	6,412	6,540	6,644	6,751	6,859	6,968	7,080	7,193	7,308	7,425	7,544	7,665	8,722	9,634
High Grade Paper	11,013	11,233	11,458	11,687	11,921	12,159	12,403	12,651	12,904	13,162	13,425	13,640	13,858	14,080	14,305	14,534	14,767	15,003	15,243	15,487	15,735	17,904	19,777
Mixed Paper	12,126	12,369	12,616	12,869	13,126	13,388	13,656	13,929	14,208	14,492	14,782	15,018	15,259	15,503	15,751	16,003	16,259	16,519	16,783	17,052	17,325	19,713	21,776
Total Paper	47,302	48,248	49,213	50,198	51,201	52,226	53,270	54,335	55,422	56,531	57,661	58,584	59,521	60,473	61,441	62,424	63,423	64,438	65,469	66,516	67,580	76,898	84,943
Ferrous	10,735	10,950	11,169	11,392	11,620	11,853	12,090	12,331	12,578	12,830	13,086	13,296	13,508	13,724	13,944	14,167	14,394	14,624	14,858	15,096	15,337	17,452	19,278
Aluminum	2,348	2,395	2,443	2,492	2,542	2,593	2,645	2,698	2,751	2,806	2,863	2,908	2,955	3,002	3,050	3,099	3,149	3,199	3,250	3,302	3,355	3,818	4,217
Other Nonferrous	1,342	1,369	1,396	1,424	1,453	1,482	1,511	1,541	1,572	1,604	1,636	1,662	1,689	1,716	1,743	1,771	1,799	1,828	1,857	1,887	1,917	2,182	2,410
Total Metals	14,426	14,714	15,008	15,308	15,615	15,927	16,245	16,570	16,902	17,240	17,585	17,866	18,152	18,442	18,737	19,037	19,342	19,651	19,966	20,285	20,610	23,451	25,905
Bottles and Containers	6,602	6,735	6,869	7,007	7,147	7,290	7,435	7,584	7,736	7,891	8,048	8,177	8,308	8,441	8,576	8,713	8,853	8,994	9,138	9,284	9,433	10,733	11,856
Other Glass	1,449	1,478	1,508	1,538	1,568	1,600	1,632	1,664	1,698	1,732	1,766	1,795	1,823	1,852	1,882	1,912	1,943	1,974	2,005	2,038	2,070	2,356	2,602
Total Glass	8,051	8,212	8,377	8,544	8,715	8,889	9,067	9,249	9,434	9,622	9,815	9,972	10,131	10,293	10,458	10,625	10,795	10,968	11,144	11,322	11,503	13,089	14,458
PET Containers	2,442	2,490	2,540	2,591	2,643	2,696	2,750	2,805	2,861	2,918	2,976	3,024	3,072	3,121	3,171	3,222	3,274	3,326	3,379	3,433	3,488	3,969	4,384
HDPE Containers	3,603	3,676	3,749	3,824	3,901	3,979	4,058	4,139	4,222	4,306	4,393	4,463	4,534	4,607	4,681	4,755	4,832	4,909	4,987	5,067	5,148	5,858	6,471
LDPE Film	4,357	4,445	4,533	4,624	4,717	4,811	4,907	5,005	5,105	5,207	5,312	5,397	5,483	5,571	5,660	5,750	5,842	5,936	6,031	6,127	6,225	7,084	7,825
Other Plastic	10,229	10,434	10,643	10,856	11,073	11,294	11,520	11,750	11,985	12,225	12,470	12,669	12,872	13,078	13,287	13,500	13,716	13,935	14,158	14,385	14,615	16,630	18,370
Total Plastic	20,632	21,044	21,465	21,895	22,333	22,779	23,235	23,699	24,173	24,657	25,150	25,552	25,961	26,377	26,799	27,228	27,663	28,106	28,555	29,012	29,477	33,541	37,050
Rubber and Leather	5,200	5,304	5,410	5,518	5,629	5,741	5,856	5,973	6,093	6,214	6,339	6,440	6,543	6,648	6,754	6,862	6,972	7,084	7,197	7,312	7,429	8,453	9,338
Textiles	8,722	8,897	9,075	9,256	9,441	9,630	9,823	10,019	10,220	10,424	10,633	10,803	10,976	11,151	11,330	11,511	11,695	11,882	12,072	12,265	12,462	14,180	15,663
Wood	10,903	11,121	11,343	11,570	11,802	12,038	12,279	12,524	12,775	13,030	13,291	13,503	13,719	13,939	14,162	14,389	14,619	14,853	15,090	15,332	15,577	17,725	19,579
Food Waste	23,651	24,124	24,607	25,099	25,601	26,113	26,635	27,168	27,711	28,265	28,831	29,292	29,761	30,237	30,721	31,212	31,711	32,219	32,734	33,258	33,790	38,449	42,472
Yard Waste	22,980	23,440	23,909	24,387	24,874	25,372	25,879	26,397	26,925	27,463	28,013	28,461	28,916	29,379	29,849	30,327	30,812	31,305	31,806	32,315	32,832	37,358	41,267
Miscellaneous MSW	5,871	5,988	6,108	6,230	6,355	6,482	6,612	6,744	6,879	7,016	7,157	7,271	7,387	7,506	7,626	7,748	7,872	7,998	8,126	8,256	8,388	9,544	10,543
Total Other MSW	77,327	78,874	80,451	82,061	83,702	85,376	87,083	88,825	90,601	92,413	94,262	95,770	97,302	98,859	100,441	102,048	103,681	105,340	107,025	108,737	110,477	125,709	138,861
	167,739																						
Subtotal MSW	**167,739**	**171,093**	**174,515**	**178,005**	**181,566**	**185,197**	**188,901**	**192,679**	**196,532**	**200,463**	**204,472**	**207,744**	**211,068**	**214,445**	**217,876**	**221,362**	**224,904**	**228,502**	**232,158**	**235,873**	**239,647**	**272,688**	**301,217**
Other Waste																							
Manufacturing Process	3,448	3,517	3,588	3,659	3,733	3,807	3,883	3,961	4,040	4,121	4,203	4,271	4,339	4,408	4,479	4,551	4,623	4,697	4,773	4,849	4,927	5,606	6,192
C/D waste	30,855	31,472	32,101	32,743	33,398	34,066	34,747	35,442	36,151	36,874	37,612	38,213	38,825	39,446	40,077	40,718	41,370	42,032	42,704	43,388	44,082	50,160	55,407
HHW	503	513	524	534	545	556	567	578	590	601	613	623	633	643	654	664	675	686	696	708	719	818	904
Used Motor Oil	1,668	1,701	1,735	1,770	1,805	1,841	1,878	1,916	1,954	1,993	2,033	2,066	2,099	2,132	2,166	2,201	2,236	2,272	2,308	2,345	2,383	2,711	2,995
e-Waste	1,635	1,668	1,702	1,736	1,770	1,806	1,842	1,879	1,916	1,955	1,994	2,026	2,058	2,091	2,124	2,158	2,193	2,228	2,264	2,300	2,337	2,659	2,937
Biosolids	1,791	1,827	1,863	1,900	1,938	1,977	2,017	2,057	2,098	2,140	2,183	2,218	2,253	2,289	2,326	2,363	2,401	2,440	2,479	2,518	2,559	2,911	3,216
Subtotal Other Waste	**39,900**	**40,698**	**41,512**	**42,342**	**43,189**	**44,053**	**44,934**	**45,833**	**46,750**	**47,685**	**48,638**	**49,416**	**50,207**	**51,010**	**51,827**	**52,656**	**53,498**	**54,354**	**55,224**	**56,107**	**57,005**	**64,865**	**71,651**
Total	**207,639**	**211,792**	**216,027**	**220,348**	**224,755**	**229,250**	**233,835**	**238,512**	**243,282**	**248,148**	**253,111**	**257,160**	**261,275**	**265,455**	**269,703**	**274,018**	**278,402**	**282,856**	**287,382**	**291,980**	**296,652**	**337,553**	**372,868**

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APPENDIX B

ALTERNATIVE ASSESSMENTS

B1 Technical Memorandum TM-1 – Solid Waste Management Program Funding
B2 Technical Memorandum TM-2 – Waste Tracking
B3 Technical Memorandum TM-3 – Zero Waste and Waste Minimization
B4 Technical Memorandum TM-4 – Energy Recovery – Program Options Assessment
B5 Technical Memorandum TM-5 – Public Education and Policy Initiatives
B6 Technical Memorandum TM-6 – Market Assessment

Appendix B1

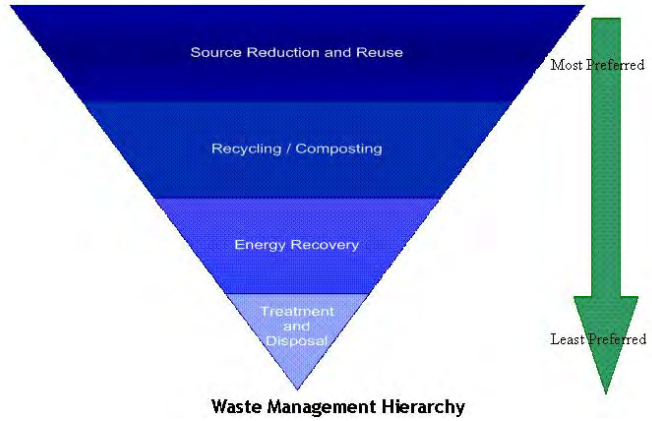
Technical Memorandum TM-1 – Solid Waste Management Program Funding

Technical Memorandum

To:	Metropolitan Area Planning Agency		
From:	HDR Engineering, Inc.	Project:	Solid Waste Management Plan
CC:			
Date:	December, 2011	Job No:	HDR -169533

Re: TM-1 – Solid Waste Management Program Funding

The structure of the Metropolitan Area Planning Agency 2012 (MAPA) Integrated Solid Waste Management Plan Update (ISWMP Update) is based on the USEPA's integrated waste management hierarchy which is "designed to show the most environmentally preferable options for waste management, the hierarchy places emphasis on reducing, reusing and recycling the majority of wastes." The original 1994 Regional Solid Waste Plan provided an array of goals and objectives as well as an action plan designed to achieve stated waste volume reductions, consistent with the state of Nebraska's Integrated Solid Waste Management Act (the Act). A key aspect of the Act, contained in Nebraska Revised Statutes 13-2032, state that, if technically and economically feasible, the volume of materials disposed in landfills as of July 1, 1994 are to be reduced by 25 percent as of July 1, 1996; by 40 percent as of July 1, 1999; and, by 50 percent as of July 1, 2002.



As discussed in greater detail below, the determination of economic feasibility is significantly influenced by funding and management practices. As a general rule, the cost of waste management paid by the waste generator increases as the quantity of waste being diverted from disposal increases. As such, while many landfill disposal and waste reduction options are technically viable they may not be considered economically feasible, based increased (funding) costs. As noted in the USEPA website, "an integrated waste management system considers fluctuating recycling markets, energy potential, and long-term landfill cost and capacity to make a waste management strategy that is sustainable…. What is economically preferable one year is not always environmentally preferable in the long run. However, by following the hierarchy of environmental preference, communities can ensure their economic decisions regarding MSW management are environmentally sound as well… community decisions are based both on environmental and economic factors.

(http://www.epa.gov/wastes/nonhaz/municipal/wte/nonhaz.htm - Retrieved 10/25/2011)

Separate reports and technical memoranda address current waste generation, waste reduction and diversion programs underway in Planning Area.

Introduction and Purpose

The Needs Assessment (HDR 2011) for the Planning Area establishes the baseline of solid waste quantities managed for purposes of the ISWMP Update and also provides an overview of current collection, diversion and disposal programs. The purpose of this technical memorandum is to identify relevant existing program costs, provide general information on future costs and costs associated with program changes, and to discuss future program funding options.

Existing program costs are defined as those currently incurred or paid to undertake the following management and program components:

- collection,
- transportation,
- management,
- diversion, and
- disposal programs

These existing costs serve as the baseline for evaluating changes/enhancement to existing programs and funding options.

Background

As further discussed in the Needs Assessment, solid waste management programs include a broad mix of public and private service providers and programs. For purposes of this discussion of program costs and funding, it was assumed that this mix of services and types of service providers will remain relatively unchanged in terms of roles and programs. Also, while costs are presented on an overall program basis, the cost of certain residential services is also presented, on a cost per household per month basis, to provide a relative measure of comparison. Because of the mix of services and service providers it is not possible to identify all costs; as such, a best effort is provided to compare cost an equitable basis, to allow for comparison purposes.

Historical Program Costs

Limited information is available on collection, transportation, management, diversion and disposal programs. Also, not all entities providing these services manage or report costs in a similar manner and in general private service providers will not share information on the true cost of services.

Waste Collection Practices

The collection and transportation of solid waste, recyclables and yard waste in the Planning Area are provided by the private haulers; there are still no solid waste collection activities conducted by municipal crews. Collected waste is transported to the various facilities for processing, diversion or disposal. Individuals and businesses can also transport (self-haul) their wastes and recyclables directly to the various processing, diversion or disposal sites.

Except for residential municipal solid waste (MSW), recyclables and yard waste collection services in the Cities of Omaha and Ralston, in Douglas County, and Bellevue, in Sarpy County, collection services are operated on a free market basis. Free market collection services for residential MSW, recyclable materials and yard waste are provided by private haulers under varying arrangements with each household, sanitary improvement district (SID) or other waste generators. Apartment complexes, commercial and industrial establishments contract directly

with private haulers for collection services. For privately provided collection services, the cost for providing these services is set by the service provider.

The City of Omaha, through a private contractor, provides once per week residential collection for MSW, recyclable materials and (seasonal) yard waste. This service is provided to all single-family residences, up to four-unit multi-family residences and the Omaha Housing Authority (OHA) housing units within the Omaha City limits. The City also provides for public space litter can collection, seasonal clean-up events and subsidies for management and disposal of materials such as bulky items, brush and tires. The City of Omaha currently contacts for residential collection services through Deffenbaugh Industries. Funding for these collection services is provided through the City's general tax fund; based on state legislation (Nebr. Rev. Statute 13-2020), Omaha can not currently charge a fee to individual residences unless a majority of those voting in a regular or special election vote to approve or authorize establishment of such a rate or charge. The combination of City contracted rates and management program related costs for residential services for collection, processing, and disposal MSW, recyclables and unlimited seasonal yard waste are approximate equivalent to $9.43 per household per month (in 2010 dollars). Note, this value includes certain administrative costs and cost associated with other programs, e.g., litter, OHA, subsidy programs, public education, etc.

The City of Ralston currently contacts for once per week residential collection services for MSW, recyclables and unlimited seasonal yard waste through Waste Connections and residents are billed monthly, in conjunction with their water and sewer bill, by Metropolitan Utilities District. The current billing rate for residential services is $13.38 per month and includes all collection, transportation, diversion and disposal costs.

The City of Bellevue also currently contacts for once per week residential collection services for MSW, recyclables and unlimited seasonal yard waste through Waste Connections (bda Papillion Sanitation & Recycling Service) and residents are billed monthly, in conjunction with their water and sewer bill, by Metropolitan Utilities District. The current billing rate for residential services is $12.30 per month and includes all collection, transportation, diversion and disposal costs.

Transportation

Transportation costs for solid waste are generally included in the collection costs noted above or charged by private service providers. One commercial transfer station currently exists in the Planning Area, the River City Recycling facility (6030 South 60th Street in Omaha). Small load transfer stations exist at both the Sarpy County and Pheasant Point Landfill, but these do not haul waste off-site. One new commercial transfer station is currently under construction at the Sarpy County Landfill (156th and Fairview Road in Sarpy County). This facility will be owned and operated by Waste Connections on land leased from Sarpy County. Also, it is possible that there may be additional waste that is hauled to disposal sites outside the Planning Area.

The listed gate fees at the River City Recycling facility for MSW, includes processing, transportation and disposal, is $28.90 per ton. MSW delivered to the River City Recycling facility is primarily transported to either the Butler County Landfill in Nebraska or the Iowa Waste Systems Landfill near Glenwood Iowa. The Sarpy County transfer station's current rate is $22.78 per ton, but will increase to a minimum of $27.95 per ton in December of 2014. A portion of the tipping fees collected at the Sarpy County will be retained by the County as a host fee; while the structure of the host fee varies by tonnage and other factors, the County is

guaranteed a minimum annual amount of not less than $577,500. By agreement, the transfer station is expected to be operational no later than September 1, 2013.

Management

Management of solid waste encompasses a wide range of activities including the following:

- Administration
- Public Education
- Special Wastes
- Special Programs
- Accounting and Financing

Management may also include the handling, processing, marketing and diversion/disposal of material, as well as profit for private programs.

Costs for these types of services are not always discernible. In the Planning Area there a variety of other waste management and diversion programs that are funded in a variety of manners. Key among those related to MSW is the household hazardous waste (HHW) facility named UnderTheSink, located at 4001 South 120th Street, and providing no charge disposal services for a wide range of special and hazardous wastes for residents of Douglas and Sarpy Counties. While resident of the Planning Area can use this facility at no charge the actual facility operating costs in 2010 exceeded $450,000, for the delivered wastes. Funding of this program is provided for by several sources including waste disposal surcharges at the Pheasant Point and Sarpy County landfills and grant funding from Buy Recycle Rebate and the Nebraska Department of Environmental Quality (NDEQ). Historically, landfill disposal surcharges have paid for approximately 20 percent of the overall program costs, with the balance being paid for by grants. The City of Omaha, as the facility owner and manager pays for all costs and recovers costs through the revenue sources listed above. Historically, the NDEQ grant program has provided multi-year program funding, however, in 2011 the awarded grant was only for one year. Based on declining tonnage at both the Sarpy County and Pheasant Point Landfills (i.e., reduced revenue dedicated to this program) and the NDEQ's uncertain/ limited long-term commitment, future funding options may require further evaluation.

Many of the management programs offered through private service providers are done for a fee, including such items as tire disposal; electronics waste management; wood waste management; construction and demolitions debris management; and material disposal.

The City of Omaha and City of Bellevue provide websites and access to an extensive array of information on waste diversion and waste management programs, not otherwise funded by government entities. In addition the City of Omaha provides the ***WasteLine*** news letter and limited public outreach. Links can be found on the www.underthesink.org and www.wasteline.org to a wide range of other resources. Funding for educational programs is derived from a variety of sources. In Omaha a key funding source for education is through contract collection service vendor charges. Websites are also provided by others Planning Area members but they do not directly provide the same array of information on waste diversion and waste management program options.

Diversion

Diversion programs included both physical and educational initiatives. As noted earlier resident in Omaha, Ralston and Bellevue are provided recyclable materials and yard waste diversion programs as part of their regular solid waste services. In other instances private haulers will

provide these services for a fee, typically separate from the solid waste collection and disposal fee. Private haulers also provide these services to commercial and industrial establishments.

Privately provided diversion programs currently exist for materials such as:

- Tires
- Batteries
- Electronic Waste
- Used Oil
- Construction and Demolition Debris
- Appliances and Metals
- Wood/Brush/Pallets
- Goodwill and Charitable Items
- Others

Programs such as UnderTheSink and educational programs, noted above, are also diversion programs. While all of these divert waste from disposal facilities, there is very little information available on the quantities diverted or the true cost of such programs. In some instances, e.g., metals recycling, the revenue derived from the diverted material exceeds the cost of program operations; in other instances programs such as public education do not derive revenues and as such must be funded by other sources.

Diversion programs funded in whole or part by governmental sources include, but are not limited to:

- Curbside Recyclables Collection
- Curbside Yard Waste Collection
- Household Hazardous Waste (UnderTheSink)
- Clean-up Programs
- Bulky Waste Diversion Programs (Appliances)
- Biosolids/Sludge

Private entities also provide large volume diversion of materials such as coal combustion ash (fly ash and bottom ash) and recyclables from residential and commercial establishments, but do not generally report their costs separate from their overall services programs.

Disposal

The two primary disposal sites in the Planning Area are the Pheasant Point Landfill in Douglas County and the Sarpy County Landfill. Sarpy County operates the program and fees are set annually by the County Board. The fees collected are used to pay for both the operation of the existing landfill as well as maintenance and monitoring of closed sites in the County and contributions to UnderTheSink. The Sarpy County Landfill is anticipated to close before 2015 and will be replaced by a transfer station, as noted above. At that time all other solid waste management activities (e.g., yard waste composting, construction waste management, wood waste processing) at the Sarpy County Landfill are also expected to be discontinued. When the Sarpy County Transfer Station is completed, all waste received at this new facility is anticipated, by agreement between Sarpy County and Waste Connections, to go to a landfill owned by Waste Connections; the identified Waste Connections landfill is in Butler County Nebraska, but other sites may be used. Attachment 1 to this memorandum is the current waste disposal rate sheet for the Sarpy County Landfill. The current disposal rates are $22.78 per ton and $28.76

per ton for scale weighed MSW from in-County and out-of-County waste, respectively. See discussion above for future rates, when replaced by the transfer station.

The Pheasant Point has a rate that varies slightly based on Consumer Price Index adjustments, but the rate at the published rate at the time of this memorandum was $23.27 per ton for scale weighed MSW and similar wastes. Attachment 2 is the current waste disposal rate sheet for the Pheasant Point Landfill. The Douglas County Department of Environmental Services operates the gatehouse at the Pheasant Point Landfill and also has responsibilities for closed landfills in Douglas County. Douglas County contracts with Waste Management for the general operation and maintenance of the active Pheasant Point solid waste landfill site at Highway 36 and 216th Street and establishes disposal rates based on that contract. In addition, this division provides litter control along State Highways and County roads leading to the landfill, undertakes billing and fee collection, provides some environmental oversight at the Pheasant Point site and provides environmental monitoring services for two closed landfill locations:

- Hefflinger Park at 112th and Maple Street
- State Street Landfill at 126th and State Street

Included in the $23.27 disposal rate is a $5 fee (surcharge), which goes to Douglas County. This $5 surcharge produces revenue of approximately $2.4 million per year for Douglas County, which is used to fund Douglas County programs including the above listed services as well as contributions to UnderTheSink.

Program Options

The financial information summarized above provides a general overview of costs applicable to currently operated programs addressed in the ISWMP Update. In evaluating programs over the next 20 plus years, the above funding and cost information will be used to identify issues and possible alternatives. The principal areas of concern, associated with program finances and funding include the following:

1. Increase cost of services with no change in current programs (status quo)
2. Funding for changes and possible new programs
3. Sources of funding or funding options.

Status Quo

With no significant changes to current programs the following are viewed as key areas of concern for costs in the future:

1. Collection costs are anticipated to increase significantly in the City Omaha when the current contracts come up for renewal. Cost increase are expected to occur in areas of:

   - Physical Collection Costs for MSW, Recyclables and Yard Waste.
   - Costs for Recyclables Processing

   If future collection cost increase to rates similar to those in Bellevue and Ralston, the overall program costs could increase in the range of $3 to $4 per household per month or the equivalent of $4.7 to 6.3 million per year. With revenue to pay these costs coming from the City's general tax fund, additional taxes may be required to maintain existing levels of service.

2. UnderTheSink currently recovers approximately 80 percent of its operating costs from grants. If grant funding is reduced or eliminated, and existing services are to be

maintained there would be an approximately $300,000 shortfall that would need to be made up by Douglas and Sarpy Counties. The source of funding for this would need to be determined.

Expanded Programs

With some emphasis to increase waste diversion or reduce quantities disposed by landfilling, changes to current programs will likely require added costs and may result in a reduction in funding from current sources. The following are viewed as key areas of costs, which will need to be addressed in the future:

1. If collection programs expand their scope of services, such as adding additional collection events for organic materials, then the overall collection program costs will increase.
2. If waste reduction and minimization efforts result in added: staffing, promotional materials and educational efforts, subsidies or incentives, more convenience facilitate, material types, collection and processing, then program costs will increase. While some off-set of costs will result from reduced landfill disposal costs, the overall program costs are expected to increase and added funding will be required.
3. If added diversion does significantly reduce the quantity of material directed to disposal, directly or through a transfer station, then Douglas County and possibly Sarpy County would see a reduction in the amount of revenue it receives, but not Sarpy County's minimum guaranteed amount.
4. Cost increases or added revenue might be necessary for continued operations of the UnderTheSink facility. Recent bids reflect a material disposal cost of $83,000 per year for this facility; if usage were to increase due to further promotion and utilization, both the disposal costs and the operating cost would increase. Since this program does not collect fees from users and relies heavily on fixed amounts of grant money it would also require added funding.
5. Future increases in fuel, labor and other program costs, even escalation at the CPI rate, will result in increased collection, transportation, processing, management, diversion and disposal costs.
6. Uncertain future regulation or issues. Changes in laws typically increase overall program cots; additionally, environmental compliance requirements can add to overall program costs.

None of the above considerations should be viewed as discouraging efforts to reduce, reuse, or recycle/compost, rather it is meant to suggest that with such new or expanded programs that consideration also needs to be given to funding for these programs, especially where the programs themselves do not generate a net positive cash flow.

Sources of Funding - Evaluation of Options

One of the main purposes of this technical memorandum is to identify and discuss future program funding options. From a planning perspective, costs are addressed based on City of Omaha, Douglas County, Sarpy County and Planning Area program requirements. It is also important to note that future planning efforts will focus on program costs, but the concepts below should help identify a framework for funding the various options evaluated.

Planning Area

The solid waste related services provided by various planning area members vary significantly. While the City of Omaha provides a comprehensive array of management programs, the

services provided by Douglas and Sarpy Counties are more focused on disposal programs and funding of the HHW facility. These service structures have evolved over time and are described above. To implement many of the aspects of the original 1994 ISWMP including achieving higher diversion goals, there will need to be added funding. For example, the 1994 plan includes goals and objectives to: establish a community education program; develop economic incentives/disincentives to encourage waste reduction; and includes use of interlocal contracting mechanisms and regulations to foster cooperative solid waste management activities and achieve plan goals.

While counties, by themselves, may lack the individual ordinance powers to implement certain programs, it is possible that the Planning Area members could jointly expand and fund programs through the coordinated use of their joint powers. There a variety of option such as public agencies, cooperation agreements, regional authorities or special districts, as provided for in Nebraska Revised Statutes, Chapter 13 – Cities, Counties and Other Political Subdivisions, that could be used, if two or more of the member communities wished to expand their roles in managing and implementing programs. Because the scope of such arrangements is only considered as an option, no further discussion of specific arrangements is provided in this memorandum. Attachment 3 provides additional examples of solid waste management program funding options with a focus on the collection aspects.

City of Omaha

The City of Omaha provides a comprehensive program of collection, recycling, diversion, HHW management, yard waste composting, biosolids management/diversion and MSW disposal. With the exception of biosolids management, program costs are funded by a combination of funds from the City's general fund and revenues from various sources. Of the entire program costs, collection of MSW, recyclable materials and unlimited yard waste is the single largest component of the City's overall program costs; collection costs (especially for unlimited yard waste) are also anticipated to increase significantly following the next bidding cycle for these services.

Funding for these services is provided through the City's general tax fund; based on state legislation (Nebr. Rev. Statute 13-2020), Omaha cannot currently charge a fee to individual residences for use of facilities and systems that manage solid waste, unless a majority of those voting in a regular or special election vote to approve or authorize establishment of such a rate or charge.

Program Options:

1. Seek a vote of the people to allow a fee to be charged.
2. Seek a legislative change to Statute 13-2020.
3. Increase taxes or impose special assessments to cover increased costs. There may be a variety of tax options (e.g., occupation taxes, licensing fees, special assessments) that could be used.
4. Seek alternate sources of funding such as assessment of fees to waste haulers through the existing City Municipal Code waste vehicle licensing ordinance (Chapter 33, Article VI Solid Waste Hauling and Disposal Permit).
5. Discontinue certain programs such as collection of recyclables or yard waste.
6. Privatize or assign responsibility for collection. There may be variety of options (e.g., contracts, agencies, other units of government, franchises) that could allow the City to control management practices but place the responsibility for setting and collecting fees with entities outside the City.

As noted above the cost of processing recyclables and possibly yard waste collection is also anticipated to increase in the future. With the uncertain and always fluctuating costs of recovered materials the City cannot forecast available revenues with any real certainty. Many of the options to provide additional funding for non-waste (recycling and yard waste) services may be similar to those associated with collection programs noted above. It may be important to note that while state statutes do not allow Omaha to charge for "facilities" and "systems" such rules may or may not extend to items not defined as solid waste. Because the definition of solid waste in statutes does not clearly include recyclables or yard waste, it may be possible to impose fees on households for the management of such materials as a non-solid waste. If such an options were to be considered it may require legal or legislative clarification.

The City owns and operates the UnderTheSink HHW facility and is responsible for personnel and activities at the site. The current funding structure represents some financial risks for the City and Douglas and Sarpy Counties. Risks are related to possible decrease in tonnage at disposal facilities or transfer stations (resulting in reduced revenues), loss of grant funding, and increased operations and disposal costs.

Program Option

1. Seek alternate sources of grant funding (both short- and long-term).
2. Establish user fees to help off-set costs.
3. Increase taxes or impose special assessments to cover increased costs. There may be a variety of tax options (e.g., occupation taxes, licensing fees, special assessments) that could be used.
4. Expand services to conditionally exempt small quantity generators with associated fee.
5. Expand services to adjacent counties, and their associated communities, and charge fees accordingly. This might include allowing out-of-county residents to use the facility or becoming a hub facility for receiving and packaging materials from local clean-up events.

Douglas County

Douglas County provides for a regional landfill (disposal site) through a contract with Waste Management of Nebraska. The county does not in any significant manner provide for collection, recycling, diversion, transfer station, yard waste composting, or related waste management programs. The County collected fees do help fund the regional HHW management facility (UnderTheSink). As such the major areas of current financial risk to Douglas County are deemed to include:

- Loss of the inherent value of the waste in terms of revenues and recyclable resources. due to exports to competing disposal sites.
- Increase costs obligations to UnderTheSink, due to loss of grant funding.
- Increased program funding obligations in implementing components of the ISWMP.
- Increased costs for environmental monitoring and compliance at closed landfills in the County.

Because potential increases in various program costs are currently considered less than the revenues derived landfill surcharges, no specific program funding options area identified. However, many of the funding options identified for the City of Omaha are applicable to or could require participation with Douglas County.

The ongoing exports and loss of waste to competing disposal facilities outside the County represents a loss in both revenue collected at the Pheasant Point Landfill and a lost opportunity to increase recycling/diversion rates. The uncontrolled exports also represent a potential liability to the County, if such exports are not properly managed and such out-of-county facilities experience environmental impairment liabilities that could be transferred to the community, where the wastes were generated. The lost value, resulting from waste exports could also limit funding available to expand waste management services and increase diversion. To better capture the value inherent in the solid waste, the County may need to look at measures to secure the flow of waste and recyclables generated within the County. Flow control and revenue generating measures could take several forms including:

- Contracted disposal with entities capable of delivering waste/recyclables to the County designated facilities.
- Economic flow control through rate structures that encourage use of the County's landfill and local diversion opportunities over other disposal options
- Legislated flow control, through such mechanisms as franchises or cooperative agreements with communities with ordinance powers.
- Construction of transfer stations to help capture and direct the flow of waste within the region.
- Increased locally available programs, such as providing regional yard waste composting services.

Sarpy County

Sarpy County owns and operates a regional landfill (disposal site) which is scheduled to close before 2015. This landfill site currently includes limited recycling and diversion programs through recyclables drop-off, wood waste processing, yard waste composting, metals and tires; the site also utilizes paint collected from UnderTheSink in its daily covering operations. Beyond those ancillary services at the landfill, the County does not in any significant manner directly provide for collection, recycling, diversion or related waste management programs. The County collected fees do help fund the regional HHW management facility (UnderTheSink). With the pending (2012/2013) implementation of a privately-owned and operated transfer station and closure of the Sarpy County landfill the major areas of current financial risk to Sarpy County are deemed to include:

- Increase costs obligations to UnderTheSink, due to loss of grant funding
- Increased program funding obligations in implementing components of the ISWMP.
- Increased costs for environmental monitoring and compliance at closed landfills in the County.

Additionally, with the closure of the landfill and related operations, there is anticipated to be a need for additional public or private facilities to handle wastes previously diverted through the landfill (e.g., yard waste composting, wood waste, etc.). The private transfer station operator has the right to handle and process recyclables at the transfer station, but not the obligation. Because the private transfer station operator is providing a guaranteed, but limited, revenue guarantee to Sarpy County via tipping fees and host community fees, the County will need to evaluate the costs of potential increases in various program costs associated with the ISWMP versus available funding sources. Some of the funding options identified for the City of Omaha and Douglas County are applicable to or could require participation with Sarpy County.

Similar to Douglas County, Sarpy County may wish to look at measures to secure the flow of waste, targeted for management through the Sarpy County transfer station or expand services. At this time, the flow of waste to the transfer station is anticipated to occur principally through pricing structures and the waste collection operations of the transfer station owner/operator. Additional measure to increase host community related revenue could take several forms including:

- Agreements with entities capable of delivering waste to the transfer station that would not otherwise be directed to the facility.
- Legislated flow control, through such measures as franchises or cooperative agreements with communities with ordinance powers. The County may require changes in state law to implement certain flow control measures.
- Supplemental programs, such as providing regional yard waste composting services.

Because pricing at the transfer station is set by agreement with the owner/operator, economic flow control through rate structures may not be an option.

Key Implementation Factors

As the 2012 ISWMP Update is developed prior goals and objectives will be updated, implementation strategies will be developed (regionally and Planning Area member specific), and an action plan will be formulated. As part of this planning effort various program options and alternatives will be evaluated. With such evaluation, cost information will be developed for various options. The information contained in this memorandum is anticipated to help in evaluating funding options and as a result may assist in the determination of economic feasibility of various options.

As the ISWMP Update is prepared and future programs are better defined, an implementation plan will also be developed. It is anticipated that this plan will include recommendations on organizational and funding structures that can be used to implement the elements of the plan.

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ATTACHMENT 1

SARPY COUNTY LANDFILL RATES

HOURS OF OPERATION: 6:00 A.M.-4:30 P.M. MON. THRU SAT., SUNDAYS 9:00 A.M. TO 4:00 P.M.
ON SUNDAY'S GARBAGE TRUCKS AND ROLL-OFF TRUCKS PROHIBITED
EFFECTIVE MAY 1, 2012

SARPY COUNTY	OUT-OF-COUNTY
$24.85 per ton	$31.52 per ton

SCALE RATES APPLY TO ALL OF THE FOLLOWING:

GARBAGE TRUCKS	ROLL-OFF TRUCKS
LONG HAUL TRANSFER TRAILERS	DEMOLITION TRACTOR TRAILERS
DUMP TRUCKS	STAKE BEDS
ALL 5TH WHEEL TRAILERS	DOUBLE & TRIPLE AXLE TRAILERS

TRAILERS, CAMPERS, BOATS (TIRES AND RIMS MUST BE REMOVED AT WORKING FACE)

All commercial trucks arriving at the gatekeeper's window without a tarp covering their transported load will be charged a $50.00 fee approved by the Sarpy County Board of Commissioners by Resolution. This has been in effect since February 1, 1996. This non-compliance fee is strictly enforced. On September 9, 1993, THE STATE OF NEBRASKA PASSED A BILL INTO LAW, that requires all loads being transported to a permitted landfill must be covered. LB 575, Sec. 28039-6, 12, an additional fee of $15.00 will be charged for any non-scale vehicle transporting waste for disposal without their load being covered.

NON-SCALE RATES APPLY TO THE FOLLOWING VEHICLES:

	SARPY COUNTY	OUT-OF-COUNTY
PICKUP TRUCKS	$ 15.00	$ 30.00
VAN UTILITY TRUCKS	$ 45.00	$ 120.00
SINGLE AXLE TRAILERS PULLED BY AUTO OR PICKUP TRUCK	$ 15.00	$ 30.00
CARS OR MINI-VANS	$ 5.00	$ 10.00
ADDITIONAL RATES:		
ALL MAJOR APPLIANCES	$ 5.00	$ 10.00
AIR CONDITIONERS	$ 15.00	$ 30.00
TIRES (PASSENGER VEHICLES)	$ 5.00	$ 10.00
TRUCK TIRES & FARM TIRES	$ 10.00	$ 20.00

HEAVY EQUIPMENT TIRES WILL BE REFUSED!

YARD WASTE	SARPY COUNTY	OUT OF COUNTY
	$ 21.00	$ 30.00

All yard waste must be free of plastic bags and trash. Yard waste is defined as grass clipping and leaves.

SPECIAL WASTE:

PETROLEUM CONTAMINATED SOIL FROM SARPY COUNTY ONLY: $40.00 PER TON (TESTING REQUIRED BY APPT. ONLY)

*LEAD ACID BATTERIES AND USED MOTOR OIL WILL BE ACCEPTED FOR PROPER DISPOSAL; PLEASE NOTIFY THE GATEKEEPER IF YOU HAVE THESE ITEMS ON BOARD.

*WHEN THE SCALE IS DOWN DUE TO A POWER OUTAGE THE IN-COUNTY RATE WILL BE $6.19 PER CU./YD; OUT OF COUNTY RATE WILL BE $8.29 PER CU./YD.

ADDITIONAL RATES WILL BE ASSESSED FOR UNUSUAL LOADS BASED UPON THE SCALE RATES AND THE DECISION OF THE GATEKEEPER AND THE LANDFILL MANAGER WILL BE FINAL. NO REFUNDS!!!

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ATTACHMENT 2

SHARE
Get ADOBE® READER®

Landfill Fees

PAYMENT OPTIONS: CASH OR CHECK

All vehicles will be weighed- no exceptions.
All loads weighing 1-ton or more will be charged at the Scale Rate of $23.12/ton ($24.20/ton effective 12/1/2011)

Non-Scale Rates:

Vehicle Description	Rates	Rates effective 12/01/11
Car	$8.00	$8.00
Vehicle with Trailer	$17.00	$17.00
Mini- Vans, SUVs, Station Wagons	$12.00	$12.00
Vans		$12.00 to $17.00
Pickup	$17.00	$17.00
Pickup / LG Load	$20.00	$20.00

*****Uncovered Loads - Additional $10.00 PER LOAD (Effective 12/01/2011)**

***All vehicles must weigh in and out**
***A Load of one ton or greater will be charged at the over the scale rate $24.20.**
UNCOVERED LOADS ADDITIONAL $10.00 PER LOAD

Scale Rates: (Per Tonnage Rate)

Description	Rates effective 12/01/11	Rates effective 12/01/10	Rates effective 4/1/2010
Per Ton Over Scale (1 ton minimum) Asbestos* Special Waste* (other than Asbestos)	$24.20 $42.15 $24.20	$23.58	$23.12
Coal - Fired Power Plant Combustion Residue	$18.79	$18.79	$18.79
Petroleum Contaminated Soil*	$19.00	$18.50	$18.50
Liquids (for special handling)	$83.83		

*****Uncovered Loads - Additional $10.00 per load (Effective 12/01/2011)**

*** All Vehicles must stop on scale and be weighed and pay scale rate.**
One ton minimum

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ATTACHMENT 3
EXAMPLES OF SOLID WASTE MANAGEMENT PROGRAM FUNDING OPTIONS

During the last decade, the solid waste industry has experienced significant changes, due to the development of integrated waste management systems, major hauler consolidations and various court decisions regarding the control of the waste under the Interstate Commerce Clause. In response to these changes communities have had to restructure their solid waste management organizations in order to assure adequate funding for the continuation of their solid waste management programs including recycling, composting and household hazardous waste. Waste management funding options that have been the most successful for the municipalities and units of government not wanting to eliminate or curtail these community services are:

- Collection District Franchises Agreements
- Municipal Collection Contracts (Exclusive Franchise)
- Utility Billing Surcharge
- Generator or Hauler Assessments / License Fees
- Public Collection Services

The purpose of this document is to present representative examples of solid waste management funding options, implementation methods used and principal issues encountered.

FRANCHISE AGREEMENTS

Under this approach, a city could award private companies the right to collect solid waste in a specific territory on an exclusive or non-exclusive basis, at established collection rates and subject to service level standards. This approach allows consolidation of routes and collection efficiency improvements, if developed as an exclusive franchise. Franchise fees are assessed to cover the cost of municipally provided services. The courts have generally limited the ability to fund programs through the franchise fee structure to reasonably priced services not offered by competing out-of-state facilities. The ability to use franchise agreements to designate a specific facility has had mixed results, but is generally allowed by the courts when there is no discrimination against out-of-state service providers.

City of Modesto, California – Residential, Commercial or Industrial Waste License Agreements / Nonexclusive Territories – Established Hauler Rates

Purpose: The City wanted to provide uniform pricing for services and assure delivery of non-recycled solid waste to the waste-to-energy facility.

Existing Conditions: The City has separate exclusive franchise agreements with two haulers for collections of residential refuse, recyclables and green (yard) waste within each of two City sectors. The commercial and industrial waste stream is collected under non-exclusive hauler franchises. All hauler fees for collection services are specified by City ordinance. The City periodically reviews the audited reports from haulers to establish maximum rates for collection based on the costs for the lowest cost hauler. Both municipal code and service

agreements require that companies deliver waste to the waste-to-energy facility. Tip fees for the facility are considered pass-through costs when determining the maximum rates for residential collection and various levels of commercial service.

