



Resource Recycling Systems
Sustainable Systems for a Waste-Free Future

CHIPPEWA COUNTY MATERIALS RECOVERY AND FACILITY MANAGEMENT OPTIONS STUDY

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BACKGROUND

Chippewa County Recycling Division is assessing where changes could be made to evaluate the viability of material recycling facilities (MRFs).

- Determine the effectiveness of the household recycling programs and MRFs in Chippewa County.
- Provide the County with information and options for future changes.

The Study has the following three components:

- Market Analysis Report that contains market analysis for historic, current and projected market values for single sort, commingled and source separated recyclable materials.
- Recyclable Materials Volume Analysis Report that will evaluate the recyclable waste stream and volume of recyclable materials in Chippewa County.
- MRF Options Analysis Report that summarizes the anticipated costs, benefits, and feasibility of the three management options to expand the utility of material recovery facilities

RECYCLABLE MATERIALS VOLUME ANALYSIS

- The Recyclable Materials Volume Analysis includes an evaluation of the current recyclable waste stream as well as an estimate of potential recyclable material volumes that could be achieved if household recycling collection methods followed “best practices.”
- Chippewa County is designated to be the Responsible Unit (RU) by 28 of 31 municipalities. Of the 28 municipalities that provide recycling programs there are 5 municipalities that utilize curbside collection provided by the private sector.

TREND TO DUAL OR SINGLE SORT

Dual Stream is collection with all containers in one bin and paper fiber in the other. Single Stream collects all material in a single bin or cart.

- Reinvigorate Recycling Program – Increase the Quantity of Material Collected
- Best practices including changes in collection systems, container set out options, processing options, and recycling incentive programs
- More Efficient Collection
- Can New Materials be Added
- Expand Program without Increasing Operating Costs
- Possible Route Reduction for Waste and Recycling
- Reduce Waste Disposal Costs thru decrease in disposal volumes

REQUIREMENTS OF CURRENT PROGRAMS

- Drop-Offs MRFs
 - Municipalities less than 5,000 population must provide either curbside or drop-off collection service or a combination of the two
- Curbside Collection
 - Municipalities* with a population of 5,000 or greater must provide for a system for curbside collection of the materials from each single-family residence and 2 to 4 unit residence
 - Provided through Municipal Program or Contract
 - Provided through Subscription – Individual Residents Contract for service**

* Municipalities with greater than 5,000 population must provide curbside collection unless granted an exemption by the State

** Not Eligible for Grant Reimbursement



CURRENT RECYCLING PROGRAMS

	Single Municipality		Multi-Municipality
Drop-Off Recycling Center – 18	Arthur Birch Creek Cleveland Colburn Cooks Valley Eagle Point Edson Estella Goetz	Howard Lafayette Lake Holcombe Ruby Sigel Tilden Wheaton	<u>Bloomer Area</u> City of Bloomer Town of Bloomer Town of Auburn Town of Woodmohr Town of Sampson <u>Hallie Area</u> Village of Lake Hallie Town of Hallie
Curbside Service – 5	Anson Boyd Cadott Chippewa Falls Stanley		



ANNUAL (2011) BASELINE VOLUMES FOR CHIPPEWA COUNTY RECYCLING

Municipal Recycling Programs	Participating Population	Percent of Total Population	Participating Households	Percent of Total Households	Tons of Recyclables	Percent of Total Tons	Lbs. per person per Year	Lbs. per Household per Year
TOTAL	57,697	100.0%	20,335	100.0%	3,436.5	100.0%	119.1	338.0
CURBSIDE	33,653	58.3%	11,588	57.0%	2,224.4	64.7%	132.2	383.9
SUBSCRIPTION CURBSIDE	12,281	21.3%	4,469	22.0%	1,174	34.2%	191.1	525.2
DROP-OFF	36,325	63.0%	13,216	65.0%	1,212.1	35.3%	66.7	183.4
CURBSIDE PROGRAM WITHOUT DROP-OFF	21,372	37.0%	7,119	35.0%	1,051	30.6%	98.3	295.2
PERCENTAGE OF CURBSIDE TO DROP-OFF	93%		88%		184%		198%	209%

- Total Participating Households are used to calculate Drop Off MRF lbs. per household
- Participating Households does not include Multi-Family households

FINDINGS FROM VOLUME ANALYSIS

- The Chippewa County Average of 338 lbs. per Household is Below State Average of 514 lbs. per Household
- The average pounds per household for the curbside recycling programs are 384 pounds per household and the total tons collected represent 65% of the total tons collected.
- The average pounds per household for the MRF Drop-off recycling programs are 183 pounds per household and the total tons collected represent 35% of the total tons collected.
- 57% of Chippewa County households in have curbside recycling.
- 39% of the households with curbside programs also have access to MRF Drop-off programs.
- 65% of Chippewa County households in have access to MRF Drop-Off recycling.
- Subscription Curbside Collection is utilized by 22% of the households and recovers 34% of recyclables that are collected.

