

Final Report

Rural Iowa Hub and Spoke Recycling Project

Presented to:

Iowa Department of Natural Resources



IOWA DEPARTMENT OF
NATURAL RESOURCES

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In conjunction with
Pierpont Consulting

February 6, 2017
File No. 01215320.00

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Land Quality Bureau
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1.0 EXECUTIVE SUMMARY

The purpose of the Rural Recycling Hub and Spoke Recycling Project study was to inventory existing recycling operations within rural Iowa, and assess the feasibility of creating rural partnerships with a hub and spoke type of system. A hub and spoke system involves recycling hubs shouldering the financial burden of operating a recycling center that processes material, while benefitting from capturing value from the recyclable materials that they market. The spokes provide the hubs with their recyclables to process. Spoke communities do not benefit from the sale of the recyclables, but they are not liable for the expenses of operating a recycling processing center. Oftentimes, recycling hubs exist within communities with slightly larger population centers and the spokes feed into the hub system from very rural areas.

The Iowa Department of Natural Resources (DNR) contracted with SCS Engineers (SCS) to conduct the study, leading to recommendations for implementing a Hub and Spoke recycling system as a means of increasing rural recycling participation, while maintaining and improving rural recycling efficiencies and economics. The study included identifying existing rural recycling services, service providers, and recycling gaps, and providing strategies to fill recycling gaps, including a hub and spoke recycling system.

As part of the study, the SCS team was contracted to perform the following:

- Research and consolidation of existing waste generation and recycling data, including existing recycling infrastructure, recycling service providers, and their interest in participating in a hub and spoke recycling system.
- Research and summarize other states' rural recycling programs.
- Develop a conceptual hub and spoke recycling system for a representative geographical area of rural Iowa.
- Develop a cost/benefit analysis to implement the conceptual hub and spoke recycling system, including a comparison to existing recycling program(s) operating in the selected geographical area. The research conducted for this project of recycling operations in Iowa revealed that the existing recycling infrastructure is varied and plentiful, possibly to excess. While the existing system contributes to a high level of access to recycling within rural communities, it also reveals too many players competing for, what could be, a static amount of material. Therefore focusing on increased efficiency of programs takes precedent over developing a statewide hub and spoke recycling system.

In order to best promote and manage rural recycling, Iowa needs to understand volumes of material that are recycled through an annual reporting requirement. Section 4.5 further outlines the importance of capturing recycling data as a tool for operational efficiency. Section 4.5 also notes the importance of strategic allocation of funds. The cost/benefit tool provided in section 5.0 can help DNR and communities determine if volumes of material exist within a specific region to justify the creation of a new recycling processor or hub.

In general, recycling is strong in rural Iowa. The entrepreneurial spirit has created numerous private enterprises in the state as well as successful public operations, as well as public and private partnerships. It is not the goal of a hub and spoke recycling program to shut down sustainably operating recycling programs that already exist. For this reason Iowa is not conducive to a statewide hub and spoke recycling system. Well-managed programs will be able to weather the storm of low market prices for recyclables and serve as regional rural hub and spoke recycling programs. Recycling programs that are not focused on efficiency and provide duplicative services will not survive unless they are artificially supported with outside funding. Luckily, the state has control of much of the outside funding mechanisms with its SWAP program.

2.0 EXISTING WASTE GENERATION AND RECYCLING ACTIVITIES AND OPERATIONS

The Hub and Spoke Recycling Study began with SCS working with DNR staff to obtain information on existing recycling activities, collection centers, transfer stations and landfills, as well as transporters and haulers, to determine existing recycling capacity, volumes generated, and current programs. Data gathered included comprehensive contact information and location information, in order to transform the information into a readily accessible, GIS based map.

Upon completion of the initial outreach and analysis of information gathered, key team members travelled to Iowa to meet with DNR staff and to conduct site visits to rural regions interested in Hub and Spoke recycling. This trip included gathering any remaining data needed, including GIS location data for the mapping portion of the project.

2.1 PERMITTED FACILITIES MAP

In order to develop the GIS map, DNR provided the Team with a list of 106 permitted facilities that process recyclables. The list included the latitude and longitude information for each facility. These facilities were added to an existing DNR map that included municipal solid waste (MSW) landfills, construction and demolition landfills, citizen convenience centers, composting facilities, and transfer stations.