Implementation Process: Modesto developed an ordinance that has been revised periodically to control the waste and provide uniform pricing for collection services. The ordinance defines maximum charges for garbage service by customer class, minimum collection frequency, containers, hours of collection, and collection equipment. Specifically, the ordinance requires a waste hauling business to have an agreement approved by the City Council to collect residential, commercial or industrial solid waste within the City of Modesto. The ordinance identifies the process for submitting collection agreement proposals to the City. Alternatively, the Council may advertise for competitive bids for agreements specified by the City. The Council also retains the authority to limit the number of agreements for the collection of solid waste. All proposers are required to provide services at lowest proposed price level to maintain uniform cost of services across the City.

Contractual Arrangements: Residential solid waste within the City of Modesto is privately collected under two ten-year contracts that provide a exclusive license to collect and recycle residential waste. The two haulers each own a transfer station in the City. A transfer station is necessary to transport waste to the designated disposal facilities to control costs. Commercial and industrial waste within the City are collected and recycled under non-exclusive franchise licenses by four private haulers.

The contracts and the licenses require that the private haulers deliver solid waste to the disposal facility designated by the City. If deliveries to the designated disposal facility drop below historical average, then the City can conduct an investigation of the cause and may impose damages, if applicable. The City's composting facility is also the designated facility for yard waste collected under the terms of the agreements. The haulers pay the City a service agreement license fee and mill tax to offset some disposal and recycling costs (6.5% of gross receipts) and pay a reduced tip fee at disposal facilities.

Implementation Issues: A competitive bidding process for solid waste collection is more difficult to implement when the only local transfer stations are privately owned. Therefore, the negotiation of rates with the haulers or an auditing process similar to that used for regulated public utilities may have to be implemented.

Portland, Oregon – Route Franchising of Existing Haulers

Purpose: To increase the efficiency of collection services in order to partially offset the cost of new recycling and composting programs.

Existing Conditions: Residential collection services in Portland were based on the free market system with 112 private haulers without contiguous collection routes. In 1990 the Portland City Council directed the Bureau of Environmental Services to find ways to increase the recovery of recyclables from the waste stream to meet established recycling goals. In order to implement curbside recycling programs without major residential cost

increases, the City decided that it needed to implement a more efficient collection routing system.

Implementation Process: The staff evaluated a number of implementation approaches similar to those discussed in this document. The City elected to implement a franchise system by certifying the number of collection accounts each hauler currently serviced. Working with the haulers, the City then established contiguous collection routes allocating the same proportion of accounts to each hauler. A franchise fee was based on a percentage of the hauler gross revenue receipts (approximately 5%). This approximately doubled the previous hauler licensing fees. These franchise fees were to be used exclusively to fund solid waste and recycling programs. To maintain a balance and minimize impact to the haulers, the City established a regulated rate for one-can service throughout the City, based on input on costs of operation provided by the haulers. Volume based rate incentives were also included as incentives for citizens to recycle. All haulers were required to provide recycling services to the residential customers on their routes, participate in neighborhood cleanup programs and to offer recycling services to their commercial and multi-family dwelling customers.

Contractual Arrangements: The City instituted an ordinance establishing collection standards for collection services and strong City audit and enforcement powers, which could include revocation of a franchise for non-compliance. No other contractual mechanism was used.

Implementation Issues: Development of equitable and efficient routing patterns with multiple haulers is a difficult and time-consuming process. Residential density will have some impact on collection costs for each hauler.

Minneapolis, Minnesota – Residential Franchise / Organization of Private Haulers / Negotiated Rates

Purpose: The City of Minneapolis wanted to reduce collection costs through route consolidation of wet garbage (residential waste) and rubbish (residential bulky waste and commercial waste), which were collected separately private and municipal forces.

Existing Conditions: Approximately 50 private haulers handled rubbish collections, while City crews collected wet garbage. Over 25 years ago, the City wished to develop a combined collection program to increase operating efficiency. Since the private haulers collected approximately 50 percent of the solid waste in the City, it was decided that this percentage of collection would be maintained under the reorganized collection program

Implementation Process: The existing private haulers developed their own organization Minneapolis Refuse Incorporated (MRI), which negotiated with the City to maintain their existing market share. A flat service fee for comprehensive collection service includes collection of garbage, recycling, large items and yard trimmings. The City and MRI each collect from approximately half of the dwelling units in the City. In June 1989, City crews and Minneapolis Refuse, Inc. began residential recycling and yard waste collections. In addition, garbage collection from City buildings, litter containers, neighborhood clean

sweeps, and drop-offs for excess garbage, construction and paving materials, and tires are also provided as a part of City service.

Contractual Arrangements: The MRI recently renegotiated a 6-year contract at a fixed rate of $8.25 per household through the term of the contract, which ends December 31, 2002. If the City actual collection costs exceed this $8.25 rate, then MRI's rate will be increased to 95 percent of the City's collection costs. This is the only escalation provision in the collection contract.

The haulers originally organized MRI as a corporation with each hauler owning shares in a proportion to the number of households it was currently collecting. The City annual establishes sector split between the municipal and private collection to provide MRI with 50 percent of the households within the City boundaries. The City also establishes collection zones for the City, which determines the collection pickup day for each household. MRI is responsible for proportioning its share of the households among its franchise members according to share ownership and reporting this information to the City. Designation of which hauler collects each household takes into consideration routing efficiency. Members of MRI can sell their shares to other members or other hauler organizations.

Implementation Issues: Since this method maintained the status quo regarding the hauler business, no legal problems arose. However, since the City must negotiate a collection billing rate there is no competitive bidding of the collection services and there is no good method to compare costs with other systems.

COLLECTION CONTRACT / UTILITY BILLING SURCHARGE

This example demonstrates two approaches. Under bid contract approach, a municipality awards an exclusive contract to haulers submitting the lowest bid. This approach can result in standardize services and contract control for the municipality. However, it would generally mean that only the largest haulers could compete, unless groups of smaller hauling companies formed and submitted a bid as a small hauler organization. A second example of this approach is provided under public collection since the successful bidders were the public employees. Since the municipality is considered to be a market participant when services are subject to an open bidding process, the courts have generally upheld contract conditions on services provided and facility designation.

Under the utility bill surcharge approach, the municipality charges all of its customers via water/sewer surcharge/fees for solid waste services. This approach can allow for the elimination of the landfill tipping fee for all residential customers that can produce a water bill at the gate or have vehicles licensed for collection in the municipality. This system can limit a municipal ability to restrict the importation of waste unless a competitive gate fee is imposed and only a portion of the program costs in covered by the utility bill surcharge. The courts have generally upheld "economic flow control" where funding is provided from other municipal funding sources.

Tulsa, Oklahoma – Residential Collection Contract / Organization of Private Haulers
Purpose: The City of Tulsa needed to assure minimum delivery of waste to a waste-to-energy facility. Grouping the solid waste collection routes into focused areas would reduce, truck traffic on residential streets and the collection charges per household, due to the increased collection efficiency.

Existing Conditions: Tulsa had 50 or more independent small private haulers and City collection crews, all operating under an "open territory" system. The citizens were allowed to individually contract with the City or any private hauler for waste collection. The City provided approximately 25 percent of the residential collection in the City.

Implementation Process: Tulsa had to develop/revise an ordinance in order to divide the city into four collection districts. Since none of the small haulers were able to handle citywide collections individually, the haulers decided to create a corporate organization in which the existing private haulers were members. The hauler organization, Tulsa Refuse, Inc. (TRI) could then bid, as a group, on the residential solid waste collection and protect their businesses from being lost to a large national firm. Meetings were held to convince the City to allow a bid from TRI. One quadrant was retained for City collections, which was approximately equal in number to the City's existing collection accounts. The City also retained the one quadrant in order to have collection services and framework in place in case the hauler organization defaulted. The City issued requests for bids on collection in three quadrants of the City and disposal with the disposal facility designated by the City. The TRI submitted the low bid for each of the three quadrants that were bid and was also successful in subsequent rebids.

Contractual Arrangements: The contract with TRI specifically defined the services to be provided and included provisions to protect the City and customers and ensure the conformance of services between all of the member private haulers. The provisions include maps and schedule of collection routes, equipment requirements, TRI's authorized managing agent, customer complaints and notification, removal of defective equipment, TRI's failure to perform, and the right to acquire TRI's equipment. The Refuse Agreement with TRI specifically states that the agreement shall not constitute a franchise or exclusive right to collect refuse.

The members of TRI must conform to the terms and conditions of the Refuse Agreement. Each existing hauler owns a certain number of shares in TRI based on the number of collection accounts it had prior to the original bid. The organization divided the collection accounts and organized the routes after the bid, based on the number of existing accounts held by each hauler. TRI has established a system of penalties and other actions if a hauler does not provide consistent services conforming to the agreement. If one of the hauler members desires to sell out, all of the other members of TRI have right of first refusal.

The City bills the customers for collection and disposal costs as part of its water and sewer bill and pays TRI on a household basis for their three quadrants. Since the City can turn-off the water for failure to pay monthly utility bill, the bill collection rate is very high.

Implementation Issues: A major hauler that also submitted a bid sued the City contending that the hauler organization process and subsequent contract was flawed. However, the courts upheld the process. The court system has generally upheld these approaches against Interstate Commerce Clause challenges on the basis of municipal market participation (bidding of service contracts) and economic flow control (zero tip fees).

GENERATOR / HAULER ASSESSMENTS

Trying to implement major changes in hauler organizations or routings can create a great deal of controversy within the community. One alternative is to restructure the municipal pricing policy within the existing system through generator assessments that are collected by the hauler for the municipality. The circuit courts generally require the use of "public funds" for determination of "market participation" under the Interstate Commerce Clause, but differ on the definition of "public funds" and whether assessments and user fees are considered "general taxes" under the Carbone decision.

Sacramento County, California – Collection Franchise / Environmental Benefit Fee

Purpose: A decision by the City of Sacramento to ship its waste to Nevada resulted in a 40% reduction in waste deliveries to the County landfill. The County needed to resolve a $10 million per year shortfall.

Existing Conditions: Private haulers are required by the County to obtain permits to collect and transfer commercial solid wastes. SWA Ordinance #2 requires that each permittee divert from the landfill 30 percent of waste that the permittee collects by July 1999. Reporting requirements to document diversion are specified. However, methods to achieve the diversion and recycling services are not specified. Permitted haulers generally haul commercial solid waste unless the person or business is exempted under the ordinance. An annual flat permit fee of $1,000 per truck is assessed on the permittees to offset the regulatory costs related to the administration of the ordinance provisions. These fees do not cover collection or disposal costs.

Implementation Process: After reviewing information on franchise arrangements in other California communities, Sacramento County decided to convert from a permittee collection system to a non-exclusive franchise and a franchise fee system for existing permitted haulers (i.e. person or firm holding a permit issued pursuant to the Sacramento Regional Solid Waste Authority (SWA) Ordinance No. 2) conducting commercial solid waste collections. The franchise fee would be a percentage of the gross revenues received by each hauler. The franchise fee system would be set up with the help of the County Auditor-Controller to assess, collect and distribute the funds, and would require annual confidential, certified audits of each hauler. The franchise fee was intended to cover the costs for "environmental benefits" not specifically related to landfill operations.

Contractual Arrangements: No contracts are anticipated between the county and haulers under the non-exclusive franchise system. Conditions, regulations and fees of the franchise will be identified in the modified ordinance. The non-exclusive franchise and franchise fee system will require a well thought out ordinance modification enabling the franchise system.

Implementation Issues: Based on County Counsel's review of applicable California law, the SWA has the authority to implement the proposed non-exclusive franchise system for commercial haulers, subject to a political consensus by the member jurisdictions to implement such a system. The County was directed by the Board to negotiate, which charges were considered unrelated to landfill operations that could be included in the "environmental benefit" franchise fee.

Lane County, Oregon – System Benefit Fee / Generator Surcharge

Purpose: To provide funding for recycling, waste reduction, special and household hazardous waste programs as an alternative to a landfill surcharge without a major change to the existing collection network.

Existing Conditions: The County operated Short Mt. Landfill and charged a tipping fee that incorporated surcharges for funding community benefit solid waste programs. Diversion of waste from the landfill resulted in funding shortfalls that required the County to find other funding mechanisms or increase tipping fees. If tipping fees were increased, it would increase the incentive to divert waste to other landfills and create "death spiral" for the County programs.

Implementation Process: After studying the options, the County decided to segregate the costs of operating the landfill from the other solid waste program costs. The tipping fees at the landfill were structured to cover only landfill-related costs including capital, closure and post closure costs. The remaining costs were collected in the form of a system benefit fee assessed to all generators of solid waste in the County. The system benefit is collected at the County landfill for all tonnage delivered to the landfill.

Contractual Arrangements: The County passed a ordinance requiring all haulers to collect from generators and remit to the County a system benefit fee on all tonnage collected in the County regardless of the landfill disposal facility used for final disposition of the waste. Haulers were also required to provide a volume-based household rate schedule to encourage recycling. All haulers are required to file a monthly report along with their remittance of the system benefit fees on waste disposed at alternate disposal sites. The monthly report includes service area information on total gross billings and receipts, the number of collection accounts, the number of tons collected and disposed both inside and outside the County and other information requested by the County. The County signed interlocal agreements with the incorporated communities within the County that authorized the County to collect and enforce its ordinance but did not require the community to collect or enforce the ordinance itself.

Implementation Issues: By applying a generator fee rather than a hauler fee and funding only programs and services not provided by private haulers through this ordinance, the County avoided the Interstate Commerce Clause issue. However, the auditing of monthly reports to verify enforcement could potentially become cumbersome.

Western Lake Superior Sanitary District, Duluth, Minnesota – Hauler Collected Volume-Based Solid Waste Generator Surcharge

Purpose: To reduce tipping fees at the facility to a competitive level with other waste disposal facilities and to fund other non-revenue program costs.

Existing Conditions: The District is a special governmental district governing solid waste and wastewater within a five hundred square mile area encompassing a portion of two counties. The District operated a yard waste composting facilities and RDF processing facility and fluidized bed combustion facility for codisposal of RDF and sewage sludge from its wastewater treatment plants. Although the RDF processing and combustion facility was eventually closed due to the inability to control the flow of the waste, the facility debt still remained as a District obligation. The District needed a way to collect funds to repay the debt service and fund the other solid waste programs it provided.

Implementation Process: After exploring a number of options including a an ad valorum tax levy, direct billing of residents and a property tax assessment, the District decided on a hauler collected surcharge on collected waste. After conducting a public hearing, the District Board adopted a resolution creating two service areas (St Louis and Carlton Counties). Two service areas were established because waste services in each county were different. The District then established service fees for each which when combined with the reduced facility tipping fees would produce sufficient revenues to operate the system. Using waste origin data for the last five years, the surcharges were allocated for recovery from each service area and from other waste customer outside the service area. Meeting was held with the haulers to discuss their concerns. A volume based fee waste generator structure was established based on container size, since the haulers had no way of weighing the waste at the curb. The haulers were required to submit reporting forms along with their monthly remittance. Haulers were entitled to retain 4% of the surcharge fee for the increased costs in billing and reporting.

Contractual Arrangements: No contractual agreements were required. Enforcement was maintained through fines and periodic audits.

Implementation Issues: The District was initially concerned about verification of the service fees remitted by the haulers. However, by using historical records and an independent auditor at the end of the first year, the accuracy of the reporting data was confirmed to be reasonable. The hauler-collected surcharge was contested in trial court, which found for the plaintiff. A subsequent appeal was submitted to the Minnesota Supreme Court, which found that the District fee system was non-discriminatory and overturned the lower court decision. The hauler appealed to the U.S. Supreme Court but its petition was denied.

PUBLIC COLLECTION SERVICES

Municipalities that provide collection services and disposal facilities operated by public employees have total control over the amount of waste that they will handle and the facilities

that will be used. However, it is difficult to start a public collection program where one has never existed for two basic reasons:

- There is no existing infrastructure in place for managing and training personnel.
- The sociopolitical issues with replacing an existing business enterprise are difficult to overcome.

Charlotte, North Carolina – Residential Collection Exclusive Contract
Purpose: The privatization of solid waste collection services with designation of disposal sites.

Existing Conditions: The City's Solid Waste Services Department has a long history of providing the City with residential refuse collection. In 1990, the department implemented a citywide curbside recycling program.

Implementation Process: Due to pressures from the public to reduce costs, the City decided to implement private collection in one quarter of the city as a pilot program. The City divided the service area into four collection quadrants. In 1996, the City issued a Request for Proposals (RFP) to private haulers for residential solid waste collection services for one-quarter of the City's service area. Because this appeared to provide significant cost savings, another RFP was issued, in January 1997, for another quarter of the City. This time the existing public workers were allowed to submit their own bid for the collection services. The city workers prepared a proposal, which included some organizational changes to improve their efficiency and were successful in submitting the lowest bid. Since a public agency can not sign a contract with itself, public workers contract took on the form of a memorandum of understanding.

Contractual Arrangements: The contract requires regularly scheduled, once-per-week refuse, yard waste, and recycling collection service from the curb to each of the residential units within the district and transportation of the collected solid waste to City-designated disposal sites. Bulky waste collection is also required on an as-needed basis.

The waste is disposed at a local private landfill under a separate contract. Delivery of the yard waste and recyclables to City-owned facilities is required. The City operates the compost facility and a private contractor operates the recycling facility. The contract term is five years, with two, one-year renewable terms at the City's option.

Implementation Issues/Lessons Learned: Since city forces originally operated the residential collection, the principal implementation issues revolved around privatization issues. The general feeling was that private haulers could provide the services more cost effectively. What the city learned from this process was that city forces could perform the services more cost effectively, when given the opportunity to operate under the same terms and conditions as a private operator. The city also concluded that multiple districts franchising provided more competition to control costs and allowed for quick response in the case of contractor default. An administrative structure was in place to take over collection operations from a defaulting contractor. However, a municipality that did not already have collection service

in place servicing at least a portion of the city would have a good deal of difficulty establishing a new municipal collection program.

Appendix B2

Technical Memorandum TM-2 – Waste Tracking

Technical Memorandum

To:	Metropolitan Area Planning Agency		
From:	HDR Engineering, Inc.	Project:	Solid Waste Management Plan
CC:			
Date:	December 2011	Job No:	HDR - 169533

Re: TM-2 – Waste Tracking

The purpose of this memorandum is to:

- Identify major sources of information available on waste generation, diversion and disposal by waste types.
- Identify where gaps exist in data and sources that may provide such data.
- Identify options to obtain currently missing or limited data on waste generation, diversion and disposal by waste types.

1. Introduction

Records exist that allow for a reasonable determination of the waste disposal in the Planning Area, but only limited data is available on waste generation, waste diversion and waste exports. As such, the waste generation information contained in the Needs Assessment represents a best estimate for the Planning Area. The Needs Assessment analysis of waste generation rates is based on historical waste quantities, generation rates for select communities, available sources and demographic data.

Waste, recyclables and yard waste generation quantities from residential sources are readily available from the City of Omaha, Bellevue and Ralston (all municipally managed programs) and provide good insights on the residential component of Municipal Solid Waste (MSW) generation, disposal and diversion for these communities. Additionally, waste disposal records are available from the Sarpy County and Douglas County (Pheasant Point) Landfills, where governmental entities manage the scale house. The available landfill scale data provides good records of the waste disposal quantities in the Planning Area. Landfill records are insufficient to determine the quantity of waste generated in the Planning Area and export to out-of-County or out-of-state disposal sites.

Privately controlled collection and diversion programs are not required to report information on the origin and destination of the waste, recyclables and yard waste that they handle. The absence of this information currently prevents an exact determination of the waste generated or diverted in the Planning Area. The analysis of the waste generation and diversion rates are further complicated by the limited data on diversion activities, the need to use nationwide statistics to supplement local data and the uncertainty of the sources of information.

Despite these uncertainties, some valuable information was provided through interviews with recyclable service providers, community and county officials and businesses. Not all businesses contacted would assist or contribute information, since they considered this information proprietary. The following paragraphs provide a description of the available sources of data and mechanisms that might be utilized to obtain additional information in the future.

2. Data Sources

Sources of data vary by waste type and diversion program. Further, in the case of waste diversion, it is not always possible to precisely estimate the quantities of materials that are diverted and reduced at the source of generation. Generation sources have generally been classified as Municipal Solid Waste (MSW)-Residential, MSW-Commercial/Industrial, and Other Waste. The category of MSW Residential includes solid waste, recyclable, and yard waste, from residential sources. The category for Other Waste includes as wide range of waste types including:

- Coal Combustion Residue (CCR or Ash)
- Construction and Demolition Waste
- Biosolids and Sludges
- Tires
- Batteries
- Appliances/Metals
- Wood/Brush/Pallets
- Small Quantity Conditionally Exempt Household Hazardous Waste
- Electronic Waste
- Used Oil
- Medical & Pharmaceutical Waste
- Special Handling Wastes

3. MSW-Residential

The best available sources of data on residential MSW generation are municipally organized collection programs in Omaha, Bellevue and Ralston. From these communities data is available on the precise amount of solid waste, recyclables, and yard waste collected in each of these communities. Records retained by the communities include total materials collected and number of households served. These communities have voluntarily provided information for the ISWMP Update. Based on this information and census demographic data, average unit generation rates can be established by household or person (e.g., tons per household per year). This information can then be extrapolated to other incorporated and unincorporated areas in the Planning Area as a whole, to estimate the total residential generation. One potential short-coming of this approach is that urban solid waste generation rates tend to be slightly higher than rural generation rates. A further short-coming of this data may be that in areas not served by similar programs other management/disposal mechanism may be used (e.g., backyard composting or burn barrels).

Private waste service companies providing subscription services do not report information on waste collection, recycling and yard waste management. Although private hauling companies could provide records that would allow for better estimates for generation in the Planning Area and generation rates based on households served, their service practices do not generally limit them to a municipal or county boundary or a fixed number of households served in day. Therefore, the data they have would need additional evaluation to be useful in estimating generation rates. As such, if

private collection data were available, it would likely best be used to help refine estimates of total generation of solid waste, recyclables and yard waste in the Planning Area.

4. MSW-Commercial/Industrial

There are currently no good sources of data on commercial MSW generation. The best available means of estimating solid waste generation and diversion are from available data obtain from landfills and diversion programs. Unfortunately landfill records do not provide a clear distinction between MSW from residential and commercial sources and it is likely that private hauling companies do not always clearly make a distinction between sources either. Firms that collect commercial waste from dumpsters also collect dumpsters from multi-family residential units on the same routes.

For this reason the Needs Assessment uses national statistical data and attempts to correlate this data with total reported disposal rates to arrive at estimates of commercial/industrial MSW generation rates. Private waste service companies do not report information on commercial waste collection, recycling and yard waste. Private hauling companies could provide records that would allow for better estimates for waste and recyclables generation in the Planning Area and generation rates based on businesses and institutions served, but because their service practices do not generally limit them to a specific businesses or a fixed number of collection points in a day, the data they may have would need additional evaluation to be useful in estimating generation rates. As such, if private collection data were available, it would likely best be used to help refine estimates of total commercial/industrial generation of solid waste, recyclables and yard waste in the Planning Area.

Further improvements in available data would be possible, if landfills and transfer stations in Planning Area were to attempt to better categorize and record waste (likely at the scale house) by source (e.g., residential, commercial/industrial, etc.).

5. Other Waste

As noted above numerous waste and diverted waste material have been included in this category. The wide arrays of waste types reflect a similarly wide array of service providers and data sources. The following subsections describe major categories of solid waste and diversion programs and the data or limited data that is available.

5.1. Coal Combustion Residue (CCR or Ash)

Only one source of CCR exists within the Planning Area, the Omaha Public Power District (OPPD) North Omaha Station. OPPD has a CCR disposal site adjacent to the power plan and contracts with a firm to divert ash materials, most specifically fly ash and bottom ash. OPPD and the private recycler, Nebraska Ash, maintain good records and have voluntarily provided available information for the ISWMP Update. Additionally, OPPD annually reports disposal quantities to the Nebraska Department of Environmental Quality (NDEQ); OPPD is not required to report the quantity of materials diverted from disposal. It is expected that these sources will continue to voluntarily share this information.

5.2. Construction and Demolition Waste

Construction and Demolition (C/D) wastes may be managed in wide variety of manners. It may be landfilled at either sanitary landfill or C/D landfills, portions of this may be used as “fill” for the purpose of erosion control, erosion repair, channel stabilization, landscaping, roadbed preparation or other land improvement. C/D may also be process (often by grinding) to

form materials suitable for replacement of sands and gravels. Portion of the material from C/D projects may also be recovered for reuse such as metals, woods and certain building materials.

NDEQ Title 132 – Integrated Solid Waste Management Regulations define Construction and Demolition waste as " waste which results from land clearing, the demolition of buildings, roads or other structures, including, but not limited to, fill materials, wood (including painted and treated wood), land clearing debris other than yard waste, wall coverings (including wall paper, paneling and tile), drywall, plaster, non-asbestos insulation, roofing shingles and other roof coverings, plumbing fixtures, glass, plastic, carpeting, electrical wiring, pipe and metals. Such waste shall also include the above listed types of waste that result from construction projects." Construction and demolition waste does not include "friable asbestos waste, special waste, liquid waste, hazardous waste and waste that contains polychlorinated biphenyl (PCB), putrescible waste, household waste, industrial solid waste, corrugated cardboard, appliances, tires, drums, and fuel tanks."

Based on Title 132 regulation, "Fill" means solid waste that consists only of one or more of the following: sand, gravel, stone, soil, rock, brick, concrete rubble, asphalt rubble or similar material. C/D material used as "fill" for erosion control, erosion repair, channel stabilization, landscaping, roadbed preparation or other land improvement is exempt from regulation and does not require regulatory reporting. Disposal sites in Nebraska that accept C/D material are required report disposal quantities to NDEQ. C/D processing facilities in Nebraska are required to have a permit from the NDEQ, but do are only required to report quantities of processed material sent to disposal (not total quantities processed or quantities diverted).

Based on the highly variable nature of this waste and the activities that generate it, the best sources of information may be:

- Landfills – both MSW and C/D landfills.
- Metal recyclers
- Processing facilities, especially firms that grind wood, concrete and asphalt.
- Demolition firms. These firms may be able to identify materials sent to recyclers, used as "fill" or otherwise diverted from disposal.

NDEQ Title 132 regulations do allow local governing bodies to develop and enforce local ordinances, codes or rules and regulations on solid wastes disposal or processing facilities equal to or more stringent than the Title 132 rules and regulations.

5.3. Biosolids and Sludge

The primary sources of biosolids are City of Omaha wastewater treatments plants and septage pumping companies, which generally deliver their waste to the treatment plants. The biosolids from these facilities are generally digested and land applied to enhance soil characteristics. Land application is considered diversion. The City of Omaha maintains good records and has voluntarily provided available information for the ISWMP Update.

5.4. Tires

With a few minor exceptions, land disposal of recyclable waste tires in any form is prohibited in Nebraska. As such all tires generated in the Planning Area must either be beneficially reused or shipped out of state. NDEQ Title 132 defines beneficial reuse of

waste tires as including: use for agricultural purposes; as fish habitat; as blowout stabilization; tire mats for bank stabilization; or burned for energy recovery. Tires are also ground into chips and used for a variety of other applications, e.g., drainage applications and playground mats. Records of tire quantities recycled/reused or shipped out of state should generally be available from NDEQ based on the state's permitting and associated reporting requirements. Unless regulations change this should be a reliable source of data.

NDEQ Title 132 requires that any person, business or other entity engaged in the business of picking up, hauling, and transporting waste tires for accumulation, processing, or recycling obtain a permit from the department before engaging in such activity. As part of that permit the waste tire haulers are required to submit an annual report that includes: the location in which waste tire business is conducted; the name and location of the business/individual where the waste tires were collected; the annual quantity or weight and type of waste tires collected at each location; the name and location of the business/individual where the waste tires were delivered; and, the annual quantity or weight and type of waste tires delivered to each location.

5.5. Batteries

In Nebraska, land disposal of lead-acid batteries is prohibited. NDEQ Title 132 defines Lead-acid batteries as meaning "electrical storage batteries with cells that contain lead electrodes and an acidic electrolyte, such as those commonly used in motor vehicles." This regulation does not necessarily extend to the many types, sizes and shapes of button batteries and new batteries that continue to result from the electronic devices now common in society. Also, this regulation does not extend to the commonly disposed alkaline batteries found in flashlights, radios, and other handheld devices. While recycling options are available for most lead and non-lead batteries there is no central source of information available on battery management.

Although batteries sales are ubiquitous and difficult to separately identify in a waste stream, many retailers will accept expired batteries and these retailer may be a good source of information on diversion quantities. Based on the highly variable nature of this waste and the activities that generate it, the best sources of information may be:

- Major lead-acid battery distributors.
- Suppliers of specialty batteries.
- Major department store retailers

On a national level, Rechargeable Battery Recycling Corporation (RBRC) provides free battery and cell phone recycling in North America. RBRC is a nonprofit public service organization. While they may not have information specific to the Planning Area they may be able to provide general statistical information that would aid in estimating diversion of certain batteries.

5.6. Appliances/Metals

In Nebraska, land disposal of discarded household appliances is prohibited. NDEQ Title 132 defines discarded household appliances as clothes washers and dryers, water heaters, heat pumps, air conditioners, dehumidifiers, refrigerators, freezers, trash compactors, dishwashers, conventional ovens, ranges, stoves, and wood stoves. This regulation does

not extend to other metal products and metal fabricated items including metal beverage and food containers, automobiles, bicycles, structural members, etc. While recycling options are available for most metals through various scrap dealers and regional processing centers, there is no central source of information available on metals management. Depending upon the type and volume of metals, recycling options can also result in payment from the recycling center

NDEQ regulation also place many types of metals under the category of "Junk" (e.g., old scrap; copper; brass; iron; steel; rope; wire; demolition waste; abandoned mobile homes, dismantled or wrecked; untaxed, untitled or unlicensed vehicles or parts thereof; and other old or scrap ferrous or nonferrous material). However, salvage operations (which store, sort and sell metals and machinery suitable for reprocessing) and sites where junk is managed are exempt from regulations/permitting requirements unless they creates a potential hazard to health.

Recycling centers are a subset of "Solid Waste Processing Facilities" in NDEQ Title 132 regulation and are generally exempt from permitting requirements provided they satisfy certain conditions, including undertaking an analysis showing that for each category of recyclable material, the amount of material resold or transferred offsite during the previous two calendar years must equal at least seventy-five percent (75%) by weight of the inventory of material present on January 1st of the previous odd-numbered year. This calculation must be made for each category of recyclable materials collected or processed at the recycling center or collection site. This would suggest that such facilities must retain such information and if questioned must be capable of producing documentation on quantities of materials processed by type.

NDEQ Title 132 regulations do allow local governing bodies to develop and enforce local ordinances, codes or rules and regulations on solid wastes processing facilities equal to or more stringent than the Title 132 rules and regulations. One of the largest processors of scrap metals and appliances has their processing facility outside of the Planning Area and in large part in other states. As such, beyond voluntary reporting there may be limited avenues to obtain data relative to the service area.

Based on the diverse nature of metals and the activities that generate it, the best sources of information may be:

- Major processing facilities serving the region.
- Processing facilities and recycling centers in the Planning Area.
- Metals scrap and junk yards in and adjacent to the Planning Area.

5.7. Wood/Brush/Pallets

Wood may result from a variety of activities including construction and demolition, land clearing, tree trimming, natural disasters, manufacturing and other sources. It may also be a component of other discarded materials such as furniture, packaging waste or yard waste.

Large volumes of wood, such as tree trimmings can be disposed of in MSW or Construction and Demolition landfill or sent to "recycling centers" for grinding, chipping or other means to prepare the materials for markets. Wood is also burned in fire places and can be burned, under controlled conditions, as a large volume disposal option. As noted under the discussion of metal/appliances recycling centers are generally exempt from permitting

requirements. The disposal or use of trees and brush, or the remaining material resulting from fires set for the purpose of destroying trees, brush and untreated wood is also exempt from NDEQ permitting activities. In the Planning Area there are several large wood waste processors (including pallet recycling/remanufacturing) and wood waste has been processed at the Sarpy County Landfill and at remote sites in Sarpy County as part of the community clean-up activities. Major target markets for these processed/chipped wood products are in landscaping and erosion control, with a wide range of secondary uses.

Sarpy County has good records of the material they grind (on- and off-site), including quantities beneficially re-used in landfill operations. Beyond the records that may be available from MSW landfills in the Planning area, including Sarpy County, there are currently no mandated record keeping and reporting requirements for wood management/disposal. As such, beyond voluntary reporting there may be limited avenues to obtain data relative to the Planning Area. Additional licensing of processing, composting and recycling centers is an option to mandate reporting.

Based on the diverse nature of wood generation and management activities, the best sources of information may be:

- MSW and C&D landfills.
- Major wood processing facilities and recycling centers in the Planning Area or serving the region. This would include tree trimming companies, pallet recyclers, and the River City Recycling and Transfer Station.
- Yard Waste composting facilities is the region.

5.8. Small Quantity Conditionally Exempt Household Hazardous Waste

Hazardous waste generated at the household level is exempted from regulation as hazardous waste and as such may be sent to MSW landfills for disposal. This waste type is generally less than one percent of the total waste stream. Certain household products can also be reused. The best available records on diversion programs (reuse and disposal as a hazardous waste) are those maintained by the UnderTheSink facility, which serves the entire Planning Area. The UnderTheSink facility maintains good records that are readily available. Unless additional handling and disposal programs are established, no additional information sources are available.

5.9. Electronic Waste

Electronic waste can include a wide variety of materials from fluorescent light bulbs to computers and TVs to components of other appliances. Currently, federal law does not require recycling of e-waste; however there have been numerous efforts to require solutions through voluntary programs and federal laws (that have not been adopted into law). There are also household exemptions to the hazardous waste laws that allow for disposal in MSW landfills, including the following:

- Household Electronics: Used computer monitors or televisions generated by households are not considered hazardous waste and are not regulated under Federal regulations and as such can be sent to disposal.
- Small Quantities Exemption: Businesses and other organizations that only limited quantities to disposal per month (as hazardous waste) can be sent to solid waste landfill for disposal.

These exemptions do not mean that a waste does not exhibit hazardous characteristics or is potentially threatening to the environment, but rather allow small quantities to be disposed of in sanitary landfills, rather than be managed as hazardous waste. Electronics waste does represent a potential for reuse, refurbishment or recycling of functional items such as computer monitors or computer peripherals, but because of equipment obsolescence residents and businesses are often looking to discarding/disposal options.

The primary options for collection and diversion of electronic waste in the Planning Area include the following:

- Local business collection sites.
- Special collection events.
- Permanent collection facilities.

Private business may provide free or "for-a-fee" drop-off/collection site for certain products, including materials for recycling or proper disposal. This is the current practice in Planning Area. The physical recycling and disposal occur at sites outside of Nebraska.

UnderTheSink accepts intact fluorescent tubes (all sizes/types) and high intensity discharge bulbs (mercury vapor, high pressure sodium), but does not accept other electronic wastes. Through their website and links to other websites they do help identify firms that will accept and manage the recycling and disposal of electronic wastes.

Currently no central sources of information on diversion and out-of-state disposal have been identified. Unless additional, centralized, handling and disposal programs are established in the Planning Area, no additional information sources are available. Based on the highly variable nature of this waste and the activities that generate it, the best sources of information may be:

- Major electronics retailers/distributors.
- Organizers/Sponsors/Service Providers associated with e-waste collection events.
- Local processors and organizations take back and recycle used electronics

5.10. Used Oil/Antifreeze

In Nebraska, land disposal of waste oil is prohibited NDEQ Title 132 defines Waste Oil as meaning any oil that has been refined from crude oil, or any synthetic oil, that has been used, and as a result of such use, is contaminated by physical or chemical impurities, or used oil as defined in Title 128 - Nebraska Hazardous Waste Regulations. Landfill regulations also do not allow liquids disposal in landfills, as such only small quantities are likely to be directed to disposal.

There is a wide array of diversions options for waste oils and antifreeze, including recycling and beneficial uses. Firms offering auto and truck service (oil changes) and parts offer diversion programs and waste oil from do-it-yourself auto service can be taken to a wide array of service and parts facilities for recycling/diversion. Additionally, waste oil and antifreeze is accepted at the UnderTheSink facility and the web site http://www.underthesink.org/ and http://wasteline.org/ contains a multiple page lists or links to facilities in the Planning Area that accept waste oil and antifreeze. The UnderTheSink

facility also uses waste oil as a heating source for the facility. Additional information on waste oil haulers and processors can be obtained from the American Petroleum Institute.

Currently no central sources of information on diversion and re-use have been identified. Based on the wide range or firms accepting and handling this material, the activities that generate it, and the many possible diversion options the best sources of information may be:

- Bulk Oil suppliers in the region.
- Auto service stations and parts distributors.

5.11. Medical & Pharmaceutical Waste

Medical waste management is often considered separate from traditional municipal solid waste management programs, because they are subject to a separate set of regulations (typically at the state level) and are often require disposed by methods such as incineration or thermal treatments. Infectious medical waste disposal in landfills is specifically restricted by NDEQ regulations. There is also an important distinction to be made between small quantities of medical waste generated at a household level and the medical waste generated at health care facilities and laboratories. Because of biohazard considerations (health and storage requirements) and alternate management requirements, the management of medical waste is best handled by health care specialists.

Pharmaceutical waste is a complex matter and ongoing federal efforts to establish regulations on their management may govern handling and disposal practices in the near future. It is also important to note that pharmaceutical waste management is often considered separate from traditional municipal solid waste management programs, because they are subject to a separate set of regulations and often require sophisticated disposal methods such as incineration. The United States Department of Health and Human Services, Food and Drug Administration provides a website for guidance on the disposal of pharmaceutical waste.

(http://www.fda.gov/Drugs/ResourcesForYou/Consumers/BuyingUsingMedicineSafely/EnsuringSafeUseofMedicine/SafeDisposalofMedicines/ucm186187.htm Retrieved 09/29/2011)

There is also an important distinction to be made between small quantities of medical and pharmaceutical waste generated at a household level and the medical and pharmaceutical waste generated at health care facilities, pharmacies and laboratories. Due to the prevalence of drug abuse, any program that manages pharmaceutical waste is subject to law enforcement oversight that would require deputizing of the staff. Because of these requirements and the hazard considerations (health and storage requirements) and disposal requirements, the handling of medical and pharmaceutical waste, the ISWMP Update does not address these waste streams in any additional program details.

However, it is considered appropriate for the Planning Area to continue to educate the general public through literature and website (e.g., UnderTheSink.org) on program on safe management of household medical waste and pharmaceutical waste, to reduce the quantities of discarded materials in the municipal solid waste stream or to waste waster treatment facilities.

At a household level these waste streams is generally less than one percent of the total waste stream. Unless additional handling and disposal programs are established, no additional information sources are available.

5.12. Special Handling Wastes

NDEQ Title 132 defines Special waste as a solid waste, except waste that is regulated as a hazardous waste and possesses physical, chemical or biological characteristics that make it different from general municipal solid waste or construction and demolition waste and which requires special handling, treatment or disposal methodologies in order to protect public health, safety and the environment. Examples of special waste include, but are not limited to

- friable asbestos waste
- liquid waste
- certain industrial solid waste
- propane tanks (20 pound and larger)
- semi-solid wastes
- sludges

For the most part, by definition special waste is disposed of in sanitary landfills.

The best source of information on the quantities of Special Waste disposed of in the Planning Area would be the Pheasant Point Landfill; the Sarpy County Landfill, for the most part, does not accept Special Wastes. One difficulty in quantifying special waste is the uncertainty of quantities shipped to landfills or disposal systems outside the Planning Area. One additional option, as discussed in greater detail below, which might be used to track exports of Special Waste is from private waste hauler through waste collection vehicle licensing regulations (existing in Omaha) and by establishing this reporting requirement as a permit condition.

6. Waste Tracking Needs

In planning for waste management facilities, it is important to reasonably and realistically project the potential quantity of waste expected to be managed or disposed of by the various programs/facilities. Overestimating quantities of waste or recyclable material recovered could result in less than full system utilization, resulting in increased overall costs. Conversely, underestimating quantities of waste and/or overestimating recycling and diversion can reduce the life of the landfill, increasing the need for further planning adjustments.

To more accurately assess the quantity of waste generated and materials diverted from disposal, a waste tracking system is needed. Where organized and municipally managed programs are in place the collected, diverted and disposed quantities of material are tracked and the information is generally available. Currently, information on waste collection and recycling/diversion done on a free market and voluntary basis is not always readily available and in some instance is guarded by the businesses as confidential information. Because of this, precise determination of the true waste generation and diversion rates are not possible and can only be estimated.