RECYCLABLE MATERIALS BANNED FROM DISPOSAL IN WISCONSIN

PAPER, CARDBOARD AND CONTAINERS

- Aluminum containers
- Bi-metal containers (i.e. containers made from a combination of steel and aluminum)
- Corrugated cardboard or other containerboard
- Glass containers
- Magazines and other materials printed on similar paper
- Newspaper and other materials printed on newsprint
- Office paper
- Plastic containers #1 and #2 - milk jugs, laundry detergent bottles, soda and water bottles, etc.
- Steel containers (tin cans)

ADDITIONAL MATERIALS

- Electronics, including computers, televisions, desktop printers, computer peripherals, DVD players, digital video recorders, VCRs, fax machines and cell phones.
- Lead acid batteries
- Major appliances including air conditioners, clothes washers and dryers, dishwashers, refrigerators, freezers, stoves, ovens, dehumidifiers, furnaces, boilers, water heaters and microwave ovens
- Waste oil, except when incinerated with energy recovery
- Used oil filters
- Waste tires (except when incinerated with energy recovery)
- Yard waste, including grass clippings, leaves, yard and garden debris and brush under 6 inches in diameter*

MATERIALS AT DROP-OFF MRFS

Basic Recycling

Standard recyclables accepted in curbside program

Mixed containers (glass, metal, #1,2 plastics)

Paper / Cardboard/ News / Magazines

Other recyclables not accepted in curbside program:

Polystyrene

Plastic bags

Vehicle batteries

Inkjet/laser cartridges

Motor oil & oil filters

Hard cover books

Large ferrous scrap

Large non-ferrous scrap

Fee Based

Electronics (Computers / electronics / monitors / TVs)

Cassette, video tapes

Laser, ink-jet cartridges

Fluorescent lamps

Appliances

Auto fluids with fees

Bulk Drop-off Fee Based Programming

Bagged trash

Clean wood, pallets

Heavy bulk waste

Yard waste

Light bulk waste

Propane tanks

Concrete

Tires



OPTIONAL MATERIALS DROP OFF MRFS

New Materials

An expanded or new facility could allow the expansion into new materials not currently accepted at the Drop-Off MRFs. These could include, but not be limited to:

Home toxics

Sharps/pharmaceuticals: These are currently accepted at some pharmacies, but on a limited basis.

Latex paint recycling

Carpet recycling: no outlet currently

Compost bagging/bag sales

Document shredding: large demand for this; not currently being offered

Agricultural container recycling: not currently being offered in Chippewa County

Drywall recycling

Tire chipping, small scale processing



CURBSIDE COLLECTION OPTIONS

- Single and Dual Sort Collection
 - Automated and Semi-Automated Trucks
 - Bi Weekly or Weekly
 - 96, 64 and 32 gal curb carts
 - Lbs. per Household (HH)
- Collection Constraints
 - Distance Between Stops and Population Density (Rural Areas)
 - Winter Snow
 - Road Type (Narrow Streets in Urban Areas)
- Contract Approaches
 - Municipally Operated
 - Municipality Contracts with Private Sector
 - Private Sector Subscription Based

TYPES OF TRUCKS

Dual or Single Sort Options



Semi-automated
Currently Used for
Waste Collection

Single Sort Options



Automated

Dual Sort Options



Semi-Automated or
Fully-Automated

All trucks are compacting



TYPE OF CURBSIDE RECYCLABLE MATERIALS

Fiber

- Old corrugated cardboard (OCC)
- Dry Food Boxboard (cereal, cracker, pasta, cake mix, etc.)
- Food and Beverage Cartons (Milk, Juice, Soup, Broth, Wine, Aseptic)
- Gift Wrapping paper
- Kraft paper bags
- Residential Mail
- Old newspaper (ONP) including supplements, inserts and advertisements
- Office and Copy paper
- Old magazines (OMG) and Catalogues
- Phone books
- Refrigerator Food Boxes
- Retail boxes (shoe, gift, electronics)
- School papers
- Shredded office paper
- Shredded paper (in closed paper bag)
- Toiletry Boxes (toothpaste, soap)
- Writing Paper

