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Chippewa County Recycling Program Materials Recovery Facility Options Analysis

Report

SEH

Resource Recycling Systems

Sustainable Systems for a Waste-Free Future

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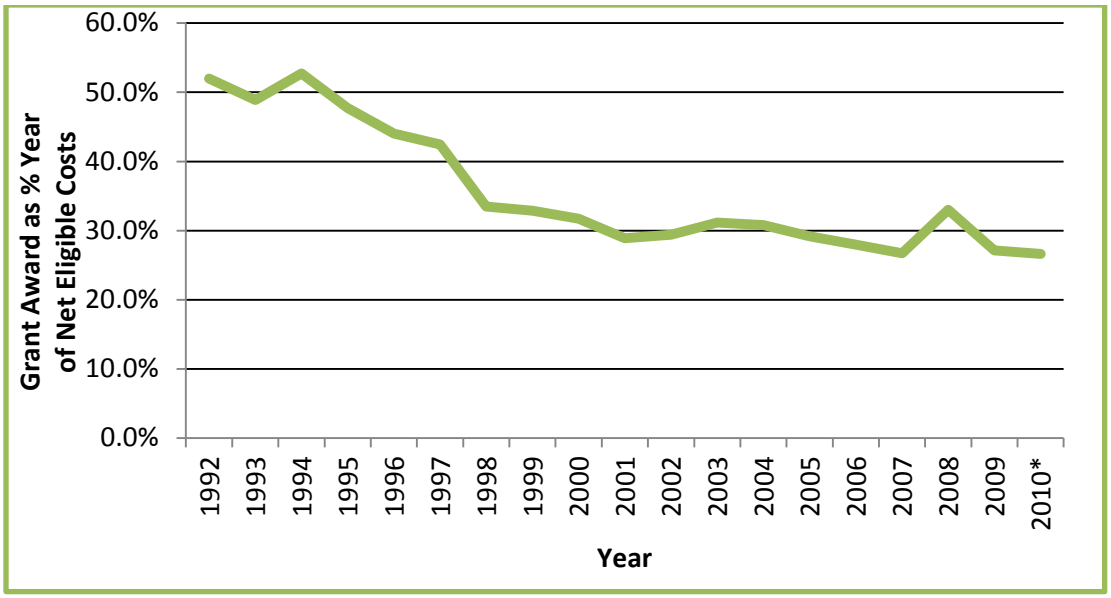
INTRODUCTION & BACKGROUND

The Chippewa County Recycling Division's Materials Recovery Facility (MRF) Options study represents multiple communities in Chippewa County – each with its own characteristics and goals – yet bound by common duties to maintain a cost-effective recycling collection system. Chippewa County and the municipalities in the County also need to comply with state recycling laws and satisfies effective recycling criteria. Many cities and solid waste districts throughout the nation are setting new, ambitious goals for higher recycling, waste recovery rates and even targeting zero waste as an attainable goal.

State cuts have reduced recycling grants to counties and municipalities. Tax levy caps have removed the capacity of local municipalities to raise revenue through increases in property taxes. Recycling costs to municipalities and landowners are expected to continue to rise.

Recently, a study was conducted under the direction of the Wisconsin DNR to examine potential savings if the units of government responsible for mandatory recycling programs ("responsible units") consolidated their recycling efforts[1]. The report discussed ways in which responsible units can consolidate into larger responsible units or consolidate services among responsible units. The DNR considers a responsible unit to be an *effective recycling program* if it meets the criteria outlined in Administrative Rule NR 544.

Figure 1: State Grants as a Percentage of Responsible Unit (RU) Costs over Time



Responsible units with effective recycling programs are eligible for state grants, and in 2010 more than 96 percent of responsible units received these grants[2]. However, Figure 1 shows that the percentage of responsible unit costs covered by state grants decreased from roughly 50 percent in 1992 to less than 30

[1] Recycling Program Consolidation in Wisconsin: A Decision-Making Guide, Prepared for Bureau of Waste and Materials Management Wisconsin Department of Natural Resources, Workshop in Public Affairs at the Robert M. La Follette School of Public Affairs, University of Wisconsin–Madison, Spring 2011

[2] Bonderud, Kendra. (2011,January, Solid Waste Recycling and Waste Reduction., Madison: Wisconsin Legislative Fiscal Bureau.

percent in 2009. Given the given fiscal reality of Wisconsin state government, it is likely this trend will continue into the foreseeable future.

In response to these circumstances, the Recycling Division conducted this study to assess where changes could be made to gain efficiencies in municipal programs. Recognizing the roles and responsibilities as currently delegated to the County and to the municipalities under the Chippewa County Responsible Unit (RU) Intergovernmental Agreement, the study included a recyclable materials market analysis report and a recyclable materials volume analysis report. The purpose of the market analysis report was to understand recyclable material market trends. The purpose of the second report was to document existing recyclable material volumes and to estimate potential recyclable material volumes if best practices in collection were implemented in Chippewa County. This final report identifies and describes alternative management options for Chippewa County to consider as it seeks ways to increase the overall efficiency and effectiveness of its recycling efforts.

SELECTED CONSOLIDATION INITIATIVES ACROSS WISCONSIN

Most consolidation efforts occurred soon after the 1990 mandate. Few responsible units have formally consolidated since 1995, although some have begun cooperating with neighboring responsible units. Sixty-four responsible units are consolidated; they contain 866 municipalities. If there are fewer responsible units in a county, it is likely that more of them are consolidated. In a recent survey the authors found that very few small responsible units (serving less then 1,000 people) cooperate with neighbors, while the majority of large responsible units (serving more than 100,000 people) do.

Table 1 shows that consolidated responsible units have a lower average cost per ton of recycled material collected than unconsolidated responsible units.

Table 1: Wisconsin Responsible Units (RUs) Average Cost per Ton of Recycled Material Collected by Region and Consolidation Status

	Unconsolidated RUs		Consolidated RUs	
Region	**# RUs**	**Avg. Cost/Ton**	**# RUs**	**Avg. Cost/Ton**
Northeast	213	$215.62	9	$181.18
North	108	$411.79	25	$282.38
South Central	306	$265.46	8	$228.83
Southeast	150	$138.84	1	$111.82
West Central	215	$250.03	21	$196.54

Source: WDNR, 2011

Several consolidated responsible units were selected for comparative evaluation. In researching these cases, data was gathered on these responsible units and interviews with staff were conducted. The initial survey of responsible units showed some administrative staff identified benefits from consolidating, and more than 90 percent of very small and very large responsible units see potential for cost savings in consolidating. However, more than 60 percent of respondents were unsure if their communities would be interested in consolidation. Table 2 provides an overview of the data available for the case studies to exemplify successful consolidations.

Table 2: Comparison of Selected County Responsible Units, 2009

County	Eau Claire	Outagamie	St. Croix	Waukesha
Population	101,069	193,270	70,365	273,701
State grant per person	$7.43	$4.38	$4.10	$5.22
Cost per ton	$231.90	$120.03	$89.56	$138.66
Collection and drop-off Services	Private; organized by households	Public; collected by county	Private; organized by municipalities	Private; organized by municipalities
Recycled material processing	Organized by private companies	County operates facility with two other counties	Organized by municipalities	County operates facility with private company

EAU CLAIRE COUNTY

In Eau Claire County, individual households contract with one of four service providers for curbside pickup of garbage and recycling. In 2009, the county's cost per ton was $231.90. The county picks up the entire cost of curbside recycling for households outside the city of Eau Claire. The county provides education programs to all 18 of its municipalities and operates drop-off sites for rural households.

OUTAGAMIE COUNTY

Outagamie County provides recycling services to all of its 32 municipalities. In 2009, the county's cost per ton of recycled materials was $120.03. The county contracts with a private provider for curbside collection, offers education services, and works with Brown and Winnebago counties to process materials at the Tri- County Materials Recycling Facility.

ST. CROIX COUNTY

St. Croix County operates a consolidated responsible unit serving 26 of 31 municipalities. The responsible unit handles all administrative services and educational services. Each member municipality contracts with its own curbside and drop-off service provider and manages its own recyclable materials. The county's 2009 cost per ton of recycled material collected was $89.56.

WAUKESHA COUNTY

Waukesha County operates a consolidated responsible unit that includes 25 of 37 municipalities. The county manages recycling administration and education, and runs a materials recycling facility with a private company. In 2009 the county helped 13 member municipalities jointly negotiate a trash and recycling collection contract with a service provider. It provides joint education with Milwaukee County through radio

ads and is working to establish a regional materials recycling facility. Table 4 outlines some of the costs and benefits of consolidation.

ISSUES WITH CONSOLIDATION

There are several issues that must be considered when discussing the consolidation of services.

EFFICIENCY

To measure efficiency, the use cost per ton of recycled material collected and the cost per household are the appropriate metrics. Consolidation may maintain current service levels or provide increased services at a reduced cost. A consolidated responsible unit's average cost per ton should fall as the scale of output increases. The cost efficiencies of consolidation have been discussed in previous sections of this report assessing the MRF options

EQUITY

Another consideration is equity in terms of uniform distribution of costs and services. Distributing costs on a household basis for all participating households provides an equitable basis for assigning costs to users of the system.

FEASIBILITY

Feasibility refers to administrative and political feasibility. Political feasibility is likelihood of community acceptance of policy decisions. Administrative feasibility means municipalities have trained and knowledgeable staff with adequate time and resources to provide recycling services. Additionally, fewer responsible units in the state may lead to fewer administrative bodies and more streamlined management of services.

Table 3: Costs and Benefits of Local Government Consolidation

Benefits of Consolidation	Costs of Consolidation
Cost savings	High transaction costs
Eliminate redundant services	No automatic cost savings
Maintain or increase service levels	Savings are lost to increased service provision
Increase professional expertise in informing public decisions	Larger units may be less responsive to residents
Promote regional interests over single municipality interests	Loss of local control
Make jurisdictions large enough to be cost effective	New management structure for Coordination Contracting

BROWN, OUTAGAMIE, AND WINNEBAGO (BOW) COUNTY AGREEMENT

BACKGROUND

The BOW agreement is a three county regional waste management partnership between Brown, Outagamie, and Winnebago counties. Given the consolidation that was occurring in the waste industry in early 2000's, the three counties began looking at ways to more effectively collaborate on solid waste and recycling The result was a 25 year contract between the three counties to coordinate solid waste management by staggering the utilization of county run landfills and operating a single MRF. At this point they are utilizing a landfill in Outagamie County, which is also the location of the regional MRF. In 2020-2021 a landfill in Brown County will open, at which point all waste will be directed to the new site.