The facilities were classified into ten categories, based on the following criteria:

1. Transfer Station or Recycling Facility that accepts and processes single stream (or “commingled”) recyclables. Facility earns revenue from end users or brokers.
2. Transfer Station or Recycling Facility that accepts and processes source-separated recyclables. Facility earns revenue from end users or brokers.
3. Transfer Station or Recycling Facility that accepts commingled recyclables and has limited or no processing. Facility does not earn revenue from recyclables.
4. Transfer Station or Recycling Facility that accepts source-separated recyclables and has limited or no processing. Facility does not earn revenue from recyclables.
5. Transfer Station or Disposal Site that only accepts MSW (may have minimal recycling per state mandates that yard waste, electronics, appliances and tires be separated from all other MSW).
6. Landfill that processes household recyclables. Landfill earns revenue from end users or brokers.
7. Landfill that accepts household recyclables. Site does not earn revenue from recyclables.
8. Private Material Recovery Facility (MRF).
9. Waste-to-Energy Plant.
10. End User.

Source-separated and commingled operations were identified to facilitate partnerships between multiple entities that collect and/or process recyclables within a region in a similar manner. Conversely, if a community that collects and processes source-separated recyclables wants to convert to commingled, this information can identify potential, regional partners to support that transition.

Additionally, the Team felt it was important to identify each facility's end users to establish the termination point for the flow of recyclables. For the purposes of this analysis, once recyclables were sold to either brokers or an end-user, the flow of the recyclables stops.

To properly categorize each facility, as well as inventory end users, the Team distributed surveys to 93 individuals representing the 44 planning areas in Iowa. The Team received 45 responses, consisting of 34 complete surveys and 11 incomplete surveys. The surveys provided a broad scope of information. For facility categories or geographic locations that were not represented by the survey results, the Team conducted 14 site visits and completed 200 phone interviews to obtain the requisite data.

The Team then created a GIS-based map that identifies facility location, classification and where their recyclables are delivered (**Attachment 1**). A summary of all survey results is included in **Attachment 2**, and a summary of all site visits and phone interviews is included in **Attachment 3**.

2.2 WASTESHED RECYCLING CAPACITY

To further assess the potential for partnerships amongst facilities, the Team queried facilities about the types of recyclables they accept, and the potential to process additional recyclables. Thirty-eight out of the 45 respondents (84.4%) noted that their facility or planning/service area manages recycling, and 16 out of 29 (55.2%) of survey respondents noted they have capacity to transport and/or process additional materials (**Exhibit 1**).

Exhibit 1. Processing and Transportation Capacity

Answer Options	Response Percent	Response Count
Yes	55.2%	16
No	24.1%	7
Unsure	20.7%	6
Answered Question		29
Skipped Question		16

2.3 DISPOSAL QUANTITIES

The DNR tracks landfill tonnage data on an annual basis. In 2015, DNR reported that 2,738,294 tons of MSW was disposed in Iowa landfills. This includes 144,307 tons of MSW originating from other states, which means that Iowa landfills received 2,593,987 tons of Iowa-generated MSW (2,738,294 - 144,307) in 2015. Additionally, 78,245 tons of Iowa-generated MSW was transported to out-of-state landfills for a total of **2,672,232** tons of Iowa-generated MSW (2,593,987 + 78,245) disposed in landfills in 2015.

Generally speaking, each planning area has the state mandated goal of reducing the amount of waste landfilled through source reduction and recycling by 50%, based on an established baseline or baseline adjustment. With 2015 as an example if 2,672,232 tons of MSW is generated annually in Iowa, then 1,336,116 tons of MSW would need to be diverted from landfills to achieve the State's recycling goal.

Currently, Iowa does not track recycling tonnages. In order to create a baseline by which Iowa can measure its success and track future progress in recycling, the state needs to create a reporting mechanism to capture recycling tonnages on an annual basis.

2.4 WASTE COMPOSITION

In 2011, DNR commissioned a study to characterize the types of MSW that are disposed in Iowa landfills. The five most prevalent categories of MSW disposed in Iowa are shown in **Exhibit 2**. With the exception of textiles/leather and untreated lumber, all of these materials are processed by at least one respondent to the project survey.