The following is a summary of options that might be implemented within the Planning Area to track and compile additional waste disposal and diversion information. If the Planning Area members wish to have a more accurate assessment of these quantities then added regulations may be required; it is not currently anticipated that totally voluntary efforts will provide this information. Additionally, to undertake this tracking will require added costs to compile and maintain the information and enforce requirements on reporting. It is generally anticipated that the most reliable means of obtaining accurate data, which is not currently available from existing municipally managed programs, will be through business and hauler licensing and reporting requirements tied to those licenses.

6.1. MSW - Residential and Commercial/Industrial

The principal mechanisms available to track the generation, diversion and disposal of MSW may include:

- Require private waste service companies to report information on waste collection, recycling, yard waste and diversion programs.
- Require landfills and transfer stations operating in the Planning Area to report quantities of material delivered for disposal by type and origin.
- Require waste processing facilities, including composting and transfer stations facilities, to report quantities of materials delivered for processing by type and origin.
- Seek a change in state rules and regulations that require waste disposal and processing facilities, to report quantities of materials delivered by type and origin and in the case of processing and transfer station facilities, destination of materials.

In Omaha it may be possible to obtain information from private waste hauler through existing waste collection vehicle licensing regulations and by establishing this reporting requirement as a permit condition. In other communities, similar hauler licensing ordinances may be appropriate, but will require enactment of such ordinances.

While it is possible that voluntary reporting by haulers and processing facilities (including transfer stations and composting facilities) would yield the desired information, a regulatory basis would better ensure timely and accurate information.

In the case of the MSW disposal sites, the scale houses are currently managed by either Douglas or Sarpy County and as such minor refinements in data collection could facilitate the availability of data in a more readily manageable means. When the Sarpy County transfer station becomes operational, Sarpy County should have the ability to request this data from those delivering waste to the facility.

There are currently only limited regulations on transfer stations in the Planning Area and no regulations (locally or at the state level) requiring transfer stations to report tonnages handled or information on type, source or destination of waste/materials received. If such information can not readily accessed then in may be necessary to establish such requirements by ordinance or as a condition of a permit.

6.2. Other Wastes and Recyclables

As noted earlier in this memorandum, there are a wide variety of waste and diverted materials that have been discussed under the heading of “Other” Wastes. Each such

material has its own set of regulatory constraints, management options, management infrastructure and programs. As such, to obtain added information or data, where such data is not currently, readily available, may require significant efforts and varying data collection methods. The following is a general list of program options that may be appropriate to obtain data that would allow a more accurate quantification of management practices and quantities disposed or diverted.

- Require private waste service companies to report information on waste collection, recycling, diversion and disposal – by source and ultimate destination.
- Require landfills and transfer stations operating in the Planning Area to report quantities of material delivered for disposal and diverted, by type, origin and ultimate destination.
- Require waste processing facilities to report quantities of materials delivered for processing by type and origin, as well as destination.
- Seek a change in state rules and regulations that require waste disposal and processing facilities, to report quantities of materials delivered by type and origin, and in the case of processing facilities by destination of materials.
- Seek cooperative agreements with recyclers of various materials to report on diversion quantities, including origin and destination.

Appendix B3

Technical Memorandum TM-3 – Zero Waste and Waste Minimization

Technical Memorandum

To:	Metropolitan Area Planning Agency		
From:	HDR Engineering, Inc.	Project:	Solid Waste Management Plan
CC:			
Date:	December 2011	Job No:	HDR - 169533

Re: TM - 3 Zero Waste and Waste Minimization

The purpose of this memorandum is to identify major strategy options for resource conservation, reduction, reuse, volume reduction and elements often associated with "Zero Waste" management philosophies/strategies.

Introduction

As defined by the Grass Roots Recycling Network, Zero Waste is a philosophy and a design principle for the 21st Century. It includes "recycling" but goes beyond to address the reduction of "upstream" waste created through mining, extraction, and manufacturing of products. Zero waste maximizes recycling, minimizes waste, reduces consumption and encourages the development of products that are made to be reused, repaired or recycled back into nature or the marketplace.

Zero waste:

- Recognizes that "waste" is not inevitable
- Discarded materials are potentially valuable resources
- Goes beyond "end of the line" strategies
- Maximizes recycling and composting
- Reduces materials consumption

(Source: City, Los Angeles is developing the Solid Waste Integrated Resources Plan, http://www.zerowaste.lacity.org/files/info/fact_sheet/SWIRPFAQS.pdf Retrieved 09/29/2011)

Certain components of this philosophy are more easily implemented at a local governmental level; others, involve large scale societal and industrial changes in such things as mining and manufacturing.

Options

The current 1993 MAPA Integrated Solid Waste Management Plan (ISWMP) identified a wide array of waste diversion alternatives (Appendix D: Diversion Alternatives) and provided an evaluation of these, which included technical, environmental and economic factors. A copy of that assessment is included as Attachment 1 to this memorandum. Based upon a review of the Planning Area's current waste reduction programs and a wide variety of conservation, waste reduction, and

recycling options HDR Engineering, Inc. (HDR) has identified additional program options for Planning Area consideration. Options were summarized and discussed at a meeting with the Steering Committee on November 4, 2011. The review included a summary of existing programs as a baseline for evaluation and additional program enhancements and options deemed technically viable and appropriate by the Planning Area. These existing program and new/enhanced program options are summarized below as candidates for further consideration in the Solid Waste Plan. A detailed technical, environmental and economic evaluation of alternatives was not conducted.

As further described in the Needs Assessment (December 2011) and the Nebraska Department of Environmental Quality (NDEQ) 2007/2008 composition study, municipal solid waste (MSW) disposed in the Planning Area landfills is composed of different materials or commodities. It is not simply trash. MSW contains potentially saleable/usable commodities such as paper, cardboard, aluminum, steel and energy.

USEPA notes on their website that, "*An integrated waste management system considers fluctuating recycling markets, energy potential, and long-term landfill cost and capacity to make a waste management strategy that is sustainable. Commodity prices can fluctuate. What is economically preferable one year is not always environmentally preferable in the long run. However, by following the hierarchy of environmental preference, communities can ensure their economic decisions regarding MSW management are environmentally sound as well … community decisions are based both on environmental and economic factors.*"

(http://www.epa.gov/wastes/nonhaz/municipal/wte/nonhaz.htm - Retrieved September 29, 2011)

The USEPA hierarchical approach to MSW management is composed of four main components: source reduction/reuse, recycling/composting, combustion and landfilling. As noted on the USEPA's web site the hierarchy is "Designed to show the most environmentally preferable options for waste management, the hierarchy places emphasis on reducing, reusing, and recycling the majority of wastes. *The hierarchy favors source reduction to reduce the volume and toxicity of waste and to increase the useful life of manufactured products. Reducing MSW generation is the most effective way to address waste management costs and prevent the use of virgin materials. Reusing materials in the MSW generated is the second best method. Capturing the material value of MSW through recycling should be considered next. Source-separated yard waste can be composted aerobically to produce a soil conditioner product or used in landfills, in place of soil, as alternative daily cover. Source-separated mixed food and yard wastes can be anaerobically digested to generate methane for energy generation and a compost product that can provide soil amendment value. Combustion or gasification with energy recovery, or waste-to-energy (WTE), is the environmentally preferable route for mixed solid wastes that are neither recyclable nor compostable. From an environmental standpoint, landfilling MSW is the least preferred option. However, community decisions are based both on environmental and economic factors."* (http://www.epa.gov/wastes/nonhaz/municipal/wte/nonhaz.htm Retrieved September 29, 2011)

To varying degrees the members of the Planning Area already embraces this hierarchy with program elements that include source reduction, recycling and composting. With any program options, it is important to recognize that to be effective they must be properly staffed and funded; this consideration will be used in the economic analysis to help sort through the array of technically viable options available. This technical memorandum builds upon an updates the Diversion Alternatives in the 1994 ISWMP and considers enhancements to programs targeting resource conservation, reduction, reuse, volume reduction.

The waste reduction program concepts presented below are intended to summarize the existing Planning Area programs and discuss key options and elements for future consideration and

possibly inclusion in the ISWMP Update. The final ISWMP Update will be developed based on the concept of environmental stewardship, the integrated hierarchical approach to MSW management (defined by the USEPA), and considerations of technological and economic factors.

Source Reduction

The purpose of source reduction is to reduce the volume and toxicity of waste and to increase the useful life of manufactured products.

Existing Programs

- Public Information provided by City of Omaha and Bellevue and to a lesser extent by the Counties and other communities. Through newsletters, websites and links to other resources residents and business can find information on:
    - Policies
    - Publications and Printed Materials:
        - Wasteline newsletter
        - Internet website
    - Educational Outreach (via Keep Omaha Beautiful)
    - Facility Tours
- Organized diversion programs:
    - Nebraska Materials Exchange for schools and businesses
    - Habitat Restore for surplus building materials
    - Omaha Habitat Restore for construction, demolition, remodeling materials
- Private Diversion Programs:
    - Charitable organizations such as food banks, thrift stores and religious groups provide family assistance through the reuse of materials such as excess foodstuffs, clothing, furniture, appliances and other merchandise that would otherwise be disposed of as waste.
    - Consignment stores buy or consign goods such as clothing, furniture, appliances and other merchandise in good condition for resale.
    - Diversion of the following materials are accomplished through various private sector companies and services:
        - Lead-acid batteries - through a battery deposit/exchange program
        - Household and rechargeable batteries
        - Used motor oil recovery.
        - Tires
        - Power plant coal combustion residuals (ash) reuse
        - Electronics, such as computers, printer/ink cartridges, laser printer toner cartridges and cell phones. Fees may apply. Cell phones may also be donated to local charities.
        - Ferrous metal, aluminum and other non-ferrous metals, through scrap metal recyclers.
        - Shopping bags and other “film plastics”
        - Fluorescent light bulbs, Fees may apply
- Enforcement of government (Nebraska) restrictions and bans

Future Programs/Options

- Better establish and promote Solid Waste Program information source as it relates to Source Reduction

- Identify, fully fund and support a Source Reduction Leader (position responsible for implementing program improvements in the area of Source Reduction and possibly also in support of various recycling program elements as presented below)
- Expand Public Education:
    - K to 12 Education Programs
    - Promote Don't Bag It or similar Yard Waste Source Reduction Programs
- Evaluate expansion of Material Reuse Center/Waste Exchange (Public/Private Partnership), including such items as: construction materials, household furnishings and cleaning supplies
- Provide Waste Audits to Planning Area businesses.
- Evaluate the following groups or programs options to educate residents and business on Source Reduction:
    - Keep Omaha Beautiful/Keep Nebraska Beautiful/Keep America Beautiful
    - WasteCap Nebraska
    - Local Ad Agency
    - Shows and Conventions
    - Planning Area-wide Web-Site
- Implement the ReUse Center concept to help provide a second-life option for various materials.
- Develop Special Waste Diversion Programs for items such as Electronics and Medical Wastes (To be successful, this is a program that requires a commitment to full staffing and funding.)

Recycling (including Composting)

Recycling, which includes composting, is the next preferred waste management approach to divert waste from landfills and combustors. These techniques are available to varying degrees and at varying price structures in the current Planning Area programs and through existing physical facilities.

Existing Programs

- Curbside collection of recyclables to residential family units within the Planning Area.
    - City sponsored curbside programs (Omaha, Ralston and Bellevue)
    - Subscription programs (balance of Planning Area)
- UnderTheSink, a household hazardous waste drop-off/collection center. This is both a source reduction and a recycling facility.
- Four (4) City of Omaha Recyclable Drop-off site; these are available to both City and out-of-City users and accept glass.
- Seasonal curbside yard waste collection,
    - Seasonal Christmas tree drop-off program.
    - City sponsored curbside programs (Omaha, Ralston and Bellevue)
    - Subscription programs (balance of Planning Area)
- Privately operated material processing facilities for source separated recyclables.
- Yard Waste Composting Site
    - Yard waste composting programs (Omaha and Sarpy County). Note: Sarpy County site will likely close when landfill closes (prior to 2015).
- Biosolids land application program
- Receipt of and diversion/recycling of specific targeted material streams, including the following:
    - Tires

    - Scrap metal
        - Including White goods (appliances)
    - Asphalt and Concrete processing
    - Brick
    - Dirt and Sweepings
    - Wood, Brush, and Pallets
- Power plant coal combustion residuals reuse. This is both a source reduction and recycling program.
- Private haulers provide collection of recyclable materials to commercial, industrial and institutional establishments.
- Private recycling/processing companies provide recycling of major materials (document destruction and paper shredding, magazines and office paper, appliances, etc.)

Future Programs/Options

- Increased Commercial, Institutional and Industrial Waste Recycling
    - Paper
    - Plastics
    - Containers
- Mandated and Incentivized Recycling programs
    - Evaluate a volume-based waste collection programs for providing additional price based incentive to encourage more waste reduction and recycling.
        - (Omaha would require legislature approval or alternate service delivery systems to charge for collection services. Also requires standard size containers and adequate funding).
    - Use pay as you throw rate structures for yard waste.
    - Require recycling be made available to customers of waste haulers operating in the Planning Area
        - Commercial and Institutional Facilities
        - Unincorporated Waste Generators (Residential, Commercial, Industrial, Institutional)
        - Multi-Family Residents within the Planning Area not served by the current curbside recycling programs.
        - Require once price fee structures for waste and recycling service.
- Identify programs to reduce the quantity of plastics in the waste stream, especially film plastics and single use containers.
- Evaluate strategies to improve local markets for recyclable materials

Regional Approach

In the 1994 ISWMP, it was recognized that opportunities for regional cooperation is the development of solid waste diversion programs may provide economies to communities within the Planning Area or region. It was also recognized that opportunities for regionalization should be developed with consideration for the unique characteristics and needs of participating communities. Based on the 1994 ISWMP and the above listed existing programs, future programs/options, and evaluations and discussions during the plan development, the following additional opportunities have been identified as having the potential to be both technically and economically viable on a regional basis:

- Public Education and Awareness targeting Source Reduction, Recycling and Composting

- Establishing and Funding a Source Reduction Leader to help better promote programs, provide education, distribute information and track results.
- Regional yard waste composting facility
- Marketing of Materials and Development of New Local Markets
- Promotion of Available Public and Private Diversion Options

Additional regional opportunities that may require further cooperative evaluation include:

- Organic Waste Composting (vegetative, food, restaurant, etc. wastes)
- Expanded residential and commercial/industrial recycling
    - Including incentivized programs

In addition to creating or designating an organizational structure to implement and evaluate increased diversion programs, to be successful the regional partners will need to establish funding mechanisms for programs and evaluation processes.

Community Approaches

To provide maximum flexibility to counties and municipalities in the Planning Area, no specific options have been selected for the City of Omaha, Douglas and Sarpy Counties. As part of the overall system definition and plan development the goals and objectives contained in Section 1.7 of the 1994 ISWMP will be reviewed and re-evaluated. Based on the updated goals and objectives specific action plans and implementation plans will be developed; this will represent an update of Section 5: Action Plan, from the 1994 ISWMP.

Summary

The USEPA hierarchical approach to MSW management is composed of four main components: source reduction/reuse, recycling/composting, combustion and landfilling. The USEPA's hierarchy is "Designed to show the most environmentally preferable options for waste management; the hierarchy places emphasis on reducing, reusing, and recycling the majority of wastes. The hierarchy favors source reduction to reduce the volume and toxicity of waste and to increase the useful life of manufactured products. Also as stated above, Zero Waste is a philosophy, which includes "recycling" and the reduction of "upstream" waste created through mining, extraction, and manufacturing of products. Zero waste maximizes recycling, minimizes waste, reduces consumption and encourages the development of products that are made to be reused, repaired or recycled back into nature or the marketplace. However, the waste diversion programs strategies associated with recycling and waste reuse and minimization that are used to meet the various hierarchies or goals are only sustainable, if they can be properly funded and markets can be found to utilize or manage the diverted materials in an environmental sound manner. As such, it is also important to evaluate division programs and identify options based on cost and sustainability criteria.

Attachment 1

Appendix D1
Diversion Alternatives

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APPENDIX D1: DIVERSION ALTERNATIVES

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SECTION 1.0

OVERVIEW

1.1 Introduction

The policy of the State of Nebraska and the State of Iowa is essentially that source reduction, recycling and other solid waste management alternatives [diversion] are preferred over land disposal and combustion [final disposal] as solid waste management methods.

This report (Appendix D1 to the Integrated Solid Waste Management Plan) presents a description and evaluation of the waste management options available under the general category of diversion (source reduction, recycling and composting). Appendix D2, Market Alternatives, presents a discussion of the available markets for materials diverted from final disposal. Appendix D3, Final Disposal Alternatives, presents a description and evaluation of the waste management options available under the general category of final disposal (landfilling and combustion). This technical background has served as a basis for selecting elements of the Integrated Solid Waste Management Plan (the "Plan") for the Omaha-Council Bluffs Metropolitan Area Planning Agency ("MAPA") solid waste planning Region (the "Region") including Douglas, Sarpy, Washington and Cass Counties, Nebraska, and Pottawattamie County, Iowa.

In solid waste management policy, diversion is the mechanism chosen to move a community along the gradient of the solid waste processing spectrum illustrated in Figure 1 from the status quo, in which a community is predominantly dependent on final disposal, towards the other end of the spectrum which reduces dependence on final disposal. The spectrum indicates, however, that no matter what level of diversion is achieved (with its resultant reduction in final disposal), materials are ultimately degraded to the extent that their economic utility no longer justifies use-oriented as opposed to disposal-oriented management considerations, particularly with regard to paper and plastic. Therefore, the solid waste management system can approach but never attain complete independence from final disposal.

1.2 Technologies

A comprehensive integrated solid waste management system for the Region will include source reduction, recycling, composting, landfilling and combustion. Each of these elements may be present in an integrated, balanced system. Several alternative programs and processes are available within each of the system element categories. Support systems including collection, transfer and storage may be necessary for these various programs and processes. In later phases of the plan development, specific programs will be defined for the Region for diversion and final disposal. This report will describe and evaluate the program elements or building blocks that are available for diversion through source reduction, recycling and composting for synthesis into a comprehensive integrated solid

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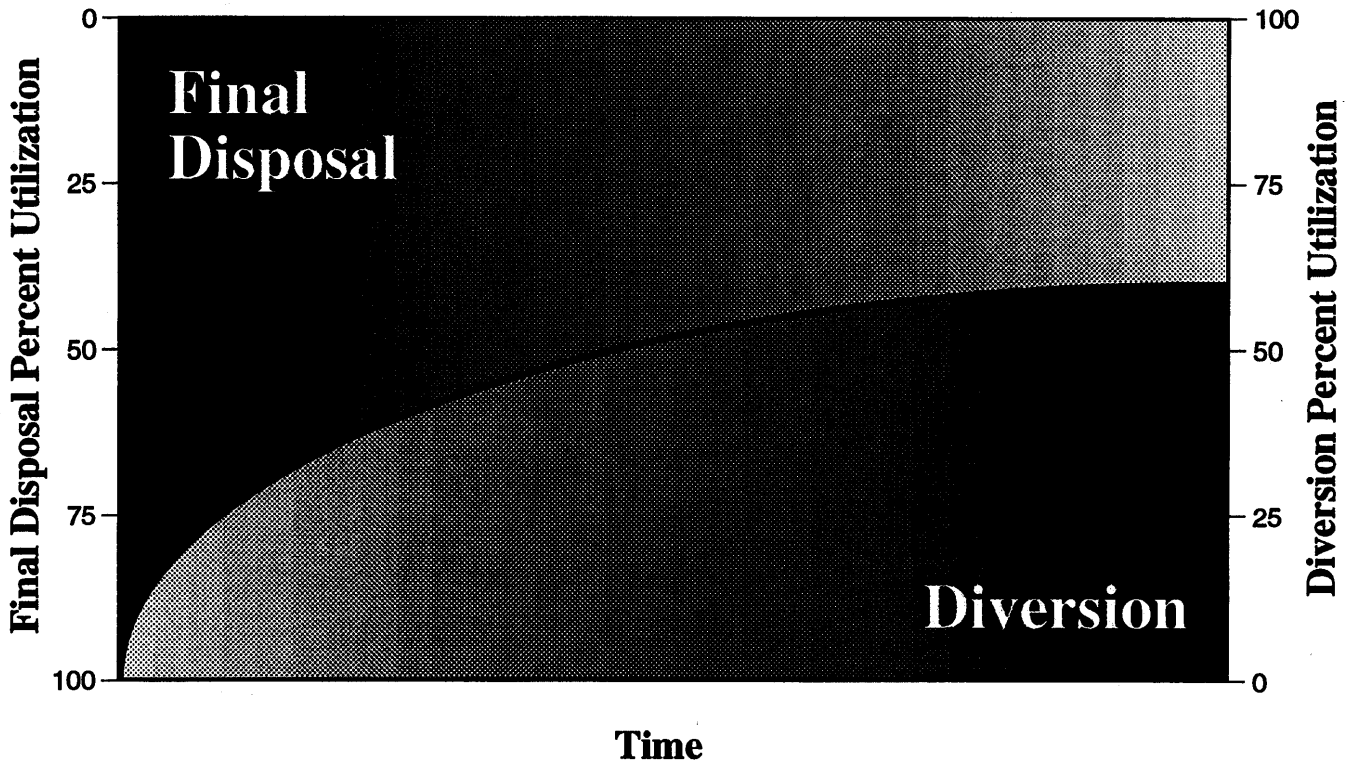

Figure 1

Solid Waste Management Integration Spectrum

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waste management system. Each of these components is described and evaluated in the sections that follow.

1.2.1 Source Reduction

Source reduction reduces the amount of material entering the solid waste stream. Programs and processes are divided into three basic categories:

- Economic Incentives and Legislative Strategies
  - variable rate structures
  - lotteries
  - procurement policies
  - tax incentives
  - loans and grants
  - business waste audits
  - container deposit legislation
  - packaging restrictions
- Education and Awareness Programs
  - local governments
  - Clean Community system of Keep America Beautiful
  - County Cooperative Extension Services
- Reuse of Separated Materials
  - backyard mulching and composting
  - food waste reuse
  - reuse through charitable organizations
  - internal reuse
  - waste exchanges

1.2.2 Recycling

Recycling recovers reusable materials and reuses them as a manufacturing feedstock resource. Alternative programs are available for both collection and processing of recyclable materials:

- Residential Recyclable Material Collection
  - source separated collection
  - curb sort collection
  - commingled collection
  - combined collection
  - multi-material drop-off sites and buy-back centers

- Yard Waste Composting
- Commercial Recycling
  - office paper collection
  - commercial waste sorting
- Material Processing
  - mixed waste processing
  - mixed waste composting
  - construction and demolition waste processing
  - multi-purpose processing centers
- Special Materials Programs
  - household hazardous wastes
  - tires
  - bulky wastes
  - ash residue utilization

SECTION 2.0

SOURCE REDUCTION

2.1 Introduction

Source reduction is a decrease in the amount of material entering the solid waste stream. Source reduction can be accomplished through the design and manufacture of products to minimize packaging, to provide a longer useful life, and to reduce use of potentially hazardous materials. It may also be practiced by consumers through selective buying habits and reuse of products and materials. Effective source reduction slows the depletion of environmental resources, prolongs the life of available waste management capacity and can make landfilling and combustion of wastes safer by removing certain materials. Source reduction does not change the way waste is handled; rather, it reduces the amount of the waste which is handled. Local government can encourage as well as practice source reduction.

Source reduction activities are divided into three categories: economic incentives and legislative strategies; education and awareness; and, reuse of separated materials.

2.2 Economic Incentives and Legislative Strategies

2.2.1 Variable Rate Structures

Variable rate structures are probably the single most effective means of reducing waste at the source. With variable rate structures, waste collection and disposal rates are designed to penalize larger waste generation. Agencies authorized to set collection fees adopt an incremental rate structure. Each increment of increased collection or disposal service is charged in such a manner that the waste generator is encouraged to reduce the quantity of material being disposed.

Variable rate structures are in place in many U.S. communities. Examples of some of these communities are presented in Table 1. The vast majority of these communities, however, use variable rate structures to allocate fair waste collection costs rather than as a source reduction strategy. Only a handful of communities have provided a variable rate structure to penalize waste generation. Several communities have placed a high surcharge on the second can collected weekly at households as a method of financing recycling programs.

This program is attractive to some because it places a greater financial burden on those creating the solid waste disposal problem. It is felt that the incremental cost of waste generation will encourage residents and businesses to engage in recycling and source reduction activities.

Participating businesses benefit through reduced disposal costs and potential revenues from the sale of recovered materials. Close examination of operating practices through the audit process may uncover additional operating adjustments resulting in efficiency improvements or potential pollution prevention.

Model programs are patterned after energy conservation programs. The audit may be self-administered or a trained solid waste auditor from the agency's solid waste program will provide the audit. Programs which have dedicated coordinators within the business, focus on real costs of disposal and develop strong market systems have proven successful. This requires good up-front education and considerable follow-up attention.

2.2.7 Container Deposit Legislation

Container deposit legislation focuses on the beverage container component of municipal solid waste ("MSW") by placing a redeemable deposit on beverage containers. Container deposit legislation is enacted to reduce litter and to reduce the volume of solid waste disposed in landfills.

States and local jurisdictions have passed container deposit legislation. Studies in several states conclude that container deposit legislation is an effective means of reducing the amount of beverage containers needing disposal and in promoting recycling by providing an incentive to return the containers instead of throwing them in the trash or littering. After New York State passed its deposit law in 1982, beverage containers in landfills decreased by 73 percent; resulting in approximately 8 percent reduction in the total waste stream. Other studies have shown that roadside litter, the primary target of deposit laws, has been reduced between 30 to 50 percent as a result of the laws. Table 3 describes characteristics of beverage container deposit laws in the nine states.

Container deposit legislation requires a considerable management organization to establish and maintain the program. Strong resistance has been experienced from local beverage retailers and grocers. Care must be taken in establishing which containers will be targeted. Certain markets have been glutted by programs that recovered containers for which no market or limited markets existed. In addition, these programs may reduce revenues of traditional recycling programs by removing aluminum cans, often their main source of revenue.

2.2.8 Packaging Restrictions

Packaging represents as much as one-third of the MSW in some communities. Legislative efforts to impose packaging restrictions seek to reduce the amount of packaging wastes and force the manufacturer to take responsibility for the quantity and recyclability of the packaging.

Table 3
Beverage Container Deposit Laws

State	Date Implemented	Deposit Amount	Containers Included	Handling Fee	Redemption Rates	Reduction in Bottle Litter	Reduction in Total Litter
Oregon	10/72	5¢, 2¢ on interchangeable stubby bottle	Beer, malt, carbonated and mineral water, soft drinks	None	92-97%	83%	47%
Vermont	7/73	5¢ beer and soda, 15¢ for liquor>50 ml	Beer, malt, mineral and soda water, liquor, soft drinks	3¢	85%	76%	35%
Maine	1/78	5¢ beer and soda, 15¢ for wine and liquor	Beer, soda, wine, wine coolers, liquor, juice	3¢	95%	86%	40%
Michigan	12/78	10¢	Beer, soft drinks, canned cocktails	25% of escheat monies	92-93%	80%	41%
Iowa	7/79	5¢	Beer, soft drinks, wine, liquor	1¢	95% aluminum 85% glass	79%	61%
Connecticut	1/80	5¢	Beer, soft drinks, carbonated and mineral water	Beer, 1.5¢ Soda, 2¢	88% cans 94% bottles	NA	NA
Delaware	6/82	5¢	All non-aluminum less than 2 qts., beer, malt, soft drinks, soda and mineral water	20% of deposit	NA	NA	NA
Massachusetts	1/83	5¢	Beer, soft drinks, all carbonated beverages	2¢	85%	NA	30-35%
New York	7/83	5¢	Beer, soft drinks, carbonated and mineral water	1.5¢	63% soda 80% beer	NA	NA

Source: "Bottle Bill: Litter Control Measure in a New Role?", Solid Waste & Power, February 1991.

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Legislative efforts to reduce waste quantities have focused on reducing the amount of non-recyclable packaging in the waste stream, as opposed to reducing the quantity of waste generated. As a result, packaging restrictions have been most often proposed for plastic and multi-material packaging such as aseptic juice boxes. The purpose of restrictions on non-recyclable packaging is to reduce wastes destined for disposal. But while one component of the waste stream is eliminated in order to meet a specific need, another product often appears in its place. Examples of cities where packaging legislation has been adopted are Los Angeles and Berkeley, California, Portland, Oregon and Minneapolis, Minnesota. These cities have instituted packaging bans on the use of specific materials, including polystyrene plastics such as the hamburger clam-shell. In addition, several states (Florida, Louisiana, Maine, Michigan and North Carolina) have passed laws banning certain types of materials such as detachable pull rings, six-pack yokes, and other nonbiodegradable plastic packaging. Table 4 presents a description of packaging material bans implemented by a few communities.

Table 4
Packaging Restrictions

Location	Description	Result
Berkeley, California	Bans plastic foam food containers made with chlorofluorocarbons (CFC's) - Phase I.	Full compliance achieved. Phase II, providing a ban on all styrofoam containers, also implemented and fully effective.
Suffolk County, New York	Bans polystyrene foam food containers.	Authority to ban product upheld by courts. Ban is unenforceable until full environmental impact statement has been completed. Appeal to this stipulation has been filed. Current status: ban is in effect, but is not enforced at this time.
Glen Cove, New York	Similar bans to Suffolk County, NY. Also bans PVC plastic bags.	No opposition to regulation was incurred. Full compliance by local restaurants and supermarkets.

Packaging restrictions are generally perceived by industry and others as excessive government regulation that restrains commerce. The potential for waste reduction is limited since these programs target only one type of non-recyclable waste.

This type of legislation can also be modified to include bans on the disposal of certain materials that are to be recycled or composted. Disposal bans can encourage recycling but require available markets for the banned materials or suitable disposal alternatives. These bans can be applied to a range of materials as shown in Table 5.

2.3 Education and Awareness

Education and awareness programs need to focus on long-term, sustainable changes in behavior. Local governments, the Clean Community systems of Keep America Beautiful and the County Cooperative Extension Service can inform residents and businesses about waste reduction and recycling opportunities. This can take the form of educational efforts designed to increase public awareness about waste management issues. Waste reduction and recycling promotion campaigns are similar to other public awareness projects. Promotional

Table 5
Disposal Bans

State	Lead-acid Batteries	Yard Waste	Unprocessed Tires	Used Oil	Large Appliances	Other
California	X					
Connecticut	X	XA		X		B
D.C.		X				
Florida	X	X	X	X	X	C
Georgia	X					
Hawaii	X					
Illinois	X	X				
Iowa	X	X	X	X	X	D
Kansas			X			
Kentucky	X					
Louisiana	X		X	X	X	
Maine	X					
Massachusetts	X	X	X	X	X	G
Michigan	X					
Minnesota	X	X	X	X	X	E
Missouri	X	X	X	X	X	
Nebraska	X	X	X	X	X	F
North Carolina	X	X	X	X	X	
New Hampshire	X					
New Jersey	X	XA				
New York	X	X				
Ohio	X	X	X			
Oklahoma			X			
Oregon	X		X			G
Pennsylvania	X	XA	X			
Rhode Island			X		X	
Virginia	X					
Washington	X					
Wisconsin	X	X	X	X	X	H
Wyoming	X					

Codes:
A. Yard waste disposal bans only apply to leaves.
B. Nickel-cadmium batteries.
C. Construction and demolition debris.
D. Nondegradable grocery bags; beverage containers returned to wholesalers through the state's mandatory deposit law.
E. Dry cell batteries that contain mercuric oxide or silver oxide electrodes, nickel-cadmium or sealed lead-acid. Mixed unprocessed waste in metro area.
F. Unregulated hazardous wastes, except household hazardous wastes.
G. Recyclable material that has already been separated.
H. Aluminum, plastic, steel and glass containers, corrugated paper and paper board, foam polystyrene packaging, magazines, newspaper and office paper are banned from disposal unless municipalities are certified as having an "effective" source separating program.

Source: "Recycling in the States," National Solid Waste Management Associates, 1990.

and educational materials must be developed and distributed and program monitoring and evaluation must occur.

Successful programs have been implemented in many communities. These have included comprehensive, multi-media education efforts (TV, radio, billboards, mass-transit reader boards, static informational displays, etc.), school assembly and classroom presentations and contests, information hotlines and "how-to" brochures, and workshops and service organization presentations.

Making citizens aware of waste reduction and recycling opportunities can have several rewards. On the community level, participation in recycling programs may increase. At the personal level, an increase in public awareness about waste management issues is thought to aid the decision-making process underway in many communities regarding solutions to a local solid waste management crisis.

Promotion and education efforts are ineffective if a viable, multi-faceted recycling network is not in place in the community. The impact of public awareness activities on direct waste reduction is often difficult to assess.

2.4 Reuse of Separated Materials

2.4.1 Backyard Mulching and Composting

Yard wastes including leaves, grass clippings and prunings can be converted into a humus-like product through composting. Many communities have launched programs whereby residents are provided information about how to compost yard wastes and reuse the material in their own yards.

Successful programs are being implemented in a growing number of communities. Some have trained "Master Composter" volunteers to provide presentations and demonstrations to interested individuals and organizations. A demonstration site and "how-to" brochures assist the speaker's bureau effort. Many other communities use a theme of "Don't Bag It" or "Let It Be" to encourage homeowners to leave yard waste on their lots and not bag it for disposal. Table 6 briefly describes a few of these programs. A number of manufacturers now make "recycler" or mulching lawn mowers to encourage home owners to leave grass clippings on the lawn.

In most communities, removal of yard waste is the waste reduction activity with the single largest potential for reducing quantities to be collected and disposed. Through backyard composting activities, collection and disposal requirements are minimized and seasonal impacts significantly reduced.

Improperly maintained backyard compost activities can create nuisance odors. Adding food wastes can also attract vermin. On small lots, residents may not have sufficient space for the composting activity or adequate demand for the resulting product.

Table 21
Resource Recovery Potential for Various Programs and Technologies

Option	Impact on Waste Stream % Reduction	Recovered Products	Factors Affecting Waste Reduction
Source Reduction	2-10%	none	• level of education effort • level of community support/interest • level of participation by commercial and industrial sector • cost of waste disposal
Recycling and Recycling with an IPC or MRF	5-25%	aluminum, glass, paper, ferrous, nonferrous, metals, plastic	• level of education effort • level of community support/interest • curbside or drop-off programs • frequency of collection • number of materials targeted • separation requirements • level of participation by commercial and industrial sector • available material markets • availability of an IPC/MRF
Yard Waste Composting	2-10%(1)	compost	• level of public education • level of community support/interest • materials targeted for composting • market or use for compost
Mixed MSW Composting	50-60%	compost	• facility capacity • available compost markets • technology used and source separation system

Notes:
(1) Assumes 2-5% is already reduced by source reduction through backyard composting and "Don't Bag It" programs.

For material recycling and composting programs, the ability to recover materials from the waste stream is self-evident. It is, however, necessary that some form of market be available for the recovered materials or compost. Otherwise, the source-separated materials will have to be landfilled or combusted. While source reduction programs do not recover materials, there can be significant resource and energy conservation results through more efficient use of materials.

4.3 Economic Evaluation

The diversion activities presented above consist of a variety of program components. Costs for each of these may include capital costs, operational and maintenance costs, and administrative costs. Table 22 presents cost ranges for the various diversion activities. Costs of similar existing systems have been used as a basis for the cost ranges selected. Actual costs of the selected system may, however, vary substantially. Many variables determine the costs of a management system. These include land costs, architectural treatment of facilities,

site improvements, type of financing, labor agreements, market agreements, size of facilities, transportation requirements and many more. Due to the uncertainty of future materials markets, no income is assumed from the sale of recovered materials net of shipping costs.

Table 22
Estimated Diversion Program Cost Ranges[1]

	1994 $/ton
Source Reduction Activities	$10-20
Curbside Collection/Processing[2]	
Collection	100-160
Processing	30-70
Total	$130-230
Yard Waste Collection/Processing	
Collection	45-65
Processing	17-30
Total	$62-95
Mixed Paper/Vegetative Food Waste Composting	
Collection	40-60
Processing	50-75
Total	$90-135
HHW[3]	
Collection and Processing	700-1,200
Transportation and Disposal	1,000-2,000
Total	$1,700-3,200
Used Motor Oil, Household Batteries	$35-55
Commercial Select Load	
Collection	45-70
Processing	50-75
Total	$95-145
Commercial and C/D Collection/Processing	
Collection	40-60
Processing	50-75
Total	$90-135

Notes:
(1) Includes capital costs and operation and maintenance costs. Does not include administrative costs.
(2) Source: "The Cost of Recycling at the Curb", by Chaz Miller, Waste Age, October, 1993.
(3) Source: Household Hazardous Waste Collection Program Feasibility Study, for the Milwaukee County Intergovernmental Cooperation Council, Waukesha County and Germantown, WI, by HDR, October, 1993.

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Appendix B4

Technical Memorandum TM-4 – Energy Recovery – Program Options Assessment

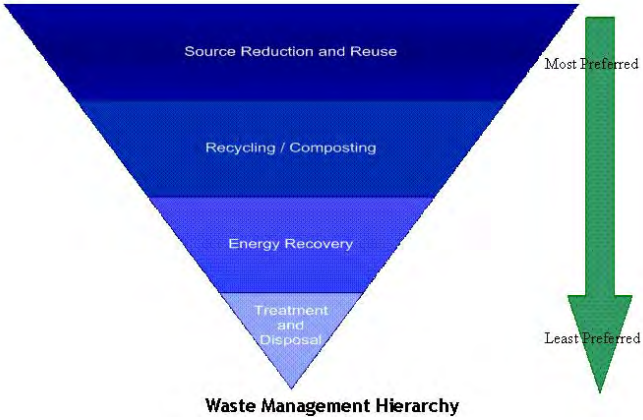
Technical Memorandum

To:	Metropolitan Area Planning Agency		
From:	HDR Engineering, Inc.	Project:	Solid Waste Management Plan
CC:			
Date:	December 2011	Job No:	HDR -169533

Re: TM- 4 – Energy Recovery - Program Options Assessment

The USEPA recommends a hierarchical approach to MSW management is composed of: source reduction and reuse; recycling/composting; energy recovery; and treatment and disposal (landfilling). The hierarchy favors source reduction and reuse to reduce the volume and toxicity of waste and to increase the useful life of manufactured products. Recycling/composting, is the next preferred waste management approach to divert waste from landfills and combustors. The third tier of the hierarchy consists of energy recovery (combustion/thermal conversion). Combustion is used to reduce the volume of waste being disposed and to recover energy from this process.

EPA states that "an integrated waste management system considers fluctuating recycling markets, energy potential, and long-term landfill cost and capacity to make a waste management strategy that is sustainable…. What is economically preferable one year is not always environmentally preferable in the long run. However, by following the hierarchy of environmental preference, communities can ensure their economic decisions regarding MSW [municipal solid waste] management are environmentally sound as well… community decisions are based both on environmental and economic factors.



(http://www.epa.gov/wastes/nonhaz/municipal/wte/nonhaz.htm - Retrieved 10/25/2011).

Separate technical memoranda address current waste reduction and recycling programs as well as program funding; this technical memorandum provides an overview of further waste reduction through a variety of energy recovery techniques/technologies and key variables required to implement such systems.

In addition to energy recovery, there are several arguments for waste to energy alternatives, including reducing the biologically active waste to an inert material. A further argument for waste to energy is that once materials have reached a state when physical reuse and technical recovery are no longer (technically or economically) viable that the remaining energy and metals resources should be recovered prior to disposal (thus this technology is also sometimes referred to as resource recovery). Lastly, approximately 60 percent of MSW is biogenic material which is

considered GHG neutral, so the energy recovered can be used to offset fossil fuel impacts on the environment.

Introduction

The Needs Assessment (HDR 2011) establishes the baseline of solid waste quantities managed by landfilling in the Planning Area. Of the Planning Area MSW managed, approximately 592,000 tons are disposed in the Douglas and Sarpy County landfills in 2010. The quantities of MSW available for disposal through physical and/or chemical processes, such as combustion, would depend upon numerous factors, as noted below, as well as continued efforts to reduce, reuse, recycle and compost. Increased reduction, reuse and recycling efforts in the future could further reduce these quantities.

The 1994 Integrated Solid Waste Management Plan (ISWMP) included an evaluation of combustion alternatives in Appendix D3: Final Disposal Alternatives. As part of the 1994 ISWMP, a goal was also established, relative to combustion to: "Monitor the steam and/or electricity market opportunities for potential long-term (20+ years) development" (Goal O14-1). As part of the 2012 ISWMP Update, these goals were reviewed and that goal has been reaffirmed. As such the focus of this memorandum is to provide a general summary of current technologies and to further identify key factors that would need to be considered to make such a technological approach viable.

Technologies

Potential energy recovery technologies span a wide range of developmental progress. The technologies range from those that have been successfully demonstrated at various scales of operation to those in development but yet to be successfully and/or economically demonstrated on a commercial scale. Energy recovery technologies in 2011 can generally be categorization as "demonstrated" or "developing". Demonstrated technologies include are those have been reliably operating for at least five years on MSW at a scale similar to what would be required for the Planning Area. Because some of these technologies are in operation only in overseas locations, differences in how waste management systems are funded (subsidized) in the United States may limit the application opportunities of these technologies in the US.