In 2009 the three counties came together to build a state of the art Materials Recycling Facility (MRF) at the cost of approximately $10 million. The BOW operates the regional single stream MRF in Appleton, which is one of the largest municipal MRFs in the country. It processes and markets comingled residential and commercial recyclable containers from the three counties and other northeastern Wisconsin communities as well. Single stream recycling includes paper, #1 & #2 plastics, aluminum, tin cans, glass, and paper. In 2011, the BOW MRF processed over 52,000 tons of recyclables from the three counties. By the end of 2012 the MRF added a second shift and was processing close to 80,000 tons of recyclables. There is discussion of adding additional staff and capacity to grow the operation further.

Looking ahead, consideration is being given to diversifying the BOW MRF. Additional materials in the waste stream that may be added include Styrofoam, other 3-7 plastics, cartons, pots, pans, etc. Adding materials to the MRF may make the MRF more competitive with private sector MRFs and perhaps more profitable.

REGIONAL COOPERATION AND LOCAL CONTROL

Without working together it wouldn't have been possible to build a state of the art MRF, which has resulted in greater quantities of materials recycled and the enhanced ability to market recyclables. However, the BOW agreement left each county free to design its own system for collection. For example, Brown County doesn't serve as an RU; each community operates independently by bringing their recyclables to the Brown County transfer station, where it is in turn hauled to the regional MRF in Appleton. This is done through a combination of municipal hauling and private sector hauling. Outagamie County, on the other hand, serves as the single RU for the entire County and is heavily involved in collection efforts. Regional collaboration has provided the benefits of efficiencies in terms of capital investment and MRF operations while still having enough flexibility for each County to structure its own program for collection and other factors, such as revenue sharing.

BENEFITS/CHALLENGES

- Both solid waste and recycling are set up as an enterprise fund so no tax dollars are required; tipping fees and sale of recyclables cover system costs.
- The BOW system consistently has the lowest tipping rate in the State.
- As a result of the BOW agreement, it is estimated that residents and businesses have saved millions of dollars for waste and recycling services in the three county regions.
- There were some positions eliminated when consolidation of MRFs occurred; consolidation opportunities for marketing were also created.
- Each County still operates as own independent unit; there is no real regional oversight board. However, this strategic planning effort for the three counties is underway.

- Less capacity within the shared system because each county no longer owns and operates its only MRF

LEVEL OF GOVERNMENT COOPERATION

A major issue is the level of government at which municipalities could consolidate. The existing models are inter-county, county- wide, and sub-county consolidation.

INTER-COUNTY COOPERATION

Inter-county consolidation occurs between two or more countywide responsible units, or between one countywide responsible unit and one or more smaller responsible units. For example, the Village of Marathon in Marathon County contracts with a private hauler and has its materials processed at the Portage County Materials Recycling Facility. Consolidated responsible units would contribute state grant, tax, and other funds to a larger fund managed by a county administrator. The duties of managing shared services could be shared among county administrators or delegated to one official

COUNTY LEVEL

County consolidation occurs at the county level, and the county would manage all state grant or local tax funds for member municipalities. DNR consider a responsible unit representing at least 75 percent of the county population to be a "county" responsible unit; prior to 2000, county responsible units were eligible for additional state grants (Wis. Adm. Code NR 542.06(1)). County consolidation service provision could range from educational to providing all recycling services. Similar models have been implemented in Waukesha, St. Croix, Dunn, and Eau Claire counties.

SUB-COUNTY LEVEL

Sub-county consolidation occurs at the local level across municipal lines. Municipalities could form a responsible unit that provides services previously provided by individual responsible units. Alternatively, they could negotiate contracts to share recycling services. State grant funds would go to the administrator of the consolidated unit.

LEGAL CONSOLIDATION APPROACHES

The two primary legal paths to consolidation are adopting a resolution to become a new responsible unit or creating an inter-government agreement to share service provision. Currently, local government agencies handle most recycling programs. Below is a description of the legal process, what agency would offer services, and important considerations for each of these paths. Responsible units are managed in a variety of ways, but the process for consolidating is similar regardless of the starting point.

RESOLUTION

By default, each municipality is its own responsible unit. However, a county may adopt a resolution declaring itself a responsible unit, as Chippewa County has done. If a municipality does not join a county recycling unit, the county may charge it to use some of the county's recycling services. This option only applies to county-level consolidation. Adopting a resolution is a fairly permanent arrangement.

INTER-GOVERNMENT AGREEMENT

The second path to consolidation is through contracting. An *inter-government agreement* is a contract between two units of government to share service provision. The governing body of any responsible unit may designate by contractual agreement another unit of government to be the responsible unit. For example, a responsible unit can contract with a solid waste management board, which is composed of a single county or of multiple counties, to administer the area's solid waste and recycling program. The agreement must cover all responsible unit duties and may delegate some or all duties to another entity. For example, in the absence of an ordinance that states otherwise, municipalities may form contracts that delegate most responsible unit authority to the county. Wisconsin statute allows for allocation of duties between public or private entities.

CHIPPEWA MANAGEMENT BACKGROUND

Currently, communities in Chippewa County implement recycling programs using a variety of methods described in the recyclable materials volume analysis report. There are three basic frameworks for collecting, aggregating and processing recyclables, each of which is briefly summarized below:

RURAL AREAS

In more rural areas of the County, townships have contracted with recycling haulers to provide drop off containers where residents can haul their recyclables to for pick up. Some residents in these rural areas of the County also have the opportunity to contract directly with a recycling hauler for curbside pickup if that service is available. In both cases, recyclables are aggregated by private haulers and then taken to any number of MRFS in the region for processing and/or sold directly to end users by the hauler.

BLOOMER/ LAFAYETTE

Two communities in Chippewa County provide MRF drop-off program that are similar to the drop off container programs offered by more rural Townships but which provide a higher level of service to their residents. For example, the Bloomer MRF accepts batteries, light bulbs, and other waste streams that are not accepted at rural drop off container sites. Lafayette's MRF provides more limited services compared with Bloomer's MRF, however they do accept used tires and a few select items not typically accepted at a rural drop off container site.

Bloomer and Lafayette residents (and in some cases residents from surrounding municipalities as well) can haul their recyclables to either of the two MRF drop-off centers on the designated days and hours. The municipality contracts for service with a private recycling hauler to pick up the dumpsters of recyclables at their recycling center or the municipality hauls the recyclables to a transfer station, recycling processor or other end user. Residents in the Bloomer and LaFayette area are also free to directly contract with a recycling hauler for curbside pick up at their residence. In both communities such a service is widely available.

CHIPPEWA FALLS – LAKE WISSOTA REGION

The third basic framework for recycling in Chippewa County is municipally contracted curbside recycling, which provides service to the residents of the municipality at their residence. The municipality itself contracts directly with a private recycling hauler to pick-up recyclables at each residence, who in turn hauls the recyclables to a transfer station, recycling processor or other end user. Currently, Chippewa Falls is the only community in Chippewa County that operates under this arrangement.

Table 4: Summary of Regional Data

Municipal Recycling Programs	Eligible Costs	Participating Population	Participating Households	Tons of Recyclables	Lbs./ person/ Year	Cost/ person/ Year	Lbs./ Household/ Year	Cost/ Household/ Year
BLOOMER AREA	$54,194	8,731	3,232	455.8	104.4	$6.21	282.1	$16.77
LAKE WISSOTA - CHIPPEWA FALLS	$299,807	44,770	13,687	2,819	126.0	$6.70	412.0	$21.90
NORTHEAST RURAL	$28,265	4,196	3,416	161.2	76.8	$6.74	94.4	$8.27
COUNTY TOTAL	$382,266	57,697	20,335	3,436.5	119.1	$6.63	338.0	$18.80
AVERAGE OF ELIGIBLE COSTS					79.2	$6.70	229.7	$19.50

CHIPPEWA MANAGEMENT OPTIONS

In order to identify and describe alternative management approaches to increase the efficiency and effectiveness of recycling in Chippewa County, three options were evaluated:

OPTION 1: EXPAND THE TWO (2) EXISTING MUNICIPALLY OWNED AND OPERATED MATERIAL RECOVERY FACILITIES (MRF'S) IN CHIPPEWA COUNTY.

This option would develop an expanded Drop-off at Bloomer and develop an expanded MRF and Recycling Transfer Station in the Lake Wissota-Chippewa Falls area. Two sub-options were considered for Option 1:

- Option 1A – Expanded "Super" Drop Off / MRF / Transfer at Lake Wissota-Chippewa Falls-Hallie
- Option 1B- Upgrade MRF and Materials Processing Center at Bloomer

OPTION 2: EXPAND THE COLLECTION OF RECYCLABLE MATERIALS IN CHIPPEWA COUNTY AND THE AGGREGATION OF THESE MATERIALS SO THAT THEY MAY BE TRANSPORTED TO SUPPLY ONE OR MORE EXISTING MUNICIPALLY OWNED AND OPERATED MRF'S, LOCATED OUTSIDE OF THE COUNTY.

This option is based on the development of an expanded single sort curbside collection program for most municipalities in the County. The recyclables would be consolidated at a transfer location for more cost effective shipment to a MRF for processing and marketing. A long-term agreement would be developed with a MRF for processing and revenue sharing on the sale of the recyclable materials.

OPTION 3: CREATE AND CONSTRUCT A "NEW" PRIVATELY OWNED AND PRIVATELY OPERATED MRF IN CHIPPEWA COUNTY, THAT WOULD BE SUPPLIED AND SUPPORTED BY MUNICIPALITIES IN CHIPPEWA COUNTY.

This option is that a private entity would develop, fund and manage a full Service Single Stream Materials Recovery Facility. The County and municipalities would contractual agree to provide a minimum quantity of recyclables collected from within the County. This option would also require an expanded single sort curbside collection program for most municipalities in the County.

OPTION 1: EXPAND THE TWO (2) EXISTING MUNICIPALLY OWNED AND OPERATED MATERIAL RECOVERY FACILITIES (MRF'S) IN CHIPPEWA COUNTY.