Glass

- Amber glass
- Clear glass
- Green glass
- Glass bottles & Glass Jars

Plastics

- All closed mouth plastic containers
- Plastic bottles numbered 1 through 7 with caps or lids
- Plastic containers numbered 1 through 7 with caps or lids
- Plastic jugs numbered 1 through 7 with caps or lids
- Plastic medicine bottles numbered 3 through 7 with caps or lids



TYPE OF RECYCLABLE MATERIALS (CONTINUED)

Metals

- Aluminum cans
- Aluminum foil (clean)
- Steel cans
- Tin cans
- Other aluminum
- Other incidental household scrap metal

Possible Optional Materials in Future

Frozen Food Boxes
Pizza boxes
Pop and Beer Cartons
Paper Cups
Plastic Cups
Egg cartons (Paper or Polystyrene)
Window glass
Microwavable Trays
Bags of Plastic Bags (includes newspaper sleeves)
Ziploc, Freezer or Sandwich Bags
Consumer Packaging
Plastic Films
Large Rigid Plastics



POTENTIAL QUANTITIES

Municipal Recycling Programs	Participating Households At 90% Participation Rate	High Performing Side Automated Weekly	High Performing Side Automated Weekly	Single Sort (SS) Carts Semi-Weekly	Dual Sort (DS) Carts Semi-Weekly	Dual Sort Bins	BASELINE	Drop Off
	Pounds per Household	750	650	600	550	450	340	200
Anson	764	287	248	229	210	172	130	76
Arthur	239	89	78	72	66	54	41	24
Birch Creek	189	71	61	57	52	43	32	19
Bloomer Area	2,437	914	792	731	670	548	414	244
Boyd	203	76	66	61	56	46	35	20
Cadott	562	211	183	168	154	126	95	56
Chippewa Falls	5,427	2,035	1,764	1,628	1,492	1,221	923	543
Cleveland	296	111	96	89	81	67	50	30
Colburn	311	117	101	93	86	70	53	31
Cooks Valley	238	89	77	71	65	53	40	24
Eagle Point	980	368	319	294	270	221	167	98
Edson	318	119	103	95	87	71	54	32
Estella	135	51	44	41	37	30	23	14
Goetz	238	89	77	71	65	53	40	24
Hallie Area	2,138	802	695	642	588	481	364	214
Howard	234	88	76	70	64	53	40	23
Lafayette	1,975	740	642	592	543	444	336	197
L. Holcombe	401	150	130	120	110	90	68	40
Ruby	168	63	55	50	46	38	29	17
Sigel	318	119	103	95	87	71	54	32
Stanley	1,250	469	406	375	344	281	213	125
Tilden	396	149	129	119	109	89	67	40
Wheaton	385	332	288	265	243	199	150	88
TOTAL	20,101	7,538	6,533	6,030	5,528	4,523	3,417	2,010

FINDINGS FOR INCREASED RECOVERY

- The potential increase in the quantity of material that could be recovered in Chippewa County, based on the best practices exhibited by peer communities, indicates that overall performance could be increased to 600 pounds per household per year.
- Chippewa County could almost double the amount of recyclable material that is recovered.
- This level of recovery is achievable if communities implement well-designed single stream curbside collection programs with appropriate incentives and pricing and make recycling as convenient as possible.
- The larger communities may need to achieve somewhat higher recovery rates to achieve this recovery level on a countywide basis.

MOVE TO SINGLE SORT COLLECTION

- Single Sort collection can reinvigorate the recycling program
- Single Sort collection is a more efficient collection System
- Education of residents on how materials should be set out will maximize the benefit of the program.
- Single Sort will Increase volume of material and it is easy to add materials
- Market Based Approach (Procurement and Billing) can expand programs without increasing operating costs for Municipalities
- Possible route reduction may be realized for both waste and recycling collection
- Increasing recycling can reduce waste disposal costs
- Single sort programs can engage regional material processors (MRFs)
- Commercial & multi-family Is easily integrated into single stream
- Cart Based collection is compatible with yard and food waste collection



ECONOMICS OF RECYCLING

- Overall, the economics of recycling continue to work in favor of the communities and the refuse haulers.
- A transition to a market based approach will get the best value from private sector for both waste and recycling collection
- A market based pricing approach would encourage community residents to participate in the recycling program
- Arrangements with area haulers should be based on the cost per household pricing through standardized contracting.
- An incentive or reward program can further increase recovery
- Costs for curbside collection and drop-off programs should be allocated on an equitable basis among participating municipalities
- The value of commodities in the recycling stream are not being captured by municipalities in Chippewa County
- A revenue sharing arrangement will provide an incentive for both the MRF and haulers to maintain high quality and market standards and

QUESTIONS

Thank you for your Attention

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