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

Economic Considerations

To what extent the energy generated from a waste to energy facility will be classified as "green" or "renewable" is uncertain as of the writing of this memorandum. If classified as a renewable energy source, it would likely see a favorable increase in the economics of a facility. In addition, whether and/or how CO2 emissions are regulated will also affect the viability and cost effectiveness of a facility. These issues are being debated by Congress. Because a waste to energy facility is a "dispatchable" power source as compared to some other intermittent renewable sources such as solar or wind, there is some additional benefit to a utility. It is likely that once an "Energy Bill" becomes law the economics of waste to energy will need to be re-evaluated. While the economic feasibility is a function of a wide range of variables, it is not unreasonable to estimate that such

facilities would have an equivalent tipping fee of $75 to $125 per ton, as compared to current landfill rates of $24.20 per ton (November 2011 Pheasant Point tipping fee). The cost per ton will be heavily influenced by the sale price for the recovered energy (steam or electricity).

Key Implementation Factors

To be successful in implementing a solid waste management system or key technical component such as a waste to energy facility, the following six key factors need to be considered and addressed:

1. The Need for such a system or facility
2. A reliable Waste Supply
3. An approvable Site
4. Financial Assurance or Commitment
5. A Driving Force or Project Sponsor
6. An Energy Market

Each of these is briefly described below:

Need

The Needs Assessment establishes the baseline of solid waste quantities managed in the Planning Area and the availability of alternate management facilities. The currently permitted Pheasant Point landfill is estimated to have a remaining life of approximately 93 years (e.g. 2104). As such, the Planning Area is not in immediate need for a waste to energy facility - strictly for waste disposal, during the planning period.

Waste Supply

The waste supply available to a waste to energy facility might be assumed to be that quantity, which is currently disposed of in the Planning Area landfill. However, the waste that currently arrives at the landfill is a result of contract and free market waste collection practices, as well as favorable economics in disposal option. The Sarpy County transfer station agreement gives the owner/operator the right to select the disposal location (which is defined by this agreement as a landfill). Beyond the relationship between the City of Omaha and Douglas County, there are no ordinances or agreements with adjacent units of government or waste haulers that would obligate the delivery of waste to a facility (landfill or waste to energy) in Douglas County. Because of the anticipated higher costs per ton for use of a waste to energy facility, such a facility would be at a competitive disadvantage on a free market basis with current and regional landfill facilities. This would mean that to secure an adequate quantity of waste to ensure full utilization of the waste to energy facility (and thus generate the revenues required to pay debt and operating costs) some means of waste flow control would be required to direct the waste to the facility.

The solid waste industry uses the term “flow control” to refer to a variety of mechanisms that might be used to require waste to be directed to a specific facility. Flow control may be contractual, statutory or economic. Contractual flow control may include such techniques as a contract between a disposal site and waste hauler or between a disposal site and a unit of government that can direct waste to the facility, such as a city, subdivision or business. Statutory flow control may exist in ordinances and may be tied to licensing, franchises or other agreements between a waste hauler and a generating body. Economic flow control involves pricing or price incentives, such as discounts, to make the facility attractive to the waste hauler and competitive with other disposal

options. Currently, such flow control mechanisms are not used within the Planning Area and development of such mechanisms may require a review of the authority to undertake such mechanisms and changes in law.

Site

To implement any solid waste management system, it is necessary to have a site. A site would need to have reasonable access to roads to provide access to waste delivery vehicles. Adequate utilities would also be required for export of generated power. To be viable the site would need to be able to obtain all required permits including local zoning (compatibly land use determination), solid waste disposal, air emissions and others. Much like landfills, siting/permitting a waste to energy facility can be contentious and as such gaining approval may be a major factor in implementation. If a local energy market were to be established they may have locational needs that dictate the most appropriate location for such a facility.

Financial Assurance or Commitment

To be financially viable, a solid waste management facility in a free-market environment must generally have the lowest net costs (combined hauling and disposal), when compared to other competing alternatives (such as landfilling) in the region. A waste to energy facility does not have lower cost, so such a facility is not anticipated to compete favorably on a purely economics basis in a free market economy. As such, based on current economics, it is assumed that some combination of either subsidies or a means of flow control would be required. In addition to simply favorable economics, the financial institution or bond holders that would be a part of financing such a facility will want certain assurance that the debt would be repaid. If this cannot be established on a purely project based economics it would likely require a pledge of taxing authority and the full faith and credit of the local units of government. With such large financings, the members of the Planning Area would also need to assess how such a financial obligation might affect the community credit rating. If a market were to be developed for the sale of energy (with a local utility), the strength of this agreement would likely be considered favorably by the financing party(s); conversely a weak energy market agreement or uncertain revenue stream could increase the risk of debt repayment and might result in a higher interest rate (and resulting higher tipping fee) or a refusal to finance a project. If a local energy utility were to be established as an energy market, it may also be possible that they would consider participating in facility financing. The backing of a large utility would provide additional confidence to the financing entity and may help reduce interest rates.

Driving Force or Project Sponsor

Assuming the lack of a free market economic justification (driver) for a waste to energy facility, the driving force needs to be based on a belief in good environmental stewardship (resource conservation and recovery; long-term environmental protection (air and groundwater)). For example, a desire to limit land disposal of putrescible waste or a desire to recover energy from waste (rather than bury it) could be among the key drivers. Public opinion can also be a key driver. If the majority of the public supports such a facility and would agree to support the added costs, it would help drive the success of such a facility. Additionally, climate change concerns could be a driving force. Greenhouse gas (GHG) emissions are lower from a waste to energy facility when compared to a landfill with energy recovery and a fossil fuel power plant. For a given quantity of

solid waste, a landfill with energy recovery and a coal fired power plant produce three times more GHG than a waste to energy facility when measured in Metric Ton Carbon Equivalents.

Implementing a waste to energy facility is complex and typically involves a combination of social, political, economic, environmental and technical matters. The phrase “not in my backyard” has become synonymous with opposition to such siting efforts, and the media and public often feed on the stories of those deemed “unfortunate” because the candidate site for such a facility is in their neighborhood. Opposition to a new solid waste disposal site is often strongest by those neighbors in the immediate vicinity of the site. Unless the appropriate people in the community act as a driving force or sponsor for a site and the waste to energy technology, implementing a waste to energy facility may not be possible.

Energy Market

For a waste to energy facility to be economically viable, the recovered energy must be sold. The price received significantly influences the cost per ton of disposal that the facility must charge to cover debt and operating costs. As noted above, to make financing such a facility possible the energy market must generally enter into a long-term purchase agreement and all parties must be confident that this market will remain economically viable for the duration of the bond financing. For this reason, most waste to energy facilities have targeted sale of power, in the form of electricity, to local utility companies. Not only are such utility companies considered secure long-term markets, but they have a 24-hour per day, 7-day per week demand for energy and as such match up well with the typical power production from a waste to energy facility.

At this time there are no mandated carbon emission caps, requiring states to adopt renewable energy portfolios or achieve minimum levels of power generation from renewable sources. If such laws are enacted in the future, there may be incentives for utilities to partner with the members of the Planning Area on a waste to energy facility. The final congressional actions on these issues may also become a driver to establishment of a viable economic waste to energy project.

Implementation Issues

The decision of whether to implement a waste to energy facility is beyond the scope of this memorandum. However, if implementation is eventually selected, the following list of major implementation actions has been developed to facilitate the refinement of future planning, scheduling, and implementation and procurement strategies.

- Secure a commitment from a long-term viable energy market.
- Secure a long-term supply and control of waste.
- Refine or confirm the sizing analysis, technology selection and basis of design.
- Identify the siting, permitting and approval processes and timeline for critical approvals.
- Determine the site location to be utilized and confirm that it can be permitted at all levels of required approval.
- Identify site-specific environmental considerations (such as neighbor concerns) and establish reasonable mitigation strategies.
- Identify any auxiliary facilities required and any space set-asides for expansion or future management functions.

- Identify the system implementation strategy related to procurement, ownership, operation, residuals haul and disposal.
- Identify all road improvements, utility locations and fire protection requirements and refine the strategy for providing such infrastructure.
- Re-assess project economics to confirm that all key assumptions remain valid at all key implementation milestones.

Appendix B5

Technical Memorandum TM-5 – Public Education and Policy Initiatives

Technical Memorandum

To:	Metropolitan Area Planning Agency		
From:	HDR Engineering, Inc.	Project:	Solid Waste Management Plan
CC:			
Date:	December 2011	Job No:	HDR -169533

Re: TM - 5 – Public Education and Policy Initiatives

The implementation of the goals and objectives established in the MAPA Integrated Solid Waste Management Plan (ISWMP) are anticipated to require various actions, including increased public education and policy changes. Policies are intended to encompass a wide range of rules that guide decisions and dictate certain outcomes and may be applied or adopted by governing organizations. Such policies may serve to guide or assist in evaluating options or may dictate actions. As used in this technical memorandum, policy initiatives may also refer to decisions to change rules and laws, which would then lead to changes in outcomes.

As part of the 2012 ISWMP Update, the goals and objectives established in the 1994 ISWMP have been updated to reflect current conditions, and goals and objectives beyond 2012. The purpose of this memorandum is to provide an overview of various options and actions related to public education and to identify policy initiatives that may be necessary to achieve the goals and objectives identified in the 2012 ISWMP Update. Separate technical memoranda address related matters, including the following, and should be referenced for additional information:

TM – 1 Program Funding

TM – 2 Waste Tracking

TM – 3 Zero Waste and Waste Minimization

As a general note to the following discussions, it is important to recognize that to implement the options, programs and actions discussed below, it will be necessary to establish mechanisms to assure full funding and support for such programs and policy initiatives, which may include providing appropriate staff to undertake the selected initiatives.

Introduction

The Planning Area has a fairly well developed array of solid waste management facilities and programs that have evolved since the 1994 ISWMP. As such, much of the focus of the 2012 ISWMP Update is to enhance existing programs designed to increase waste diversion, allow for better tracking of existing activities and provide sustainable funding for existing and possibly future programs. The following section provides a synopsis of the select goals and objectives relative to public education and policy initiatives that are anticipated to be included in the 2012 ISWMP Update. These goals and objectives have generally been grouped into Public Education and Policy Initiatives. Although many of the goals and objectives address specific, individual components of the integrated solid waste management plan (e.g., source reduction, recycling, composting, special

wastes, landfilling, etc.), these goals and objectives will likely be implemented as part of a comprehensive approach. For example, even though objectives are listed and described separately for various educational programs enhancement, public education programs would likely focus on all aspects selected for incorporation into the ISWMP. It is also important to recognize that various Planning Area members may take different approaches to implementation based on existing programs, policies, funding, and other considerations.

Public Education – Goals and Objectives

In general, the ISWMP Update is a roadmap and guidance document for viable public education programs but does not dictate specific methods. As such, the mechanisms adopted to achieve various goals will need to be developed individually or collectively by the Planning Area members. Key goals and objectives related to public education include the following:

- Establish and maintain community education programs to inform the community on the Plan and the available waste management programs.
- Utilize existing and available resources and web-based linkages to enhance communication of common solid waste management needs and possible solutions.
- Enhance the community education programs in the Planning Area to encourage waste reduction by residential, commercial, industrial and institutional solid waste generators.
- Enhance the community education programs in the Planning Area to encourage the reduction in use of potentially toxic materials.
- Enhance existing community education programs in the Planning Area to encourage the recovery and recycling of marketable materials by residential, commercial, industrial and institutional solid waste generators.
- Support community education programs to encourage diversion of the organic portion of the solid waste stream through residential and commercial composting activities.
- Utilize public education programs to encourage reduction in the quantity of yard waste requiring collection and management through “Don’t Bag It“, “Let it Be” or similar programs.
- Create public education guidance documents to enhance current educational programs, which encourage and educate the public on environmentally sound backyard composting practices, including composting of yard waste, food waste and other potentially putrescible materials.
- Evaluate enhanced community education programs to encourage separation of potentially hazardous and difficult to manage materials in the residential, commercial, industrial and institutional solid waste streams.
- Encourage the use of substitute products (e.g., less toxic material, multi-use containers) and provide guidance on recycling and the proper disposal options available.
- Support privately sponsored programs for the reuse, recycling or diversion of special wastes and/or other wastes through information website(s), information clearinghouse(s) or association with existing or new waste exchange(s).

As discussed in more detail below, the establishment, utilization, support and enhancement of public education programs are generally targeted at waste reduction/diversion or reduced toxicity. Additionally, the realization of many of these goals and objectives will require policy initiatives,

decision, regulatory changes, funding mechanisms and other actions to ultimately implement changes and program enhancements.

Policy Initiatives – Goals and Objectives

As noted above, the ISWMP Update provides a roadmap and guidance document but does not dictate specific methods. Viable options have been or will be identified, but final selection of policy initiatives are left up to the individual Planning Area members. Key goals and objectives related to policies and program initiatives include the following:

- Continue to pursue source reduction, recycling and composting programs to meet the waste diversion goals in the Nebraska Integrated Solid Waste Management Act (Nebr. Rev. Statutes Chapter 13, Sections 13-2001 to 13-2043).
- Based on subsequent evaluation, select solid management facilities or programs that are economically viable; that is, provide a level of environmental benefits with sustainable funding mechanisms and that are affordable to the communities served.
- Look for regional opportunities for units of government to cooperatively provide solid management facilities or programs for the various Planning Area members.
- Evaluate appropriate regulations or organizational structures to allow units of government to better regulate and control imports and exports of solid waste from the Planning Area so as to capture and utilize the resource value of solid waste to provide sustainable, integrated, resource conservation and management systems.
- Pursue legislative changes to allow individual waste generators to be charged for the cost of programs and services provided in a manner that allow waste generators to see the value of conservation, reduction, management costs and outcomes.
- Evaluate funding mechanisms whereby the public pays for the level of service that they use in order to encourage more responsible waste management practices.
- Evaluate changes to purchasing policies, building codes and material purchase specifications used in Planning Area governmental procurement programs to encourage waste reduction, recycling and the use of recycled materials in an environmentally sound manner.
- Evaluate changes to purchasing policies, building codes and material purchase specifications used in Planning Area governmental procurement programs to encourage the use of compost products in an environmentally sound manner.
- Establish transfer station and processing facility zoning, construction and operations regulations that would be applicable to facilities sited in the Planning Area to improve transportation efficiency and reduce the environmental impacts of these facilities.
- Establish transfer station and processing facility regulations related to monitoring and reporting to ensure waste and recyclable materials are managed in an environmentally sound manner and to evaluate the sustainability of such facilities.
- Establish transfer station and processing facility zoning and permitting requirements that require applicants to demonstrate that such facilities are necessary and are consistent with Planning Area goals and program requirements to maintain sustainable programs.

As discussed in more detail below, the pursuit, establishment and implementation of laws, policies and related initiatives will be up to the Planning Area members, either individually or collectively. Such actions will be necessary to support public education efforts, regulatory changes, funding mechanisms and other actions necessary to ultimately implement changes and program enhancements identified in the ISWMP Update.

Existing Public Education Programs

Diversion practices (e.g., source reduction, recycling and composting) in the Planning Area are currently encouraged through limited public education and awareness programs. Public education can be provided in a passive (information available on request) and/or active (public outreach) manner. Source reduction and diversion education also occurs through both individual public and private efforts. Public education is (or can be) a key tool in supporting proper management of wastes destined for disposal and encouraging diversion by providing a wide array of relevant information on existing program options, facility locations, rates, handling, management alternatives, and others.

The most comprehensive existing program, in support of source reduction, diversion and proper waste management efforts, in the Planning Area is provided by the City of Omaha. The City of Omaha provides information and techniques through its *Wasteline* newsletter and an Internet website www.wasteline.org; additional web-based information is provided via the City's UnderTheSink website (www.underthesink.org). These sources provide information regarding solid waste programs and solid waste management services, facilities, and diversion programs available to Omaha residents. Some of these programs/services also extend to the residents of Douglas and Sarpy Counties. Citizens can find information on collections, drop-offs, recycling and composting programs and facilities, and searchable links to other reuse and diversion options. Alternatives to disposal, for management of household hazardous wastes and special wastes (for example, batteries, oil and electronic waste), can also identified through these websites. The City's websites includes a list of some of the private diversion opportunities inside as well as outside the Planning Area. The City distributes its *Wasteline* newsletter regularly to all households in the Omaha Area, typically several times per year. The City is also involved in limited outreach at one or more convention events per year.

The cities of Bellevue and Ralston, which have municipally managed franchise collection programs, also have websites that provide information on available services, service rules and guidelines, schedules, specifications, and materials handled.

The Douglas and Sarpy Counties' websites provide information on services available at County landfills, landfill rates, special events, information on waste disposal restrictions, and reference other websites for information such as UnderTheSink and Wasteline (link only from Douglas County). WasteCap of Nebraska (www.wastecapne.org) also provides state-wide information on the potential reduce or reuse opportunities for citizens, but is not directly linked in the County websites.

Public Education Programs, Tools and Technologies Options

A wide array of programs, tools and technologies fall within the viable passive and active mechanisms for public education. Examples may include the following:

- Websites
- Social Media
- Email
- Newsletters/Articles
- Advertisement (e.g., bus stops, bus wraps, waste/ recycle bins, billboards, commercials/videos)

- Flyers and Brochures
- Announcements
- Presentations
- Training and outreach initiatives (such as K-12 programs)
- Activities (e.g., site visits, school projects, community challenges)

As all options have costs, consideration needs to be given to:

- Goals and costs versus effectiveness for the communications tool (e.g., answer questions, facilitate behavior change)
- What information should be or needs to be communicated
- Effectiveness in reaching target audiences
- Measurable participation or diversion results
- Who is funding the communications program or components of the program

Beyond the public education resources that exist or are in use within the Planning Area there are many resources and information available that could be used to enhance current communications tools.

There are wide ranges of program types that could be developed, but trying to identify all options is beyond the scope of this memorandum and would generally be decided and enhanced as part of a structured public outreach program. These may be implemented cooperatively on a Planning Area wide or multi-jurisdictional basis; these might also be applicable to individual counties and/or the cities within the Planning Area:

Planning Area Wide:

Assuming availability of funding, the following are options for public education initiatives that might be undertaken within the Planning Area on an area- wide basis:

- Launch a Planning Area wide public awareness campaign that encourages behavior changes related to the implementation of the initiatives in the Plan.
- Develop a Planning Area wide website that addresses all aspects of solid waste management. This may be a new site or built upon the existing sites (e.g., DOTComm) created by the City of Omaha, Douglas County or other communities.
- Fully fund and support a Source Reduction Leader (staff position) in order to aid in implementation of the Source Reduction and Recycling components of the Plan. The Source Reduction Leader responsibilities could include implementing program improvements, including the data collection and educational initiative identified in the Plan. This may include many of those listed above under the Plan's goals and objectives or those further listed below.
- Collaborate with local businesses that have existing resource conservation programs to further encourage public education and waste reduction through the model programs they have created; encourage others to view existing programs as models for their business.
- Provide expanded K-12 Education Programs including assistance in developing environmental stewardship curriculum, especially as it relates to solid waste management environmental protection, conservation and preservation of resource, reduction in energy and water usage, and reduction in air emissions. This may be build upon or use information currently available from Keep America Beautiful or other sources.
- Develop and expand educational outreach programs for residents and businesses on conservation, source reduction and recycling and the associated benefits. Specific

programs should be targeted separately at residential and commercial waste generators and recognize that each has its own special needs. Options that might be explored include potential partnerships with local organizations such as Keep Omaha Beautiful, WasteCap of Nebraska, Green Omaha Coalition, Omaha By Design, public service organizations, and through a comprehensive communications outreach program.

- Encourage innovation and ongoing improvements to community education programs that reflect a regional vision for conservation, environmental stewardship and waste reduction. Look for partnering opportunities with other organizations in the Planning Area (e.g., NRD, Extension Service, universities, utilities) to achieve these goals.
- Collaborate with organizations such as the Extension Services, NRD or other community organizations to offer training/classes on residential waste composting that can be done at individual residences.
- Support private waste reduction and recycling programs (e.g., charitable organizations and thrift stores), through web site and informational outreach programs targeting alternatives to waste disposal, to the extent they are not in conflict with the Plan's programs or goals.
- Expand educational outreach programs to residents and businesses through attendance and participation in conferences, public forums and local conventions. This might be accomplished in conjunction with existing programs or through a Source Reduction Leader, as noted above.
- Develop advertising campaigns to reach the public.
- Work with local waste haulers to advertise and promote waste reduction programs on diversion and proper management options.
- Work with local broadcast media to provide public service announcements.

Douglas County

Assuming availability of funding, the following are options for public education initiatives that might be undertaken within Douglas County. These may be implemented by the County or could be cooperatively implemented on multi-jurisdictional basis with communities within the County:

- Enhance the County's existing website with information on all aspects of integrated solid waste management, with emphasis on diversion options. This may initially target residential waste generators, with a goal of adding commercial diversion options.
- Provide literature and promotional information at County facilities and at the Pheasant Point Landfill on integrated solid waste management, with emphasis on diversion options.
- Provide educational placards at strategic points at the Pheasant Point Landfill and in County and in County facilities with a goal of increasing public awareness of resource conservation and environmental stewardship.
- Promote waste reduction as a part of other County environmental services outreach efforts. This might include structured presentations for various audiences on conservation, environmental stewardship and waste management alternatives.
- Provide outreach to County residents and businesses through brochures, newsletters (paper or email), social media, and a booth at the County fair with a goal of increasing public awareness of resource conservation and environmental stewardship.

- Encourage and participate in tours of the landfill, landfill gas and related management systems and extend invitation to interested stakeholders and educational groups throughout the County.

Sarpy County

Assuming availability of funding, the following are options for public education initiatives that might be undertaken within Sarpy County. Again, these may be implemented by the County or could be cooperatively implemented on multi-jurisdictional basis with communities within the County:

- Enhance the County's existing website with information on all aspects of integrated solid waste management, with emphasis on diversion options. This may initially target residential waste generators, with a goal of adding commercial diversion options.
- Provide literature and promotional information at County facilities and at the Sarpy County Landfill or Transfer Station on integrated solid waste management, with emphasis on diversion options.
- Provide educational placards at strategic points at the Sarpy County Landfill/Transfer Station and in County facilities with a goal of increasing public awareness of resource conservation and environmental stewardship.
- Promote waste reduction as a part of other County environmental services outreach efforts. This might include structured presentations for various audiences on conservation, environmental stewardship and waste management alternatives
- Provide outreach to County residents and businesses through brochures, newsletters (paper or email), social media, a booth at the County fair with a goal of increasing public awareness of resource conservation and environmental stewardship.
- Encourage and participate in tours of the landfill, transfer station and related management systems and extend invitation to interested stakeholders and educational groups throughout the County.

City of Omaha

Assuming availability of funding, the following are options for public education initiatives that might be undertaken by the City of Omaha. As noted above, these may also be implemented cooperatively on a multi-jurisdictional basis:

- Continue to maintain the City's websites and look for additional options to enhance available information on all aspects of integrated solid waste management, including diversion options. Enhancement may target adding commercial waste diversions options.
- Expand information on the City website related to organic waste composting that can be done at individual residences.
- Collaborate with other City or City related social media initiatives (including but not limited to EcoOmaha, Environment Omaha, Green Omaha Coalition, social media) to further promote the goals and objectives of the Plan and to provide access to public education information.
- Provide literature and promotional information at City facilities on integrated solid waste management, with emphasis on diversion options and with a goal of increasing public awareness of resource conservation and environmental stewardship.

- Promote waste reduction as a part of other City environmental services outreach efforts. This might include structured presentations for various audiences on environmental stewardship and waste management.
- Encourage and participate in tours of the landfill, composting site and related management systems and extend invitation to interested stakeholders and educational groups throughout the City.

Currently, a key funding source for public education for the City of Omaha is through contract collection and recycling service vendor payments. These payments generally fund the *Wasteline* newsletter, publication and distribution.

Policy Initiatives Options

The goals and objectives related to policy initiatives, summarized above, reflect findings and information compiled in the planning process and identified needs for possible program enhancements. They also largely relate to overcoming restriction or impediments that may exist to more effective waste diversion or control of waste management practices in the Planning Area. New regulations, laws or policies may be necessary to reach goals stated in the ISWMP Update (or other master planning efforts by individual units of government); they may be necessary to establish or secure funding and to capture the value of solid waste, or they may be necessary to further ensure safe, sound, environmentally responsible waste management practices. For purposes of this technical memorandum, policy initiatives are addressed in the context of:

- Waste Tracking
- Solid Waste Management Program Funding
- Waste Minimization

As noted above, separate technical memoranda address related matters, including the following, and should be referenced for additional information:

- TM – 1 Program Funding
- TM – 2 Waste Tracking
- TM – 3 Zero Waste and Waste Minimization

Waste Tracking

In planning for waste management facilities and programs, it is important to reasonably and realistically project the potential quantity of waste expected to be managed or disposed of by the various programs/facilities. To more accurately assess the quantity of waste generated and materials diverted from disposal, a better waste tracking system is needed for the Planning Area. Where organized and municipally managed programs are in place the collected, diverted and disposed material quantities are tracked and the information is generally available. Currently, information on waste collection and recycling/diversion programs provided on a free market and voluntary basis is not always readily available and in some instance is guarded by the businesses as confidential information. Because of this, a precise determination of the true waste generation and diversion rates is not possible and can only be estimated.

The following is a summary of options that might be implemented within the Planning Area to better track and compile additional waste disposal and diversion information. If the Planning Area members wish to have a more accurate assessment of these quantities then added regulations may

be required; it is not currently anticipated that totally voluntary reporting efforts will provide all of the desired information. Additionally, to undertake this tracking will require added costs to compile and maintain the information and enforce requirements on reporting. It is generally anticipated that the most reliable means of obtaining accurate data, which is not currently available from existing municipally managed programs, will be through business and hauler licensing and reporting requirements tied to those licenses.

Technical memorandum TM – 2 identifies the following principal mechanisms as options that may be available to track the generation, diversion and disposal of municipal solid waste (MSW):

- Require private waste service companies to report information on MSW collection, recycling, yard waste and diversion programs.
- Require landfills and transfer stations operating in the Planning Area to report quantities of material delivered for disposal by type and origin as well as reporting quantities of material diverted or beneficially reused, by type, origin and ultimate destination.
- Require waste processing facilities, including composting and transfer stations facilities, to report quantities of materials delivered for processing by type and origin, as well as destination.
- Seek a change in state rules and regulations that require waste disposal and processing facilities, to report quantities of materials delivered by type and origin and destination of materials (as applicable).

In Omaha, it may be possible to obtain information from private waste hauler through existing waste collection vehicle licensing regulations. This may require modifications to this licensing regulation to include reporting requirements as a permit condition. In other communities in the Planning Area, similar hauler licensing ordinances/regulations may be appropriate, but will require enactment of such ordinances/regulations. While it is possible that voluntary reporting by haulers and processing facilities (including transfer stations and composting facilities) would yield the desired information, a regulatory basis would better ensure timely and accurate information.

Landfills are required by state regulation to report information on tonnage accepted for disposal, but are not required to collect information on source and types of waste, except for “special waste”. In the case of the MSW disposal sites, the scale houses are currently managed by either Douglas or Sarpy County and as such minor refinements in data collection could facilitate the availability of data in a more readily manageable means. When the Sarpy County transfer station becomes operational, Sarpy County should have the ability to request this data from those delivering waste to the facility. Because current data management efforts are principally aligned with fee collection, a policy change may be necessary and data management software would need to be modified to collect added information on sources and types of waste received.

There are currently only limited regulations on transfer stations in the Planning Area and no regulations (locally or at the state level) requiring transfer stations to report tonnages handled or information on type, source or destination of waste/materials received. If such information can not be readily accessed then it may be necessary to establish such requirements by ordinance or as a condition of a permit. While policy and record keeping changes may allow Sarpy County to collect such information at its new transfer station (scheduled to open in 2013), it will likely be necessary to either change state regulation or enact local regulations if mandatory and specific reporting is to be required. At a local level, regulations would likely be tied to a facility permitting program and would likely encompass other goals of the ISWMP.

Other Wastes and Recyclables

There are a wide variety of waste and diverted materials that have been discussed in various technical memoranda under the heading of "Other" Wastes. Each such material has its own set of regulatory constraints, management options, management infrastructure and programs and may require significant efforts and varying methods of data collection. The following is a general list of program and policy options that may be appropriate (in addition to those listed above) to obtain data that would allow a more accurate quantification of management practices and quantities disposed or diverted.

- Extend requirements suggested above, for MSW, recyclables and compost, to require private waste service companies to report information on other waste collection, recycling, diversion and disposal programs.
- Seek cooperative agreements with recyclers/diversion firms to report on diversion quantities, including origin and destination.

While the policy and regulatory options may be the same or similar to those outlined above (e.g., vehicle licensing and facility licensing) there may be challenges to regulation, if the haulers or processing facilities can show that no part of the material they handle is waste. Said differently, units of government could be challenged on licensing requirements, if the haulers or facilities do not fall under the powers of government statutes related to regulations of solid waste. This is where cooperative agreements may be applicable. Such cooperative agreements may also need to provide benefits to the haulers, such as limited protection of confidential data.

Solid Waste Management Program Funding

As discussed in technical memorandum TM -1, with no significant changes to current programs the following are viewed as key areas of concern for costs in the future:

- Collection costs will increase significantly in the City Omaha when the current contracts related to MSW, recyclables and unlimited yard waste come up for renewal.
- UnderTheSink currently recovers approximately 80 percent of its operating costs from grants. If grant funding is reduced or eliminated the shortfall that would need to be made up by the City of Omaha and Douglas and Sarpy Counties.

The source of funding for these increases may require policy changes, including possible program changes.

With some emphasis to increase waste diversion or reduce quantities disposed by landfilling, changes to current programs will likely require added costs and may result in a reduction in funding from current sources. The following are viewed as additional key areas of costs/funding, which will likely need to be addressed by future policies, laws or regulations:

- If collection programs expand their scope of services, such as adding additional collection events for organic materials, then the overall collection program costs will increase.
- If waste reduction and minimization efforts result in added: staffing, promotional materials and educational efforts, subsidies or incentives, more convenience facilities, material types, collection and processing, then program costs will increase.

- If added diversion does significantly reduce the quantity of material directed to disposal, directly or through a transfer station, then Douglas County and possibly Sarpy County would see a reduction in the amount of overall revenue it receives (Sarpy would be expected to still receive its minimum guaranteed amount from the transfer station owner/operator).
- Costs are likely to increase and added revenue might be necessary for continued operations of the UnderTheSink facility if usage were to increase due to further promotion and utilization; both the disposal costs and the operating cost could increase under increased utilization. Since this program does not collect fees from users and relies heavily on fixed amounts of grant money to offset operating cost, added funding is anticipated to be required with increased utilization.
- Uncertain future regulation or issues. Changes in laws typically increase overall program costs; additionally, unforeseen environmental compliance requirements can add to overall program costs.

None of the above considerations should be viewed as discouraging efforts to reduce, reuse, or recycle/compost, rather it is meant to suggest that with such new or expanded programs that consideration also needs to be given to funding programs.

Technical memorandum TM – 1 identifies and discuss possible future program funding options. The source of such funding may require policy changes or added future policies, laws or regulations. From a planning perspective costs are addressed based on City of Omaha, Douglas County, Sarpy County and Planning Area program requirements. The concepts below are intended to help identify possible policy frameworks for funding the various options.

The solid waste related services provided by various Planning Area members vary significantly. While the City of Omaha provides a comprehensive array of management programs, the services provided by Douglas and Sarpy Counties are more focused on disposal programs, and funding of the HHW facility. These service structures have evolved over time and are described in greater detail above and in other planning related documents.

Planning Area

To implement many of the aspects (e.g., community education) of the original 1994 ISWMP and 2012 ISWMP Update including achieving higher diversion goals, there will need to be added funding. The 1994 plan includes goals and objectives to utilize inter-local contracting mechanisms and regulations to foster cooperative solid waste management activities and achieve plan goals. Planning goals and objectives for the 2012 ISWMP Update suggest that Planning Area members look for regional opportunities for units of government to cooperatively provide solid management facilities or programs. In either case some form of interlocal cooperative agreement may be necessary.

While counties, by themselves, may lack the ordinance powers to implement certain programs, it is possible that the Planning Area members could jointly undertake program activities and fund such programs. Such funding may be derived from utilizing the value of solid waste to provide an integrated resource conservation and management system. Funding structures might also be developed in a manner that would allow waste generators and the public to see the value of conservation, reduction, and management costs and outcomes. There are a variety of options such as public agencies, cooperation agreements, regional authorities or special districts, as provided for in Nebraska Revised Statutes, Chapter 13 – Cities, Counties and Other Political Subdivisions that

could be used, if two or more of the Planning Area member communities wished to expand their roles in managing and implementing programs. Because the scopes of such arrangements are only considered as options, no further discussion of specific arrangements is provided in this memorandum.

City of Omaha

The City of Omaha provides a comprehensive program of collection, recycling, diversion, HHW management, yard waste composting, biosolids management/diversion and MSW disposal for residential waste. With the exception of biosolids management, funding for these services is provided through the City's general tax fund; based on state legislation (Nebr. Rev. Statute 13-2020), Omaha cannot currently charge a fee (rate) to individual residences for use of facilities and systems that manage solid waste, unless a majority of those voting in a regular or special election vote to approve or authorize establishment of such a rate or charge. To alter such funding approaches, one or more of the following policy, program, regulatory or legal initiatives may be necessary:

- Seek a vote of the people to allow a fee to be charged.
- Seek a legislative change to Statute 13-2020.
- Increase taxes to cover increased costs. There may be a variety of tax options (e.g., occupation taxes, licensing fees, special assessments) that could be used.
- Seek alternate sources of funding such as assessment of fees to waste haulers through the existing City Municipal Code waste vehicle licensing ordinance (Chapter 33, Article VI Solid Waste Hauling and Disposal Permit).
- Discontinue certain programs such as collection of recyclables and/or yard waste.
- Privatize or assign responsibility for collection services.

Many of the options to provide additional funding for non-waste (recycling and yard waste) services may be similar to those associated with collection programs noted above. It may be important to note that while state statutes do not allow Omaha to charge residents for "facilities" and "systems" such rules may or may not extend to items not defined as solid waste or to businesses and industries. As part of the process of implementing the ISWMP it may be necessary to obtain legal or legislative clarification of the definition of solid waste as it relates to recyclable or yard waste materials. At this time the state statutes do not clearly include recyclables or yard waste in the definition of solid waste; and as such may be subject to legal interpretation. It may be possible adopt policies/laws/regulations that would allow the City to impose fees on households for the management of non-solid waste materials. Business and industry that also benefits from City (and County) solid waste services may also be a source of funding for expanded programs and services.

The City owns and operates the UnderTheSink HHW facility and is responsible for personnel and activities at the site. The current funding structure represents some financial risks for the City and Douglas and Sarpy Counties. Policy/program changes that might increase revenues or reduce risks include the following:

- Establish user fees to help off-set costs.
- Increase taxes to cover increased costs.
- Expand services with an associated fee to conditionally exempt small quantity generators.
- Legislative funding based sources such as the Integrated Solid Waste Management Cash Fund or Waste Reduction and Recycling Incentive Fund (e.g., funds derived from the $1.25/ton disposal fee established in Nebr. Rev. Statues 13-2042).

Douglas County

Douglas County provides for a regional landfill but does not in any significant manner provide for collection, recycling, diversion, transfer stations, yard waste composting or related waste management programs. The County collected fees do help fund UnderTheSink and other County environmental services obligations.

Because the County collects revenues that are tied to the quantity of waste disposed, it may be possible to use a portion of those revenues to fund added programs or increases in program costs. A decision to do so would require approval by the County Board of Commissioners.

To help secure revenues that would fund waste management programs the County may look at implementing policy or program measures (initiatives) to secure the flow of waste, targeted for disposal, to the Pheasant Point Landfill, expand services and waste sources managed, or otherwise impose fees to capture the value of the solid waste resource currently being exported from Douglas County. Such policy measures could take several forms including:

- Economic flow control through rate structures, taxes, or other methods, to capture/retain the value of the solid waste resource that in turn helps to fund waste management programs.
- Legislative flow control, through cooperative agreements with communities with ordinance powers or possibly solid waste service franchises; again to capture/retain the value of the solid waste resource.
- Construction of transfer station(s) to help capture and direct the flow of waste and recyclable materials within the region.
- Additional and/or increased programs, such as providing regional yard waste composting services and added wood waste processing services.
- Vehicle licensing programs
- Implementation of County managed recycling/diversion services at the landfill (or other locations) for select materials, such as appliances/metals, that may have a revenue value.

Sarpy County

Sarpy County owns and operates a regional landfill (disposal site), which is scheduled to close before 2015. This landfill site currently includes limited recycling and diversion programs through recyclables drop-off, wood waste processing, yard waste composting, metals and tires; the site also utilizes paint collected from UnderTheSink in its daily covering operations. The County also participates in community cleanup events by providing disposal and wood grinding operations. Beyond those ancillary services at the landfill and community cleanup events, the County does not in any significant manner directly provide for collection, recycling, diversion or related waste management programs. The County collected fees do help fund UnderTheSink and other County environmental services obligations.

Because the County collects revenues that are tied to the quantity of waste disposed (or in the future tied to tonnage delivered to the transfer station), it may be possible to use a portion of those revenues to fund added programs or increases in program costs. A decision to do so would require policy changes by the County Board of Commissioners.

With the pending implementation of a privately owned and operated transfer station and closure of the landfill the major areas of current financial risk to Sarpy County are deemed to include:

- Reduced diversion, due to program elimination.

- Limited funding for ancillary programs and services.
- Lack of staff to support current outreach programs and community cleanup events.

With the closure of the landfill and related operations, there is anticipated to be a need for additional public or private facilities to handle wastes previously diverted through the landfill (e.g., yard waste composting, wood waste, tires, metals, etc.). The private transfer station operator has the right to handle and process recyclables at the transfer station, but not the obligation. Because the private transfer station operator is providing guaranteed revenue to Sarpy County via tipping fees and host community fees, the County will need to evaluate its policies related to potential increases in various programs associated with the ISWMP versus available funding sources.

Similar to Douglas County, Sarpy County may wish to look at policy measures to secure the flow of waste, targeted for management through the Sarpy County transfer station or expand services. To increase revenues the County may look at implementing policy or program measures (initiatives) to expand services and target other waste sources. Such policy or program measures could take several forms. Additional policy initiatives that might serve to increase host community related revenue could take several forms including:

- Agreements with entities capable of delivering waste to the transfer station that would not otherwise be directed to the facility.
- Economic flow control through taxes or other methods, to capture/retain the value of the solid waste resource that in turn helps to fund waste management programs.
- Legislative flow control, through cooperative agreements with communities with ordinance powers or possibly solid waste services franchises; again to capture/retain the value of the solid waste resource.
- Additional and/or increased programs, such as providing regional yard waste composting services and added wood waste processing services.
- Vehicle licensing programs.
- Implementation of County managed recycling/diversion services at the transfer station (or other locations) for select materials, such as appliances/metals, that may have a revenue value.

Waste Minimization

Technical Memorandum TM - 3, Zero Waste and Waste Minimization, identifies a wide array of future program options with potential to increase waste diversion rates. While many of these options were considered in the 1994 ISWMP, only a few of them remain viable and the decision to implement any specific program is beyond the scope of this memorandum. In general all potential future options would require further evaluation, policy changes and additional laws or regulations. There are wide ranges of other program types that could be developed, but trying to identify all options is beyond the scope of this memorandum and would generally be decided and enhanced at a community level. In final selection of options for inclusion in the Plan it will be important to recognize that there are inherent differences in existing organizational structures, legislated authority and contractual commitments by each Planning Area member that will affect implementation and funding. The options discussed may be implemented cooperatively on a Planning Area wide or multi-jurisdictional basis; these might also be applicable to individual counties or the cities within the Planning Area.

Regional Approach

In the 1994 ISWMP, it was recognized that there may be opportunities for regional cooperation in the development of solid waste diversion programs that provide economies to communities within the Planning Area or region. It was also recognized that policies, agreements and possibly organization structures for implementing regional initiatives should be developed with consideration for the unique characteristics and needs of participating communities. While portions of the existing waste diversion programs/facilities may be considered regional, those programs are largely based on private initiatives, which may or may not be sustainable without the continued cooperation with Planning Area members. The ongoing efforts to prepare the 2012 ISWMP Update have identified the following additional opportunities as having the potential to be both technically and economically viable on a regional basis:

- Public Education and Awareness targeting Source Reduction, Recycling and Composting
- Establishing and Funding a Source Reduction Leader to help better promote programs, provide education, distribute information and track results.
- Regional yard waste composting facility
- Marketing of Materials and Development of New Local Markets
- Promotion of Available Public and Private Diversion Options

Additional regional opportunities that may require further cooperative evaluation include:

- Organic Waste Composting (vegetative, food, restaurant, etc. wastes)
- Expanded residential and commercial/industrial recycling
    - Including incentivized programs (Note: Omaha may require legislature approval or alternate service delivery systems to charge a fee for collection services.)