The development of an expanded Drop-off at Bloomer and an expanded MRF Drop-Off and Recycling Transfer Station in the Lake Wissota-Chippewa Falls region would build on the current infrastructure already developed in Chippewa County. Interviews conducted with the MRF operators and community leaders in Bloomer and Lafayette indicates a willingness to consider expanding either facility if additional volumes justified such a move. Both MRFs are located on publicly owned parcels with sufficient space available for limited expansion. Currently, Bloomer markets a majority of its materials locally, while Waste Management and Commercial Recycling service the Lafayette MRF.

Financial feasibility is seen as the key issue in terms of giving further consideration to expanding either MRF. Currently, the Bloomer MRF is not running at full capacity. There may be opportunities to increase recyclables volumes at the Bloomer MRF by working more closely with some area townships, which used to send their recyclables to the Bloomer MRF but no longer do. Modifying the collection system by strategically placing drop offs in nearby townships and directing those recyclables to the Bloomer MRF could generate additional volumes,

while providing the same (or better) level of service. According to the Bloomer MRF operator, such an arrangement also has the potential to be more cost effective for participating communities that are currently being serviced by other haulers.

Based on the review and findings above, some preliminary projections regarding service options were analyzed for their financial and organizational implications. MRF options warranting further consideration involve different combinations and levels of service provision either on one site or throughout the community. It may be most helpful to think of these options as developmental phases, which may be quickly passed through or maintained for a period of time as warranted by budget, implementation demands, and other requirements of the County and its partner recycling communities.

OPTION 1A - DEVELOP A "SUPER" DROP-OFF/ RECYCLING TRANSFER CENTER IN LAKE WISSOTA-CHIPPEWA FALLS AREA

This option would establish a central site in the Lake Wissota-Chippewa Falls area that accepts traditional recyclables along with additional hard to recycle items, nuisance items, and hazardous wastes, along with heavy/bulky/construction and demolition wastes, yard/ wood and organic wastes. Curbside recyclable materials would primarily be processed and aggregated on site by the program partners and recycling vendors. Sorting to achieve increased revenues, processing that allows a greater amount of materials to be accepted or efficiently transported, and an increase in the types of material would be implemented.

Most recycling services would be offered to residents of the County for materials generated in the household for "free" with funding provided primarily from existing recycling programs and some recycling materials revenue sharing with processors. Fees from generators would be collected for nuisance wastes and tires. Commercial recyclables generators would be encouraged to use the facility and some accommodation made for small quantity generators to use the facility at cost. Capital and facility investments made to provide adequate materials sorting and processing space and capability including corrugated and high grade paper shredding/baling, some container sorting and baling of plastics, as warranted by increased materials value. Capital outlay would be necessary for traffic, site and receiving/loading equipment, along with the relocation and security for a Household Hazardous Waste Storage building. Additional considerations would include long-term leases or acquisition of property and equipment, some capital requirements (containers, balers), and services (hauling) from selected vendors and partners.

This option could include site development and capital improvements to facilitate an organics management center capable of receiving compostable material from the region. It would consider the potential to include food and other organic wastes on either a pilot/experimental or regular basis. In addition to the City of Bloomer, Chippewa Falls, Lake Hallie, partners and/or customers would include private sector haulers, the County, Fairgrounds/Horseman's Association and other agricultural interests.

An additional program could be a transfer station for recyclable materials collected at the curbside. This option would be developed if expanded single sort residential curbside collection were implemented in regions of the county. This type of facility will provide companies that collect curbside recyclables, such as local independent haulers, or companies that are hauling recycling drop boxes from other sites around the County, a convenient and cost effective alternative to hauling recyclables to other more distant regional MRF processing sites. The main goal of this operation is to accommodate a change to curbside single sort cart based collection. In addition, the ability to share in the value of the material would be developed through contractual relationships with a regional processor that includes revenue sharing on the sale of material.

This approach would provide a comprehensive recycling and waste management program for the residents of Chippewa County. The clientele that would use this facility include:

- Households
  - Those with no recycling available at home
  - Those that lack comprehensive services
  - Those seeking special materials recycling
  - Those with waste streams to dispose of
- Small Hauler "Dump" Crowd
  - Those with bulk waste
  - Home remodelers
  - C&D contractors
- Gardeners
  - Yard waste
  - Bulk compost and mulch sales
  - Food Waste
- Small Businesses
  - Cleaning crews
  - Home based businesses
  - Small Waste Haulers

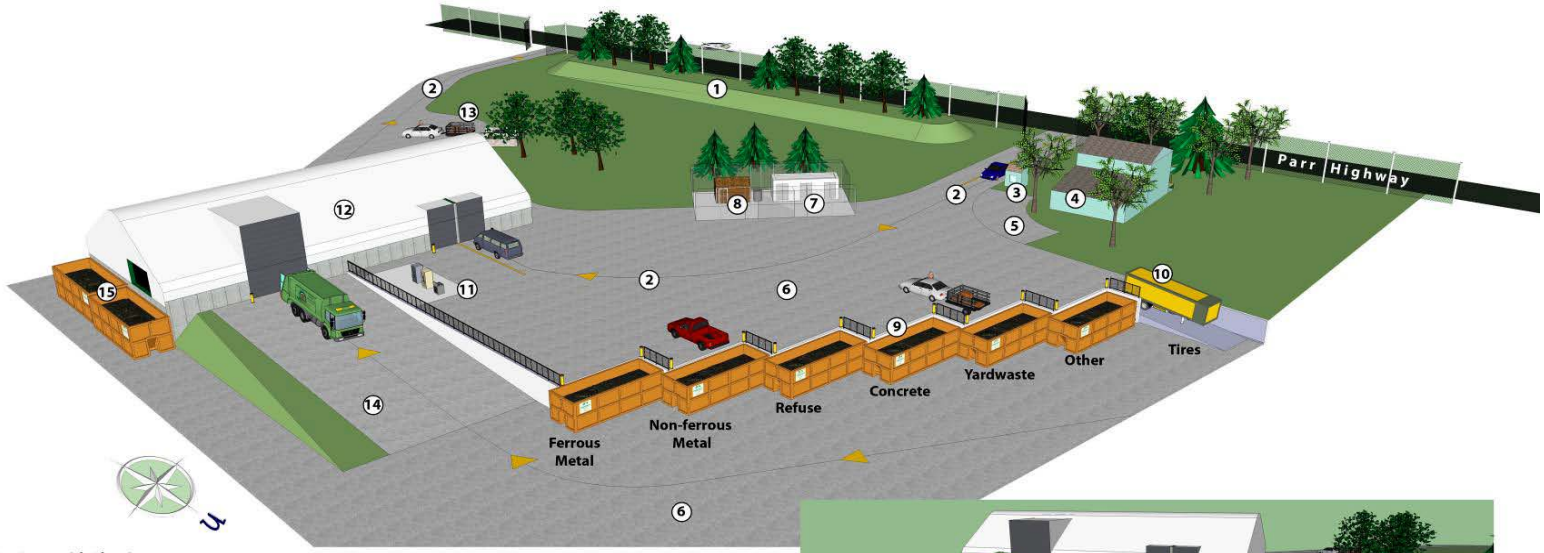
Roles and Responsibilities

This preferred option for this option would utilize an Intergovernmental agreement that transfers contracting authority from participating municipalities to the County. This would require amending the existing ordinance with a defined advisory function for participating municipalities. Individual municipalities could contract for collection services but direct the material to the contracted MRF but a countywide collection contract would provide the greatest efficiency and cost benefits for all municipalities. The County would market recyclables through contractual agreements with a regional MRF to procure the highest value for recycled materials and share the revenue from end markets (Regional MRF) on behalf of all municipalities. The County would manage the Drop Off Transfer Station under a contract to the private sector, In addition, the County would procure and manage all collection contracts as part if implementing single sort curbside collection in all non-rural municipalities. The responsibilities include the following:

1. Procure and Manage Collection Contracts, if needed to procure contracted volumes;
2. Procure, Develop and Manage new drop off transfer as a public/private facility;
3. Procure and Manage end market agreements for the processing of recycled materials sourced from Chippewa County;
4. Manage State Recycling grant.
5. Establish funding mechanism through charges and state recycling grants.

The exact location to implement this option would need to be evaluated more closely if this option were chosen. Locations that might be suitable for this option include the existing Lafayette MRF site, the Chippewa Falls Street Department's current brush/lawn waste site, and a location in the Village of Lake Hallie with good transportation access. There are likely additional sites suitable for this options that could be evaluated as part of a site location analysis.

Figure 2: Conceptual Drop-Off / Transfer Station Layout



1 **Screening Berm with Plantings**

2 **Main Drop-off and Service Loop**

3 **Gatehouse**
Public information, directions and payment station.

4 **Classroom / Office Building for Staff**

5 **Parking** (tours and staff)

6 **Gravel Roadway**

7 **Household Hazardous Waste Drop-off Containment Building and Shed**

8 **Used Oil Tank Storage Shed**

9 **Concrete Tipwall**
9" stop curb on top. Accommodates six 40-60 CY rolloff containers. Public vehicles back up to top side of wall to unload.

10 **Tire Trailer**
Semi trailer at dock level to allow loading of tires by staff.

11 **Appliance Drop-off**

12 **Receiving Building** (60'x 120' footprint)
Combined service building for public and service vehicles. Provides drop-off for multiple materials, has balers for stryofoam, and cardboard, and curbside tipping/transfer.