Exhibit 2. Five Most Prevalent MSW Disposal Categories

Rank	Household Waste	Industrial/Commercial/ Institutional Waste (ICI)	Household and ICI Combined
1	Food Waste - 13.6%	OCC and Kraft Paper - 13.2%	Food Waste - 13.3%
2	Yard Debris - 7.8%	Food Waste - 13.1%	OCC and Kraft Paper - 9.0%
3	Textiles and Leather - 5.9%	Other Plastic Products - 8.0%	Other Film Plastic - 6.6%
4	Other Film Plastic - 5.8%	Wood - Untreated - 7.9%	Compostable Paper - 6.1%
5	Other Plastics - 5.2%	Other Film Plastic - 7.3%	Untreated Wood - 5.4%

2.5 DISPOSAL SITES

The DNR requires transfer stations, municipal landfills, and citizen convenience centers to be permitted with the State. Municipal Solid Waste must stay within the boundaries of the

established planning areas. As a result, there is reliable data on the location of these facilities and the flow of MSW. Ten planning areas are void of landfills and therefore must send their MSW to landfills outside their planning area. **Exhibit 3** identifies these planning areas, and notes where their MSW is disposed.

Exhibit 3. Planning Areas without Landfills

Planning Area	MSW Disposal Site
Rathbun	South Central Iowa Solid Waste Agency
Prairie	Metro Park East Sanitary Landfill
Adair	Metro Park West (Shingles to Metro Park East)
Monona	Gill Landfill in Jackson, Nebraska
Sioux City/Woodbury	Gill Landfill in Jackson, Nebraska
Buena Vista	Carroll County Sanitary Landfill
Plymouth SWA	Gill Landfill in Jackson, Nebraska
Kossuth	Central Disposal Landfill
Allamakee	Mallard Ridge Landfill in Delavan, Wisconsin
Louisa County	Des Moines County Regional Sanitary Landfill & out of state (according to survey)

2.6 RECYCLING

2.6.1 Quantities

Recycling operations, unlike disposal facilities, are not required to be permitted or to report to the State. One of the objectives of this project is to better understand the state of recycling within rural Iowa. **Exhibit 4** shows annual tonnage of household recyclables, yard debris, and special materials (e.g. scrap metal and tires) that are processed by facilities that responded to the survey. As discussed above, a statewide reporting method to track recycling will assist Iowa in better understanding the diversion that is occurring within the state.

Exhibit 4. Recycling Processing Quantities (Tons Per Year)

Organization	Contact	Household Recyclables	Yard Debris	Special Materials
Benton County	Myron Parizek	200		
Metro Waste Authority	Rhonda O'Connor	27,000	30,000	14,000
Audubon County Solid Waste Management Commission	Janet Hansen	221	61	30
Harrison County Landfill Commission	Daniel Barry	930	N/A	Scrap Metal - 20
Des Moines County Regional Solid Waste Commission	Hal Morton	3,121	3,845 Clean Wood – 1,257	Appliances - 672 units Tires - 43 Batteries - 50

Organization	Contact	Household Recyclables	Yard Debris	Special Materials
Northwest IA. Area Solid Waste Agency and Recycling	Larry Oldenkamp	2,500		
Winneshiek County	Terry Buenzow	2,500		300
Buena Vista County	Lori Dicks	1,500	300	2,500
Iowa Recycling Association	Alan Schumacher			7,500
Kossuth County Transfer Station	Doug Miller	560	0	0
Carroll County Solid Waste Management Commission	Mary Wittry	5,000	Yard Debris is not weighed	45
Guthrie Co. Solid Waste & Recycling	Stephen Patterson	469	Not Recorded	Scrap Metal - 150
South Central Iowa Solid Waste Agency	Rick Hurt	Haul to Midwest Disposal for Processing		Scrap Metal - 100
Central Disposal	Lou Lorenzo	200	30	30
City of Iowa City Landfill and Recycling Center	Jennifer Jordan	750	7,500	Shingles - 450 Scrap Metal - 70 Appliances - 340 Tires - 318 Brown Goods - 200 HHW - 30
Jones County Solid Waste Commission	Merle Tank	250		3,000
Northern Plains Regional Landfill//City of Spencer	Craig Poulsen	850	1,000	
Cherokee County Solid Waste Commission	Brent Kach	780	200	350
Hardin County Solid Waste	Susan Engelking	1,375	1	5,940
Boone County Landfill	Lois Powers	790	829	Scrap Metal - 40
Ottumwa/Wapello County Solid Waste Commission (City of Ottumwa)	Janice Bain	1,495 Also processes business recyclables, but they are tracked	1,731	133