In addition to creating or designating an organizational structure (policy change or new initiative) to implement and evaluate increased diversion programs, to be successful the regional partners will need to establish funding mechanisms (policy change or new initiative) for programs and evaluation processes.

Summary

The implementation of the goals and objectives established in the MAPA ISWMP Update are anticipated to require various actions, including increased public education and policy changes. The various options and actions related to public education and policy initiatives that may be necessary to achieve these goals and objectives will be refined into specific action items in the final Plan update. The programs associated with waste diversion (reuse, recycling, composting and other minimization strategies) that will be recommended to satisfy the goals and objectives of the Plan are only sustainable if they can be properly funded and fully supported by policies and enforceable regulations.

To provide maximum flexibility to counties and municipalities in the Planning Area, no specific public education or policy initiatives have been recommended for the City of Omaha, Douglas and Sarpy Counties in this technical memorandum. As part of the overall system definition and plan development the revised goals and objectives to be contained in the 2012 ISWMP Update will be linked to specific action plans and implementation plans. The recommendations to be included in

the ISWMP Update will be developed with Planning Area members and as such is intended to include specific public education and policy initiatives necessary to implement selected facilities/programs.

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Appendix B6

Technical Memorandum TM-6 – Market Assessment

Technical Memorandum

To:	Metropolitan Area Planning Agency		
From:	HDR Engineering, Inc.	Project:	Solid Waste Management Plan
CC:			
Date:	February 2012	Job No:	HDR -169533

Re: TM - 6 – Market Assessment

General

The purpose of this document is to provide an updated assessment of markets, current market prices and gaps in market for potentially recovered or diverted materials. The materials addressed are those, which are currently being recovered and those for which markets are available or may potentially be available in the future. The marketable energy from waste or landfill gas combustion and the byproducts from construction and demolition activities are not addressed in this memorandum. The materials discussed in this memorandum include the following:

- Papers:
  - Old newspaper,
  - Old corrugated containers,
  - High grade office papers,
  - Mixed papers,
- Glass,
- Metals:
  - Ferrous metal,
  - Nonferrous,
- Plastics:
  - PET,
  - HDPE,
- Compostables:
  - Yard waste compost,
  - Wood mulch,
  - Food waste compost,
- Biosolids, and
- Coal Combustion Residues.

Additional market analysis information is contained in Appendix D2 of the 1994 Integrated Solid Waste Management Plan (ISWMP). This list is not intended to be exhaustive and it is acknowledged that based on market volatility, this memorandum should be treated as a snap shot in time of current market status.

For a material to be considered 100 percent recyclable, it must be able to meet the requirements of the "closed loop" cycle. The closed loop cycle requires that the material can be completely utilized in a manufacturing process and that the material manufactured is also recyclable. Many materials that can be recovered or removed from the waste stream do not conform to the closed loop description. For example, HDPE bottles can be reprocessed into secondary products such as plastic lumber; however, these secondary products are not currently recoverable or recyclable and, therefore, may be ultimately disposed or used in a non-recoverable manner. This is generally considered delayed disposal or landfill diversion. Glass and aluminum containers for drink products can in theory be endlessly recycled into new containers for the same use and, therefore do meet the requirements of a closed loop cycle. The closed loop cycle is the ideal system for recovery and reuse programs, because materials are truly and permanently diverted from final landfill disposal.

Educating consumers to choose products that are recycled or are packaged in recycled containers, to purchase reusable items and refillable containers and to purchase bulk items will help promote changes in the management ethos. With approximately two-thirds of the American economy fueled by consumer purchasing, "green consumerism," as it is being called, has the potential to change packaging technologies as well as the mix of packaging content.

Marketing recovered materials is affected by the volume of material recovered (fluctuating supply), market demand (consistent end markets) and consumer demand. This leads to volatile markets and price volatility. In addition, in the production of many products, raw materials are frequently more abundant, less expensive, of higher quality and available in more consistent quantities. Many of the recovered materials must be reprocessed to make them suitable for remanufacturing.

Materials such as papers, glass, metals and plastics recovered in the Planning Area are sent to brokers, which aggregate and ship materials to regional, national or international end users. As a result, the revenue from these recycled materials is reduced by the costs for transportation and possibly by added processing costs. The following discussion on pricing is based on the delivery of a market grade material, excluding transportation/shipping costs.

Paper and Paper Products

Papers are referred to in the recycling market industry as fiber, to more accurately describe the quality and component being recycled. The paper/fiber recycling industry has matured considerably since the 1994 ISWMP was prepared and markets now exist for essentially all types of recovered paper. Since 1994, the quantities of recycled paper have nearly doubled and large numbers of processing mills, which de-ink and remove contaminants, have developed new or modified existing mills in the US. Such mills have generally located in proximity to large paper manufacturing or specialty products manufacturing markets to most efficiently deliver their fiber products to paper product manufacturers.

The American Forest & Paper Association (AF&PA) reports that in 2010, 63.5 percent of the paper consumed in the U.S. was recovered for recycling. According to the December 2011 Recovered Paper Monthly Report published today by the AF&PA, total U.S. industry consumption of recovered paper was 7.5 percent lower than December of 2010. In recent years, one of the most significant markets for recycled paper has been exports to China and other nations. These exports accounts for nearly 40 percent of the market for recycled paper collected in the U.S. in 2010. Additionally, while prices are more favorable than in 1994, the material pricing is still somewhat volatile and generally fluctuates with the general economic conditions.

Paper Markets

Local processing facility for curbside collected residential and commercial waste paper is currently available at three facilities in the Planning Area. These include the following:

- Firstar Fiber
- International Paper
- Omaha Paper Stock

These facilities sort paper by grades/types, remove contaminants and generally bale the material for shipment to mills or markets. Regionally, there is one firm in Nebraska (Green Fiber) that processes old news paper into cellulose insulation; no other significant end product manufacturers are located in proximity of the Planning Area.

Old Newspapers (ONP)

The AF&PA reported that total recovery of news/mechanical papers declined 3.2 percent in 2010, but generation of these papers in the waste stream declined by an even larger rate of 5.4 percent. In 2011, ONP tonnage generated continued to fall, but most of these declines were the result of a reduction in hard-copy newspaper readership.

Currently ONP is being utilized in the production of the following types of products: tissue products, packaging and industrial papers, paper board, kraft (the flat board used in corrugated paper board), corrugated medium, roofing felt, gypsum wallboard liner, cellulose insulation, animal bedding, hydro-mulch, molded pulp products (egg cartons, trays, and flower pots), packaging cushion material, kitty litter, and single-ply cardboard containers.

ONP Pricing

Mid-2011 prices for recovered ONP averaged $145 per ton.

Old Corrugated Containers (OCC)

The AF&PA reported that after declining in 2009, U.S. purchases of containerboard rebounded 7.2 percent in 2010. However, recovery of OCC, driven by both increased domestic demand and exports, rose 11.2 percent. As a result, the recovery rate for OCC increased to 85.1 percent in 2010, up from 82.0 percent in 2009.

Currently OCC is being used in the production of the following types of products: tissue products, packaging and industrial papers, chip board, kraft, corrugated medium, paper pulp, roofing felt, gypsum wallboard liner, cellulose insulation and hydro-mulch.

OCC Pricing

Mid-2011 prices for recovered OCC averaged $165 per ton.

High-Grade/Office Papers

The AF&PA estimated that the recovery rate for high grade papers (printing-writing) was at 54.6 percent in 2010 versus 61.3 percent in 2009 and 54.7 percent in 2008. An increase in the 2009 rate suggests a drawdown of inventories – a result of the global recession.

Because of their quality, the market demands for high-grade papers have remained fairly constant. These papers have a wide range of potential for reuse that include newsprint,

toweling, wrapping, writing paper, card stock, and paper board, as well as many of those listed above for lower grades of fiber.

High Grade Paper Pricing

Mid-2011 prices for recovered high grade paper averaged $ 271 per ton.

Mixed Papers

This category of paper is a mixture of varying grades of papers such as colored papers, magazines, telephone directories and envelopes. Mixed papers may include high-grade papers that are not easily separable from the remainder of the mixed paper stream.

The current uses of mixed papers include, but are not limited to, the following: newsprint, tissue products, recycled paper board, recycled corrugated medium, roofing felt, and gypsum wallboard liner. In addition, mixed papers are also being combined with other paper, shredded, baled and used as animal bedding.

Mixed Paper Pricing

Mid-2011 prices for recovered mixed papers averaged $109 per ton.

Glass

The Glass Packaging Institute estimates that 80 percent of the recovered glass containers are recycled into glass bottles. They also report that in 2010 over 41 percent of glass beer and soft drink bottles and 25 percent of the wine and liquor bottles were recycled. These rates of diversion are in part attributed to states with bottle deposit legislation. Although glass is considered a 100 percent recyclable material, because it meets the closed loop definition, the principal reason for the lower rates of recovery include: (i) it requires specialized optical sorting equipment to separate glass by color, and (ii) the cost of processing and transporting the glass to remote manufacturing markets is significantly higher than the revenue it generates. Glass processors have tended to locate in states where bottle refund laws exist, because such states provide a steady supply of high quality cullet and can provide a sustainable supply of recovered glass. The closest facility to the Planning Area, capable of separating glass from mixed recyclables, is located in Sioux City, Iowa. The closest processing facilities are in Des Moines, IA and St. Paul, MN.

Glass Markets

Recovered and processed glass is referred to as “cullet”. The primary end markets for recovered glass have been manufacturers of glass containers. Other uses for recovered glass, though not as lucrative as the glass container industry, include fiberglass insulation, fiberglass swimming pools, masonry block and glass wool. Additional potential uses for mixed glass which are currently being researched include use of cullet as an aggregate material in roadway construction and in concrete drainage pipes.

The Glass Packaging Institute reports that there are 48 glass manufacturing plants operating in 22 states. Approximately 76 cullet, or recycled glass, processors are in 31 states.

Manufacturers are most interested in glass that is furnace-ready. Furnace-ready cullet is glass that has been separated by color (clear [flint], brown [amber], and green), is free of contaminants and can be fed directly into the furnace melting pot without further processing.

Depending on the manufacturer, furnace ready cullet in the form of whole or broken bottles is preferred for inspection for contamination. Cullet can also be crushed and cleaned by a commercial processing unit ("CPU") for delivery.

The CPU processes glass by color sorting, crushing, washing, removing and separating out the contaminants and grinding the glass to a specific particular size. The final product from a CPU facility is furnace ready cullet that can be used by glass container manufacturers. Presently manufacturers are incorporating approximately 30 percent recovered glass into newly manufactured glass containers. In 2008 glass container manufacturers set a goal to achieve 50 percent recycled content in the manufacture of new glass bottles by 2013. Presently there are two CPUs in the region that produces furnace ready cullet:

- Greenstar Recycling in Des Moines, IA
- e-Cullet in Saint Paul, MN

The demand for clear [flint] glass has been the most consistent. However, markets have also been consistent for brown [amber] glass. The market for green glass has been more volatile. The markets for recovered glass have increased steadily since 1994 as manufacturers of glass containers have increased their percentage use of recovered glass and as other uses have developed. Absent the establishment of a container redemption program in Nebraska (which would provide a large volume, steady supply of cullet and which might justify construction of a CPU), there may be opportunities for niche markets that would improve the overall economics associated with glass recovery and recycling.

Glass Pricing

eCullet buys glass cullet from material recovery facilities (MRFs) and small volume recycling facilities for between $5 to $30 per ton depending on the color and level of contamination.

Metals

In the recycling industry, metals are normally classified as either ferrous or non-ferrous metals. Ferrous scrap, which is metal waste product containing iron, has been a recoverable material for many decades and has a well established market. Nonferrous metals are those that contain very little or no iron. The most common nonferrous metal targeted for recovery in the solid waste stream is aluminum. Other nonferrous metals which are often targets for diversion or recovery include copper, lead, zinc, nickel, gold, silver, brass, bronze, mercury and platinum. While there are scrap yards in proximity of the Planning Area, regionally there is one firm in Nebraska (Nucor Steel) that processes large volumes of recycled ferrous metals into new building products; no other significant end product manufacturers are located in proximity of the Planning Area. No significant non-ferrous manufacturers are located in proximity to the Planning Area.

Metal Markets

Metals have the most established recyclable markets. Metals can be recycled without losing their important properties and thus meet the requirements of the "closed loop" cycle. Although all metals are recyclable the most prominent metals found in the municipal waste stream are ferrous and aluminum.

Ferrous Metal

Ferrous scrap has become the steel industry's single largest source of raw material, because it is economically advantageous to recycle old steel into new steel. There is a well-established network of more than 2,000 ferrous scrap processors and more than 70 end markets across the United States. The steel recycling infrastructure has grown and matured over the years in its efforts to meet the steel industry's demand for steel scrap. The Steel Recycling Institute estimates that 67 percent of steel cans, 90 percent of steel appliances, 98 percent of structural steel and 70 percent of the reinforcing steel sold in the United States is ultimately being recycled.

Ferrous Pricing

Prices for ferrous metal were depressed as a result of the 2008 recession to a level of approximately $100 per ton, rose to a high of $400 per ton in 2009, then dropped back to around $300 per ton in 2010 and were at $400 per ton in mid-2011. Ferrous is classified into several grades based on the level of contamination and prices vary according to grade.

Aluminum

Aluminum is one of the most marketable metals that can be diverted or recovered from the solid waste stream. As with ferrous and glass, aluminum meets the closed loop definition as a 100 percent recyclable product. In addition, reprocessing of aluminum requires approximately 95 percent less energy than making aluminum from raw materials.

Aluminum Pricing

Aluminum recycling markets have ranged from $2,240/ton in 2009 to $1,800 per ton in 2010, to 2,300 to $2,500 per ton in 2011.

Plastics

The components used to make plastics come largely from refinement of crude oil and natural gas. For purposes of distinguishing the different resin applications, plastics are assigned a recycling symbol and a number; the most common are listed as follows:

Type 1 - Polyethylene Terephthalate (PET)

Type 2 - High-Density Polyethylene (HDPE)

Type 3 - Polyvinyl Chloride (PVC)

Type 4 - Low-Density Polyethylene (LDPE)

Type 5 - Polypropylene (PP)

Type 6 - Polystyrene (PS)

Type 7 - Acrylonitrile Copolymers

Regionally, there are no identified large volumes manufacturers that are directly processing plastics into usable resins. Some local small businesses in the region may be using resins derived from recovered/recycled plastics, but no significant resin processors are located in proximity of the Planning Area. The absence of sustainable markets for Type 3 through 7 plastics may represent a local market opportunity; however, technology and supply infrastructure would be critical issues in

attempting to develop local markets, especially since national markets are limited to non-existent for several of these plastics.

Plastic Markets

A major issues associated with plastics recycling is that in order for them to be recycled, different types of plastics cannot be mixed, yet it is virtually impossible to distinguish one type from another merely by looking at them or even by touching them. Only the first two categories of plastics, PET and HDPE, have well established recovery programs in the Planning Area. While efforts are underway in various locations and by various companies to develop and expand markets for plastics, the absence of such markets is a limiting factor in the recycling of types 3 through 7 plastics. The absence of such markets may also represent opportunities within the Planning Area, but the development of such markets may be complex and is beyond the scope of this technical memoranda.

PET

The National Association for PET Container Resources (NAPCOR) reports that approximately 29 percent of the PET containers sold in the United States in 2010 were recovered. PET container recovery is also reported to have been gradually increasing over the last five years. Several new PET plants were opened in early 2011; these new plants have created new demand for recycled PET. PepsiCo Beverages of Canada has recently developed a process that it says will allow it to increase the use of PET in its bottles from 10 percent to 100 percent; this could significantly increase the demand for recycled PET.

PET Pricing

The average of price for PET has ranged from $400/ton in mid-2010 to approximately $840 per ton in early-2011.

HDPE

The market information on HDPE is much more difficult to quantify. Demand and pricing is higher for natural HDPE than for mixed colored HDPE materials. Recycled HDPE is generally used to produce non-food bottles, drainage pipe, plastic lumber and other plastic products.

HDPE Pricing

Over the last two years the prices per ton for natural HDPE have ranged from $580 to $800 with mixed colored selling for approximately $440 to $580 per ton.

Other Plastics

Although there are markets for other resin grades, the difficulties associated with collection and separation of the materials to meet market specifications has prevented these materials from being included in most organized recycling programs. Plastic film, which is typically defined as any plastic less than 10 mm thick, is principally made from polyethylene resin and is readily recyclable if the material is clean, dry, and not pigmented black. There are no markets (firms paying for collected materials) in the Planning Area for film plastic; however there are a number of local grocery and department stores that will accept plastic bags for recycling purposes.

Other Plastic Pricing

No readily useable information is available to characterize the price of post consumer recycled plastics in Types 3 through 7.

Compostable Materials

The decomposition of organic materials under controlled conditions produces a humus-like material referred to as compost. Compost can be produced from either the entire solid waste stream, or, as is more typically the case, from single components diverted from the waste stream such as yard and wood wastes or sewage sludge. Certain materials can also be combined to produce compost, such as papers and foods. Most markets for compost and wood mulch type materials are local/regional. At home composting is a viable, multi-material composting/diversion opportunity (for organic material generated at a residence) but is not considered a viable processing option or market for the potential large volumes of materials from other generators. National market competition for compost and mulch would require large volume supplies and an extensive marketing initiative. The City of Omaha has had success locally marketing its yard waste compost product (OmaGrow) and it appears that wood mulch produced locally by public and private efforts is being successfully marketed and consumed locally. While opportunities are believed to exist to use compost type products for local land restoration and to reduce urban run-off, the revenues generated from compost sales would not exceed the costs of collection, and composting operating and maintenance costs, let alone any large capital investments.

Markets

Most markets for materials diverted from disposal are local/regional markets. Within the Planning Area markets have been established for compost made from yard wastes and wood waste. Local, commercial-scale, revenue generating markets have not been established for compost from items such as food waste, solid waste and sewage sludge. Markets, as used in the following discussions, refer to post processing (following composting operations). Additional market development opportunities may also exist to expand the use of compost and wood mulch products to improve stormwater run-off quality, increase infiltration (reduce run-off), and improve soil conditions in the Planning Areas urban environment.

Yard Waste Compost

A large scale yard-waste composting program is currently operated by the City of Omaha at the site of the Papillion Creek Wastewater Treatment Plant. This site currently accepts only yard waste collected from within the City of Omaha and by the City's contract collection service. The resulting composting material is marketed locally under the trade name OmaGrow.

Yard waste is also accepted and composted at the Sarpy County Landfill. Sarpy County principally uses its compost and wood chips for vegetative cover and erosion control at its landfill.

The long term sustainability of both the yard waste composting operations conducted by the City of Omaha and Sarpy County is uncertain given the future need to expand the Papillion Creek Wastewater Treatment Plant on the land currently hosting the composting operations

and the uncertainty of the composting operations at the Sarpy County Landfill, after the landfill closes (estimated to be in 2013).

There is some uncertainty on the final destination of the portion of the yard waste handled by landscapers and the private collection firms. A portion of this material is disposed in landfills authorized to accept yard waste.

Yard Waste Compost Pricing

The City of Omaha sells this product for $9 per pickup load, $1.50 per bag and $7.50 per cubic yard.

Wood Mulch

There are established local/regional markets for processed wood waste in the form of wood mulch. These wood wastes are generally processed by the private sector firms although Sarpy County also accepts and grinds trees up to 48 inches in diameter. Private firms, including landscapers and tree trimming services, generally grind brush, branches, tree trunks and pallets to produce mulch that they can use or sell in a natural or stained color for landscaping purposes.

Wood Mulch Pricing

Various grades and colors of this material sell in bulk for prices ranging from $25 to $40 per cubic yard. Prices also vary by volume with small bagged quantities generally selling for $3 to $4 per two cubic foot bag (equivalent of $40 to $55 per cubic yard).

Food Waste and Paper Compost

The composting of food waste (and other organic materials) must be conducted in a controlled environment to prevent the spread of disease, to avoid attracting vermin and to avoid odor problems associated with anaerobic conditions. While the quantities composted at individual residences in unknown, there are no facilities in the Planning Area that are currently undertaking commercial scale food waste composting operations. If a food waste (or food and papers) collection program were to be initiated and a composting facility was built, care would have to taken to make sure the compost product was free of other contaminants to be marketable. Where food and mixed organic waste composting has been done in other communities, one of the largest challenges is identifying/establishing sustainable market outlets. Development of a commercial scale food and mixed waste composting facility in the Planning Area is not currently considered a niche opportunity, but market opportunities should continue to be monitored.

Food and Paper Waste Compost Pricing

No readily useable information is available to characterize the price that might be assigned to compost produced from food and paper wastes. While the nutrient levels may be higher than compost associated with yard waste, marketing such materials may also be constrained by contaminant levels.

Biosolids

Biosolids and wastewater treatment grit are generated by wastewater treatment facilities (Papillion Creek Wastewater Treatment Plant and Missouri River Wastewater Treatment Plant)

in the Planning Area. Biosolids generated in the Planning Area are typically digested (composted) by anaerobic processes and the resulting (Class B) biosolid materials are diverted from disposal through land application on agricultural fields. Land application has the added benefit of increasing nutrient content and as a result improving soil quality. Absent additional processing and preparation, to achieve a Class A quality, no market exists for these biosolids in their current form (Class B). While there are limited examples of national markets being developed for digested and composted biosolids (e.g., Milorganite is a Class A biosolid byproduct made in Milwaukee, WI), no local, regional or national revenue opportunities have been identified for locally produced biosolids.

Coal Combustion Residue (CCR)

CCR is a broad category of waste, which generally consists of fly ash, bottom ash and byproducts from air pollution control systems. CCR is produced and recovered at the Omaha Public Power District's (OPPD) North Omaha generating station. Fly ash and bottom ash are generally recovered separately and sold for beneficial uses. Locally OPPD handles all marketing and management activities through contract services with private marketing firm(s).

CCR Markets

The fly ash is used as a substitute for Portland cement in making concrete. Bottom ash is typically used as a substitute for granular fill soils in earthwork projects and as a granular fill soil for road base construction. Although these markets are well established, they could be at risk as a result of pending USEPA regulations related to CCR management and disposal. At issue is whether all or a portion of the CCR will be classified and require management as a hazardous or solid waste.

CCR Pricing

Because all such materials are generated and managed by OPPD, through private entities, no information is available on pricing. It is generally assumed that the diversion of these materials, and resulting avoidance of disposal costs (along with preservation of existing CCR disposal capacity), take precedence over revenue generation.

Summary

Markets and prices for recovered materials can be volatile and are influenced by supply and demand, as well as other factors such as material quantity and quality. Of the various materials targeted for recycling, only glass and metals currently have the potential for meet the criteria for a closed loop cycle.

Papers, metals and plastics (and possibly glass) generally targeted for diversion are often sorted locally and shipped to manufacturer's or secondary processors outside the Planning Area. For over a decade markets have existed for:

- Paper
- PET and HDPE Plastics
- Ferrous and Non-Ferrous Metals
- Yard Waste Compost
- Wood Mulch

In addition, alternative management options have existed for:

- Biosolids
- CCR

Future Market Needs

The following discussion is focused on markets where limited opportunities or cost may be a barrier to increased diversion. This is not intended to suggest that opportunities may not exist to create additional processing facilities or end markets for targeted materials. While free market efforts tend to find markets, where opportunities exist, it is possible that the combined efforts of the public and private entities may be necessary to create markets or increase market opportunities.

Glass and Other Plastics

Limited cost effective markets exist for glass and other plastics; even when properly sorted and processed, the revenue stream for glass and other plastics has been small in comparison to the costs associated with collection, processing and transporting. Since glass is inert, it does not pose a toxicity risk in landfills. Glass is also viewed as a potential contaminant in single stream recycling operation. Therefore glass recycling has been a low priority target in the Planning Area. Of the other plastic streams film plastics may have the greatest near term market potential, assuming they can be made suitable for the end market.

Compostable Materials

Compostable material markets are also well established, but again rely upon a high quality product to generate a commercial demand and revenues. If plan implementation activities pursue food waste composting on a commercial scale it will be very important to focus on product purity and to have established markets/outlets before investing in collection infrastructure, processing and distribution facilities.

An important aspect of long-term diversion of materials such as yard waste will be the existence of processing facilities and marketing efforts. As noted above the two existing large scale yard waste composting facilities have uncertain futures. While the goals and objectives of the ISWMP Update included providing for such yard waste composting facilities, the method by which a sustainable program and market for such materials will be established has not yet been identified.

Market Development Needs

As a part of the overall plan implementation strategy, Planning Area members should continue to look for local market opportunities and opportunities to provide sustainable revenue streams, to help off-set collection and management costs associated with diverted/recycled materials. Where national or regional markets are utilized, local efforts should also support the consolidation, processing and transport of recovered materials to enhance their marketability. Additional attention may also need to be given to development of new local markets to reduce reliance on national markets or markets outside the Planning Area. As such Planning Area members may wish to pursue opportunities for local markets for items such as glass and certain plastics.

Marketing of recovered materials may be managed by private entities, individual communities or may be coordinated as a multi-jurisdictional effort; however, existing local contracts (e.g., for single stream recyclable sorting and marketing) are anticipated to be maintained to the extent that they are adequate to meet the needs of the Planning Area and effectively support the goals and objectives of this Plan.

In looking at local market development opportunities, Planning Area members may also need to consider the added potential to attract green businesses and create green jobs in the Planning Area.

In furtherance of the stated goals and objectives contained in the ISWMP Update, it has been recommended that Planning Area members evaluate and adopt changes to purchasing policies, building codes and material purchase specifications used in Planning Area governmental procurement programs to encourage waste reduction, recycling and the use of recycled and compost products/materials in an environmentally sound manner.

APPENDIX C

PUBLIC INVOLVEMENT AND COMMENTS

C1 Public Outreach – Announcements
C2 Presentation Boards and Website Content
C3 Survey Form and Survey Responses
C4 Comment from Public Meetings

Appendix C1

Public Outreach – Announcements

- **Press Release**
- **Email Meeting Invitations**
- **Website Content**
- **Social Media**

Press Release

FOR IMMEDIATE RELEASE

MAPA to host open house to present solid waste management planning update

OMAHA, Nebraska – April 30, 2012 – The Metropolitan Area Planning Agency (MAPA), in partnership with the City of Omaha, and Douglas and Sarpy Counties, will host in-person and online, self-directed open house meetings to introduce updates to the Integrated Solid Waste Management Plan for the Planning Area.

The open house meetings are intended to provide various updates and background to the existing regional plan. Following these meetings, a final plan will be drafted that will help to guide the solid waste management systems, facilities and programs through 2032. The evaluations completed to date includes a needs assessment, initial strategies development, and assessments of alternatives related solid waste management program funding, waste tracking, waste minimization, energy recovery, public education and policy initiatives, and markets for recycled materials.

The online meeting and copies of the completed evaluations related to the Integrated Solid Waste Management Plan Update will be available from April 30th to May 14th on the planning website at www.MAPA-SWPlan.com.

An in-person open house meeting is scheduled as follows.

Date:	Monday, May 7, 2012
Time:	4 p.m. to 7 p.m.
Location:	South Omaha Library Metropolitan Community College South Campus Conference Rooms A&B 2808 Q Street, Omaha, NE

In 1994, MAPA prepared a Regional Integrated Solid Waste Management Plan to determine how Douglas, Sarpy and other communities in the region would handle its solid waste through 2015. This current update address changes to the solid waste management plan for the planning area for the next 20 years.

Comments on the current documents related to the Integrated Solid Waste Management Plan Update can be provided at the in-person open house meeting on May 7, 2012 or via the website through May 14, 2012.

For more information, please contact MAPA at email@MAPA-SWPlan.com

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Email Meeting Invitation

Subject: Public meetings for MAPA Integrated Solid Waste Management Plan Update

The Metropolitan Area Planning Agency (MAPA), in partnership with the City of Omaha, and Douglas and Sarpy Counties, invites you to participate via an in-person or online, self-directed open house meetings to introduce updates to the Integrated Solid Waste Management Plan.

The open house meetings are intended to provide various updates and background to the current planning effort. Following these meetings, a final plan will be drafted that will help guide future solid waste management systems, facilities and programs.

Online Meeting:
The online meeting and copies of the completed evaluations related to the Integrated Solid Waste Management Plan Update will be available from April 30th to May 14th on the planning website at www.MAPA-SWPlan.com.

In-person Meetings:
An in-person open house meeting is scheduled as follows.

Date:	Monday, May 7, 2012
Time:	4 p.m. to 7 p.m.
Location:	South Omaha Library Metropolitan Community College South Campus Conference Rooms A&B 2808 Q Street, Omaha, NE

Comments on the current documents related to the Integrated Solid Waste Management Plan Update can be provided at the in-person open house meeting on May 7, 2012 or via the website through May 14, 2012.

For more information, please contact MAPA at email@MAPA-SWPlan.com

Website Content

The Metropolitan Area Planning Agency (MAPA), in partnership with the City of Omaha, and Douglas and Sarpy Counties, invites you to participate via an in-person or online, self-directed open house meetings beginning April 30th to introduce updates to the Integrated Solid Waste Management Plan.

The open house meetings are intended to provide updates and background to the current planning effort. Following these meetings, a final plan will be drafted that will help guide future solid waste management systems, facilities and programs.

Online Meeting:
The online meeting and copies of the completed evaluations related to the Integrated Solid Waste Management Plan Update will be available from April 30th to May 14th on the planning website at www.MAPA-SWPlan.com.

In-person Meetings:
An in-person open house meeting is scheduled as follows.

Date:	Monday, May 7
Time:	4-7 p.m.
Location:	South Omaha Library Metropolitan Community College South Campus 2808 Q Street, Omaha, NE

Comments on the Integrated Solid Waste Management Plan Update can be provided at the in-person open house meeting on May 7, 2012 or via the website through May 14, 2012. Comments on current documents related to Integrated Solid Waste Management Plan can be provided at the in-person open house meeting on May 7, 2012 or via the website through May 14, 2012.

For more information, please contact MAPA at email@MAPA-SWPlan.com

Social Media

Facebook
MAPA, the City of Omaha, and Douglas and Sarpy Counties invites your input on the solid waste management plan for the area at online and in-person meetings. Provide comments at the in-person meeting or online at the study's website at www.MAPA-SWPlan.com. On line documents will be available starting April 30th.

Twitter (144 Character Limitations)
MAPA, the City of Omaha, and Douglas and Sarpy Counties, invites your input on the area solid waste management plan. Find out more at www.MAPA-SWPlan.com.

Appendix C2

Presentation Boards and Website Content

Welcome

The purpose of this open house is to:

- Provide information on solid waste management planning efforts
- Share information on the pending update to the existing Integrated Solid Waste Management Plan
- Provide an opportunity for input and comments on the Plan Update

Nebraska Department of Environmental Quality
The Nebraska Environmental Trust
"The preparation of this report, document, etc. was financed in part through grants from the state of Nebraska."

We encourage you to review the documents that have been developed and participate in the survey.

Please use the arrows located on either side of the screen to navigate through this meeting.

The online version of this public meeting will be available through May 14th. Comments on the current draft documents related to the Integrated Solid Waste Management Plan Update can be provided on this website or at the in-person open house meetings. **Survey** and/or **Comment** forms are available at the final step of this meeting.

- Mail written comments to:
  MAPA Integrated Solid Waste Management Plan Update

  c/o MAPA

  2222 Cuming Street

  Omaha, NE 68102

Comments will be accepted through May 14, 2012.

History/Timeline

1994 — MAPA prepared an Integrated Solid Waste Management Plan to guide the region in handling its solid waste needs through 2015.

2003 — MAPA prepared an update to the Plan including incorporating a household hazardous waste management facility, known as UnderTheSink.

2010 — MAPA, the City of Omaha, and Douglas and Sarpy counties determined that a further update was appropriate.

Phase 1

2011 — Phase 1 was initiated, including studies and evaluation related to the Plan Update.

2012 — Phase 2 was initiated, including public involvement, the Plan Update, and presentation to governing bodies for approval.

Phase 2

Spring 2012 — Survey and public input, public meeting, and final Plan development

Fall 2012 — Final Plan Adoptions

MAPA
A Council of Governments

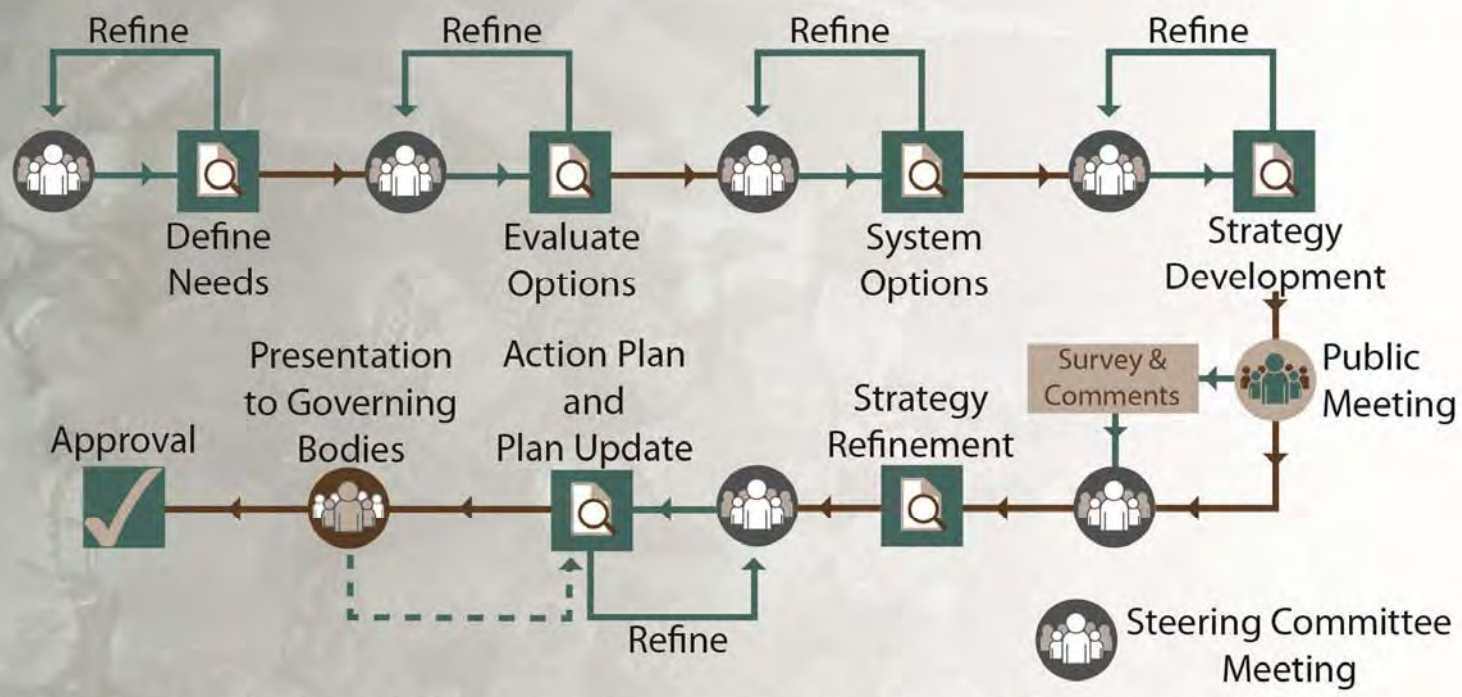
In 1994, the Metropolitan Area Planning Agency (MAPA) prepared an Integrated Solid Waste Management Plan to guide the region in handle its solid waste management needs through 2015.

In 2003 MAPA prepared a Plan Update including incorporating a household hazardous material management facility, now known as UnderTheSink.

In 2011, the first phase of analysis (Phase 1) was undertaken, which was designed to update historic information on waste generation and waste management practices, prepare a projection of needs for the next 20 years, and evaluate options and possible alternatives for further consideration.

In 2012, Phase 2 was initiated, which includes finalizing Phase 1 documents, public involvement activities, finalizing the Plan and ultimately presenting to the governing boards of the City and counties. A final Integrated Solid Waste Management Plan will be drafted in 2012 that will help to guide solid waste management systems, facilities and programs through 2032.

What is involved in the planning process?



Phase 1: Update historic information on waste generation and management practices, prepare projections of needs, and consider options and alternatives for inclusion in the Plan Update.

Phase 2: Public involvement, strategy refinement, develop action plan and implementation plan, finalize Plan Update, and presentation to and approval by governing bodies.

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The purpose of the Plan Update is to provide guidance for detailed planning and program implementation at the County and local levels.

The Phase 1 planning efforts completed to date includes a **Needs Assessment**, an Alternatives Assessment related to **Solid Waste Management Program Funding**, **Waste Tracking**, **Zero Waste and Waste Minimization**, **Energy Recovery - Program Options Assessment**, **Public Education and Policy Initiatives**, and **Market Assessment**, as well as an initial **Strategy Development**.

The Plan Update began with the formation of a Solid Waste Steering Committee, which includes representatives of MAPA, the City of Omaha, Douglas County and Sarpy County.

The purpose of this committee is to guide the planning process, provide input on current conditions and future needs, evaluate alternatives and help formulate the final Plan.

Through a collaborative process, the committee identified existing solid waste practices and future needs, evaluated waste management program options and alternatives, and developed strategy options for possible inclusion in the Plan Update.

Guiding Principles

The following is a synopsis of the guiding principles used by the Solid Waste Steering Committee's to evaluate options. These will ultimately be used to develop the Plan:

1. Ensure economical sustainability.
2. Expand communications on the benefits of resource conservation and environmental stewardship.
3. Promote source reduction programs.
4. Encourage regional cooperation.
5. Capture the inherent value and resource value of the solid waste.
6. Pursue funding structures that allow waste generators to see the value of conservation, reduction, management costs and outcomes.
7. Implement appropriate regulations or organizational structures to better identify, regulate, and control waste imports and exports and capture data to track waste management practices.
8. Pursue programs for underserved diversion opportunities and ensure recycling is available to all residents and businesses .
9. Evaluate new programs based on technical feasibility, socio-political acceptability and environmental/economical sustainability.
10. Support public-private solid waste management partnerships but maintain control of risks.

The options and strategies evaluated to date are based on historic planning efforts, an assessment of current conditions and practices, and anticipated needs, for the future, for the Planning Area as a whole and for the individual members of the Planning Area.

To begin the process historic goals and objectives were reviewed and updated, and **Guiding Principles** were developed. These were broadly based on increasing diversion of waste from disposal and on environmental stewardship.

Focus Areas for Planning

Topics addressed in Phase 1, in preparation for the Plan Update, include the following:

- A Needs Assessment
- Public Education and Policy Initiatives
- Program Funding Options
- Waste Tracking
- Waste Minimization
- Energy Recovery
- Markets
- Strategy Development

Consistent with the original 1994 Plan, the Plan Update will include an Action Plan that will identify recommendations to achieve the goals and objectives of the Plan

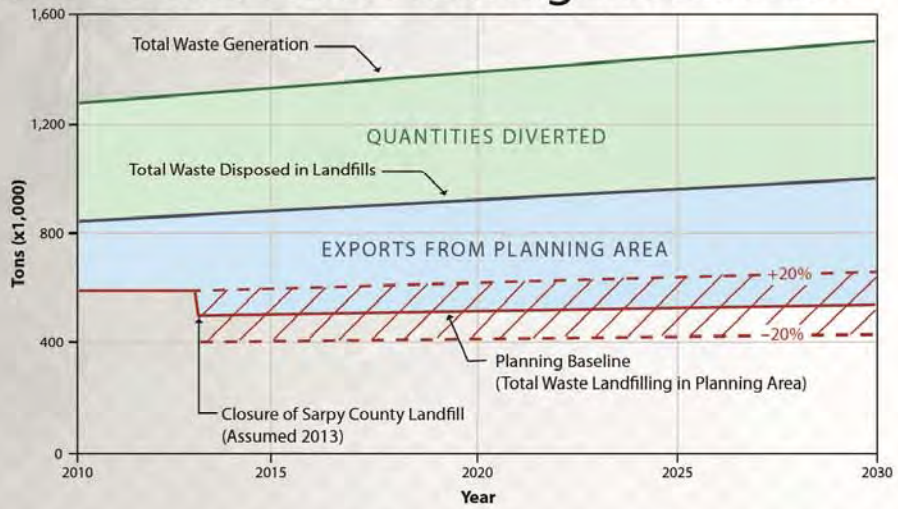
Needs Assessment

The Needs Assessment addresses:

- The volumes and types of waste being generated.
- The existing waste management practices.
- The anticipated future waste management needs.
- Adequacy of landfill capacity in the Planning Area.

This assessment establishes the current management baseline and projected quantities of solid waste to be addressed in the Integrated Solid Waste Management Plan Update.

The Planning Area has landfill disposal capacity well in excess of the 20-year planning period.