13 **Compost and Mulch Sale Pick up Location**

14 **Truck Access Ramp**

15 **Recycling Transfer Containers on Concrete Transfer Slab**

Table 5: Capital and Operation Cost Estimates for a Super MRF and Transfer Station

	Year 1	Year 2	Year 3	Year 4	Out years
Revenue	$560,000	$577,000	$595,000	$612,000	$637,000
Expenses	$522,000	$537,000	$552,000	$568,000	$591,000
Net Income	**$38,000**	**$40,000**	**$42,000**	**$44,000**	**$45,000**
Reserves and Initiatives					
Capital Initiatives (2% of Revenue)	($11,000)	($11,000)	($11,000)	($12,000)	($12,000)
Project/Program Initiatives (2% of Revenue)	($11,000)	($11,000)	($11,000)	($12,000)	($12,000)
Total Reserves	($22,000)	($23,000)	($23,000)	($24,000)	($25,000)
Capital Expense	($161,000)	($161,000)	($161,000)	($161,000)	($161,000)
County Administration fees	($5,000)	($5,000)	($5,000)	($5,000)	($5,000)
Net Surplus/Deficit	**($150,000)**	**($149,000)**	**($147,000)**	**($146,000)**	**($146,000)**
Households Participating	15,943	15,943	15,943	15,943	15,943
Net Cost/Household	**$9.41**	**$9.35**	**$9.22**	**$9.16**	**$9.16**

OPTION 1B- ENHANCED "SUPER" MRF DROP-OFF CENTER AT BLOOMER

The Bloomer MRF largely functions as a "SUPER" MRF in its current state. However, this option would consider handling most residential recyclables as single stream for transfer to a regional processing center (where local markets do not exist). Other recyclable materials would primarily be processed and aggregated on site by the program partners and recycling vendors. Sorting to achieve increased revenues, processing that allows a greater amount of materials to be accepted or efficiently transported, and an increase in the types of material would be implemented. Characteristics of this option include:

- Most recycling services offered to residents of the County for materials generated in the household for "free" with funding provided primarily from existing fee on waste and some recycling materials revenue.
- Fees from generators would be collected for nuisance wastes and tires.
- Capital and facility investments made to provide adequate materials sorting and processing space and capability including corrugated and high grade paper shredding/baling, some container sorting and baling of plastics, as warranted by increased materials value.
- Capital outlay for traffic, site and receiving/loading equipment.
- Long-term leases or acquisition of property, if the existing site cannot accommodate growth, and equipment and expect some capital (containers) or services (hauling) from selected vendors and partners.

Roles and Responsibilities

The Bloomer regional Drop Off-MRF would continue to operate as an independent facility but could market it's material through the County MRF contract MRF. This option would utilize a voluntary agreement among willing municipalities in the County to market recyclables where the County enters into contract(s) to procure the highest value for recycled materials and share the revenue from end markets (Regional MRF) on behalf of all municipalities. The County could amend its ordinance and its agreements with individual municipalities to require all recycled material be marketed through this

facility and the contracted end markets. The County would manage the recyclables through contractual agreements with a regional MRF to procure the highest value for recycled materials and share the revenue from end markets (Regional MRF) on behalf of all municipalities. The responsibilities include the following:

1. Procure and Manage end market agreements for the processing of recycled materials sourced from Chippewa County;
2. Manage State Recycling grant.

OPTION 2: EXPAND COLLECTION OF RECYCLABLE MATERIALS IN CHIPPEWA COUNTY AND TRANSFER TO MRF'S LOCATED OUTSIDE THE COUNTY.

The development of a larger county-wide Drop-Off Recycling Transfer Station in the Lake Wissota-Chippewa Falls region that includes a recycling materials Transfer Station operation would provide the infrastructure that is necessary for the transfer of material to one or mere existing municipally or privately owned and operated MRF's located outside of the county. The development of a recycling transfer capability in the County, or contracting for transfer with facilities outside the County, would allow for the implementation of single sort cart based curbside collection recycling programs throughout the County.

Table 6: Regional Material Recovery Facilities

Material Recovery Facilities	City	County	State	Tons
Adams County	Friendship	Adams	WI	3,076
Barron County Recycling Facility	Almena	Barron	WI	456
Buffalo County Recycling Center	Mondovi	Buffalo	WI	712
Alter Metal Recycling, Eau Claire	Eau Claire	Chippewa	WI	1,500
Bloomer Area Recycling Center	Bloomer	Chippewa	WI	622
Dunn County Transfer Station and Recycling Center	Menomonie	Dunn	WI	2,137
Jackson County Recycling Center	Black River Falls	Jackson	WI	216
Hilltopper Refuse and Recycling Service Inc.	Onalaska	La Crosse	WI	5,830
Waste Management – La Crosse	La Crosse	La Crosse	WI	7,949
IROW (Formerly Industrial Recyclers of Wisconsin)	Mosinee	Marathon	WI	13,776
Veolia Environmental Services (Wausau)	Schofield	Marathon	WI	7,013
Pierce County MRF/Solid Waste	Ellsworth	Pierce	WI	4,782
Polk County	St Croix Falls	Polk	WI	2,025
Waterman Transfer	Amery	Polk	WI	403
City of Glenwood City	Glenwood City	St. Croix	WI	89
Arcadia/Alma Recycling	Arcadia	Trempealeau	WI	495
Osseo Area Recycling Center	Osseo	Trempealeau	WI	82
STCSWC	Galesville	Trempealeau	WI	437
Tri-R Recycling Project	Whitehall	Trempealeau	WI	563
Village of Strum	Strum	Trempealeau	WI	225
Vernon County Solid Waste/Recycle Facility	Viroqua	Vernon	WI	1,175
Veolia Environmental Services* (Marshfield)	Marshfield	Wood	WI	4,318
Veolia Environmental Services* (Wisconsin Rapids)	Wisconsin Rapids	Wood	WI	1,855
Allied Minneapolis MRF	Minneapolis	Hennepin	MN	13,927
Waste Management Recycle America - Twin Cities	Minneapolis	Hennepin	MN	182,840

* As of November 20, 2012, Advanced Disposal Services has taken over ownership and operations of Veolia's solid waste business.

Interviews with regional MRF operators from Barron, Pierce, and Polk counties indicate a strong willingness in working with Chippewa County in order to secure additional recyclables for their operations. Facing intense competition from private MRFs, publicly owned MRFs in west central Wisconsin are open to working with other communities to help ensure their operations remain financially viable. Table 6 identifies all the MRFs in the region and the quantity of material that are collected or processed at those sites.

The interviews with MRF operators in both Pierce and Polk counties also indicate they both have adequate space available to handle additional volumes currently. For example, Pierce County is operating at 35% of throughput capacity. The plant was designed in 1990 to run two shifts per day but they've never approached that level. The Pierce County MRF could easily ramp up to two shifts per day if needed, however. Furthermore, both counties would consider converting to single stream processing if enough additional recyclables could be secured through a longer-term contract with another county. Justifying such a conversion would likely require a short to medium term Return on Investment for either MRF.

Some of the communities in the region are already taking steps to working more closely together. For example, Dunn County is considering modifying its collection system in order to send recyclables to the Pierce County MRF in a more cost-effective manner. They are discussing the option of sending containers to the Pierce County MRF; contracting with a hauler that specializes in shipping those materials using appropriate technology including tip up and walking floor trailers.

In terms of local support for aggregating and sending Chippewa County recyclables to an out of county MRF, interviews with local community leaders indicate a willingness to consider such an approach, especially if it created greater efficiencies and provided an opportunity to save costs. However, a number of challenges were also identified, including:

- Getting the desired volumes and consistency of recyclables
- Structuring cost sharing agreements with outlying communities,
- Fuel costs for serving more rural areas of the County
- Hauler interest in participating in alternative recycling arrangements.

Roles and Responsibilities

A management structure would be to establish where all members agree to participate and manage recycling collection contracts, the transfer of the recyclable material to a MRF and manage the contract for processing and material sales with a regional MRF. This may require developing a new ordinance with defined functions for the governing municipalities. Single sort curbside collection would be managed under competitively bid curbside collection contracts in all non-rural municipalities. The consolidation of curbside collected recyclables and the transfer to a MRF would be managed under a contract to the private sector at either a new Chippewa County Drop Off Transfer Station or transfer through existing transfer facilities in the Eau Claire area. The recyclables would be marketed through contractual agreements with a regional MRF to procure the highest value for recycled materials and share the revenue from end markets (Regional MRF) on behalf of all municipalities. In addition, The Bloomer regional Drop Off-MRF would continue to operate as an independent facility but could market its material through the County MRF contract. The responsibilities under a new management structure would include the following:

1. Procure and Manage Collection Contracts;

2. Procure and Manage new drop off transfer as an operation under the Authority;
3. Procure and Manage end market agreements for the processing of recycled materials sourced from Chippewa County;
4. Manage State Recycling grant.
5. Develop/manage new transfer station/drop off as a public/private facility.
6. Establish funding mechanism through charges/fees/residential billing and state recycling grants.

CONTRACTING FOR MRF PROCESSING

The following table provides a review of the types of contract agreements that communities in the Minneapolis region have entered with private sector MRF processors. As was discussed in the previous Market Assessment report, all of these contracts include a revenue sharing arrangement. Some of these contracts include a Recycling Materials Offset (RMO) component where the municipality compensates the processor for the cost of processing material when the commodity value drops below the negotiated processing cost. The costs and revenue sharing arrangements were incorporated into the analysis of total program costs for the MRF Options scenarios that were evaluated in this report. The Golden Valley, Minnetonka, and Plymouth example is the most relevant to Chippewa County.

Table 7: MRF Contract Pricing in Minneapolis Region

Municipality	City of Brooklyn	City of Edina	Golden Valley, Minnetonka, Plymouth	Maple Grove	Madison
Contractor	Waste Management	Allied Waste	Waste Management	Allied Waste	Waste Management
Effective Date	July 6, 2010	August 6, 2012	January 1, 2010		January 1, 2012
Term		7 Year	10 Year		5yr +1+1+1
Number of Households	27,900	14,250	22,745		66,000
Processing Cost per Ton		$74.00	$52.62	$70.00	$46.00
Revenue Share Percent		100%	75%	100%	80%
Processing Cost per Ton w/RMO*	$57.25		$66.55		
Revenue Share Percent w/RMO*	80%		80%		
Total Tons Delivered			6,012		192,001
ACR Calculation**					
Low	$40.00	$40.00	$40.00	$40.00	$40.00
Average	$96.21	$96.21	$96.21	$96.21	$96.21
High	$115.07	$115.07	$115.07	$115.07	$115.07
Revenue Share Credit					
Low	-$25.25	$0.00	-$34.55	$0.00	$0.00
Average	$19.72	$22.21	$10.42	$26.21	$50.21
High	$34.81	$41.07	$25.51	$45.07	$69.07

* Recycling Material Offset (net Below ACR – Average Commodity Revenue)

As described in the Recyclable Materials Markets Report the Average Commodity Revenue (ACR) value accounts for the negative-value of certain materials, such as glass and residue, in the recycling stream and then blends the value per ton of other commodities on an weighted average basis. A market share arrangement generally includes an established floor price, which guarantees a minimum price per ton paid to the community for materials brought to the MRF. The floor price can

be fixed based on the market value of a select number of items or the total mix of recyclable materials collected. When the market value of the recyclable tonnages exceeds the established floor price, the community and the MRF share in the value of the sold commodities, based upon an established percentage split.