Organization	Contact	Household Recyclables	Yard Debris	Special Materials
		separately		
Tama County	Dave Sherwood	60	15	100
Floyd-Mitchell-Chickasaw Counties	Lori King	N/A – processed at Jendro	N/A	N/A
Dickinson Landfill	Jeff Vassar	N/A - all recyclables processed at the recycling center not landfill	N/A	N/A
Black Hawk County	Doyle Smith	1,613.40	1,259	514
City of Council Bluffs	Tony Fiala	3,700	5,500	7,500
Dubuque Metropolitan Area Solid Waste Agency	John Foster		1300	1,600
Pottawattamie County	Matt Wyant	Partners with Council Bluffs		300
TOTAL		55,863	46,303	46,405

As shown in Exhibit 4, survey respondent results note that 55,863 tons of household recyclables were processed in 2015, with 48% of the material coming from Metro Waste Authority. A total of 46,303 tons of yard debris was processed, with 65% coming from Metro Waste Authority. A total of 46,405 tons of special waste was processed, with 30% coming from Metro Waste Authority.

2.6.2 Materials

Thirty eight of the survey respondents indicated they process recyclables, of which 31 specified the materials they accept (**Exhibit 5**). According to survey responses, aluminum and tin cans, plastics # 1, 2, and 5, paper, and cardboard are the most commonly accepted materials, while food waste ranks as the least frequently diverted material.

Exhibit 5. Materials Processed

Answer Options	Response Percent	Response Count
Aluminum Cans	80.6%	25
Tin Cans	90.3%	28
Plastic Bottles #1 and #2	90.3%	28
Plastic #3- #7	67.7%	21

Answer Options	Response Percent	Response Count
Plastic #5	77.4%	24
Paper	90.3%	28
OCC	90.3%	28
Chip-Board/Gray-Board (e.g. cereal boxes)	71.0%	22
Yard Debris	58.1%	18
Food Waste	6.5%	2
Electronics	71.0%	22
Motor Oil	64.5%	20
Cooking Oil	38.7%	12
Tires	77.4%	24
Lead Acid Batteries	64.5%	20
Scrap Metal	74.2%	23
Construction & Demolition Debris (C&D)	29.0%	9
Other (please specify)	48.4%	15
Answered Question		31
Skipped Question		14

2.6.3 Collection

The survey sought to identify methods in which household recyclables are collected and delivered to a facility. This included information related to commingled or source-separated, as well as curbside versus drop-off site (**Exhibit 6**).

Exhibit 6. Household Recyclables Collection

Answer Options	Response Percent	Response Count
Commingled	41.4%	12
Source-Separated	31.0%	9
Curbside	55.2%	16
Drop Off	79.3%	23
Answered Question		29
Skipped Question		16

Survey participants were also requested to indicate if they pay a hauler to transport material to end market. As shown in **Exhibit 7**, 41.4% indicated “yes.”

Exhibit 7. Transportation Fees Paid

Answer Options	Response Percent	Response Count
Yes	41.4%	12
No	58.6%	17
Answered Question		29
Skipped Question		16

Twelve survey respondents indicated they pay a hauler to transport material to end market. Six of those provided information about transportation fees (**Exhibit 8**). This information is provided as a general reference, therefore the name of the survey respondent is not shown. For details please refer to **Attachment 2**.

Exhibit 8. Transportation Fees

Rate	Service Level
\$75/hr	Transports 15-Cubic Yard Container
\$90/hr	Transports 20-Cubic Yard Container
\$269/pull	Container Size Not Provided
\$25/ton	Container Size Not Provided
\$185/pull	Container Size Not Provided
\$65/pull	Container Size Not Provided

2.7 EDUCATION AND OUTREACH

2.7.1 Initiatives

The types of education and outreach initiatives that are used to encourage recycling in the planning area where the facility is located, as well as for the recyclables they process that are generated outside of the planning area (service area) are shown in **Exhibit 9**.

Exhibit 9. Education and Outreach Methods

Answer Options	Response Percent	Response Count
Special Events	64.7%	22
Bill Inserts	32.4%	11
Radio Ads	44.1%	15
Television Ads	5.9%	2
Print Ads	64.7%	22
Direct Mail	20.6%	7
Flyers	61.8%	21
Posters	32.4%	11
Public Service Announcements	14.7%	5
Social Media	50.0%	17
Press Releases	44.1%	15
Grants to communities for education and outreach	17.6%	6
Other (please specify)	29.4%	10
Answered Question		34
Skipped Question		11

Beyond the education and outreach mechanisms shown in Exhibit 9, survey respondents indicated that recycling is promoted through billboards, websites, school programs and facility tours.