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The **Needs Assessment** includes an overview of current collection, diversion and disposal programs. Currently, the Planning Area has landfill disposal capacity well in excess of the 20-year planning period.

The Needs Assessment identifies:

- The new transfer station being built in Sarpy County and the pending Sarpy County Landfill closure.
- The potential relocation of the existing City of Omaha composting facility.
- Funding is needed for anticipated program changes and anticipated cost increases associated with existing programs.
- Changes in law could affect landfill disposal capacity.
- Current waste exports challenge management options and funding.
- That better waste tracking data is needed in the future.

Program Funding Needs

The principal areas of consideration associated with program costs and funding include the following:

1. Funding necessary to continue to provide current levels of service.
2. Funding necessary to provide expanded management and diversions options.
3. Fairness in allocating costs to users.
4. Potential sources of funding and consideration in procuring such funding.
5. Challenges in capturing the inherent value of the waste and materials within the waste stream.
6. Managing environmental liability and risk.

Existing program costs are defined as those incurred or paid to undertake the following management and program components:

- Collection,
- Transportation,
- Management,
- Diversion, and
- Disposal programs.

Numerous options and alternatives were identified for funding existing and future programs. The final decisions, regarding funding mechanisms, will be made in conjunction with specific program implementation.

Waste Tracking

A waste tracking system is needed to aid in future planning and management of solid waste and diverted materials:

- Region-wide reporting requirements need to be established, implemented, and enforced.
- A person or entity needs to be established/designated to pursue, compile and report information.
- Mandated requirements may be necessary if voluntary options are ineffective.

In planning for waste management systems, facilities and programs, it is important to accurately determine the quantities of waste and levels of diversion. Overestimating quantities of waste or recyclable material could result in underutilization of systems and facilities, and increased overall costs. Underestimating quantities of waste and/or overestimating recycling and diversion can reduce the life of the landfill, resulting in the need for further planning adjustments.

The most reliable means of obtaining accurate data, which are not currently available, will be through business and hauler licensing and reporting requirements tied to those licenses.

Mechanisms available to track the generation, diversion and disposal of solid waste may include the following:

- Requiring private waste service companies to report on waste collection, recycling, diversion and disposal quantities.
- Requiring landfills and transfer stations to reports the quantities of material delivered for disposal and quantities diverted.
- Requiring waste processing facilities to report the quantities of materials delivered for processing.
- Changes to State rules and regulations that require waste disposal and processing facilities to report quantities of materials delivered by type and origin and in the case of processing facilities by destination of materials.
- Cooperative agreements with recyclers of various materials to report on diversion quantities.

It is anticipated that a person or single entity will need to be established or designated to pursue, compile and report this information.

Waste Minimization

A wide array of programs currently exists for waste minimization and diversion. Opportunities exist for increased diversion with a wide range of implementation options. Better promotion of conservation and waste reduction is needed.

The following additional opportunities were identified as having the potential to be both technically and economically viable within the Planning Area:

- Establishing and funding a Source Reduction Leader to help better promote programs, provide education, distribute information and track results.
- Regional yard waste composting facility.
- Marketing of materials and development of new local markets.
- Promote available public and private diversion options.

Additional regional opportunities that may require further cooperative evaluation include:

- Organic waste composting (vegetative, food, restaurant, etc. waste)
- Expanded residential and commercial/industrial recycling, including incentivized programs.

Waste Management Hierarchy

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Based upon a review of the Planning Area's current waste reduction programs, a wide variety of conservation, waste reduction, recycling options, and additional program opportunities were identified for further consideration.

In addition to creating programs and organizational structure to increase diversion, to be successful funding mechanisms will be necessary.

Energy Recovery

To be successful in implementing a waste-to-energy facility the following key factors need to be consider and addressed:

- The Need for such a System or Facility
- A reliable Waste Supply
- An approvable Site
- Financial Assurance or Commitment
- A Driving Force or Project Sponsor
- An Energy Market

Waste Management Hierarchy

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Implementing a waste-to-energy facility is complex and typically involves a combination of social, political, economic, environmental and technical matters. Also, per ton costs are significantly higher than disposal by landfilling. As such, the focus of the evaluation was key factors that would need to be addressed if implementation were to be considered in the future.

The City of Omaha is currently conducting a comprehensive Waste to Energy Market Study

Public Education & Policy Initiatives

Specific goals and objectives in the Plan Update relate to Public Education and Policy Initiatives. Key goals and objectives related solid waste management and waste reduction include the following topics:

Public Education Relating To:

- Increased outreach and promotion
- Source reduction and staffing for programs
- Programs that can be implemented regionally and locally
- Funding
- Collaboration

Public Policy Initiatives:

- Program Funding
- Waste Tracking
- Waste Minimization

It is important to recognize that various Planning Area members may take different approaches to implementation based on existing programs, policies, funding and other considerations.

The Planning Area has a fairly well developed array of solid waste management systems, facilities and programs that have evolved since the 1994 Integrated Solid Waste Management Plan was developed. The focus of the 2012 Plan Update is to enhance existing programs, increase waste diversion, allow for better tracking of existing activities, and provide sustainable funding for existing and possibly future programs.

Policy initiatives are intended to encompass a wide range of rules that guide decisions and policy changes that may be applied or adopted by governing organizations.

Diversion practices in the Planning Area are currently encouraged through limited public education and awareness programs.

Public education can be a key tool in supporting proper management of wastes destined for disposal. Public education encourages diversion, by providing a wide array of relevant information on existing program options, facility locations, rates, handling and management alternatives, and others.

Market Assessment

Markets and prices for recovered materials can be volatile and are influenced by supply and demand, as well as material quantity and quality.

Materials such as papers, glass, and plastics recovered in the Planning Area are sent to brokers, which aggregate and ship materials to regional, national, and international end users. As a result, the revenue from these recycled materials is reduced by the cost for transportation, and possibly added handling and processing costs.

Planning evaluations focused on continuing to pursue local market opportunities with the following goals:

- Offset collection and transportation costs, to enhance revenues
- Provide price stability
- To be a catalyst for economic development, with the potential to attract jobs

Recommendations also include changes to purchasing policies, building codes and material purchase specifications to encourage waste reduction, recycling and the use of recycled and compost products/materials in an environmentally sound manner.

As a part of the overall Plan implementation strategy Planning Area members should continue to look for local market opportunities and opportunities to provide sustainable revenue streams to help off-set collection and management costs associated with diverted/recycled materials.

Where national or regional markets are utilized, local efforts should also support the consolidation, processing and transport of recovered materials to enhance their marketability.

Additional attention may also need to be given to development of new local markets to reduce reliance on national markets or markets outside the Planning Area.

In looking at local market development opportunities, the Planning Area members may also need to consider the added potential to attract businesses and create jobs in the Planning Area.

Marketing of recovered materials may be managed by private entities, individual communities or may be coordinated as a multi-jurisdictional effort; however, existing local contracts are anticipated to be maintained to the extent that they are adequate to meet the needs of the Planning Area and effectively support the goals and objectives the Plan.

Strategy Development

Solid waste strategies and options have been developed from the 1994 Plan and the various alternative assessments prepared for the Plan Update.

These options include:

- Common Elements
- Alternate Strategies
- Final Disposal Requirements
- System Costs

The strategy development options and concepts were developed to guide decision making related to:

- Public Education
- Waste Reduction and Diversion
- Funding Mechanisms
- Waste Tracking

Programs may include multi-jurisdictional options but no regional or multi-jurisdictional options are presented.

A final preferred strategy will be developed following public involvement and based on a prioritization of strategies.

Strategy options are outlined as containing:

- **Common Elements** – those which are recommended to be implemented in more than one Planning Area jurisdiction.
- **Alternate Strategies** – three or more alternative strategies available for each Planning Area jurisdiction.
- **Final Disposal Requirements** – based on capacity existing in the Pheasant Point Landfill no further evaluations of disposal needs are required.
- **System Cost** – presents planning level costs of major elements in the alternative strategies.

It is recognized that opportunities for regional or multi-jurisdictional cooperation may provide significant benefits and economies to members of the Planning Area. Approaches should be developed with consideration for the unique characteristics and needs of the participating jurisdictions.

The options presented are not intended to suggest future programs are limited to one or another option or that elements of various options could not be combined, changed, modified or implemented in a specific group or order.

When the Action Plan is developed, following public involvement, it will further outline actions necessary to implement elements or content of the Plan.

It was assumed that Counties would need to cooperate and work with their communities to effectively implement the various elements of the Plan.

Public Participation

Thank you! We appreciate your time and interest.

If you wish to submit comments:

- Send an email to **input@mapa-swplan.com**
- Fill out a survey and/or comment form at the online or public open house meeting
- Mail written comments to:

  MAPA Integrated Solid Waste Management Plan Update
  c/o MAPA
  2222 Cuming Street
  Omaha, NE 68102

Please consider completing the information survey on the website or at the in-person open house meeting.

Comments on the current draft documents can be provided at the open house meeting on May 7, 2012, via the website, or by mail (to the address above). Comments will be accepted through May 14, 2012.

The input received will be considered in the development of the final Integrated Solid Waste Management Plan Update.

We also invite you attend an in-person open house public meeting:

- **Date:** Monday, May 7, 2012
- **Time:** 4 p.m. to 7 p.m.
- **Location:**

  South Omaha Library
  Metropolitan Community College South Campus
  Conference Rooms A&B
  2808 Q Street, Omaha, NE

Please submit your input through the **Survey** and/or **Comment** form.

- Mail written comments to:

  MAPA Integrated Solid Waste Management Plan Update
  c/o MAPA
  2222 Cuming Street
  Omaha, NE 68102

Comments will be accepted through May 14, 2012.

Thank you for your participation.

Appendix C3

Survey Form and Survey Responses

- **Copy of Survey Forms**
- **Summary of All Survey Responses**
- **Copy of All Survey Responses**

Copy of Survey Forms

MAPA Integrated Solid Waste Management Plan Update

The Metropolitan Area Planning Agency (MAPA), in partnership with the City of Omaha, and Douglas and Sarpy Counties (Planning Area) is inviting input on the update to the Integrated Solid Waste Management Plan for the Planning Area. Your input is important as a final Plan Update is developed, to help guide the solid waste management systems, facilities and programs through 2032. We appreciate your input!

RESIDENT SURVEY

1. What part of the Planning Area do you live in?

☐ **City of Omaha**

Douglas County
(outside of Omaha)
☐ Bennington
☐ Boys Town
☐ Ralston
☐ Valley
☐ Waterloo
☐ SID
☐ Unincorporated Area of County

Sarpy County
☐ Bellevue
☐ Gretna
☐ La Vista
☐ Papillion
☐ Springfield
☐ Richfield
☐ Offutt Air Force Base
☐ SID
☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.	***Very Familiar***	***Somewhat Familiar***	***Not Familiar***	***N/A***
(A) Garbage collection services	☐	☐	☐	☐
(B) Recyclables collection services	☐	☐	☐	☐
(C) Recyclables drop-off centers	☐	☐	☐	☐
(D) Yard waste collection services	☐	☐	☐	☐
(E) Yard waste composting facilities	☐	☐	☐	☐
(F) Household hazardous materials drop-off center	☐	☐	☐	☐
(G) Waste disposal sites	☐	☐	☐	☐
(H) Transfer stations	☐	☐	☐	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
☐ Bag it
☐ Let it lay
☐ Home composting
☐ Other (specify) _____
☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? ☐ Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe. _____

_____

Nebraska Department of Environmental Quality
The Nebraska Environmental Trust
"The preparation of this report, document, etc. was financed in part through grants from the state of Nebraska."

7.	**Do you think residents in the Planning Area are recycling at an acceptable level?** *7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.* _____	☐ Yes ☐ No ☐ N/A
8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes ☐ No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes ☐ No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	☐ Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper _____ ☐ Other (specify)
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.* _____	☐ Yes ☐ No

Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.

12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month ☐ N/A

14.	**How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	***Very willing***	***Somewhat willing***	***Not sure***	***Somewhat not willing***	***Not willing***	***N/A***
	(A) For garbage collection services	☐	☐	☐	☐	☐	☐
	(B) For recyclables collection service	☐	☐	☐	☐	☐	☐
	(C) For yard waste collection service	☐	☐	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?** ***If yes,*** Name _____ Address _____ City _____ State _____ Zip _____ Email _____ Phone _____	☐ Yes ☐ No

Mail Completed Comment Forms to:

MAPA Integrated Solid Waste Management Plan Update
c/o MAPA
2222 Cuming Street
Omaha, NE 68102

Nebraska Department of Environmental Quality
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BUSINESS SURVEY

1. In what part of the Planning Area is your business located?

☐ **City of Omaha**

Douglas County
(outside of Omaha)
☐ Bennington
☐ Boys Town
☐ Ralston
☐ Valley
☐ Waterloo
☐ SID
☐ Unincorporated Area of County

Sarpy County
☐ Bellevue
☐ Gretna
☐ La Vista
☐ Papillion
☐ Springfield
☐ Richfield
☐ Offutt Air Force Base
☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where your business is located.	**Very Familiar**	**Somewhat Familiar**	**Not Familiar**	**N/A**
(A) Garbage collection services	☐	☐	☐	☐
(B) Recyclables collection services	☐	☐	☐	☐
(C) Yard waste composting facilities	☐	☐	☐	☐
(D) Waste disposal sites	☐	☐	☐	☐
(E) Transfer stations	☐	☐	☐	☐
(F) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs available to you? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?

☐ Bag it
☐ Let it lay
☐ Lawn Service
☐ Other (Explain) _____
☐ N/A

5. Do you currently recycle at your business? ☐ Yes ☐ No

5a. If yes, is your current program adequate to meet your needs? ☐ Yes ☐ No

5b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Please describe. _____

_____

Mail Completed Comment Forms to:

MAPA Integrated Solid Waste Management Plan Update
c/o MAPA
2222 Cuming Street
Omaha, NE 68102

Nebraska Department of Environmental Quality
The Nebraska Environmental Trust
"The preparation of this report, document, etc. was financed in part through grants from the state of Nebraska."

6.	**Do you think businesses in the Planning Area are recycling at an acceptable level?** *6a. If no, what type of policies, programs or actions should be undertaken to reach acceptable levels?* *Please Describe.* _____	☐ Yes ☐ No ☐ N/A
7.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes ☐ No
8.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes ☐ No
9.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	☐ Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Waste Hauling Firm ☐ Newspaper ☐ Other (specify) _____
10.	**Are there other programs or services you would like to see implemented in the area where your a business is located?** *10a. If yes, describe.* _____	☐ Yes ☐ No
11.	**What type of solid waste collection services do you currently use? (check all that apply)** *11a. How much do you pay for these services?*	☐ Self-haul ☐ Single-use dumpster ☐ Shared-use dumpster ☐ Compactor ☐ Recyclable collection ☐ Self-haul recycling $_____/month ☐ N/A

12.	**How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Some what willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
	(A) For garbage collection services	☐	☐	☐	☐	☐	☐
	(B) For recyclables collection service	☐	☐	☐	☐	☐	☐

13.	***Would you like to receive additional information on available solid waste services, facilities, systems and programs?***	☐ Yes ☐ No

If yes,

Name _____

Address _____

City _____ State _____ Zip _____

Email _____ Phone _____

Nebraska Department of Environmental Quality

The Nebraska Environmental Trust

"The preparation of this report, document, etc. was financed in part through grants from the state of Nebraska."

Summary of All Survey Responses

ISWMP Survey Summary

62 total Residential Survey's were completed.

1. In what part of the Planning Area do you live?	o City of Omaha - 45 o Douglas County SID – 5 o Sarpy County • Bellevue – 4 • La Vista – 1 • Papillion – 1 o Left blank – 6
2. Indicate your familiarity with the following services and facilities in the area where you live.	2.a Garbage collection services - Very familiar - 47 - Somewhat familiar – 13 - Not familiar – 1 - N/A - 0 - Left blank – 1
	2.b Recyclables collection services - Very familiar – 44 - Somewhat familiar – 15 - Not familiar – 2 - N/A – 1
	2.c Recyclables drop-off centers - Very familiar –18 - Somewhat familiar – 17 - Not familiar – 27 - N/A – 0
	2.d Yard waste collection services - Very familiar - 41 - Somewhat familiar – 14 - Not familiar – 5 - N/A - 1 - Left blank – 1
	2.e Yard waste composting facilities - Very familiar - 13 - Somewhat familiar – 9 - Not familiar – 37 - N/A - 1 - Left blank – 2

2.f Household hazardous materials drop-off center
- Very familiar - 20
- Somewhat familiar – 19
- Not familiar – 23
- N/A - 0

2.g Waste disposal sites
- Very familiar - 9
- Somewhat familiar – 12
- Not familiar – 40
- N/A - 1

2.h Transfer Stations
- Very familiar - 4
- Somewhat familiar – 9
- Not familiar – 46
- N/A - 2
- Left blank – 1

2.i Facilities that accept waste banned from landfill (e.g. tire, appliances, batteries, motor oil)
- Very familiar - 4
- Somewhat familiar – 20
- Not familiar – 36
- N/A - 1
- Left blank – 1

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs available to you?

- Yes – 17
- No – 19
- Left blank-26

4. How do you manage your yard waste?

- Bag - 24
- Let it lay - 15
- Home composting - 4
- Other - 16
- N/A - 2
- Left Blank - 1

Others described: There were 17 individual comments provided for Other. Some comments touch on more than one improvement. The following is the number of times an improvement was mentioned.

- Bag it & let it lay – 3
- All of the above (bag, let it lay & home composting) - 3
- Let grass clipping lay but bag leaves, landscaping leftover and branches - 1
- Contractor – 1
- Burn branches in fire pit – 1
- Fill spare can then bag - 1
- Mulch – 3
- Branches in trash and let grass lay – 1
- Mulch and bag - 5

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally?

- Yes – 33
- No –25
- N/A – 2
- Left blank – 2

6. Do you currently recycle at your residence?	o Yes – 54 o No – 8
	6.a If yes, is your current program adequate to meet your needs? - Yes - 24 - No - 29 - Left blank - 9
	6.b If no, are there things that could be done to encourage you to recycle or improve the existing program? There were 36 individual comments provided for 6.b. Some comments touch on more than one improvement. The following is the number of times an improvement was mentioned. - Glass (collection of and collection sites) – 17 - Overall increase of accepted recyclable materials - 4 - Education (what can be recycled, location of drop off sites, cost of recycling) - 6 - Improved containers – 12 - Access to bins – 2 - Uses or wants a rewards program – 4 - Reporting on recycled materials - 1 - Incentives for apartment management companies – 1 - Curb side pickup of recyclable – 1
7. Do you think resident in the Planning Area are recycling at an acceptable level?	o Yes – 3 o No – 35 o Do not know - 23 o Left blank - 1
	7.a If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? There were 30 individual comments provided for 7.a. Some comments touch on more than one improvement. The following is the number of times an improvement was mentioned. - Education - 12 - Incentives - 10 - Include rentals, apartments and businesses - 6 - Improve convenience of recycling - 3 - Access to recycle bins - 1 - Overall increase in accepted recycled materials (in glass) - 3 - Pay as you throw (individual charge by weight of trash) – 4 - Recycle Bank – 1 - Mandatory recycling – 2

8. Do you think current public education and information programs are adequate with regard to waste management opportunities?

- Yes – 13
- No – 47
- Left blank - 2

9. Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?

- Yes – 7
- No – 53
- Left blank - 2

10. Please identify the source you are most likely to use to get information on your needs for solid waste diversion and disposal?

- Website – 41
- Phonebook – 0
- Social Media – 0
- Newsletter – 11
- Television – 3
- Radio – 0
- Word of mouth – 0
- Neighborhood group – 1
- Newspaper – 4
- Other - 2
  - Industry professional, market trends and patterns - 1
  - I use multiple sources mentioned above - 1

11. Are there other programs or services you would like to see implemented in the area where you live?	o Yes – 35 o No – 21 o Left blank – 6
	11.a If yes, please describe. - Need more bulk item collection days (sofas, washers, etc) - Website (more information available) - Improved recycling containers - Accept glass - Increase yard waste collection services - Increased drop off sites - Toxic chemical disposal - Let it lay programs - UnderTheSink (evening and weekend hours) - Water conservation - Zero waste - Mandatory recycling - Recycle Bank - Reduce waste collection days (collection every 10 days) - Compost - Education - Marketing - Food waste - Commercial recycling - Energy recovery (incinerators) - Overall increase in accepted recyclable materials
12. If you live outside Omaha, what type of solid waste collection services do you pay for?	o Garbage – 8 o Recyclables – 5 o Yard waste – 5

13. If you live outside Omaha, what is your current monthly bill for these services?

- garbage/recyclables/yard waste - $12/month (Bellevue)
- garbage - $20/month (La Vista)
- garbage/yard waste - $19/month (Douglas County SID)
- $21.50/month (Douglas County SID)
- garbage/recyclables/yard waste - $23/month (Douglas County SID)
- garbage - $20/month (Douglas County SID)

14. How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:

14.a For Garbage collection services
- Very willing - 16
- Somewhat willing - 13
- Not sure - 4
- Somewhat not willing - 4
- Not willing - 22
- N/A – 2
- Left blank – 1

14.b For recyclables collection service
- Very willing - 8
- Somewhat willing - 11
- Not sure - 10
- Somewhat not willing - 7
- Not willing - 23
- N/A – 2
- Left blank – 1

14.c For yard waste collection service
- Very willing - 8
- Somewhat willing - 19
- Not sure - 8
- Somewhat not willing - 1
- Not willing - 22
- N/A – 3
- Left blank – 1

15. Would you like to receive additional information on available solid waste services, facilities, systems and programs?

- Yes – 20
- No - 39
- Left blank - 3

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Copy of All Survey Responses

MAPA Integrated Solid Waste Management Plan Update

The Metropolitan Area Planning Agency (MAPA), in partnership with the City of Omaha, and Douglas and Sarpy Counties (Planning Area) is inviting input on the update to the Integrated Solid Waste Management Plan for the Planning Area. Your input is important as a final Plan Update is developed, to help guide the solid waste management systems, facilities and programs through 2032. We appreciate your input!

RESIDENT SURVEY

1. What part of the Planning Area do you live in?

☒ **City of Omaha**	**Douglas County** (outside of Omaha)	**Sarpy County**
	☐ Bennington	☐ Bellevue
	☐ Boys Town	☐ Gretna
	☐ Ralston	☐ La Vista
	☐ Valley	☐ Papillion
	☐ Waterloo	☐ Springfield
	☐ SID	☐ Richfield
	☐ Unincorporated Area of County	☐ Offutt Air Force Base
		☐ SID
		☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.	*Very Familiar*	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	☒	☐	☐	☐
(B) Recyclables collection services	☒	☐	☐	☐
(C) Recyclables drop-off centers	☒	☐	☐	☐
(D) Yard waste collection services	☒	☐	☐	☐
(E) Yard waste composting facilities	☒	☐	☐	☐
(F) Household hazardous materials drop-off center	☒	☐	☐	☐
(G) Waste disposal sites	☒	☐	☐	☐
(H) Transfer stations	☐	☒	☐	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☒	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☒ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☒ No

4. How do you manage your yard waste?
- ☐ Bag it
- ☐ Let it lay
- ☐ Home composting
- ☒ Other (specify) BAG & LET LAY/MULCH NATE
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes ☒ No ☐ N/A

6. Do you currently recycle at your residence? ☒ Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes ☒ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe. GLASS RECYCLING

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7.	**Do you think residents in the Planning Area are recycling at an acceptable level?**	☐ Yes	☒ No	☐ N/A
	7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe. NEED INCENTIVES (ENVIRONMENT IS NOT ENOUGH)			
8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes	☒ No	
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes	☒ No	
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	☒ Website ☐ Phone Book ☐ Social Media ☒ Newsletter ☒ Television ☒ Radio ☒ Word of mouth ☒ Neighborhood group ☒ Newspaper ☐ Other (specify)		
11.	**Are there other programs or services you would like to see implemented in the area where you live?**	☒ Yes	☐ No	
	11a. If yes, please describe. GLASS RECYCLING			

Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.

12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste		
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month		☐ N/A

14. How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	☐	☒	☐	☐	☐	☐
(B) For recyclables collection service	☒	☐	☐	☐	☐	☐
(C) For yard waste collection service	☐	☒	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	☒ Yes	☐ No

If yes,

Name RUSS IWAN

Address 1022 4 ST

City OMAHA State NE Zip 68127

Email russiwan@cox.net Phone (402) 331-3695

Mail Completed Comment Forms to:

MAPA Integrated Solid Waste Management Plan Update
c/o MAPA
2222 Cuming Street
Omaha, NE 68102

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Integrated Solid Waste Management Plan Update

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RESIDENT SURVEY

1. What part of the Planning Area do you live in?

X **City of Omaha**

Douglas County (outside of Omaha)
- ☐ Bennington
- ☐ Boys Town
- ☐ Ralston
- ☐ Valley
- ☐ Waterloo
- ☐ SID
- ☐ Unincorporated Area of County

Sarpy County
- ☐ Bellevue
- ☐ Gretna
- ☐ La Vista
- ☐ Papillion
- ☐ Springfield
- ☐ Richfield
- ☐ Offutt Air Force Base
- ☐ SID
- ☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	X	☐	☐	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	X	☐	☐	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	X	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes X No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- ☐ Bag it
- ☐ Let it lay
- ☐ Home composting
- X Other (specify): We mulch the grass clippings and bag the leaves and tree branches.
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

I think the recycling program is good. I wonder about a better (maybe enclosed) container for the recycling so that items don't blow out of the green bin on windy days.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

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7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

I think maybe we could start by better educating people about recycling. Also maybe have businesses have recycling bins in place for cans and plastic bottles.

8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes	X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes	X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	☐ Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper X Other (specify): I think a website is where most people would get their information. I think we have to try to grab the attention of the young people about recycling and properly disposing of items.	
11.	**Are there other programs or services you would like to see implemented in the area where you live?**	X Yes	☐ No

11a. If yes, please describe.

I would like to see glass be recycled. Also, I like having the spring cleanup program in Omaha. If affordable, I think it would be nice to have the same program in the fall.

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12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste	
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month	☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	***Very willing***	***Somewhat willing***	***Not sure***	***Somewhat not willing***	***Not willing***	***N/A***
(A) For garbage collection services	☐	☐	☐	☐	X	☐
(B) For recyclables collection service	☐	☐	☐	☐	X	☐
(C) For yard waste collection service	☐	☐	☐	☐	X	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	X Yes	☐ No

If yes,

Name: Cathy Grosskopf

Address: 825 North 148th Street

City: Omaha State: NE Zip: 68154

Email: cagrosskopf@cox.net Phone: 402-496-3689

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Integrated Solid Waste Management Plan Update

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RESIDENT SURVEY

1. What part of the Planning Area do you live in?

X **City of Omaha**

Douglas County (outside of Omaha)
- ☐ Bennington
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- ☐ Gretna
- ☐ La Vista
- ☐ Papillion
- ☐ Springfield
- ☐ Richfield
- ☐ Offutt Air Force Base
- ☐ SID
- ☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	☐	X	☐	☐
(B) Recyclables collection services	☐	X	☐	☐
(C) Recyclables drop-off centers	☐	☐	X	☐
(D) Yard waste collection services	☐	X	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	☐	X	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- ☐ Bag it
- ☐ Let it lay
- ☐ Home composting
- X Other (specify): All of the above.
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? X Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ no N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

Social marketing campaign about how easy it is. Even UNMC doesn't make it easy for students to recycle in their new College of Public Health, so I watch students throw out aluminum cans and plastic bottles

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constantly in the regular garbage.

8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes	X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes	X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):	
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.*	☐ Yes	X No

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12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste	
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month	☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	☐	X	☐	☐	☐	☐
(B) For recyclables collection service	☐	☐	☐	X	☐	☐
(C) For yard waste collection service	☐	X	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	X Yes	☐ No

If yes,

Name: Claudine McCarthy
Address: 4324 Barker Ave
City: Omaha State: NE Zip: 68105
Email: clauditha@gmail.com Phone:

Mail Completed Comment Forms to:

MAPA Integrated Solid Waste Management Plan Update
c/o MAPA
2222 Cuming Street
Omaha, NE 68102

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RESIDENT SURVEY

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Sarpy County
☐ Bellevue
☐ Gretna
☐ La Vista
☐ Papillion
☐ Springfield
☐ Richfield
☐ Offutt Air Force Base
☐ SID
☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	☐	☐	X	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	X	☐	☐	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	X	☐	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
☐ Bag it
X Let it lay
☐ Home composting
☐ Other (specify):
☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

Larger containers. Covered containters.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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Recycling needs to be available to rentals, apartments, and businesses.

8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes	X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes	X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):	
11.	**Are there other programs or services you would like to see implemented in the area where you live?**	X Yes	☐ No

11a. If yes, please describe.

I would like to see a let it lay program available. More sites for toxic and chemical disposal.

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12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste	
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month	☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	☐	☐	X	☐	☐	☐
(B) For recyclables collection service	☐	☐	X	☐	☐	☐
(C) For yard waste collection service	☐	☐	X	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	X Yes	☐ No

If yes,

Name: Crystal Rhoades

Address: 4565 Shirley Street

City: Omaha State: NE Zip: 68106

Email: crhoades@unomaha.edu Phone:

Mail Completed Comment Forms to:

MAPA Integrated Solid Waste Management Plan Update
c/o MAPA
2222 Cuming Street
Omaha, NE 68102

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X **City of Omaha**

Douglas County (outside of Omaha)
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- ☐ La Vista
- ☐ Papillion
- ☐ Springfield
- ☐ Richfield
- ☐ Offutt Air Force Base
- ☐ SID
- ☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	X	☐	☐	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	X	☐	☐
(F) Household hazardous materials drop-off center	X	☐	☐	☐
(G) Waste disposal sites	☐	X	☐	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes X No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- X Bag it
- ☐ Let it lay
- ☐ Home composting
- ☐ Other (specify):
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes X No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

Let people use a cover bin/can of their of own beside (set next to) green bin. Green bin too small and stuff blows all over the neighborhood on windy days.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

7a. If no, what types of policies, programs or actions should be

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undertaken to reach acceptable levels? Describe.

Consider mandating. It's very easy here: curbside collection and no sort needed. No reason everybody should not be doing this. Have to make available to multi family too.

8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes	X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes	X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):	
11.	**Are there other programs or services you would like to see implemented in the area where you live?**	X Yes	☐ No

11a. If yes, please describe.

Besides big effort to get people started who don't recycle paper, cardboard, cans, plastics, work on electronics, furniture and stuff that's still good not being sent to the landfill.

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12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste	
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month	☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	X	☐	☐	☐	☐	☐
(B) For recyclables collection service	X	☐	☐	☐	☐	☐
(C) For yard waste collection service	X	☐	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	X Yes	☐ No

If yes,

Name: Deb Rost

Address: 2035 South 164th Ave

City: Omaha State: NE Zip: 68130

Email: debrost@yahoo.com Phone: 334-2125

Mail Completed Comment Forms to:

MAPA Integrated Solid Waste Management Plan Update
c/o MAPA
2222 Cuming Street
Omaha, NE 68102

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The Nebraska Environmental Trust
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Integrated Solid Waste Management Plan Update

The Metropolitan Area Planning Agency (MAPA), in partnership with the City of Omaha, and Douglas and Sarpy Counties (Planning Area) is inviting input on the update to the Integrated Solid Waste Management Plan for the Planning Area. Your input is important as a final Plan Update is developed, to help guide the solid waste management systems, facilities and programs through 2032. We appreciate your input!

RESIDENT SURVEY

1. What part of the Planning Area do you live in?

X **City of Omaha**

Douglas County (outside of Omaha)
- ☐ Bennington
- ☐ Boys Town
- ☐ Ralston
- ☐ Valley
- ☐ Waterloo
- ☐ SID
- ☐ Unincorporated Area of County

Sarpy County
- ☐ Bellevue
- ☐ Gretna
- ☐ La Vista
- ☐ Papillion
- ☐ Springfield
- ☐ Richfield
- ☐ Offutt Air Force Base
- ☐ SID
- ☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	☐	X	☐	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	X	☐	☐	☐
(F) Household hazardous materials drop-off center	X	☐	☐	☐
(G) Waste disposal sites	X	☐	☐	☐
(H) Transfer stations	X	☐	☐	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	X	☐	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? X Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- ☐ Bag it
- ☐ Let it lay
- ☐ Home composting
- X Other (specify): Both ways, bag it early spring, then after the rains leave it lay.
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes X No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

We throw a lot of glass items away. I have been told that glass is difficult to recycle. Due to little demand, for recycled glass disposalable items.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes ☐ No X N/A

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7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes	X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes	X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):	
11.	**Are there other programs or services you would like to see implemented in the area where you live?**	X Yes	☐ No

11a. If yes, please describe.

Yard waste collection year round, partially due to the Oak trees in our city. Resident with Oak trees, in their yards frequently are unable to dispose of the leaves during yard waste pickup season. Oak trees hold their leaves often past December 1. The leaves then can be placed in the trash? But they don't go to be composted.

Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.

12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste	
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month	☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	***Very willing***	***Somewhat willing***	***Not sure***	***Somewhat not willing***	***Not willing***	***N/A***
(A) For garbage collection services	☐	X	☐	☐	☐	☐
(B) For recyclables collection service	☐	X	☐	☐	☐	☐
(C) For yard waste collection service	☐	X	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	X Yes	☐ No

If yes,

Name: Duwaine Brigman
Address: 14810 Hawthorne
City: Omaha State: NE Zip: 68154
Email: dbrig098@cox.net Phone: 402.691.0876

Mail Completed Comment Forms to:

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c/o MAPA
2222 Cuming Street
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RESIDENT SURVEY

1. What part of the Planning Area do you live in?

X **City of Omaha**

Douglas County
(outside of Omaha)
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Sarpy County
☐ Bellevue
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☐ La Vista
☐ Papillion
☐ Springfield
☐ Richfield
☐ Offutt Air Force Base
☐ SID
☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	☐	☐	X	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	☐	X	☐
(G) Waste disposal sites	☐	X	☐	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?

☐ Bag it
☐ Let it lay
☐ Home composting
X Other (specify): Sometimes bag it if too long. Otherwise Let it lay and very little Home composting as I have only a small garden.
☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? X Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes ☐ No X N/A

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7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes	X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes	X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):	
11.	**Are there other programs or services you would like to see implemented in the area where you live?**	X Yes	☐ No

11a. If yes, please describe.

Large tree limb or branch removal. Perhaps an additonal cost to help people who do not nomaly require need of chainsaw but once or twice a year require removal of a large branch.

Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.

12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste	
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month	☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	***Very willing***	***Somewhat willing***	***Not sure***	***Somewhat not willing***	***Not willing***	***N/A***
(A) For garbage collection services	☐	☐	X	☐	☐	☐
(B) For recyclables collection service	☐	☐	X	☐	☐	☐
(C) For yard waste collection service	☐	☐	X	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	X Yes	☐ No

If yes,

Name: Gabe Erdei

Address: 4627 N 78th Ave

City: Omaha State: Ne Zip: 68134

Email: gabeerdei@yahoo.com Phone:

Mail Completed Comment Forms to:

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c/o MAPA
2222 Cuming Street
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RESIDENT SURVEY

1. What part of the Planning Area do you live in?

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- ☐ La Vista
- ☐ Papillion
- ☐ Springfield
- ☐ Richfield
- ☐ Offutt Air Force Base
- ☐ SID
- ☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	☐	X	☐	☐
(C) Recyclables drop-off centers	☐	X	☐	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	☐	☐	☐
(F) Household hazardous materials drop-off center	☐	☐	X	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes X No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- X Bag it
- ☐ Let it lay
- ☐ Home composting
- ☐ Other (specify):
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

There needs to be a better way to recycle glass. The drop off sites now available are not adequate for this size city and too hard to use. We end up taking glass to bins scattered about Council Bluffs, where they are much more user friendly. We know quite a few people who no longer cycle glass products because it has been made so hard to do so. I think a city the size of Omaha should come up with a better way for citizens to recycle glass. We are very backward here when it comes to recycling, and by the way, what do you do with drinking glass, light bulbs,etc.

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7.	**Do you think residents in the Planning Area are recycling at an acceptable level?**	☐ Yes X No ☐ N/A
	7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe. It has to be made more convenient for people to recycle things that cannot be put in our green recycle bins. For instance, Council Bluffs has a recycling center ran by the city and which is free to citizens and will take all types of things for no charge. It is simply too hard to do this in Omaha.	
8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes ☐ No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes ☐ No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):
11.	**Are there other programs or services you would like to see implemented in the area where you live?**	X Yes ☐ No
	11a. If yes, please describe. Once again, I reiterate we need large drop off bins in our neighborhoods for recycling. Ones that could be place in a public parking lot. Businesses in Council Bluffs, such as grocery stores provide room on their property for these bins. And I have never seen a problem with these. In fact, they may cut down on some littering. The point is since glass was removed from the recycling many of our neighbors put glass in their regular garbage since it is such a hassle to recycle. Some of those drop off sites for glass the city provided after discontinuing curb side recycling were a hassle and not fit to drive a car into.	
	Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.	
12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month ☐ N/A

14.	**How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
	(A) For garbage collection services	☐	☐	☐	☐	X	☐
	(B) For recyclables collection service	☐	☐	☐	☐	☐	☐
	(C) For yard waste collection service	☐	☐	☐	☐	X	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	X Yes ☐ No

If yes,

Name: Jerome Phillips

Address: 4138 N 139 Street

City: Omaha State: NE Zip: 68164

Email: jercatp2@cox.net Phone:

Nebraska Department of Environmental Quality

The Nebraska Environmental Trust

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RESIDENT SURVEY

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Sarpy County
☐ Bellevue
☐ Gretna
X La Vista
☐ Papillion
☐ Springfield
☐ Richfield
☐ Offutt Air Force Base
☐ SID
☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	☐	X	☐	☐
(B) Recyclables collection services	☐	X	☐	☐
(C) Recyclables drop-off centers	☐	☐	X	☐
(D) Yard waste collection services	☐	X	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	☐	X	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?

☐ Bag it
☐ Let it lay
☐ Home composting
X Other (specify): It depends on what it is but we do put branches in our trash can for pick up. Grass we just leave.
☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes X No ☐ N/A

6. Do you currently recycle at your residence? ☐ Yes X No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

It would be nice to have recycling totally separate from trash service and it's hard to know what can and can't be recycled. For example nobody takes glass. It would be nice if the bins had the items accepted listed on them or even pictures of the items because allot of times I have no idea certain things can be

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	recycled	
7.	**Do you think residents in the Planning Area are recycling at an acceptable level?** *7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.*	☐ Yes ☐ No X N/A
8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.* It woudl be nice if counties had yard waste drop offs more often then once a year and most of the time I don't get information on when it is so I end up missing it. I have a large area of branches and sticks that I need to dispose of but not sure how or where to get rid of them.	X Yes ☐ No
	Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.	
12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	X Garbage ☐ Recyclables ☐ Yard waste
13.	**If you live outside Omaha, how much do you pay for these services?**	$ 20.00/month ☐ N/A

14.	**How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
	(A) For garbage collection services	☐	☐	X	☐	☐	☐
	(B) For recyclables collection service	☐	☐	X	☐	☐	☐
	(C) For yard waste collection service	☐	☐	X	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	X Yes ☐ No

If yes,

Name: Jessica Kremer
Address: 7606 Lillian Ave
City: La Vista State: Nebraska Zip: 68128
Email: jkremer4@yahoo.com Phone:

Mail Completed Comment Forms to:

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- ☐ La Vista
- ☐ Papillion
- ☐ Springfield
- ☐ Richfield
- ☐ Offutt Air Force Base
- ☐ SID
- ☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	☐	☐	X	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	☐	X	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes X No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- ☐ Bag it
- X Let it lay
- ☐ Home composting
- ☐ Other (specify):
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes X No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

I go by the codes but am told there not correct by the collecting staff. I also think they should recycle more types of items.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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I would like to see recycling bins in apratments and bussinesses.

8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	X Yes	☐ No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes	X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	☐ Website ☐ Phone Book ☐ Social Media X Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify): I look for the news letter. The city of omaha web site is to hard to find your site.	
11.	**Are there other programs or services you would like to see implemented in the area where you live?**	X Yes	☐ No

11a. If yes, please describe.

I would like to see the city go to the standard containers that only takes 1 person and a truck to empty. You could then also charge by the number of containers that each person has.