CURBSIDE COLLECTION

The private sector companies that provide curbside collection service for both recycling and garbage were contacted to obtain their collection fees and the type of collection container. In almost all cases curbside recycling is provided with small, 18-gallon bins that are manually picked up.

Table 8: Existing Curbside Recycling Rates (Household Per Month)

Municipality	Hauler	Municipal Contract	Subscription w/ Garbage Service	Subscription w/out Garbage Service	Type of Container
Anson	Express Disposal	$2.30-$2.50		.	18 gal. Bins
Boyd	Waste Mgmt.	$2.10			18 gal. Bins
Cadott	Veolia*		NA		18 gal. Bins or 96 gal. Carts
Chippewa Falls	Normacycle	$2.14			18 gal. Bins
Cornell	Waste Mgmt.	$3.06			18 gal. Bins
Eagle Point	Waste Mgmt.		$4.48		18 gal. Bins
Hallie	Boxx		NA		18 gal. Bins
	Provyro		$1.75		18 gal. Bins
	Tambornino		$3.00		18 gal. Bins
	Veolia*			$4.50	18 gal. Bins
	Waste Mgmt.		$5.00		18 gal. Bins
Lafayette	Boxx		NA		18 gal. Bins
	Provyro		$1.75		18 gal. Bins
	Tambornino		$3.00		18 gal. Bins
	Veolia*			$4.50	18 gal. Bins
	Waste Mgmt.		$5.00		18 gal. Bins
Lake Holcombe	Express Disposal	$2.30-$2.50			18 gal. Bins
Stanley	Express Disposal	$2.14			18 gal. Bins
Wheaton	Waste Mgmt.		$5.00		18 gal. Bins

* As of November 20, 2012, Advanced Disposal Services has taken over ownership and operations of Veolia's solid waste business.

The assessment of the potential to collect and transfer recyclable material to MRF facilities outside the County was based on aggregating volumes from programs that currently have curbside collection or that have good access to the Lake Wissota-Chippewa Falls region. The County was divided into three zones for this analysis. The Northeast Rural communities (Birch Creek, Cleveland, Colburn, Estella, Lake Holcombe and Ruby), the Bloomer area including Cooks Valley and Howard and the southern region of the County centered on the Lake Wissota-Chippewa Falls-Hallie area.

These volume estimates were used to calculate the potential costs of implementing a single sort curbside collection program and transferring the material to processing facilities outside of the County. The more urban communities and the communities that currently have curbside collection and that have good access to the Lake Wissota-Chippewa Falls region were used as the basis for determining program costs.

Table 9: Chippewa County Estimated Potential Regional Recycling Tonnages

Municipal Recycling Programs	Occupied HHLD	Participating HHLDs	Single Sort (SS) Automated Weekly	Single Sort (SS) Auto Biweekly	BASELINE
			Pounds per Household		
Participation	**ALL**	**80%**	750	600	340
BLOOMER AREA	3,232	2,586	970	776	440
LAKE WISSOTA - CHIPPEWA FALLS	17,435	13,948	5,231	4,184	2,371
NORTHEAST RURAL	1,667	1,334	500	400	227
COUNTY TOTAL	22,334	17,867	6,700	5,360	3,037

* HHLD- Household

Estimates of the potential increase in quantities collected, for both medium and high volume scenarios, were previously estimated in the Volume Report. The estimates are based on emerging best practices for collection (single sort collection, larger carts, automated collection) and for state-of-the-art communication and recovery incentive systems (e.g. social media, Pay As You Throw (PAYT) and RecycleBank style incentives) – all of which have demonstrated capability to increase household recovery well beyond the rate of the current system.

The estimates of program costs were developed for a three, five, seven and ten year contract term for collection and processing. The estimate includes capital costs for collection vehicles, staffing and supervision, processing costs based on contract pricing in the Minneapolis-St. Paul region and material revenue sharing as described in the Recycled Materials Market report and identified in Table 7.

Table 10: Single Stream Curb Cart Collection Service, Transfer and Processing Cost Estimate
(Cost per Household per Month)

SCENARIOS	3 YR	5 YR	7 YR	10 YR
Collection Cost/ HHLD	($3.54)	($3.14)	($2.69)	($2.51)
Processing Cost/HHLD	($5.82)	($5.82)	($6.01)	($5.73)
Material Sales Rev/HHLD	$0.41	$0.46	$0.76	$0.84
Net Total Cost/HHLD	($8.95)	($8.50)	($7.94)	($7.40)

The cost estimate did not include the cost of transferring the material to a MRF processing facility outside the county. The long haul transfer cost to the Pierce County MRF of $8.18 per ton would add an additional 6.5% to the cost estimates in the Table 10.

Table 11: Long Haul Transfer Cost

Haul Cost per Hour	$90.00
One Way Miles	50
One way Time	1.00
Haul Cost	$180.00
Tonnage	22
Haul Cost per Ton	$8.18

OPTION 3: CREATE AND CONSTRUCT A "NEW" PRIVATELY OWNED AND PRIVATELY OPERATED MRF IN CHIPPEWA COUNTY, THAT WOULD BE SUPPLIED AND SUPPORTED BY MUNICIPALITIES IN CHIPPEWA COUNTY.

OVERVIEW

The basic concept is that a private entity would develop, fund and manage a full Service Single Stream Materials Recovery Facility. The County and municipalities would contractual agree to provide a minimum quantity of recyclables collected from within the County. In order to better understand this option a facility description is provided below as additional background. The description and accompanying charts, figures, and illustrations are for an industry standard MRF appropriately sized to meet economies of scale and compete in the market place.

In addition to the technical and economic analysis, interviews with key stakeholders were an important component of the management options analysis conducted for this study. Interviews with local community leaders varied in terms of their support for a proposed privately run MRF in Chippewa County. All parties expressed a desire to better understand the economics of such an investment prior to investing public dollars into a private MRF. For example, would it be financially feasible and cost-effective compared to existing options?

Interviews were conducted with MRF operators in Chippewa County and those from West Central Wisconsin to assess the opportunities and constraints with their current systems. Interviews were also conducted with local community leaders with a history of leadership and involvement in recycling. Results of the interviews indicate:

- Willingness to pool resources to achieve overall goals including greater efficiencies resulting in more cost effective solutions for taxpayers
- Desire to better understand the economics of constructing a new privately run MRF

Facility Description

The drawing in Figure 3 illustrates a Single-Stream version of processing. The building is divided into two main sections: tipping and processing. A full height wall separates the two. This allows heat retention in the processing area while trucks are tipping and reduces air quality problems. The system would allow for dual stream as well with this layout and some slight modification. For processing dual stream, some modifications can be made to the layout to provide a separate feed for containers. The polishing screen would be eliminated and the container line would be flipped end for end.

A scale would provide the ability for weighing incoming and outgoing loads. This is a 70' scale that will accommodate most common tractor-trailers combinations. The scale is located so the scale operator can be window to window with the driver. The building layout includes a sorted material tipping area that allows presorted materials to be dumped onto the floor and loaded directly onto the baler feed conveyor.

Recyclables are dumped on the tipping floor and pushed up in the lower left comer. The loader operator loads materials evenly onto the metering conveyor. Pre-sort staff picks off OCC and tosses it

down chutes to the floor below. At the presort station, large metal and large plastics are also recovered and tossed down chutes to bins below. Trash, plastic film and other items that may cause problems on the line are removed from the conveyor and, depending on volume, are either collected in carts on the platform or tossed down chutes to bins below.

Workers on the fiber sort platform pick off remaining OCC and brown paper into chutes leading into the first bunker, ONP into the second bunker, office paper into the third bunker and remaining paper into the last bunker ac; mixed paper. The containers from the screen and any left on the fiber sort conveyor are then conveyed to the container sort platform where sorters toss plastics and aluminum into slope bottom bins. A magnet picks off ferrous metal and tosses that into one of the bins as well. A chute near the mixed plastic bin allows a sorter to recover any fiber that passed through the screen.

When sufficient material is accumulated in the fiber bunkers, each material is pushed through the bunkers with a skid steer loader onto the baler feed conveyor and baled. OCC from the pre-sort is also loaded on the baler feed conveyor when the materials in the OCC bunker are baled. When the slope bottom bins fill, a gate facing the baler feed conveyor is opened and materials slide onto the conveyor, where they are carried to the baler.

OPERATION COST ESTIMATES

The estimated cost for operating a privately owned and operated single sort MRF for processing and marketing recyclable material in Chippewa County was based on the preliminary engineering design for a facility that could process up to 10 tons per hour as previously described. This facility includes purchase of a minimum 2-acre site with a building that has a 4500 sq. ft. tipping floor and a 14,000 sq. ft. processing area. The operating cost is based on a one-shift operation with approximately 20 employees. The revenue is based on the same revenue sharing arrangements that were used in the previous assessment of the transfer to other regional facilities.