2.7.2 Funding

Survey respondents were asked to share how their education and outreach initiatives are funded. **Exhibit 10** identifies these sources and provides the number of respondents that indicated that source.

Exhibit 10. Education and Outreach Funding Sources

Source	Respondents
Property Tax	2
Annual Operating Budget	11
Tipping Fees	7
Recycling Revenues	4
Retained Fees Savings Account	1
Grants	1
Monthly Household Fee	2
Recycling Fund	1
Solid Waste Commission	1
ECICOG Retainer	1

2.8 PROGRAMMATIC EXPENSES AND REVENUE

Additionally, survey questions were meant to better understand expenses associated with each programs' recycling operations, including tipping fees for MSW, recycling, yard debris and special materials and gross revenue from the sale of organics, special materials and recycled materials. **Exhibit 11** notes survey response summaries to these questions for all 45 respondents.

Exhibit 11. Expenses and Revenue

Organization	Landfill(s) used	MSW tipping fee (\$/ton)	Recyclables tipping fee (\$/ton)	Yard debris tipping fee (\$/ton)	Special materials (e.g. scrap metal & C&D) tipping fee (\$/ton)	Recyclables gross revenue (\$/year)	Mulch or compost gross revenue (\$/year)	Special materials gross revenue (\$/year)	Distribution of revenue from sale of recyclables
Monona Co. Sanitary Landfill	Out of State	\$ 20.00							
Pottawattamie County	Loess Hills Regional Sanitary Landfill	\$ 23.50	free		\$100			scrap metal \$10,000	n/a
Louisa Regional Solid Waste Agency	Out of State	\$ 23.90							
South Central Iowa Sanitary Landfill	South Central Iowa Sanitary Landfill	\$ 24.00							
Waste Commission of Scott County	Scott Area Sanitary Landfill	\$ 26.65							
Buena Vista County solid waste and recycling	Carroll County Sanitary Landfill/Recycling Center	\$ 26.65	Commingled \$25/sorted \$0	Free for residents \$30 for commercial	Metal free recyclable wood \$41 C&D \$55	With labor \$0	\$0		Used for operations-typically there is no revenue.
Boone County Landfill	Boone County Sanitary Landfill	\$ 31.00	\$0	\$31	\$31	no revenue	6 weeks free disposal in the spring and fall	\$3,500	No revenue for recycling except the scrap metal. It goes back into landfill operations.
Northwest IA. Area Solid Waste Agency and Recycling	Northwest Iowa Area Sanitary Landfill	\$ 33.00	\$0			\$160,000			Operation expense
City of Cedar Falls	Black Hawk County Sanitary Landfill	\$ 34.25	0	29.5	Clean shingles \$30.00	\$46,000	\$0	\$33,000	It goes back into the Refuse budget
Comprehensive Solid Waste Management Planning Area	Black Hawk County Sanitary Landfill	\$ 34.25							
South Central Iowa Solid Waste Agency	South Central Iowa Solid Waste Agency Landfill	\$ 37.00	0	\$0 grass/leaves \$25/ton branches etc.	scrap - \$0	\$0	\$0	\$2,000-\$5,000	n/a