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12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste	
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month	☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	X	☐	☐	☐	☐	☐
(B) For recyclables collection service	☐	☐	☐	☐	☐	☐
(C) For yard waste collection service	☐	☐	☐	☐	X	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	X Yes	☐ No

If yes,

Name: John Larson

Address: 6610 A st

City: Omaha State: NE Zip: 68106

Email: Phone:

Mail Completed Comment Forms to:

MAPA Integrated Solid Waste Management Plan Update
c/o MAPA
2222 Cuming Street
Omaha, NE 68102

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Integrated Solid Waste Management Plan Update

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RESIDENT SURVEY

1. What part of the Planning Area do you live in?

☐ **City of Omaha**

Douglas County
(outside of Omaha)
☐ Bennington
☐ Boys Town
☐ Ralston
☐ Valley
☐ Waterloo
☐ SID
☐ Unincorporated Area of County

Sarpy County
X Bellevue
☐ Gretna
☐ La Vista
☐ Papillion
☐ Springfield
☐ Richfield
☐ Offutt Air Force Base
☐ SID
☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.	***Very Familiar***	***Somewhat Familiar***	***Not Familiar***	***N/A***
(A) Garbage collection services	☐	X	☐	☐
(B) Recyclables collection services	☐	X	☐	☐
(C) Recyclables drop-off centers	☐	X	☐	☐
(D) Yard waste collection services	☐	X	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	X	☐	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
☐ Bag it
X Let it lay
☐ Home composting
☐ Other (specify): I mulch grass clippings but bag small tree limbs etc.
☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes X No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? X Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

I just don't think people realize what they can recyle. Pamphlets should be readily available.

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8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes	X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes	X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify): I would use website and a newsletter	
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.* glass recycling which is not currently picked up at residences but can be dropped off at specific sites.	X Yes	☐ No
	Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.		
12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	X Garbage X Recyclables X Yard waste	
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month	☐ N/A

14.	**How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
	(A) For garbage collection services	X	☐	☐	☐	☐	☐
	(B) For recyclables collection service	☐	X	☐	☐	☐	☐
	(C) For yard waste collection service	☐	X	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	X Yes	☐ No

If yes,

Name: Karen Witt

Address: 7009 South 53rd Street

City: Bellevue State: NE Zip: 68157

Email: Phone:

Mail Completed Comment Forms to:

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2222 Cuming Street
Omaha, NE 68102

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Sarpy County
- ☐ Bellevue
- ☐ Gretna
- ☐ La Vista
- ☐ Papillion
- ☐ Springfield
- ☐ Richfield
- ☐ Offutt Air Force Base
- ☐ SID
- ☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	X	☐	☐	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	X	☐	☐	☐
(F) Household hazardous materials drop-off center	X	☐	☐	☐
(G) Waste disposal sites	X	☐	☐	☐
(H) Transfer stations	X	☐	☐	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	X	☐	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes X No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- ☐ Bag it
- ☐ Let it lay
- ☐ Home composting
- ☐ Other (specify): Mulch it
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes X No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

Consumers should be educated on the FULL cost of the existing SW system (it is NOT free)pay for the service based on the level of use. Since maximum recycling means minimal waste, monthly fees should be based on the level of use. (Iam celebrating my 30th anniversary of preaching this gospel but never say die!)

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

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7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

A volume/weight-based system of garbage fees; ordinances that require commercial enterprises to have a SW/Recycling plan; increase landfill fees to discourage over-disposal; incentives for businesses wishing to implement collaborative contracts for disposal services; limit over-investment (capitalization)by the disposal industry inDisposal facilities; demand consistent metrics for tracking the quantities of so-called recycled material shipped un-sorted to out-of-state systems. Demand

8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes	X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes	X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	☐ Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper X Other (specify): Industry professionals, market trends and patterns, 30-years of garbology in Ne.	
11.	**Are there other programs or services you would like to see implemented in the area where you live?**	X Yes	☐ No

11a. If yes, please describe.

Expaded Commercial recycling; food-waste composting;commercial composting

Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.

12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste	
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month	☐ N/A

14.	**How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	***Very willing***	***Somewhat willing***	***Not sure***	***Somewhat not willing***	***Not willing***	***N/A***
	(A) For garbage collection services	X	☐	☐	☐	☐	☐
	(B) For recyclables collection service	X	☐	☐	☐	☐	☐
	(C) For yard waste collection service	X	☐	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	☐ X Yes	☐ No

If yes,

Name: kay Stevens

Address: 3323 Forest Lawn Ave.

City: Omaha State: NE Zip: 68112

Email: kaystevens10@cox.net Phone: 402-709-5462

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RESIDENT SURVEY

1. What part of the Planning Area do you live in?

City of Omaha	Douglas County (outside of Omaha)	Sarpy County
	☐ Bennington	X Bellevue
	☐ Boys Town	☐ Gretna
	☐ Ralston	☐ La Vista
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	☐ SID	☐ Richfield
	☐ Unincorporated Area of County	☐ Offutt Air Force Base
		☐ SID
		☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	☐	☐	X	☐
(D) Yard waste collection services	☐	X	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	☐	X	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	X	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?

☐ Bag it
X Let it lay
☐ Home composting
☐ Other (specify):
☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

There is a program that gives rewards based on amount you recycle and it's not available here. Also, collection of plastic store bags would be great.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

7a. If no, what types of policies, programs or actions should be

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undertaken to reach acceptable levels? Describe.

8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	X Yes	☐ No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes	X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	☐ Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group X Newspaper ☐ Other (specify):	
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.* RecycleBank	X Yes	☐ No

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12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste	
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month	☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	☐	☐	☐	☐	X	☐
(B) For recyclables collection service	☐	☐	☐	☐	X	☐
(C) For yard waste collection service	☐	X	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	X Yes	☐ No

If yes,

Name: Marilyn Jenkins

Address: 104 East 16th Ave

City: Bellevue State: NE Zip: 68005

Email: marjenkins5@yahoo.com Phone:

Mail Completed Comment Forms to:

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- ☐ La Vista
- ☐ Papillion
- ☐ Springfield
- ☐ Richfield
- ☐ Offutt Air Force Base
- ☐ SID
- ☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	☐ X	☐	☐	☐
(B) Recyclables collection services	☐ X	☐	☐	☐
(C) Recyclables drop-off centers	☐	☐ X	☐	☐
(D) Yard waste collection services	☐ X	☐	☐	☐
(E) Yard waste composting facilities	☐	☐	☐ X	☐
(F) Household hazardous materials drop-off center	☐	☐ X	☐	☐
(G) Waste disposal sites	☐	☐	☐ X	☐
(H) Transfer stations	☐	☐	☐ X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐ X	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? X Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- X Bag it
- ☐ Let it lay
- ☐ Home composting
- ☐ Other (specify):
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? X Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

Describe goals, actual results, and possible reasons why goals are not being met, in periodic pamphlets placed within Omaha World-Herald papers to reach more people than those who get e-mails for which

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they must subscribe.

8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes	X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes	X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	☐ Website ☐ Phone Book ☐ Social Media X Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):	
11.	**Are there other programs or services you would like to see implemented in the area where you live?**	X Yes	☐ No

11a. If yes, please describe.

More convenient drop-off dumpsters in large grocery store parking lots. For example, there were two or three dumpsters near the end of the Hy-Vee Peony Park location. They were removed, probably at the request of Hy-Vee because they were not emptied soon enough and caused an eyesore for HY-Vee - cannot blame Hy-Vee for this. Perhaps the companies replacing filled dumpsters could be paid- or paid more - by the city to make it more likely eyesores do not develop.

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13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month	☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	☐	☐	☐	X	☐	☐
(B) For recyclables collection service	☐	☐	☐	☐	X	☐
(C) For yard waste collection service	☐	X	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	☐ Yes	☐ No

If yes,

Name: Mason Ripp

Address: 929 Hillcrest Drive

City: Omaha State: Nebraska Zip: 0

Email: mlripp@cox.net Phone: cannot converse on phone- hearing loss precludes it

Mail Completed Comment Forms to:

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2. Please indicate your familiarity with the following services and facilities in the area where you live.

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(C) Recyclables drop-off centers	☐	X	☐	☐
(D) Yard waste collection services	☐	X	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	X	☐	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- X Bag it
- ☐ Let it lay
- ☐ Home composting
- ☐ Other (specify):
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? X Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.* More rain water barrells, especially for businesses that use irrigation systems!	X Yes	☐ No
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(B) For recyclables collection service	☐	☐	☐	☐	X	☐
(C) For yard waste collection service	☐	☐	☐	☐	X	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	X Yes	☐ No

If yes,

Name: Pat Leahy

Address: 2661 North 96th Street

City: Omaha State: NE Zip: 68134

Email: st.omaha@gmail.com Phone:

Mail Completed Comment Forms to:

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2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	☐	X	☐	☐
(B) Recyclables collection services	☐	X	☐	☐
(C) Recyclables drop-off centers	☐	X	☐	☐
(D) Yard waste collection services	☐	☐	X	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	X	☐	☐	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? X Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- ☐ Bag it
- ☐ Let it lay
- ☐ Home composting
- X Other (specify): Usually mulch all that I can but will bag if it's too much to mulch
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? X Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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Most people are just confused over what can and can't be recycled

8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes	X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes	X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):	
11.	**Are there other programs or services you would like to see implemented in the area where you live?**	X Yes	☐ No

11a. If yes, please describe.

It would be helpful if there was a site where yard waste can be dropped off when needed isntead of waiting for collection day

Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.

12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste	
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month	☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	X	☐	☐	☐	☐	☐
(B) For recyclables collection service	X	☐	☐	☐	☐	☐
(C) For yard waste collection service	X	☐	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	X Yes	☐ No

If yes,

Name: Rod Dye
Address: 8232 Miami St
City: Omaha State: NE Zip: 68134
Email: rod.dye@cox.net Phone:

Mail Completed Comment Forms to:

MAPA Integrated Solid Waste Management Plan Update
c/o MAPA
2222 Cuming Street
Omaha, NE 68102

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Integrated Solid Waste Management Plan Update

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RESIDENT SURVEY

1. What part of the Planning Area do you live in?

X **City of Omaha**

Douglas County (outside of Omaha)
- ☐ Bennington
- ☐ Boys Town
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- ☐ Valley
- ☐ Waterloo
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Sarpy County
- ☐ Bellevue
- ☐ Gretna
- ☐ La Vista
- ☐ Papillion
- ☐ Springfield
- ☐ Richfield
- ☐ Offutt Air Force Base
- ☐ SID
- ☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	☐	X	☐	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	X	☐	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? X Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- ☐ Bag it
- X Let it lay
- ☐ Home composting
- ☐ Other (specify):
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? X Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes ☐ No X N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	☐ Website ☐ Phone Book ☐ Social Media X Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.*	☐ Yes X No

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12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month ☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	☐	X	☐	☐	☐	☐
(B) For recyclables collection service	☐	X	☐	☐	☐	☐
(C) For yard waste collection service	☐	X	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	X Yes ☐ No

If yes,

Name: Rpseann Brittain
Address: 14825 N Street
City: Omaha State: NE Zip: 68137
Email: rabr54@cox.net Phone:

Mail Completed Comment Forms to:

MAPA Integrated Solid Waste Management Plan Update
c/o MAPA
2222 Cuming Street
Omaha, NE 68102

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Integrated Solid Waste Management Plan Update

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RESIDENT SURVEY

1. What part of the Planning Area do you live in?

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- ☐ La Vista
- ☐ Papillion
- ☐ Springfield
- ☐ Richfield
- ☐ Offutt Air Force Base
- ☐ SID
- ☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	X	☐	☐	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	X	☐	☐	☐
(F) Household hazardous materials drop-off center	X	☐	☐	☐
(G) Waste disposal sites	☐	X	☐	☐
(H) Transfer stations	☐	X	☐	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	X	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ X No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- ☐ Bag it
- ☐ Let it lay
- ☐ Home composting
- X Other (specify): I will use a spare can. If that fills, I will use bags. For the record, I can't see what I am typing here as this box is cutoff in Firefox.
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes X No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

I selected no here because I pay for an extra service called curbside rewards. Large recycle bins with lids are imperative to keep recyclables off of the streets in Omaha. I suspect their utility would be greater than the green bins as well.

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7.	**Do you think residents in the Planning Area are recycling at an acceptable level?**	☐ Yes X No ☐ N/A
	7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe. Use economics - waste pickup should reflect the true cost while recycling should cost significantly less (especially since there are markets to make money off of recyclables downstream). Nothing speaks to people like $. Before implementing this program, offer educational programs that explain to residents how to maximize the utility of the new system. If you have money and hate recycling, you can simply send everything to the trash. ---- Obviously a setback to this type of program could be the initial start-costs associated with retrofitting trucks with sensors (for weighing) and/or passing out unified trash cans that can be weighed accordingly. Of course it can be done, as curbside rewards recycling is doing it now.	
8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):
11.	**Are there other programs or services you would like to see implemented in the area where you live?**	X Yes ☐ No
	11a. If yes, please describe. 1. Coordinate and Focus on Zero Waste strategies for the region 2. Look to expand "compost" recycling for food at curbside (San Francisco). Obviously SF has land constraints that make this a more viable option in the near-term, but we must begin to make hard decisions here in the Midwest at some point as well.	
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12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month ☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	X	☐	☐	☐	☐	☐
(B) For recyclables collection service	X	☐	☐	☐	☐	☐
(C) For yard waste collection service	X	☐	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	X Yes ☐ No
	If yes, Name: Ryan McClure Address: 4804 Webster Street	

Integrated Solid Waste Management Plan Update

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☐ La Vista
☐ Papillion
☐ Springfield
☐ Richfield
☐ Offutt Air Force Base
☐ SID
☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	X	☐	☐	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	X	☐	☐	☐
(F) Household hazardous materials drop-off center	X	☐	☐	☐
(G) Waste disposal sites	X	☐	☐	☐
(H) Transfer stations	X	☐	☐	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	X	☐	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes X No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
☐ Bag it
☐ Let it lay
X Home composting
☐ Other (specify):
☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? X Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ no N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

Marketing, incentives

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8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.* marketing, education	X Yes ☐ No

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13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month ☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	X	☐	☐	☐	☐	☐
(B) For recyclables collection service	☐	☐	☐	X	☐	☐
(C) For yard waste collection service	X	☐	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?** ***If yes,*** Name: Steve Andrews Address: 7902 Browne St City: Omaha State: NE Zip: 68134 Email: steve.andrews20@gmail.com Phone: 402.201.8931	☐ X Yes ☐ No

Mail Completed Comment Forms to:

MAPA Integrated Solid Waste Management Plan Update
c/o MAPA
2222 Cuming Street
Omaha, NE 68102

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Sarpy County
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2. Please indicate your familiarity with the following services and facilities in the area where you live.	***Very Familiar***	***Somewhat Familiar***	***Not Familiar***	***N/A***
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	X	☐	☐	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	X	☐	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
X Bag it
☐ Let it lay
☐ Home composting
☐ Other (specify):
☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

Curbside pick up for everything that is recyclable? More bins for recyclables

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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	Glass	
8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes X No
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11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.*	☐ Yes ☐ No
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14.	**How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	***Very willing***	***Somewhat willing***	***Not sure***	***Somewhat not willing***	***Not willing***	***N/A***
	(A) For garbage collection services	☐	☐	☐	☐	X	☐
	(B) For recyclables collection service	☐	☐	☐	☐	X	☐
	(C) For yard waste collection service	☐	☐	☐	☐	X	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	X Yes ☐ No

If yes,

Name: Theresa Hoffman

Address: 2315 Hogantown Dr

City: Bellevue State: Ne Zip: 68123

Email: birdsareus@hotmail.com Phone:

Mail Completed Comment Forms to:

MAPA Integrated Solid Waste Management Plan Update
c/o MAPA
2222 Cuming Street
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- ☐ Offutt Air Force Base
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2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	☐	X	☐	☐
(B) Recyclables collection services	☐	☐	☐	X
(C) Recyclables drop-off centers	☐	☐	X	☐
(D) Yard waste collection services	☐	☐	☐	X
(E) Yard waste composting facilities	☐	☐	☐	X
(F) Household hazardous materials drop-off center	☐	X	☐	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- ☐ Bag it
- ☐ Let it lay
- ☐ Home composting
- X Other (specify): Rent an apartment, not responsible.
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes ☐ No X N/A

6. Do you currently recycle at your residence? ☐ Yes X No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

Apartment management companies should have provisions with incentives to recycle.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes ☐ No X N/A

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	7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.	
8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	X Yes ☐ No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	X Yes ☐ No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.*	☐ Yes X No
	Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.	
12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month ☐ N/A

14.	**How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	***Very willing***	***Somewhat willing***	***Not sure***	***Somewhat not willing***	***Not willing***	***N/A***
	(A) For garbage collection services	☐	☐	☐	☐	☐	X
	(B) For recyclables collection service	☐	☐	☐	☐	☐	X
	(C) For yard waste collection service	☐	☐	☐	☐	☐	X

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?** ***If yes,*** Name: Address: City: State: Zip: Email: Phone:	☐ Yes X No

Mail Completed Comment Forms to:

MAPA Integrated Solid Waste Management Plan Update
c/o MAPA
2222 Cuming Street
Omaha, NE 68102

Nebraska Department of Environmental Quality
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RESIDENT SURVEY

1. What part of the Planning Area do you live in?

☐ **City of Omaha**

Douglas County
(outside of Omaha)
☐ Bennington
☐ Boys Town
☐ Ralston
☐ Valley
☐ Waterloo
☐ SID
☐ Unincorporated Area of County

Sarpy County
☐ Bellevue
☐ Gretna
☐ La Vista
X Papillion
☐ Springfield
☐ Richfield
☐ Offutt Air Force Base
☐ SID
☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	☐	X	☐	☐
(D) Yard waste collection services	☐	X	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	X	☐	☐	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
☐ Bag it
☐ Let it lay
☐ Home composting
X Other (specify): Contractor
☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes X No ☐ N/A

6. Do you currently recycle at your residence? ☐ Yes X No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

Right now, we have a 'private' system. We would pay to join. The 'incentives' are not attractive.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes No X N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.* mandatory recycling.	X Yes ☐ No
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12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month ☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	☐	☐	☐	☐	☐	X
(B) For recyclables collection service	☐	☐	☐	☐	☐	X
(C) For yard waste collection service	☐	☐	☐	☐	☐	X

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	☐ Yes X No

If yes,

Name:

Address:

City: State: Zip:

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2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	X	☐	☐	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	X	☐	☐	☐
(F) Household hazardous materials drop-off center	X	☐	☐	☐
(G) Waste disposal sites	X	☐	☐	☐
(H) Transfer stations	X	☐	☐	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	X	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? X Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- ☐ Bag it
- X Let it lay
- ☐ Home composting
- ☐ Other (specify):
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes X No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? X Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

pay as you throw for garbage and YW

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8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	X Yes ☐ No
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11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.*	☐ Yes X No

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13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month ☐ N/A

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(A) For garbage collection services	X	☐	☐	☐	☐	☐
(B) For recyclables collection service	☐	X	☐	☐	☐	☐
(C) For yard waste collection service	☐	☐	☐	☐	☐	X

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- ☐ La Vista
- ☐ Papillion
- ☐ Springfield
- ☐ Richfield
- ☐ Offutt Air Force Base
- ☐ SID
- ☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	☐	X	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	☐	☐	X	☐
(D) Yard waste collection services	☐	X	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	☐	X	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- X Bag it
- ☐ Let it lay
- ☐ Home composting
- ☐ Other (specify):
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes X No ☐ N/A

6. Do you currently recycle at your residence? ☐ Yes X No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

Since I live in an area with duplexes and apartment buildings with street parking, there are no curbside pickups for recycling. I would love to see a convenient dropoff place for residents that accept all product (cans, paper, plastic, etc.) that has weekend hours.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes ☐ No X N/A

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	7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.	
8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.*	☐ Yes X No
	Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.	
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13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month ☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	***Very willing***	***Somewhat willing***	***Not sure***	***Somewhat not willing***	***Not willing***	***N/A***
(A) For garbage collection services	☐	X	☐	☐	☐	☐
(B) For recyclables collection service	☐	☐	X	☐	☐	☐
(C) For yard waste collection service	☐	☐	X	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	☐ Yes X No

If yes,

Name:

Address:

City: State: Zip:

Email: Phone:

Mail Completed Comment Forms to:

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Omaha, NE 68102

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(outside of Omaha)
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☐ Bellevue
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☐ La Vista
☐ Papillion
☐ Springfield
☐ Richfield
☐ Offutt Air Force Base
☐ SID
☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	X	☐	☐	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	X	☐	☐	☐
(F) Household hazardous materials drop-off center	X	☐	☐	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	☐	X
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	X	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? X Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
☐ Bag it
X Let it lay
☐ Home composting
☐ Other (specify):
☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

Add glass recycling.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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Fine residents who mix recyclables and compost materials with trash.

8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes	X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes	X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):	
11.	**Are there other programs or services you would like to see implemented in the area where you live?**	X Yes	☐ No

11a. If yes, please describe.

Year round compost pickup. **The following supplements Question 14. I absolutely do not agree with attaching a service fee to recycling and yard waste collection. It will de-incentivize a necessary public responsibility to minimize and reduce our wastestream into the landfill. Waste generation on the other hand, could be served by a fee for service structure to encourage less consumption and more recycling.

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13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month	☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	X	☐	☐	☐	☐	☐
(B) For recyclables collection service	☐	☐	X	☐	☐	☐
(C) For yard waste collection service	☐	☐	X	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	☐ Yes	X No

If yes,

Name:

Address:

City: State: Zip:

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2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	☐	☐	X	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	☐	X	☐
(G) Waste disposal sites	☐	X	☐	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- X Bag it
- ☐ Let it lay
- ☐ Home composting
- ☐ Other (specify):
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

WE are very diligent about recycling. A Rewards program of some kind like private agencies do outside of city limits would be a good idea!

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

7a. If no, what types of policies, programs or actions should be

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undertaken to reach acceptable levels? Describe.

Do a rewards program to encourage people to recycle more. Also, is there a way to recycle glass? I hate just throwing those away.

8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	X Yes	☐ No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	X Yes	☐ No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	☐ Website ☐ Phone Book ☐ Social Media ☐ Newsletter X Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):	
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(B) For recyclables collection service	☐	☐	X	☐	☐	☐
(C) For yard waste collection service	☐	☐	X	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	☐ Yes	X No

If yes,

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Douglas County (outside of Omaha)
- ☐ Bennington
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- ☐ La Vista
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- ☐ Springfield
- ☐ Richfield
- ☐ Offutt Air Force Base
- ☐ SID
- ☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	☐	X	☐	☐
(B) Recyclables collection services	☐	X	☐	☐
(C) Recyclables drop-off centers	☐	☐	X	☐
(D) Yard waste collection services	☐	X	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	☐	X	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- X Bag it
- ☐ Let it lay
- ☐ Home composting
- ☐ Other (specify):
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? X Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes ☐ No X N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	☐ Website ☐ Phone Book ☐ Social Media X Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.*	☐ Yes X No

Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.

12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month ☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	☐	☐	☐	X	☐	☐
(B) For recyclables collection service	☐	☐	X	☐	☐	☐
(C) For yard waste collection service	☐	☐	X	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?** ***If yes,*** Name: Address: City: State: Zip: Email: Phone:	☐ Yes X No

Mail Completed Comment Forms to:

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Omaha, NE 68102

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2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	☐	X	☐	☐
(B) Recyclables collection services	☐	X	☐	☐
(C) Recyclables drop-off centers	☐	☐	X	☐
(D) Yard waste collection services	☐	☐	X	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	☐	X	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	X	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? X Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- ☐ Bag it
- ☐ Let it lay
- ☐ Home composting
- ☐ Other (specify):
- X N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes X No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

Larger recycling containers - containers similar to those we use for trash (large, upright, with lid) would be ideal! - ability to include all recyclables like glass, etc.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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Additional promotion of recycling procedures/policies - ability to include all recyclables like glass, etc.

8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes	X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes	X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):	
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.* Larger recycling containers with lids - ability to include glass with curbside recycling	X Yes	☐ No

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12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste	
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month	☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	☐	☐	☐	X	☐	☐
(B) For recyclables collection service	☐	☐	X	☐	☐	☐
(C) For yard waste collection service	☐	☐	X	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	☐ Yes	X No

If yes,

Name:

Address:

City: State: Zip:

Email: Phone:

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☐ Offutt Air Force Base
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2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	☐	X	☐	☐
(B) Recyclables collection services	☐	X	☐	☐
(C) Recyclables drop-off centers	☐	☐	X	☐
(D) Yard waste collection services	☐	☐	X	☐
(E) Yard waste composting facilities	X	☐	☐	☐
(F) Household hazardous materials drop-off center	X	☐	☐	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	X	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes X No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
☐ Bag it
☐ Let it lay
X Home composting
☐ Other (specify):
☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes X No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

there should be a fee for disposal of non-recyclables (a mandatory recycling program). Recycling must also be made available to apartment dwellers and businesses.

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8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes	☐ No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes	X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify): Wasteline	
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.* Workshops to help return compostable food waste to the nutrient cycle. Perhaps a grant supplying home composters for those who want them would be helpful?	X Yes	☐ No
	Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.		
12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ X Garbage ☐ X Recyclables ☐ Yard waste	
13.	**If you live outside Omaha, how much do you pay for these services?**	$14 /month	☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	X	☐	☐	☐	☐	☐
(B) For recyclables collection service	☐	☐	☐	☐	☐	☐
(C) For yard waste collection service	☐	☐	☐	☐	X	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	☐ Yes	X No

If yes,

Name:

Address:

City: State: Zip:

Email: Phone:

Mail Completed Comment Forms to:

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2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	☐	☐	X	☐
(B) Recyclables collection services	☐	☐	X	☐
(C) Recyclables drop-off centers	☐	X	☐	☐
(D) Yard waste collection services	☐	X	☐	☐
(E) Yard waste composting facilities	X	☐	☐	☐
(F) Household hazardous materials drop-off center	☐	☐	X	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	X	☐	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	X	☐	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
☐ Bag it
X Let it lay
☐ Home composting
☐ Other (specify):
☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes X No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

more information. what can and can not be recycled

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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	i think more people would recycle if they knew it would be easy and how to do it correctly. Only then can policies and programs be implemented	
8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	☐ Website ☐ Phone Book ☐ Social Media X Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.*	☐ Yes X No

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12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste
13.	**If you live outside Omaha, how much do you pay for these services?**	$__21.5____/month ☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
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(B) For recyclables collection service	☐	☐	☐	☐	X	☐
(C) For yard waste collection service	☐	☐	☐	☐	X	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?** ***If yes,*** Name: Address: City: State: Zip: Email: Phone:	☐ Yes X No

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	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
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(C) Recyclables drop-off centers	☐	☐	X	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	X	☐	☐
(F) Household hazardous materials drop-off center	☐	X	☐	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	X	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? X Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
X Bag it
☐ Let it lay
☐ Home composting
☐ Other (specify):
☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? ☐ Yes X No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

Education about the program.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes ☐ No X N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month ☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
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(B) For recyclables collection service	☐	☐	☐	☐	X	☐
(C) For yard waste collection service	☐	☐	☐	☐	X	☐

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(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	☐	X	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? X Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- X Bag it
- ☐ Let it lay
- ☐ Home composting
- ☐ Other (specify):
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? X Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes ☐ No X N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

8. Do you think current public education and information programs are X Yes ☐ No

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	adequate with regard to waste management opportunities?	
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	X Yes ☐ No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.*	☐ Yes X No
	Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.	
12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month ☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	***Very willing***	***Somewhat willing***	***Not sure***	***Somewhat not willing***	***Not willing***	***N/A***
(A) For garbage collection services	☐	☐	☐	☐	X	☐
(B) For recyclables collection service	☐	☐	☐	☐	X	☐
(C) For yard waste collection service	☐	☐	☐	☐	X	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?** ***If yes,*** Name: Address: City: State: Zip: Email: Phone:	☐ Yes X No

Mail Completed Comment Forms to:

MAPA Integrated Solid Waste Management Plan Update
c/o MAPA
2222 Cuming Street
Omaha, NE 68102

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RESIDENT SURVEY

1. What part of the Planning Area do you live in?

X **City of Omaha**

Douglas County (outside of Omaha)
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- ☐ La Vista
- ☐ Papillion
- ☐ Springfield
- ☐ Richfield
- ☐ Offutt Air Force Base
- ☐ SID
- ☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	☐	X	☐	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	X	☐	☐
(F) Household hazardous materials drop-off center	☐	X	☐	☐
(G) Waste disposal sites	☐	☐	☐	X
(H) Transfer stations	☐	☐	☐	X
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	☐	X

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? X Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- ☐ Bag it
- ☐ Let it lay
- ☐ Home composting
- X Other (specify): Mulch grass, bag some garden waste, bundle tree branches for pick-up, & have a compost pile.
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? X Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes ☐ No X N/A

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	7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.	
8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	X Yes ☐ No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	X Yes ☐ No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.*	☐ Yes X No
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12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month ☐ N/A

14.	**How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	***Very willing***	***Somewhat willing***	***Not sure***	***Somewhat not willing***	***Not willing***	***N/A***
	(A) For garbage collection services	☐	☐	☐	☐	X	☐
	(B) For recyclables collection service	☐	☐	☐	☐	X	☐
	(C) For yard waste collection service	☐	☐	☐	☐	X	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	☐ Yes X No

If yes,

Name:

Address:

City: State: Zip:

Email: Phone:

Mail Completed Comment Forms to:

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2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	X	☐	☐	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	X	☐	☐	☐
(F) Household hazardous materials drop-off center	X	☐	☐	☐
(G) Waste disposal sites	☐	X	☐	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes X No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- X Bag it
- ☐ Let it lay
- ☐ Home composting
- ☐ Other (specify):
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? ☐ Yes X No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

City no longer delivers recycle boxes

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ X Yes ☐ No ☐ N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	X Yes	☐ No
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10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):	
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.*	☐ Yes	X No

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(A) For garbage collection services	☐	☐	☐	☐	X	☐
(B) For recyclables collection service	☐	☐	☐	☐	X	☐
(C) For yard waste collection service	☐	☐	☐	☐	X	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	☐ Yes	X No

If yes,

Name:

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City: State: Zip:

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2. Please indicate your familiarity with the following services and facilities in the area where you live.	***Very Familiar***	***Somewhat Familiar***	***Not Familiar***	***N/A***
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	X	☐	☐	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	X	☐	☐	☐
(F) Household hazardous materials drop-off center	X	☐	☐	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	X	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes X No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
X Bag it
☐ Let it lay
☐ Home composting
☐ Other (specify):
☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

bigger bin, take glass,

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	☐ Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth X Neighborhood group ☐ Newspaper ☐ Other (specify):
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.* bulk disposal	X Yes ☐ No
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12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month ☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	☐	☐	☐	☐	X	☐
(B) For recyclables collection service	☐	☐	☐	☐	X	☐
(C) For yard waste collection service	☐	☐	☐	☐	X	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?** ***If yes,*** Name: Address: City: State: Zip: Email: Phone:	☐ Yes X No

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2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
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(C) Recyclables drop-off centers	☐	☐	X	☐
(D) Yard waste collection services	☐	X	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	X	☐	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
☐ Bag it
X Let it lay
☐ Home composting
☐ Other (specify):
☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes X No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? X Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

you can't make people participate, but if there were incentives,

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maybe a reduction in our property taxes, that may make this more attractive and increase participation.

8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes	X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes	X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	☐ Website ☐ Phone Book ☐ Social Media X Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):	
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.*	X Yes	☐ No

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(C) For yard waste collection service	☐	☐	☐	☐	X	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	☐ Yes	X No

If yes,

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(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	X	☐	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- ☐ Bag it
- X Let it lay
- ☐ Home composting
- ☐ Other (specify):
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? ☐ Yes X No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

Better explanation of what is/isn't allowed. Don't have the pick-up service throw stuff in the yard if it isn't recyclable when there is a garbage can right next to them.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes ☐ No X N/A

7a. If no, what types of policies, programs or actions should be

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undertaken to reach acceptable levels? Describe.

8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes	X No
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10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	☐ Website ☐ Phone Book ☐ Social Media X Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):	
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.* More drop-off sites for recycling. I would rather gather and drop-off than worry about having trash left in my yard or neighborhood.	X Yes	☐ No

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(B) For recyclables collection service	☐	☐	☐	☐	X	☐
(C) For yard waste collection service	☐	☐	☐	☐	X	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	☐ Yes	X No

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2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	☐	☐	X	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	X	☐	☐
(G) Waste disposal sites	☐	X	☐	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- X Bag it
- ☐ Let it lay
- ☐ Home composting
- ☐ Other (specify): I do not have a garden so I can't use it there. I have a a couple of small areas I do use the grass clippings.
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes X No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

Need more options for glass recycling - I had to make multiple calls to determine where I could take glass for recycling. One site is not convenient and we need multiple sites. None of my neighbors recycle their glass.

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7.	**Do you think residents in the Planning Area are recycling at an acceptable level?** *7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.* Convenient recycling areas for glass. More attention to encouraging recycle of paper, plastic and glass and money saved/earned as a reult.	☐ Yes X No ☐ N/A
8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	☐ Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group X Newspaper ☐ Other (specify):
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.* Glass recycling	X Yes ☐ No
	Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.	
12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month ☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	☐	☐	☐	☐	X	☐
(B) For recyclables collection service	☐	☐	☐	☐	X	☐
(C) For yard waste collection service	☐	☐	☐	☐	X	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?** ***If yes,*** Name: Address: City: State: Zip: Email: Phone:	☐ Yes X No

Mail Completed Comment Forms to:

MAPA Integrated Solid Waste Management Plan Update

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RESIDENT SURVEY

1. What part of the Planning Area do you live in?

X **City of Omaha**

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- ☐ La Vista
- ☐ Papillion
- ☐ Springfield
- ☐ Richfield
- ☐ Offutt Air Force Base
- ☐ SID
- ☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	X	☐	☐	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	X	☐	☐
(F) Household hazardous materials drop-off center	☐	X	☐	☐
(G) Waste disposal sites	☐	X	☐	☐
(H) Transfer stations	☐	X	☐	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	X	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? X Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- ☐ Bag it
- ☐ Let it lay
- ☐ Home composting
- X Other (specify): 40% is mulched, 60% is bagged
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

the tiny recycle bins are inadequate. By the time Deffenbaugh picks up on a windy day most bins have lost 15-20% of their contents. Why recycle isn't picked up first given the open container is inexplicable. Omaha residents should be given larger, covered containers like Kansas City and Des Moines.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes ☐ No ☐ X N/A

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	7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.	
8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	☐ Website ☐ Phone Book ☐ Social Media ☐ Newsletter X Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.* anything to help raise awareness of the importance of recycling.	X Yes ☐ No
	Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.	
12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month ☐ N/A

14.	**How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	***Very willing***	***Somewhat willing***	***Not sure***	***Somewhat not willing***	***Not willing***	***N/A***
	(A) For garbage collection services	☐	☐	☐	☐	X	☐
	(B) For recyclables collection service	☐	☐	☐	☐	X	☐
	(C) For yard waste collection service	☐	☐	☐	☐	X	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	☐ Yes X No

If yes,

Name:

Address:

City: State: Zip:

Email: Phone:

Mail Completed Comment Forms to:

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c/o MAPA
2222 Cuming Street
Omaha, NE 68102

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RESIDENT SURVEY

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☐ La Vista
☐ Papillion
☐ Springfield
☐ Richfield
☐ Offutt Air Force Base
☐ SID
☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	☐	X	☐	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	☐	X	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
X Bag it
☐ Let it lay
☐ Home composting
☐ Other (specify):
☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

glass at the curb, larger bin

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes ☐ No X N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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education on the costs and effects of aluminum mining

8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes	X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes	X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):	
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.* neighborhood compost facility	X Yes	☐ No

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12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste	
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month	☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	☐	☐	☐	☐	X	☐
(B) For recyclables collection service	☐	☐	☐	☐	X	☐
(C) For yard waste collection service	☐	☐	☐	☐	X	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	☐ Yes	X No

If yes,

Name:

Address:

City: State: Zip:

Email: Phone:

Mail Completed Comment Forms to:

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☐ Springfield
☐ Richfield
☐ Offutt Air Force Base
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☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	X	☐	☐	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	☐	X	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? X Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
X Bag it
☐ Let it lay
☐ Home composting
☐ Other (specify):
☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes ☐ No X N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes ☐ No X N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.* LARGER ITEMS SOFAS WASHERS ETC	X Yes ☐ No
	Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.	
12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month ☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	☐	☐	☐	☐	X	☐
(B) For recyclables collection service	☐	☐	☐	☐	X	☐
(C) For yard waste collection service	☐	☐	☐	☐	X	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	☐ Yes X No

If yes,

Name:

Address:

City: State: Zip:

Email: Phone:

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2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	☐	☐	X	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	☐	X	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	X	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? X Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- ☐ Bag it
- ☐ Let it lay
- ☐ Home composting
- X Other (specify): put in garbage cans marked yard waste to be picked up by the truck
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? X Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes ☐ No X N/A

7a. If no, what types of policies, programs or actions should be

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undertaken to reach acceptable levels? Describe.

8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	☐ Website ☐ Phone Book ☐ Social Media X Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.*	☐ Yes ☐ No

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13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month ☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	***Very willing***	***Somewhat willing***	***Not sure***	***Somewhat not willing***	***Not willing***	***N/A***
(A) For garbage collection services	☐	☐	☐	☐	X	☐
(B) For recyclables collection service	☐	☐	☐	☐	X	☐
(C) For yard waste collection service	☐	☐	☐	☐	X	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	☐ Yes X No

If yes,

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	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
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(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	☐	X	☐	☐
(D) Yard waste collection services	☐	☐	X	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	X	☐	☐	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	X	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
X Bag it
☐ Let it lay
☐ Home composting
☐ Other (specify):
☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? X Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes	X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes	☐ No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	☐ Website ☐ Phone Book ☐ Social Media ☐ Newsletter X Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):	
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.*	☐ Yes	☐ No
	Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.		
12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste	
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month	☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	☐	☐	☐	☐	X	☐
(B) For recyclables collection service	☐	☐	☐	☐	X	☐
(C) For yard waste collection service	☐	☐	☐	☐	X	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	☐ Yes	X No

If yes,

Name:

Address:

City: State: Zip:

Email: Phone:

Mail Completed Comment Forms to:

MAPA Integrated Solid Waste Management Plan Update
c/o MAPA
2222 Cuming Street
Omaha, NE 68102

Nebraska Department of Environmental Quality
The Nebraska Environmental Trust
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Integrated Solid Waste Management Plan Update

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RESIDENT SURVEY

1. What part of the Planning Area do you live in?

☐ **City of Omaha**

Douglas County
(outside of Omaha)
☐ Bennington
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☐ Waterloo
X SID
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Sarpy County
☐ Bellevue
☐ Gretna
☐ La Vista
☐ Papillion
☐ Springfield
☐ Richfield
☐ Offutt Air Force Base
☐ SID
☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.	***Very Familiar***	***Somewhat Familiar***	***Not Familiar***	***N/A***
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	☐	X	☐	☐
(D) Yard waste collection services	☐	X	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	X	☐	☐
(G) Waste disposal sites	X	☐	☐	☐
(H) Transfer stations	☐	X	☐	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	X	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
☐ Bag it
☐ Let it lay
X Home composting
☐ Other (specify):
☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes X No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? X Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

incentive programs

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8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes	X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes	X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	☐ Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group X Newspaper ☐ Other (specify):	
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.*	☐ Yes	☐ No
	Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.		
12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	X Garbage X Recyclables X Yard waste	
13.	**If you live outside Omaha, how much do you pay for these services?**	$ 23 /month	☐ N/A

14.	**How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	***Very willing***	***Somewhat willing***	***Not sure***	***Somewhat not willing***	***Not willing***	***N/A***
	(A) For garbage collection services	☐	☐	☐	☐	X	☐
	(B) For recyclables collection service	☐	☐	☐	☐	X	☐
	(C) For yard waste collection service	☐	☐	☐	☐	X	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	☐ Yes	X No

If yes,

Name:

Address:

City: State: Zip:

Email: Phone:

Mail Completed Comment Forms to:

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☐ Springfield
☐ Richfield
☐ Offutt Air Force Base
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☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	☐	☐	X	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	☐	X	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	☐	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? X Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
☐ Bag it
X Let it lay
☐ Home composting
☐ Other (specify):
☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes X No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? X Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

7. Do you think residents in the Planning Area are recycling at an acceptable level? X Yes ☐ No ☐ N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	X Yes	☐ No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	X Yes	☐ No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):	
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.*	☐ Yes	X No

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12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste	
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month	☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	☐	☐	☐	X	☐	☐
(B) For recyclables collection service	☐	☐	☐	X	☐	☐
(C) For yard waste collection service	☐	☐	☐	☐	X	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	☐ Yes	X No

If yes,

Name:

Address:

City: State: Zip:

Email: Phone:

Mail Completed Comment Forms to:

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RESIDENT SURVEY

1. What part of the Planning Area do you live in?

X **City of Omaha**

Douglas County (outside of Omaha)
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- ☐ Ralston
- ☐ Valley
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Sarpy County
- ☐ Bellevue
- ☐ Gretna
- ☐ La Vista
- ☐ Papillion
- ☐ Springfield
- ☐ Richfield
- ☐ Offutt Air Force Base
- ☐ SID
- ☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	☐	☐	X	☐
(D) Yard waste collection services	☐	☐	☐	☐
(E) Yard waste composting facilities	☐	☐	☐	☐
(F) Household hazardous materials drop-off center	☐	☐	X	☐
(G) Waste disposal sites	☐	X	☐	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- ☐ Bag it
- X Let it lay
- ☐ Home composting
- ☐ Other (specify):
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

I just think there are more things (ie:glass) that can be recycled that I am throwing away. Just seems a waste.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes ☐ No X N/A

7a. If no, what types of policies, programs or actions should be

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undertaken to reach acceptable levels? Describe.