Table 12: Single Sort Processing Cost Estimate

Scenario	Low	Medium	High
Annual Tons	5,456	6,770	8,106
TOTAL Processing Cost	$1,164,117	$1,543,595	$1,736,934
Cost per ton	$213	$228	$214
Cost per HHLD	$4.34	$5.76	$6.48
Processing (Rev/HHLD)	$1.08	$1.64	$1.60
Material Sales (Rev/HHLD)	-$1.31	-$1.99	-$1.97
Total (Cost/HHLD)	$4.12	$5.41	$6.11

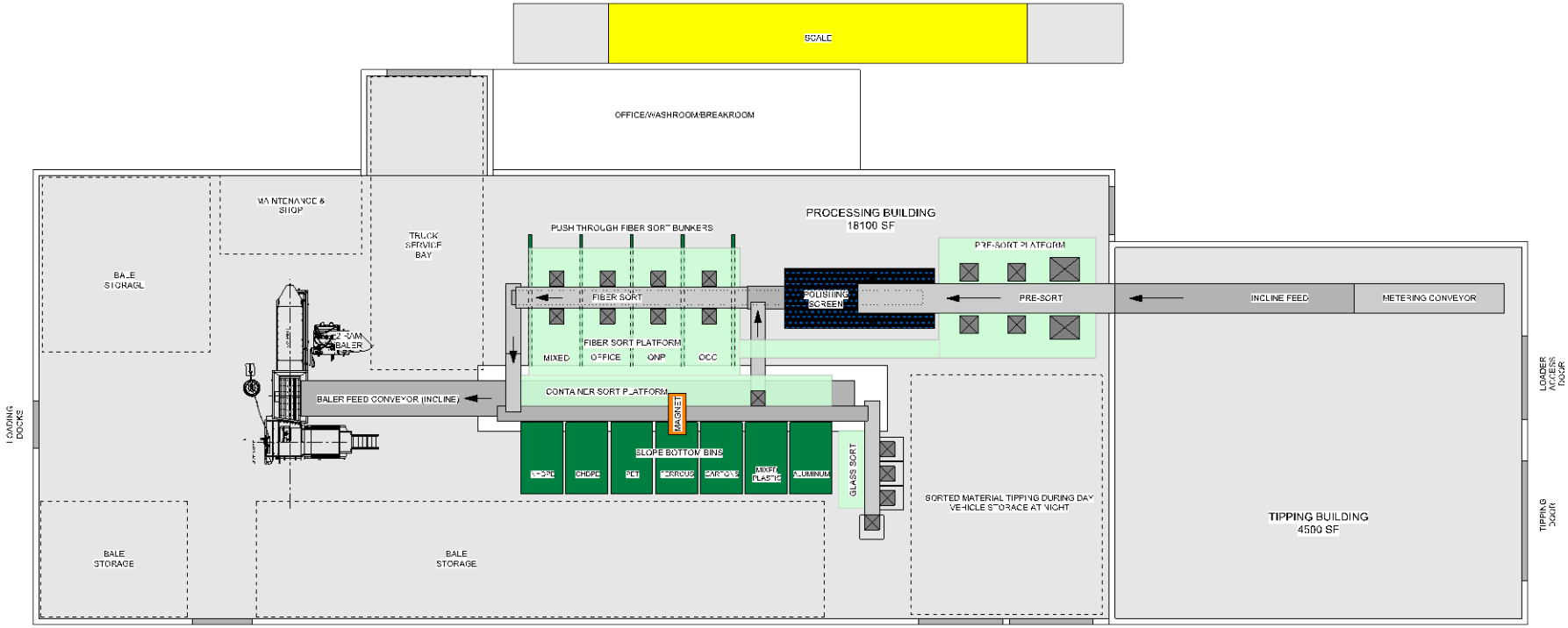
Roles and Responsibilities

This option would utilize an Intergovernmental agreement that transfers contracting authority from participating municipalities to the County. This would require amending the existing ordinance to require participating municipalities to amend their collection contracts and require that all recyclable material be delivered to the contacted MRF. Individual municipalities could contract for collection services but direct the material to the contracted MRF but a countywide collection contract would provide the greatest efficiency and cost benefits for all municipalities. The County would manage the

recyclables through contractual agreements with a regional MRF to procure the highest value for recycled materials and share the revenue from end markets (Regional MRF) on behalf of all municipalities. The Bloomer regional Drop Off-MRF would participate and market it's material to the new privately owned MRF. The responsibilities of the County would include the following:

1. Procure and Manage Collection Contracts, if needed to procure contracted volumes;
2. Procure, Develop and Manage new drop off transfer as a public/private facility;
3. Procure and Manage end market agreements for the processing of recycled materials sourced from Chippewa County;
4. Manage State Recycling grant;
5. Establish funding mechanism through charges and state recycling grants.

Figure 3: Conceptual County MRF Layout



MRF LAYOUT PRELIMINARY		
	DRAWN KAS	DATE 08/30/2012
Resource Recycling Systems www.recycle.com	PROJECT RR012012	SHEET NA

MANAGEMENT AND OPERATIONAL MODELS

The Committee and Chippewa County will need to determine a development, management and operational model that will best meet the demands of the selected strategy and final development desired by the committee. Additionally, questions of employment and operational responsibility and liability need to be adequately addressed. It is likely that a combination of the following models will ultimately provide the best recycling service for County residents.

Contract for Services

The Committee and County Administration would strictly specify and negotiate/competitively bid a range of services required to develop, build and operate a privately operated MRF. The County would assume responsibility for overseeing the entire operation and making payment for selected services. The County would arrange for funding through its own sources, which might include current funding sources along with charging fees for services provided by the center. The same method could also be used to evaluate proposals to enhance collection and aggregation of materials to send to an out of County public or private MRF.

Many services lend themselves to this type of arrangement, such as point to point hauling, staffing, disposal and/or processing of certain materials, and facility and equipment procurement and leasing, and would benefit from the clear delineation of rights and duties, remedies and payment. More complex issues of delegating management responsibility, materials revenue sharing and capitalization can also be addressed through contracting, either through a detailed explanation or a simple delegation of responsibility. While some level of this method will be employed in any scenario, the larger and more complex the operation, the greater number of services and service providers involved, and the more interest in partnering for future development, the more challenging and less beneficial this method becomes.

County Administered Interlocking Agreements

Under the direction of the Committee and County Administration, all the significant parties to the recycling development would have defined rights, duties, remedies and financial responsibilities under a master agreement. Some specific goods and services would be under separate contract, potentially subordinated to the master agreement.

The establishment of protocols for operational and developmental communication and decision-making, and to create an ongoing organizational structure that recognizes the contribution of the various stakeholders would likely benefit the recycling station development. While perhaps cumbersome in its establishment, this system could provide flexibility and accountability for making minor changes to the system, adding partners and seeking different types of funders. The County could retain a role in pursuing the continued development of recycling opportunities, and share with other potential funders an oversight role, while leaving day-to-day management in the hands of operating entities.

New MRF Management Organization or Authority

To provide the best opportunity for continued expansion of recycling efforts within Chippewa County, the County might consider the formation of a new agency or organization or transfer all authority as the Responsible Unit to the County. Both mechanisms provide additional opportunities for funding, organizational focus and management simplicity, while opening new avenues for service development. Additionally, legal distance is placed between the County and other partners and the new operation.

The establishment of a Board for either entity places management responsibility in the new organization, yet development of the by-laws and selection of the Board allow the founding partners to enjoy oversight and control to ensure mission focus. The ability to raise funds and seek grant opportunities in educational and experimental areas is enhanced by 501(c)(3) status.

As with a regional Drop-Off/MRF that has recycling transfer capabilities, the facility will provide companies that collect curbside recyclables, such as Waste Management, or companies that are hauling recycling drop boxes from other sites around the County, a convenient and cost effective alternative to hauling recyclables to other regional MRFs. These companies could receive revenue for their material and the County/MRF would market these materials to commodity brokers, resulting in additional revenue stream to support the operation of the MRF.

The establishment of a multi-county Inter-County agreement to provide enhanced recycling services to County residents could be undertaken if Option 2 were selected and it was determined to be more advantageous to work directly with a regional public MRF such as Pierce or Polk County's MRF compared with aggregating recyclables and sending to a regional privately run MRF or transfer station.

FINDINGS

Communities across Wisconsin are modifying their current recycling collection and processing systems for the benefit of their citizens and the environment. Several communities have tested and succeeded with converting to single-stream collection programs.

Over the last decade recycling processing technologies have evolved rapidly and continue to evolve. Over that same decade, single-sort collection and processing has grown from a questionable experiment to the primary approach for large recycling programs. The following points stress that single-sort now dominates residential recycling in the US and is here to stay:

- In the last five years, few large dual-sort MRFs have been built in the US.
- Most large MRFs built in the last few years in the US were built to process single-sort recyclables.
- Most large dual-sort MRFs have been converted to single-sort operation, or have been replaced by newer single-sort MRFs near by.
- Significantly more than half of all residential recyclables collected in the US are now collected as single-sort
- End markets have gone from questioning the consumption of materials from single-sort MRFs to welcoming those materials and adapting their processes, when needed
- Single-sort processing equipment, while still costly, has become very functional and reliable
- Most municipalities see a bump in collection volumes that significantly out weighs any increases in residuals when converting to single-sort

The State of Wisconsin is considering changes to the recycling program to increase the recycling rate and the quantity of material that is currently collected by RU in the state. Many communities in Wisconsin have tested and succeeded with converting to dual-sort and single-sort collection programs. Single-sort collection and processing would also allow consideration of transferring recyclables from multi-family locations should Chippewa County be interested in offering recycling services in currently under-served areas. Cart based collection programs are also consistent with the development of an organics collection program.

Currently, there are many examples of programs that demonstrate that low residual rates are possible, high product quality is easily achieved and net recycling rates can be increased with a single-sort program.

Dual-sort recycling remains technically viable. This report does not provide definitive market based cost comparisons of the options. Doing so will not be practical until Chippewa County makes some decisions on changes to the current approach to the collection of recyclable materials. When a choice has been made on program options it will be appropriate to request preliminary cost proposals and information from private sector vendors and service providers to develop firm cost numbers.

KEY POINTS FROM MRF STUDY

The study findings, summarized below, are based on information collected from the experiences of other counties and cities, interviews with local officials and MRF operators, site visits, and economic modeling of alternatives. The project evaluated single-sort and dual-sort collection for both weekly and biweekly collection.

Curbside Collection

1. Curbside single sort recycling collection should be provided in urban areas and other area that have appropriate density for efficient collection. A single-sort collection program is projected to increase materials quantity recovered by 60%, boosting countywide recycling to roughly 6,000 tons per year.
2. Communities have achieved better services at a lower cost when consolidating services and seeking competitive pricing from the market.
3. A Recycling Transfer facility is necessary to consolidate material to efficiently ship recycled materials to a MRF, such as the Pierce County MRF. The County could potentially negotiate for transfer with waste transfer facilities in Eau Claire, although those facilities are not in Chippewa County. A new Drop-Off Recycling Transfer Station in Chippewa County may be required to allow for the consolidation of curbside recyclables and for the efficient transfer to a MRF. An increase in jobs will result with the development of a Drop-Off Recycling Transfer Station.

Operational Efficiencies

1. The collection time for single-sort is less than dual-sort or multi-sort collection because there is no need to come off route when one compartment fills before the other.
2. An automated side load truck best serves urban collection and is the most efficient collection system. Dual-sort collection requires an additional truck and the cost of each truck of each truck is approximately $28,000 more than single sort truck due to split body packers.
3. The cost for a 96 Gallon Single Sort Curb Cart cost is estimated at $45 per cart.
4. A single-sort recycling system is compatible with a possible additional cart for comingled yard waste and organics.

Processing

1. Market research indicates <u>no</u> difference in market revenues from single vs. dual stream in local MRF's.
2. Several regional recycling processing facilities - Material Recovery Facilities (MRF's) –are equipped to handle single sort collection or would modify their facilities to accept single sort.
3. Based on the market analysis and financing analysis it is not viable to develop a privately operated single sort processing MRF in Chippewa County because it cannot achieve the necessary economizes of scale to compete with other established regional facilities.

Community Benefits

1. A single stream collection program makes recycling more convenient for residents, which is a major incentive for increasing participation and volumes.
2. Potential private sector job creation can result at transfer stations and for haulers to service additional recyclable volumes
3. The estimates of the net recycling costs, including processing and revenue sharing, are the lowest for the Single Sort Automated collection program.
4. Single-sort collection and processing program would also allow consideration of transferring recyclables from multi-family and small business locations and expanding recycling services in currently under-served sectors.
5. Single sort collection programs are more compatible with the development of a yard waste and organics collection program that would require another cart.

RECOMMENDATIONS AND NEXT STEPS

Chippewa County needs to seriously consider switching to single-sort collection and contracting for recycling processing and end market sales. It is necessary for multiple communities to work together in order to structure a recycling market place that will provide higher services and lower overall costs. Cooperation is needed in order to develop a system that aggregates more materials and that captures more value for consumer through better contracts with regional MRFs.

It is recommended that the County move to a single sort system achieve the highest recovery rate at the lowest cost. Some variation of Management Option 1A and 2 as described in the report appears to be the most feasible approaches for Chippewa County to pursue. The alternatives that should be evaluated based on the assessment of Option 2 are:

Alternative 2A – Countywide Contracting: Build a publically owned/privately operated transfer station in Chippewa County (Lake Wissota-Chippewa Falls-Hallie Area). Contract with recycling haulers to deliver recyclables to that facility.

- Develop countywide single stream collection requirement and service contracting for designated collection zones.
- Construct a transfer station/Drop Off in Chippewa County.
- Require all contracted haulers to transport recyclables to Chippewa County transfer station.
- Develop contractual agreement with Municipal or Privately owned Material Recovery Facility (MRF) outside of the County for processing and revenue sharing.

Alternative 2B – Managed Competition: Negotiate and contract with an existing privately owned/privately operated transfer station in the Chippewa Falls/Eau Claire metro area (Waste Management, Advanced Disposal, Express Disposal, or Boxx Sanitation). Contract with recycling haulers to deliver recyclables to that facility.

- Develop single stream collection requirement municipal collection contracts.
- Require all contracted haulers to transport recyclables to a designated transfer station
- Develop contractual agreement with Municipal or Privately owned Material Recovery Facility (MRF) outside of the County for processing and revenue sharing.

Table 13: Pros and Cons of Option 2A

Pros	Cons
Provides RU a high level of flexibility and control over selection of MRF and how recyclable materials are marketed.	Capital costs of land purchase or lease to establish a new transfer station.
Provides a higher level of competitive bargaining power with haulers, recycling companies, and available MRF's (Material Recovery Facilities).	Time requirements to build transfer station.
Provides greater potential for higher rebates and cost savings from selecting the MRF.	Administrative costs to develop and oversee contract for transfer station services.
Provides RU a high level of flexibility and control over selection of MRF and how recyclable materials are marketed.	Increased years to recoup the capital investment.
	Concerns regarding competition as expressed by operators of existing private transfer station(s).

Table 14: Pros and Cons of Option 2B

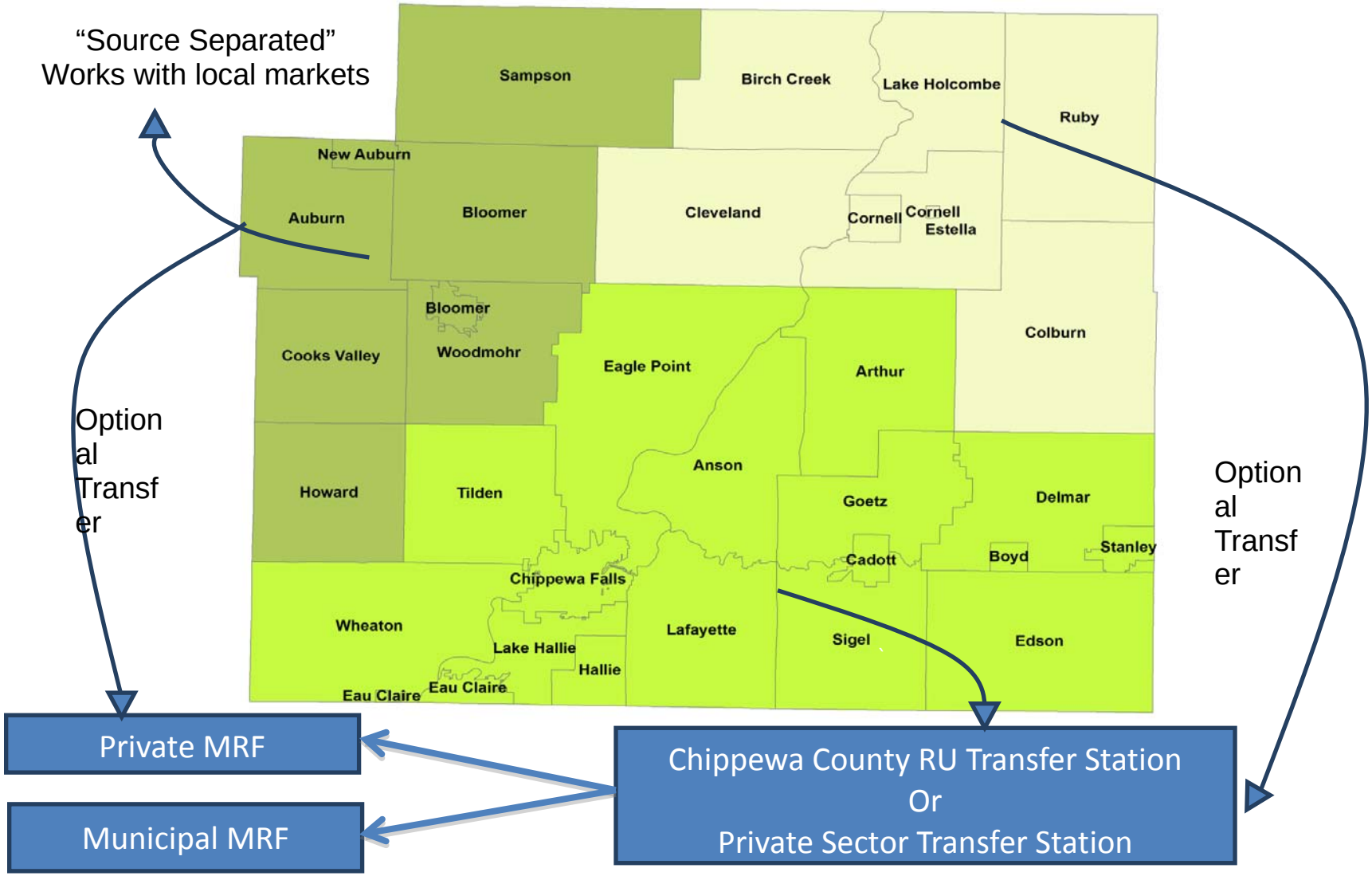
Pros	Cons
Less complex.	Offers Chippewa Co. RU less flexibility and control over selection of MRF and how materials are marketed.
No upfront capital costs.	Offers a lower level of competitive bargaining power with haulers, recycling companies, and available MRF's (Material Recovery Facilities).
No time requirements or delays associated with new transfer station construction.	Provides less potential for higher rebates and cost savings from selecting the MRF.
Other	Other

There are several operating program elements that are required if Chippewa County determines that increasing the quantity of recycled material through the implementation of single sort recycling collection is the preferred management approach to solid waste and recycling. These program elements include:

1. Implement a single sort and curbside pick up for the majority of the households in the more urban southern portion of the County to achieve higher recycling volumes and the associated revenue from the sale of additional recyclables.
2. The consolidation of services through contracting and procurement will provide the necessary efficiencies and cost savings that will allow increased recovery without large increases in the cost per household for all services including waste and recycling collection.
3. Participation from Chippewa Falls and surrounding communities is critical to success because of their existing volumes and geography. Any solution moving forward will need to include those communities at a bare minimum.

4. In order to achieve cost effective shipment of recyclable materials to end market processors the recyclable material should be consolidated at a larger transfer station with drop off capabilities that would be developed by the County in the greater Chippewa Falls/Lake Wissota/Lake Hallie region. An alternative is to contract with a private transfer station in the Eau Claire metro region is necessary in order for this to occur.
5. Procuring recyclable processing contracts with a MRF that includes revenue sharing arrangements is necessary to capture the value of the collected materials and lower the overall system costs;
6. Chippewa County communities in the rural Northeast region and the Bloomer region should be given an opportunity to participate in development of a more effective countywide recycling system.
7. Utilizing a market based assessment approach with the private sector will provide the relative cost information and program effectiveness of providing single sort, curbside pickup across the County.

Figure 4: Conceptual Regional Transfer Options



ROLES AND RESPONSIBILITIES

There are several collaboration approaches the County could take to increase recycling. Roles and responsibilities of County and municipalities should be defined to extent possible through amendments to the existing ordinance or through contractual voluntary agreements.