8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes	X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes	X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):	
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.* I wish there were more bulk waste disposal days and that they were more readily advertised. I'd even pay $10 for the use of the large waste days in lieu of hauling it to the dump.	X Yes	☐ No

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12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste	
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month	☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	☐	X	☐	☐	☐	☐
(B) For recyclables collection service	☐	☐	☐	☐	☐	☐
(C) For yard waste collection service	☐	☐	☐	X	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	☐ Yes	X No

If yes,

Name:

Address:

City: State: Zip:

Email: Phone:

Mail Completed Comment Forms to:

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c/o MAPA
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Omaha, NE 68102

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RESIDENT SURVEY

1. What part of the Planning Area do you live in?

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(outside of Omaha)
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X SID
☐ Unincorporated Area of County

Sarpy County
☐ Bellevue
☐ Gretna
☐ La Vista
☐ Papillion
☐ Springfield
☐ Richfield
☐ Offutt Air Force Base
☐ SID
☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.	***Very Familiar***	***Somewhat Familiar***	***Not Familiar***	***N/A***
(A) Garbage collection services	☐	X	☐	☐
(B) Recyclables collection services	☐	X	☐	☐
(C) Recyclables drop-off centers	☐	☐	X	☐
(D) Yard waste collection services	☐	X	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	☐	X	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
X Bag it
☐ Let it lay
☐ Home composting
☐ Other (specify):
☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? X Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes ☐ No X N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes	X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	X Yes	☐ No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):	
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.*	☐ Yes	X No

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12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	X Garbage ☐ Recyclables X Yard waste	
13.	**If you live outside Omaha, how much do you pay for these services?**	$ 19 /month	☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	☐	☐	☐	☐	X	☐
(B) For recyclables collection service	☐	☐	☐	☐	X	☐
(C) For yard waste collection service	☐	X	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	☐ Yes	X No

If yes,

Name:

Address:

City: State: Zip:

Email: Phone:

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2. Please indicate your familiarity with the following services and facilities in the area where you live.

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(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	☐	X	☐	☐
(C) Recyclables drop-off centers	☐	☐	X	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	X	☐	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes X No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- X Bag it
- ☐ Let it lay
- ☐ Home composting
- ☐ Other (specify):
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? ☐ Yes X No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

larger container

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes ☐ No X N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes X No
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10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.*	☐ Yes X No

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13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month ☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	☐	☐	X	☐	☐	☐
(B) For recyclables collection service	☐	☐	☐	X	☐	☐
(C) For yard waste collection service	☐	X	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?** ***If yes,*** Name: Address: City: State: Zip: Email: Phone:	☐ Yes ☐ X No

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(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	☐	☐	X	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	X	☐	☐
(F) Household hazardous materials drop-off center	☐	☐	X	☐
(G) Waste disposal sites	☐	X	☐	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? X Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- ☐ Bag it
- ☐ Let it lay
- ☐ Home composting
- X Other (specify): mulch grass clippings and bundle or bag sticks/weeds
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? X Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes ☐ No X N/A

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	7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.	
8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	☐ Website ☐ Phone Book ☐ Social Media X Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.* pre-pickup waste containment. we spend about an hour each week picking up trash that wasn't contained properly.	X Yes ☐ No
	Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.	
12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month ☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	***Very willing***	***Somewhat willing***	***Not sure***	***Somewhat not willing***	***Not willing***	***N/A***
(A) For garbage collection services	☐	X	☐	☐	☐	☐
(B) For recyclables collection service	☐	☐	☐	X	☐	☐
(C) For yard waste collection service	☐	X	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?** ***If yes,*** Name: Address: City: State: Zip: Email: Phone:	☐ Yes X No

Mail Completed Comment Forms to:

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RESIDENT SURVEY

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- ☐ Bellevue
- ☐ Gretna
- ☐ La Vista
- ☐ Papillion
- ☐ Springfield
- ☐ Richfield
- ☐ Offutt Air Force Base
- ☐ SID
- ☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	☐	☐	X	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	☐	X	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- ☐ Bag it
- X Let it lay
- ☐ Home composting
- ☐ Other (specify):
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

Would like to recycle glass. Would like to just put magazines and other junk mail in the recycle barrel. I don't have time to separate and put in a brown bag, etc.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes ☐ No X N/A

7a. If no, what types of policies, programs or actions should be

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undertaken to reach acceptable levels? Describe.

8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	X Yes	☐ No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes	X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):	
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.*	☐ Yes	X No

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12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste	
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month	☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	☐	X	☐	☐	☐	☐
(B) For recyclables collection service	☐	X	☐	☐	☐	☐
(C) For yard waste collection service	☐	X	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	☐ Yes	X No

If yes,

Name:

Address:

City: State: Zip:

Email: Phone:

Mail Completed Comment Forms to:

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- ☐ Offutt Air Force Base
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2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	☐	X	☐	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	X	☐	☐
(F) Household hazardous materials drop-off center	☐	☐	X	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes X No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- X Bag it
- ☐ Let it lay
- ☐ Home composting
- ☐ Other (specify):
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? X Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes ☐ No ☐ N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	X Yes ☐ No
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11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.*	☐ Yes X No

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12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month ☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	☐	X	☐	☐	☐	☐
(B) For recyclables collection service	☐	X	☐	☐	☐	☐
(C) For yard waste collection service	☐	X	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?** ***If yes,*** Name: Address: City: State: Zip: Email: Phone:	☐ Yes X No

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- ☐ La Vista
- ☐ Papillion
- ☐ Springfield
- ☐ Richfield
- ☐ Offutt Air Force Base
- ☐ SID
- ☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	☐	X	☐	☐
(C) Recyclables drop-off centers	☐	☐	X	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	X	☐	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- X Bag it
- ☐ Let it lay
- ☐ Home composting
- ☐ Other (specify):
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes X No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? X Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes ☐ No X N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes	X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes	X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	☐ Website ☐ Phone Book ☐ Social Media X Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):	
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.* Under the Sink is too restrictive in their hours of operation as well as needing an appointment. It should be open for drop-off evenings and weekends.	X Yes	☐ No
	Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.		
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13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month	☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	☐	X	☐	☐	☐	☐
(B) For recyclables collection service	☐	X	☐	☐	☐	☐
(C) For yard waste collection service	☐	X	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	☐ Yes	X No

If yes,

Name:

Address:

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2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
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(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	X	☐	☐	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	X	☐	☐
(F) Household hazardous materials drop-off center	☐	X	☐	☐
(G) Waste disposal sites	☐	X	☐	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes X No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- X Bag it
- ☐ Let it lay
- ☐ Home composting
- ☐ Other (specify):
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

The recycling container is not sufficient. It needs to be larger with a lid. (I understand there is a cost) I'd like to see more specific reporting on recycled materials and an increase in what is able to be recycled.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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A stronger incentive program Consider best practices from areas that are seeing higher participation and success rates.

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10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):	
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(B) For recyclables collection service	☐	X	☐	☐	☐	☐
(C) For yard waste collection service	☐	X	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	☐ Yes	X No

If yes,

Name:

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(C) Recyclables drop-off centers	☐	☐	X	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	X	☐	☐	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	X	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? X Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- X Bag it
- ☐ Let it lay
- ☐ Home composting
- ☐ Other (specify):
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

Current program doesn't include glass

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes X No
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11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.*	☐ Yes ☐ No

Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.

12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month ☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	☐	X	☐	☐	☐	☐
(B) For recyclables collection service	☐	X	☐	☐	☐	☐
(C) For yard waste collection service	☐	X	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?** ***If yes,*** Name: Address: City: State: Zip: Email: Phone:	☐ Yes X No

Mail Completed Comment Forms to:

MAPA Integrated Solid Waste Management Plan Update
c/o MAPA
2222 Cuming Street
Omaha, NE 68102

Nebraska Department of Environmental Quality
The Nebraska Environmental Trust
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Integrated Solid Waste Management Plan Update

The Metropolitan Area Planning Agency (MAPA), in partnership with the City of Omaha, and Douglas and Sarpy Counties (Planning Area) is inviting input on the update to the Integrated Solid Waste Management Plan for the Planning Area. Your input is important as a final Plan Update is developed, to help guide the solid waste management systems, facilities and programs through 2032. We appreciate your input!

RESIDENT SURVEY

1. What part of the Planning Area do you live in?

X **City of Omaha**

Douglas County (outside of Omaha)
- ☐ Bennington
- ☐ Boys Town
- ☐ Ralston
- ☐ Valley
- ☐ Waterloo
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- ☐ Unincorporated Area of County

Sarpy County
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- ☐ Richfield
- ☐ Offutt Air Force Base
- ☐ SID
- ☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	☐	X	☐	☐
(B) Recyclables collection services	☐	X	☐	☐
(C) Recyclables drop-off centers	X	☐	☐	☐
(D) Yard waste collection services	☐	X	☐	☐
(E) Yard waste composting facilities	☐	X	☐	☐
(F) Household hazardous materials drop-off center	☐	☐	X	☐
(G) Waste disposal sites	☐	X	☐	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- ☐ Bag it
- ☐ Let it lay
- ☐ Home composting
- X Other (specify): I do a variety of things: Grass is mulched with mower, kept on lawn. About 10% of leaves are bagged and set on curb for collection. About 50% of branches are put in bins and set on curb for collection. About 50% of branches are burned in fire pit. The rem
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes X No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? X Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program?

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	Describe.	
7.	**Do you think residents in the Planning Area are recycling at an acceptable level?** *7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.*	X Yes ☐ No ☐ N/A
8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	☐ Website ☐ Phone Book ☐ Social Media X Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.* As a means of reducing costs, consider reducing the weekly collection to once every 10 days.	X Yes ☐ No
	Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.	
12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month ☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	X	☐	☐	☐	☐	☐
(B) For recyclables collection service	☐	X	☐	☐	☐	☐
(C) For yard waste collection service	☐	X	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?** ***If yes,*** Name: Address: City: State: Zip: Email: Phone:	☐ Yes X No

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2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	X	☐	☐	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	X	☐	☐	☐
(F) Household hazardous materials drop-off center	X	☐	☐	☐
(G) Waste disposal sites	X	☐	☐	☐
(H) Transfer stations	☐	X	☐	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	X	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes X No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- ☐ Bag it
- X Let it lay
- ☐ Home composting
- ☐ Other (specify):
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes X No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

Take glass containers and more of the plastic types.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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Demonstrate that recycling is worthwhile and that it's not all just separated out and then eventually disposed of or not reused. Identify local recyclers and how the recycled materials are being used.

8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes	X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes	X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):	
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.*	☐ Yes	X No

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12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste	
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month	☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	X	☐	☐	☐	☐	☐
(B) For recyclables collection service	X	☐	☐	☐	☐	☐
(C) For yard waste collection service	☐	X	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	☐ Yes	X No

If yes,

Name:

Address:

City: State: Zip:

Email: Phone:

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☐ Springfield
☐ Richfield
☐ Offutt Air Force Base
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☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	☐	X	☐	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	X	☐	☐
(F) Household hazardous materials drop-off center	X	☐	☐	☐
(G) Waste disposal sites	X	☐	☐	☐
(H) Transfer stations	☐	X	☐	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	X	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes X No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
☐ Bag it
X Let it lay
☐ Home composting
☐ Other (specify):
☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes X No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? X Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

More emphasis needs to be placed on resource conservation.

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	The public and buisnesses need to be better informed and encouraged to reduce, reuse and recycle.	
8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	☐ Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper X Other (specify): I use multiple sources, website, phone books, word of mouth.
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.* Energy recovery through incineration.	X Yes ☐ No
	Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.	
12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	X Garbage ☐ Recyclables ☐ Yard waste
13.	**If you live outside Omaha, how much do you pay for these services?**	$ 20 /month ☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	X	☐	☐	☐	☐	☐
(B) For recyclables collection service	☐	☐	☐	☐	☐	☐
(C) For yard waste collection service	X	☐	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?** ***If yes,*** Name: Address: City: State: Zip: Email: Phone:	☐ Yes X No

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1. What part of the Planning Area do you live in?

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2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	X	☐	☐	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	X	☐	☐	☐
(F) Household hazardous materials drop-off center	X	☐	☐	☐
(G) Waste disposal sites	X	☐	☐	☐
(H) Transfer stations	☐	X	☐	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	X	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes X No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- ☐ Bag it
- ☐ Let it lay
- X Home composting
- ☐ Other (specify):
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes X No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

We need curbside glass recycling again.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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	Charge people based on the amount of waste they generate. The more trash you generate the more you pay.	
8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.* Municipal composting for all organic waste material such as kitchen food wast.	X Yes ☐ No
	Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.	
12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month ☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	X	☐	☐	☐	☐	☐
(B) For recyclables collection service	☐	☐	☐	X	☐	☐
(C) For yard waste collection service	X	☐	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	☐ Yes X No

If yes,

Name:

Address:

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2. Please indicate your familiarity with the following services and facilities in the area where you live.	***Very Familiar***	***Somewhat Familiar***	***Not Familiar***	***N/A***
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	☐	X	☐	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	X	☐	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
X Bag it
☐ Let it lay
☐ Home composting
☐ Other (specify):
☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

Collect Glass

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes ☐ No X N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.*	☐ Yes X No

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12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	X Garbage X Recyclables X Yard waste
13.	**If you live outside Omaha, how much do you pay for these services?**	$12____/month ☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	X	☐	☐	☐	☐	☐
(B) For recyclables collection service	X	☐	☐	☐	☐	☐
(C) For yard waste collection service	X	☐	☐	☐	☐	☐

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(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	X	☐	☐	☐
(F) Household hazardous materials drop-off center	X	☐	☐	☐
(G) Waste disposal sites	X	☐	☐	☐
(H) Transfer stations	X	☐	☐	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	X	☐	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? X Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
☐ Bag it
☐ Let it lay
☐ Home composting
☐ Other (specify):
X N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? X Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

TEST

7. Do you think residents in the Planning Area are recycling at an acceptable level? X Yes ☐ No ☐ N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

Nebraska Department of Environmental Quality
The Nebraska Environmental Trust
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8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	X Yes	☐ No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	X Yes	☐ No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):	
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.*	X Yes	☐ No

Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.

12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	X Garbage ☐ Recyclables ☐ Yard waste	
13.	**If you live outside Omaha, how much do you pay for these services?**	$s /month	☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	☐	☐	X	☐	☐	☐
(B) For recyclables collection service	☐	☐	X	☐	☐	☐
(C) For yard waste collection service	☐	☐	X	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?**	X Yes	☐ No

If yes,

Name:

Address:

City: State: Zip:

Email: Phone:

Mail Completed Comment Forms to:

MAPA Integrated Solid Waste Management Plan Update
c/o MAPA
2222 Cuming Street
Omaha, NE 68102

Nebraska Department of Environmental Quality
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Integrated Solid Waste Management Plan Update

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RESIDENT SURVEY

1. What part of the Planning Area do you live in?

X **City of Omaha**

Douglas County (outside of Omaha)
- ☐ Bennington
- ☐ Boys Town
- ☐ Ralston
- ☐ Valley
- ☐ Waterloo
- ☐ SID
- ☐ Unincorporated Area of County

Sarpy County
- ☐ Bellevue
- ☐ Gretna
- ☐ La Vista
- ☐ Papillion
- ☐ Springfield
- ☐ Richfield
- ☐ Offutt Air Force Base
- ☐ SID
- ☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	X	☐	☐	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	X	☐	☐
(G) Waste disposal sites	☐	X	☐	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? X Yes ☐ No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- X Bag it
- ☐ Let it lay
- ☐ Home composting
- ☐ Other (specify):
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? X Yes ☐ No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

Please figure out a way to take glass.

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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	Education on recycling and all the things that can be recycled	
8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	X Yes ☐ No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.*	☐ Yes X No
	Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.	
12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month ☐ N/A

14.	**How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
	(A) For garbage collection services	☐	X	☐	☐	☐	☐
	(B) For recyclables collection service	☐	X	☐	☐	☐	☐
	(C) For yard waste collection service	☐	X	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?** ***If yes,*** Name: Address: City: State: Zip: Email: Phone:	X Yes ☐ No

Mail Completed Comment Forms to:

MAPA Integrated Solid Waste Management Plan Update
c/o MAPA
2222 Cuming Street
Omaha, NE 68102

Nebraska Department of Environmental Quality
The Nebraska Environmental Trust
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RESIDENT SURVEY

1. What part of the Planning Area do you live in?

X **City of Omaha**

Douglas County (outside of Omaha)
- ☐ Bennington
- ☐ Boys Town
- ☐ Ralston
- ☐ Valley
- ☐ Waterloo
- ☐ SID
- ☐ Unincorporated Area of County

Sarpy County
- ☐ Bellevue
- ☐ Gretna
- ☐ La Vista
- ☐ Papillion
- ☐ Springfield
- ☐ Richfield
- ☐ Offutt Air Force Base
- ☐ SID
- ☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	☐	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	☐	☐	X	☐
(D) Yard waste collection services	☐	☐	X	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	☐	X	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	☐	X	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes ☐ X No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?
- ☐ Bag it
- ☐ Let it lay
- ☐ Home composting
- X Other (specify): Mulch
- ☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes X No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? ☐ Yes X No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

Larger bins; accept glass

7. Do you think residents in the Planning Area are recycling at an acceptable level? ☐ Yes X No ☐ N/A

7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.

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	We need a RecycleBank program	
8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes X No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.*	☐ Yes X No
	Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.	
12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month ☐ N/A

14.	**How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
	(A) For garbage collection services	X	☐	☐	☐	☐	☐
	(B) For recyclables collection service	X	☐	☐	☐	☐	☐
	(C) For yard waste collection service	☐	X	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?** ***If yes,*** Name: Address: City: State: Zip: Email: Phone:	☐ Yes ☐ No

Mail Completed Comment Forms to:

MAPA Integrated Solid Waste Management Plan Update
c/o MAPA
2222 Cuming Street
Omaha, NE 68102

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RESIDENT SURVEY

1. What part of the Planning Area do you live in?

X **City of Omaha**

Douglas County
(outside of Omaha)
☐ Bennington
☐ Boys Town
☐ Ralston
☐ Valley
☐ Waterloo
☐ SID
☐ Unincorporated Area of County

Sarpy County
☐ Bellevue
☐ Gretna
☐ La Vista
☐ Papillion
☐ Springfield
☐ Richfield
☐ Offutt Air Force Base
☐ SID
☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where you live.

	Very Familiar	*Somewhat Familiar*	*Not Familiar*	*N/A*
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Recyclables drop-off centers	☐	X	☐	☐
(D) Yard waste collection services	X	☐	☐	☐
(E) Yard waste composting facilities	☐	☐	X	☐
(F) Household hazardous materials drop-off center	☐	X	☐	☐
(G) Waste disposal sites	☐	☐	X	☐
(H) Transfer stations	☐	☐	X	☐
(I) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	X	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs? ☐ Yes X No

3a. If yes, are these sources adequate? ☐ Yes ☐ No

4. How do you manage your yard waste?

☐ Bag it
☐ Let it lay
☐ Home composting
X Other (specify): Depends on the material, I let my grass clippings lay on the lawn, but I bag all the fall leaves and landscaping leftovers in the spring, along with branches from stormy weather.
☐ N/A

5. Do you think everyone should pay equally for curbside yard waste collection even if they are not using it or only use it occasionally? ☐ Yes X No ☐ N/A

6. Do you currently recycle at your residence? X Yes ☐ No

6a. If yes, is your current program adequate to meet your needs? X Yes ☐ No

6b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Describe.

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7.	**Do you think residents in the Planning Area are recycling at an acceptable level?** *7a. If no, what types of policies, programs or actions should be undertaken to reach acceptable levels? Describe.*	☐ Yes ☐ No ☐ N/A
8.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	X Yes ☐ No
9.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes X No
10.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	X Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Neighborhood group ☐ Newspaper ☐ Other (specify):
11.	**Are there other programs or services you would like to see implemented in the area where you live?** *11a. If yes, please describe.* One year I called the Spring cleanup number and listened to the drop off sites and dates available; this info was listed by subdivision but I never heard my subdivisin mentioned. PLEASE, PLEASE post this informatin online because listening to a recorded message is so last century and is hard to get all the data without repeated listening; I need better options to get rid of some bulky items that have been accumulating for five years!	X Yes ☐ No

Residents in the City of Omaha pay through their property tax the equivalent of approximately $9.44 per month for curbside collection of garbage, recyclables, and unlimited seasonal yard waste.

12.	**If you live outside Omaha, what type of solid waste collections services do you currently pay for? (check all that apply)**	☐ Garbage ☐ Recyclables ☐ Yard waste
13.	**If you live outside Omaha, how much do you pay for these services?**	$_____/month ☐ N/A

14. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	*Very willing*	*Somewhat willing*	*Not sure*	*Somewhat not willing*	*Not willing*	*N/A*
(A) For garbage collection services	☐	☐	☐	☐	☐	☐
(B) For recyclables collection service	☐	☐	☐	☐	☐	☐
(C) For yard waste collection service	☐	☐	☐	☐	☐	☐

15.	**Would you like to receive additional information on available solid waste services, facilities, systems and programs?** ***If yes,*** Name: Address: City: State: Zip: Email: Phone:	☐ Yes ☐ No

Mail Completed Comment Forms to:

MAPA Integrated Solid Waste Management Plan Update

Nebraska Department of Environmental Quality

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BUSINESS SURVEY

1. In what part of the Planning Area is your business located?

X **City of Omaha**

Douglas County

(outside of Omaha)

- ☐ Bennington
- ☐ Boys Town
- ☐ Ralston
- ☐ Valley
- ☐ Waterloo
- ☐ SID
- ☐ Unincorporated Area of County

Sarpy County

- ☐ Bellevue
- ☐ Gretna
- ☐ La Vista
- ☐ Papillion
- ☐ Springfield
- ☐ Richfield
- ☐ Offutt Air Force Base
- ☐ Unincorporated Area of County

2. Please indicate your familiarity with the following services and facilities in the area where your business is located.	**Very Familiar**	**Somewhat Familiar**	**Not Familiar**	**N/A**
(A) Garbage collection services	X	☐	☐	☐
(B) Recyclables collection services	X	☐	☐	☐
(C) Yard waste composting facilities	X	☐	☐	☐
(D) Waste disposal sites	☐	X	☐	☐
(E) Transfer stations	☐	X	☐	☐
(F) Facilities that accept waste banned from landfill (e.g., tire, appliances, batteries, motor oil)	☐	X	☐	☐

3. Do you know where to get information about solid waste management and diversion services, facilities, and programs available to you? X Yes ☐ No

3a. If yes, are these sources adequate? X Yes ☐ o

4. How do you manage your yard waste?

- ☐ Bag it
- ☐ Let it lay
- ☐ Lawn Service
- ☐ Other (Explain) _____
- ☐ N/A

5. Do you currently recycle at your business? X Yes ☐ No

5a. If yes, is your current program adequate to meet your needs? X Yes ☐ o

5b. If no, are there things that could be done to encourage you to recycle or improve the existing program? Please describe. _____

_____

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Mail Completed Comment Forms to:

MAPA Integrated Solid Waste Management Plan Update
c/o MAPA
2222 Cuming Street
Omaha, NE 68102

6.	**Do you think businesses in the Planning Area are recycling at an acceptable level?**	☐ es X No ☐ /A
	6a. If no, what type of policies, programs or actions should be undertaken to reach acceptable levels? Please Describe.	
	Businesses should be required to develop recycling plans; there need not be penalties for failure to comply, but rather the city could use incentives to encourage compliance. For example, open up the opportunity for smaller businesses within the city's contracted hauler's routes to be serviced in the same truck. This has the dual benefit of helping increase revenues for the city (since it is paid for the recyclables it receives) and it would allow the hauler the opportunity to generate additional revenue (since small businesses would gladly pay for the service). This approach might could possibly resolve the impasse the hauler and the city have had regarding the city's reluctance to pay for fuel surcharges.	
7.	**Do you think current public education and information programs are adequate with regard to waste management opportunities?**	☐ Yes X No
8.	**Do you think current public education and information programs are adequate in the areas of resource conservation, waste reduction, waste diversion, and environmental stewardship opportunities?**	☐ Yes X No
9.	**Please identify the sources you are most likely to use to get information on your needs for solid waste diversion and disposal?**	☐ Website ☐ Phone Book ☐ Social Media ☐ Newsletter ☐ Television ☐ Radio ☐ Word of mouth ☐ Waste Hauling Firm ☐ Newspaper X Other (specify): Firstar Fiber
10.	**Are there other programs or services you would like to see implemented in the area where your a business is located?**	X Yes ☐ No
	10a. If yes, describe. Composting of food wastes	
11.	**What type of solid waste collection services do you currently use? (check all that apply)**	☐ Self-haul X Single-use dumpster ☐ Shared-use dumpster ☐ Compactor X Recyclable collection ☐ Self-haul recycling
	11a. How much do you pay for these services?	$_$1,000 /month ☐ N/A

12. **How willing are you to support a collection program where you pay a service fee based on the amount of material you set out in the following categories:**	***Very willing***	***Some what willing***	***Not sure***	***Somewhat not willing***	***Not willing***	***N/A***
(A) For garbage collection services	☐	☐	☐	☐	☐	X
(B) For recyclables collection service	☐	☐	☐	☐	☐	X

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13. Would you like to receive additional information on available solid waste services, facilities, systems and programs?	X Yes	☐ No

If yes,

Name: Dale Gubbels

Address: 10330 I Street, Suite 100

City: Omaha State: NE Zip: 68127

Email: dgubbels@firstarfiber.com Phone: 402.894.0003

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Appendix C4

Comment from Public Meetings

- **Summary of All Comments/Responses**
- **Copy of All Comments**

Summary of All Comments/Responses

Integrated Solid Waste Management Plan Update

Summary of Comments and Responses

First Name	Ryan
Last Name	McClure
Organization	N/A
Address	4804 Webster St
Apt/Suite	
City	Omaha
State	NE
Zip	68132
Email	djriong@gmail.com
Phone	402.590.6768
Comment	I am very willing to move to a pay as you go service so long as: 1. It is equitable - meaning service must be affordable to everyone 2. Recycling helps offset the cost of regular trash costs (this incentivises diversion and can help people keep their waste lower) 3. This information is widely distributed to residents in N. and S. Omaha and they agree with it.

First Name	ROBERT
Last Name	DOOLEY
Organization	
Address	1221 N 162ND ST
Apt/Suite	
City	OMAHA
State	NE - Nebraska
Zip	681182445
Email	rmdooley1@yahoo.com
Phone	4024030355
Comment	Larger covered recycling bins would be good because (A) less trash leaving the bins on windy days, (B) provide more recycling opportunities rather than tossing recycle in the garbage when the bin is full.

Integrated Solid Waste Management Plan Update

Summary of Comments and Responses

First Name	Dale
Las tName	Gubbels
Organization	Firstar Fiber
Address	10030 I St.
Apt/Suite	Suite 100
City	Omaha
State	NE
Zip	68127
Email	dgubbels@firstarfiber.com
Phone	402.894.0003, ext. 13
Comment	Is the plan posted on this site as suggested by Wasteline? If so, I have not been able to find it. Would it be possible to have it emailed to me? Thank you.

First Name	Jim
Last Name	Thompson
Organization	Nebraska State Recycling Association
Address	10330 "I" Street
Apt/Suite	Suite 120
City	Omaha
State	NE
Zip	68127
Email	zippijd@aol.com
Phone	402-672-0603
Comment	Although I have not read the entire document, but upon review I did not find any reference to the Nebraska State Recycling Association (NSRA). Is this merely an oversite or does MAPA feel there is limited interaction needed with this organization? Jim Thompson, Chairman, NSRA

Integrated Solid Waste Management Plan Update

Summary of Comments and Responses

First Name	Katie
Last Name	Torpy
Organization	Joslyn Institute for Sustainable Communities
Address	1004 Farnam Street
Apt/Suite	Suite 101
City	Omaha
State	NE
Zip	68102
Email	jci@sustainabledesign.org
Phone	402-933-0080
Comment	I would love to see the following items tackled in an updated MSW management plan. 1. In the continued absence of municipal curbside glass recycling, more drop-off sites should be made available. 2. Businesses should be made responsible for offering recycling for the products they produce and distribute. 3. Consider taxing residential MSW as a means to incentivize greater recycling and composting, both of which reduce stress upon the landfill. SImply because there is a 93 year life span on the capacity of the Pheasant Point landfill does not give cause for business as usual strategies. 4. Multi-residential recycling for apartment dwellers should be made available either through the city or by incentivizing landlords to provide recycling options. 5. Deconstruction should be encouraged over demolition and policies developed to promote this practice throughout the planning area. This is also an excellent opportunity for public education on waste diversion and management and would correspond to the City of Omaha's Environmental Element recommendations. Code changes allowing the reuse of salvaged building materials also need to be explored. 6. Private landfill sites should be required to provide waste tracking data to facilitate a complete benchmarking of current waste generation. Reporting should be coordinated and uniform throughout the planning area. To the degree that this reporting can be coordinated such that it might be later expanded and thus compatible with the rest of the state would also desirable.

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Copy of All Comments

WASTE CONNECTIONS of NEBRASKA, INC.
Division Office
Connect with the Future

May 14, 2012

MAPA Integrated Solid Waste Management Plan
c/o MAPA
2222 Cuming Street
Omaha, NE

HAND DELIVERED

Comments re Integrated Solid Waste Management Plan Update

Dear MAPA:

I am the Vice President of Waste Connections of Nebraska, Inc., which operates in Douglas and Sarpy Counties as Papillion Sanitation ("Papillion Sanitation"). The purpose of this letter is to provide comments regarding the Integrated Solid Waste Management Plan Update ("Update").

As MAPA is aware, Papillion Sanitation is one of the largest haulers of solid waste in the Omaha metropolitan area. Papillion Sanitation provides residential and commercial solid waste removal services in both Douglas and Sarpy Counties.

Papillion Sanitation understands the Update is preliminary and the process for implementing a plan will take a significant amount of time. However, as requested, Papillion Sanitation has some comments at this point it would like to provide. We provide our comments below.

A. "Planning Area" Should be Expanded to Include Butler, Saunders, and Cass Counties as well as Douglas and Sarpy Counties

One initial comment Papillion Sanitation has to the Update is that we believe the Update should include the entire metropolitan area waste shed, not just Douglas and Sarpy Counties. We believe this Update should include Butler, Saunders, and Cass Counties, as well as Douglas and Sarpy Counties, as this area constitutes one waste shed. Butler, Saunders, and Cass Counties are likely to be ever increasing contributors to solid waste over the course of time given their likely population growth as a group in the coming years.

10810 South 144th Street • Omaha, NE. 68138 • 402.346.7800 • Fax 402.896.6489

B. The Solid Waste Steering Committee Should Include Private Waste Disposal Companies

The Update states that in order to undertake the Update, a Solid Waste Steering Committee was formed, which includes representatives of MAPA, the City of Omaha, Douglas County, and Sarpy County. (Needs Assessment 1-1). In reviewing the Update, we also noticed the guiding principles for the Update includes, among other things, the goal of encouraging regional cooperation.

Given the significant scope of the Update and accompanying reports, we believe the Solid Waste Steering Committee should include representatives of private industry. The Update addresses numerous issues that could have broad potential implications for private industry, and we believe cooperation going forward will require discussions between both government representatives and private companies who haul a significant amount of waste in Douglas and Sarpy Counties. We believe true regional cooperation can only be attained through participation and cooperation of private industry and government.

C. Additional Flow Control Mechanisms Would Decrease Competition and Result in Higher Prices to the Public.

The Update in several different places suggests different types of flow control be considered to address "loss of waste to competing disposal facilities outside [Douglas] County." (TM-1, pg. 10). The Update also suggests funding mechanisms "[t]o help secure revenues that would fund waste management programs the County may look at implementing policy or program measures (initiatives) to secure the flow of waste, targeted for disposal, to the Pheasant Point Landfill, expand services and waste sources managed, or impose fees to capture the value of the solid waste resource currently being exported from Douglas County." (Strategy Development, 4-6).

The Update goes on to suggest the following policy measures, discussed further in the Update: (a) economic flow control; (b) legislative flow control; (c) construction of transfer stations; (d) additional and/or increased programs, (e) vehicle licensing programs; and (f) implementation of County managed recycling/diversion services. (Strategy Development 4-6).

Papillion Sanitation objects to the parts of the Update that suggests implementation of actions designed to limit competition for waste and direct more waste to its preferred landfill. Papillion Sanitation believes the more restrictions and regulations placed upon solid waste disposal in Douglas and Sarpy Counties, the higher the cost of disposal to consumers. The free market in the Omaha area, where it is allowed to operate, requires solid waste haulers to compete with each other for business. If the free market were further compromised in Douglas and Sarpy counties, we believe it would be the consumers who would ultimately suffer.

Papillion Sanitation believes the flow control proposals outlined in the Update would result in higher prices for business and residents who must pay through taxes or through waste services fees to dispose of their solid waste. Further, and significantly, Papillion Sanitation is also concerned that certain flow control proposals in the Update would violate applicable law.

D. Waste Tracking Proposal Would be Costly and Unnecessary.

The Waste Tracking proposal outlined in document labeled TM-2 in our view seeks unnecessary regulation which could result in increased costs that would ultimately be passed on by businesses to the consumer.

For example, at Report TM-2, pg. 11, the Update notes several mechanisms that might be used to track waste, including (a) the proposal to require private companies to report information on waste collection, (b) require transfer stations to report quantities, requiring reports on origin of waste, and (c) the suggestion to potentially seek a change in state rules and regulations to require waste disposal companies to report quantities of materials among other information. (TM-2, pg. 11-12). Report TM-2 goes on in pg. 12 to note other potential efforts to regulate private waste hauling companies.

We believe these increased reporting and regulation proposals are unnecessary and not in the interest of the public. We believe increased reporting requirements would result in private companies having to pass on increased costs to consumers. Also, as noted in the Update, private companies do have solid waste pickup routes that straddle county and city limits.. Given this reality, having to report volume and origin information would likely be costly and difficult. Papillion Sanitation also does not see the need for a mandated reporting scheme to report solid waste origins, quantities, and destinations.

E. Market Assessment Section Should be Updated.

Market Assessment provided in document TM-6, provides an assessment of the market for various recyclables in the Omaha area. As a comment to document TM-6, Papillion Sanitation would like to point out it is the largest major waste company hauling in the Omaha area that is able to provide glass recycling service. The public we serve is extremely pleased to have to opportunity to recycle glass. We believe Papillion Sanitation's significant experience with recycling allows us to have a reasonably good handle on market conditions for recyclables. We believe that if private industry were included in the discussion on the market for recyclables, we could offer a better assessment of the true market.

F. Recycling/Diversion Programs.

Papillion Sanitation believes recycling and diversion programs work well when they are driven by public demand or economic forces. We believe recycling and diversion programs do not work nearly as well when enacted pursuant to government requirements, demands, or programs funded by regulatory efforts or taxation.

As MAPA likely knows, Papillion Sanitation sought to build a recycling center at 69th and F Streets two years ago. Half of the proposed square footage in the facility would have included space exclusively for recycling/diversion efforts while the other half would have been used as a waste transfer station. Although the Omaha City Planning Department and the Planning Board endorsed the plan, Douglas County opposed the plan and the project was ultimately not built. At the City Council hearing on the proposal, a representative of Douglas County expressed a concern that the project would eventually hurt volumes being sent to the Douglas County Landfill, although there was no direct evidence that this would have indeed happened except for

the reduced tonnage generally being sent to landfills due to increased recycling opportunities if the facility were built.

The 69th and F project, although not built, was driven by economic forces and would have resulted in significant new opportunities for recycling and diversion in the Omaha metropolitan area, all without investment of public money. The project would have also provided the City of Omaha a host fee for the facility.

This proposed project illustrates that in the view of Papillion Sanitation, recycling and diversion programs do not need to be "funded" by increasing taxes and enacting programs. Private companies are ready and willing to increase recycling and diversion opportunities because doing so is simply good business. The public and solid waste producers seek additional recycling and diversion opportunities, and many times businesses are ready and willing to fulfill this demand as long as applicable government actions and regulations do not prevent or limit the opportunity for private companies to develop and provide such services. We believe the public is best served when the free market is allowed to operate with regard to waste disposal and recycling activities.

As noted in the Update, Papillion Sanitation eventually built a transfer station in conjunction with Sarpy County. We are pleased to have the opportunity to work with Sarpy County as we believe we can provide significant value to both Sarpy County and the public.

We at Papillion Sanitation would like to thank the individuals on the Solid Waste Committee for the significant work placed into the Update thus far. We at Papillion Sanitation look forward to continued cooperation with municipal and county governments to provide residential and commercial services to customers in the metropolitan area. If you have any questions or would like to further discuss these comments, please do not hesitate to call me at 402-861-2213.

Yours truly,
WASTE CONNECTIONS OF NEBRASKA, INC.

Lee Wilson
Division Vice President

Building a Stronger Resource Conservation Future for Omaha: 2 Modest Proposals

1. Allow for and encourage residents to use larger, wheeled, lidded carts for curbside recycling
2. Incentivize businesses to voluntarily develop waste reduction and recycling efforts

The Rationale

For a Citywide Rollout of Recycling Carts

Communities that have switched to carts have seen recycling rates dramatically increase. Nationally there have been reports of increases of 30%. Closer to home, when a local hauler switched his customers from the 18-gallon bins to 96 gallon carts, his recovery of recyclables shot up by 300%. Even if one assumes this was an anomaly and Omaha's increase would simply mirror that of other cities, a 30% increase over current levels would recycle another 5,000 tons annually. Between avoided landfill costs and its earned recycling revenues, the city would realize about an extra $400,000 annually. Whatever increases are realized, the logical reasons for why carts improve recycling rates include:

- ✓ Large carts allow for the inclusion of more material; people often comment they are constrained by the smaller bins, to the point where they will automatically resort to placing recyclables – *and this is the ironic part* – in the much larger trash cans which they are allowed to use.
- ✓ Wheeled carts are easier and thus more convenient to store and take materials to the curb. As Omahans age, carts will be an even greater necessity.
- ✓ Lidded carts combat one of the most cited complaints about the recycling bins: blowing recyclables that litter the neighborhoods. Those materials often then end up in the trash or worse – waterways.

For Incentivizing Commercial Sector Recycling

The obvious reason for promoting greater recovery efforts among Omaha's business community is the sheer potential for recovery. By some estimates commercial sources, which can include businesses and residential apartments, account for half or more of the trash a typical community discards. Businesses' trash usually contains a greater percentage of recyclables which are relatively easy to recover.

A less apparent yet equally valid reason to target the commercial sector is that once businesses and their employees are exposed to the merits of recycling, they often wholeheartedly embrace the practice. Indeed, economy considerations account for why so many businesses, regardless of their size, seriously consider setting "zero waste" goals. Seeing that recycling is possible at work, we hear of many employees who begin to recycle at home. Hence, this potential to create commercial sector enthusiasm for recycling can play a role in achieving broader community goals, as is suggested in the following proposed responses to challenges to implementing these proposals.

Proposals' Challenges and Potential Responses

For carts:

Challenges	Responses
Obtaining the city's hauler's support 1) Retrofitting the trucks; estimated cost per truck $35K; 10 trucks; $350K 2) Addressing Deffenbaugh's chief aim: obtaining fuel surcharges 3) Mitigating the haulers and the city's concerns about liability for damaged carts	Develop incentives for the hauler to make the investment itself and to address its needs, e.g.: a) Apply for NET and DEQ grants to lower the cost b) Explore potential tax credits (Neb. Advantage Act) c) Share revenue increases with the hauler, i.e., for every ton collected on routes equipped with lifts, devote revenue to reimburse it for its capital investment d) Pass ordinance requiring businesses to develop recycling plans e) Allow the hauler to commingle commercial accounts with residential loads; share that revenue
Obtaining tax payers'/residents' support 1. Cost of the carts; $40/cart; to supply all 130,000 households at once would cost $5.2 million 2. Resentment if the program cannot be made available to all residents (because of cost concerns)	1) Using grants, potential advertising revenues (from "branding" the carts) and by devoting a portion of the city's earned revenues and avoided landfill costs, subsidize cart purchases on a sliding scale relative to residents' income levels. 2) Recognize that residents who are keenly interested and capable to contribute either all or even some of the cost will lead to a majority of residents using carts.
Convincing the city to act 1. Due to the challenges, reluctance exists to change the status quo 2. Concerns any change may be thought to violate the restriction to charge for trash services	Enlist public support for changes • Hold public awareness meetings • Survey residents • Meet with city and state officials

For a commercial recycling ordinance

Challenges	Responses
Obtaining businesses' support 1. No matter how "benign" the ordinance, distain for "government interference" 2. Misperceptions about the "costs" of recycling	Draft an ordinance devoid of penalties, but instead loaded with rewards for compliance. Examples: • Participation in a grant funded collection program • Allowance to be serviced by city's program Enlist Chamber of Commerce support
Obtaining city support Concerns it lacks the right, or can muster the political will	1. Gain Omaha Chamber support 2. Gain political allies by offering small businesses permission to use city curbside service; charge a fee – use the fee to subsidize residential cart purchases