A major element of developing the necessary information to make a final decision on developing a comprehensive single sort collection and processing program is to assess and define the organizational structures that work within the political constraints of the County. This would include the development of draft intergovernmental agreements and operating contracts that define roles and responsibilities of the County or other organizational structures. In addition, formal discussions with neighboring counties to define possible partnerships and participation in a single sort collection and processing program should be undertaken. The following structures should be evaluated:

1. Develop Countywide Contracting where all members agree to participate and new management structure is created that manages recycling collection contracts and regional recycling transfer, drop-off and material processing contracts. This would require amending the existing ordinance and municipal agreements with a defined advisory function for participating municipalities.
    a. Negotiate all contracts for collection and processing for all participating municipalities
    b. Develop/manage new transfer station/drop off as a public/private facility in Chippewa County.
    c. Procure and Manage end market agreements for the processing of recycled materials sourced from Chippewa County;
    d. Establish funding mechanism through charges/user fees/ revenue sharing and state recycling grants.
2. Implement Managed Municipal Competition using Intergovernmental agreements that defines specified contracting requirements and defines the role of the County in management of contracts. This would require amending existing agreements for participating municipalities. These agreements would include:
    a. Procure and Manage Collection Contracts on behalf of municipalities if desired;
    b. Procure and Manage new recycling transfer agreements;
    c. County to procure and manage end market agreements for the processing of recycled materials sourced from Chippewa County;
    d. Manage State Recycling grant.

The following table identifies the various roles for all interested stakeholders in the development of a new single sort collection program for recycling in the County.

Table 15: Roles and Responsibilities

Option	County	Municipalities	Private Sector
Countywide Contracting For Collection and Processing			
Collection	Establish Collection Zones for countywide competitive bidding - Require All recyclables collected in County be sent to designated County transfer facility	Authorize collection contracting by County Participate in Authority Governing Board	Competitively Bid on County Contracts by Zone
Transfer	Solicit and procure recycling transfer facility and contract for operation from Private Sector	All Recyclable Material transfer operated by County	Competitively Bid on Recycling Material Transfer Operations
Processing	Solicit and procure recycling processing capability from Private Sector	Transfer all end market contracting authority to County	Competitively Bid on Recycling Material Processing
End Markets	Solicit and procure recycling end market revenue sharing agreement from Private Sector	Receive Revenue share through County contract to offset overall system costs	Provide Revenue Sharing to County
Net Benefits	Achieve economy of scale for contracting resulting in total system costs with highest recovery at lowest cost	Achieve comprehensive cost effective recycling services	Provide comprehensive services at lowest cost
Managed Competition/ Intergovernmental Agreements			
Collection	Require All recyclables collected in County be sent to designated Transfer facility	Municipalities procure services with stipulation that material goes to designated Transfer facility Option Allow County to Procure Collection Services	Competitively Bid on Municipal Contracts
Transfer	Solicit and procure recycling transfer capability from Private Sector	All Recyclable Material directed to designated Transfer facility under municipal contracts	Competitively Bid on Recycling Material Transfer facility and operations
Processing	Solicit and procure recycling processing capability from Private Sector	Authorize County to procure end market contract on behalf of municipality	Competitively Bid on Recycling Material Processing through County
End Markets	Solicit and procure recycling end market revenue sharing agreement from Private Sector	Receive Revenue share through offset of collection costs or revenue sharing grant	Provide Revenue Sharing to County and municipalities
Net Benefits	Achieve competitive contracting resulting in high recovery at competitive cost	Achieve single sort recycling services for all participating municipalities	Provide comprehensive services at competitive cost

APPROACHES FOR RFI PROCESS

Chippewa County should conduct a detailed evaluation of the program and investment cost requirement and organizational structures associated with a conversion to single sort collection and processing. Issuing a Request for Information (RFI) to determine the actual collection and processing costs from public or private sector service providers can accomplish this. Market based research is necessary in order to get competitive pricing information which will provide a better understand of the costs and benefits of a potential collaborative approach to recycling in Chippewa County.

Testing the market is accomplished through a Request for Information approach that would include the following:

1. An RFI approach should be structured to allow the County to assess the relative costs/benefits of collaboratively contracting for recycling only, waste and recycling, or waste only. The RFI process should be used to evaluate multiple service delivery alternatives provided by the private sector. Key variables to consider include: collection type, geography, transfer station management, and receiving MRFs. If transfer station management is going to be considered then specific details of the operation will need to be developed and included in the bidding documents.
2. Through the RFI process haulers will be able to provide pricing for different options across different geographical zones. Any bidder will be allowed to bid on as many or as few zones/service options as they wish.
3. The results of the RFI/RFQ process will enable the County to make a well-informed business decision with regards to intervening in the existing recycling market.
4. Existing haulers would be required to compete against each other to provide services resulting in more cost effective and comprehensive services. Dependent on how the collection areas are identified in the RFI there will be service providers that are more competitive in their pricing. Ultimately, a new system may be more convenient and profitable for some local haulers by allowing them to stay on route more of the time by reducing driving time to area transfer stations/MRFs.
5. Due to geography, density, and existing infrastructure, sub-county regions may make sense in terms of optimizing the recycling system in Chippewa County.

This evaluation would include equipment options and costs, processing and marketing arrangements, route requirements, and program investments and savings. This could be accomplished by formally requesting information from the private sector on a menu of options that have been discussed in this report to obtain information (costs and material pricing) that will provide market based data for decision making. Ultimately the goal of the RFI would be the identification of more cost effective and efficient service delivery options available from the private sector then are currently being provided then the County.

This process would include the following two components: One to assess the collection environment and a second to assess the transfer and processing market place. The RFI process would accommodate a phased implementation based on defined regions within the County with a full transition to a single sort processing system at a specified date. The County would need to create an effective review process for the evaluation of proposals including:

- Review criteria
- Criteria weighting
- Committee structure and participation
- Proposal review scoring sheets

- Vendor interviews and clarifying questions and meetings as required would achieve the necessary comparison of vendor responses.

SINGLE SORT PROCESSING RFI PREPARATION, ANALYSIS AND SUPPORT

A Request for Information (RFI) for the processing of residential recyclables collected within the County would be developed in order to obtain market based price information for these services. This process would include the following elements:

1. Draft an RFI that seeks pricing, revenue sharing, and residual guarantees for the County for the processing of single stream recycling material. The RFI draft will integrate County procurement requirements in preparation for the administration of the RFI process. Draft RFI language will be shared with County staff and an advisory committee for review and comment before finalization. This includes working with Corporate Counsel, if necessary.
2. The analysis will utilize contractual, technical, and financial tools to elicit best processing proposals from regional service providers. Technical support for the County would be necessary during the RFI process. This support will include: attendance at pre-proposal meeting; provision of answers to oral questions at the pre-proposal meeting; written responses to both oral and written questions submitted as part of the pre-proposal process; and technical procurement support to County staff.
3. An RFI Technical and Financial Evaluation will interpret the RFI responses utilizing processing criteria developed during the drafting process with the participation of the Advisory Committee. Financial proposals (including revenue share estimates) will be evaluated using the enterprise fund model developed as part of Phase II in order to fully understand the multi-year system cost of the proposed processing methods. An evaluation of the technical capability of the processing responders would be conducted to assess the minimum technical specifications for market quality, market pricing and processing residuals.
4. The development of draft "sample contracts" for review with a selected vendor from the RFI to position the vendor to fully respond to the solicitation, working with County staff/legal as needed to secure reviews and approvals.

COLLECTION PROCUREMENT RFI PREPARATION, ANALYSIS AND SUPPORT

An RFI for the procurement of recycling collection, carts and a recycling transfer facility within the County would be developed in order to obtain market based price information for these services. A draft RFI would seek pricing and performance guarantees for the County beginning on a specified date. The RFI draft will integrate County procurement requirements in preparation for County administration of the process. The draft RFI language will be shared with County staff for review and comment before finalization. This approach would include the development of options for rapid as well as phased scale up of the collection program countywide including methods (trucks, carts, routes), costs (labor, contracts), performance enhancement features (e.g. incentives, education, etc.) and projected performance.

Managed competition could be a component of this process where specific areas of the County could be bid as independent regions. This could include the ability for potential service providers to bid on specific areas or services. Areas for managed competition need to be chosen carefully to ensure quality pricing from the collection vendors. The county will need to determine if the current residential collection days would remain unchanged or potentially remap the collection days for much of the County. The RFI will need to include maps of

specific areas for the companies to bid on including all current metrics including households, currently collected tons of each stream, number of routes to service the area and others. It would also require the preliminary location for a recycling transfer facility.

This RFI process would include the following elements:

1. Development of a Recycling Collection Services RFI to evaluate the feasibility of countywide recycling collection. Detailed specifications of a variety of County services that describe what is expected of the contractor including performance requirements, reporting, ownership of County-branded carts and dispute resolution. These specifications will be used as a basis for the RFI. The RFI will also include all necessary pricing tables, performance metrics, managed competition areas and City procurement language. The RFI could be structured to include:
    a. New Countywide cart based recycling collection program
    b. Current curbside waste collection
    c. Current or modified bulky collection service
    d. New yard waste and food waste collection
2. Development of a Recycling Collection Carts RFI for the procurement of recycling carts if not included as a component of the collection contract.
3. The process would seek pricing and performance guarantees from the private sector for the collection of single stream recycling material. The RFI draft will integrate County procurement requirements in preparation for the administration of the RFI process. Draft RFI language will be shared with County staff and an advisory committee for review and comment before finalization. This includes working with Corporate Counsel, if necessary.
4. Technical support to the County procurement staff will be needed during the RFI process. This support would include:
    a. Attendance at pre-proposal meeting;
    b. Provision of answers to oral questions at the pre-proposal meeting;
    c. Written responses to both oral and written questions submitted as part of the pre-proposal process, and
    d. Technical procurement support to County staff.
5. Technical and Financial Evaluation of the RFI responses would utilize criteria developed in the drafting process and in consultation with the Advisory Committee. Financial proposals will be evaluated using the cost model developed during the current project in order to fully understand the multi-year system cost of the proposed collection contracts, cart purchase and deployment methods.
6. The analysis would evaluate and present the options showing the projected performance over time, including capital costs, operating costs, cost reductions and cost avoidance. The financial analysis, including multi-year forecast and documentation of costs and benefits (avoided disposal costs, etc.) as required to enable the program decisions to be identified and the final program features to be confirmed.

The County staff and the review committee, with the assistance of outside expertise, would complete all remaining steps in preparing recommendations for the selected program, including memoranda and presentations, to be presented to the County Board and all potential participating municipalities.