Organization	Landfill(s) used	MSW tipping fee (\$/ton)	Recyclables tipping fee (\$/ton)	Yard debris tipping fee (\$/ton)	Special materials (e.g. scrap metal & C&D) tipping fee (\$/ton)	Recyclables gross revenue (\$/year)	Mulch or compost gross revenue (\$/year)	Special materials gross revenue (\$/year)	Distribution of revenue from sale of recyclables
Floyd-Mitchell-Chickasaw counties	Floyd-Mitchell-Chickasaw Counties Sanitary Landfill	\$ 41.00	\$0		\$41	n/a	n/a	n/a	Don't sell any recycled materials. Pay to have a recycle bin for customers.
Cherokee County Solid Waste Commission	Cherokee County Sanitary Landfill	\$ 42.00	\$0	\$0	scrap - \$0 asphalt shingles - \$28	\$25,000	\$0	Scrap - \$1,200	Put in general account
Audubon County Solid Waste Management Commission	Harrison County Sanitary Landfill	\$ 43.00	\$0	\$25	\$0	\$16,000	\$1,400	\$1,000 plus	It is used for general operations.
Sac County Solid Waste Agency	Carroll County Sanitary Landfill/Recycling Center & Sac County Sanitary Landfill	\$ 43.00							
Carroll County Solid Waste Management Commission	Carroll County Sanitary Landfill/Recycling Center	\$ 43.00	n/a	n/a	\$43	\$430,000	\$0	\$2,000	Used to operate the recycling center
Guthrie Co. Solid Waste & Recycling	Carroll County Sanitary Landfill/Recycling Center	\$ 43.00	\$0	\$0	scrap \$0 C&D \$50.00	\$0	\$0	Scrap \$10,000-\$20,000) C&D \$0	To general fund account
Des Moines County Regional Solid Waste Commission	Des Moines County Regional Sanitary Landfill	\$ 50.00	Recycling & HHM management funded by a per household fee of \$3.45/month	\$0	scrap \$20 Appliance \$10 Tires \$250 Batteries \$2 each	\$200,000	\$0	not available	Offsets cost to collect and process.
Tama County	Tama County Sanitary Landfill	\$ 50.00		\$0	\$0	\$0	\$0	\$4,000	\$0
Hardin County Solid Waste	Rural Iowa Sanitary Landfill	\$ 51.00	\$0	\$0	\$51	\$88,000	\$0	\$30,000	Household Recycling goes towards recycling employees payroll

Organization	Landfill(s) used	MSW tipping fee (\$/ton)	Recyclables tipping fee (\$/ton)	Yard debris tipping fee (\$/ton)	Special materials (e.g. scrap metal & C&D) tipping fee (\$/ton)	Recyclables gross revenue (\$/year)	Mulch or compost gross revenue (\$/year)	Special materials gross revenue (\$/year)	Distribution of revenue from sale of recyclables
City of Newton	City of Newton Sanitary Landfill	\$ 52.00	\$0	\$0	\$0	\$0	\$0		Stays in Landfill funds.
City of Newton - Manager of Landfill	City of Newton Sanitary Landfill	\$ 52.00							
WRD Solid Waste	Wayne-Ringgold-Decatur County Sanitary Landfill	\$ 56.00							
Ottumwa/Wapello County Solid Waste Commission (City of Ottumwa)	Ottumwa-Wapello County Sanitary Landfill	\$ 57.00	\$0	yard waste \$30 \$7.50 Minimum	Scrap \$0. C&D \$57	Don't separate out from business.	Wood is an expense not a revenue	This varies greatly according to market prices for metal. For 2015 it was \$6,347.48	Funded by Landfill Tipping Fees and the sale of recyclable material. The money from the sale goes in the Solid Waste Fund.
Ottumwa/Wapello County Solid Waste Commission	Ottumwa-Wapello County Sanitary Landfill	\$ 57.00							
Benton County	Benton County Sanitary Landfill	\$ 60.00	approx. \$4/per capita included in rural property tax			\$0			No revenue. Currently costs about \$30/ton to process.
City of Muscatine	Muscatine County Sanitary Landfill	\$ 60.00							
Prairie Solid Waste	Metro Park East Sanitary Landfill	\$ 65.00							
Winneshiek County	Winneshiek County Sanitary Landfill	\$ 67.00	\$0	n/a	\$0	\$250,000	n/a	\$20,000	Winneshiek County General Fund
Kossuth County Transfer Station	Central Disposal Landfill	\$ 70.00	No fee for recycling	Not accepted	Not accepted	0	n/a	n/a	n/a
Bremer Co. Landfill & RCC	Black Hawk County Sanitary Landfill	\$ 71.00							

Organization	Landfill(s) used	MSW tipping fee (\$/ton)	Recyclables tipping fee (\$/ton)	Yard debris tipping fee (\$/ton)	Special materials (e.g. scrap metal & C&D) tipping fee (\$/ton)	Recyclables gross revenue (\$/year)	Mulch or compost gross revenue (\$/year)	Special materials gross revenue (\$/year)	Distribution of revenue from sale of recyclables
Central Disposal	Central Disposal Landfill	\$ 85.00	\$0	\$30/ton	metal free C&D \$85	Loss year over year	none	break even	recycling fund used to bring single sort curb side recycling to all comp plan members
Council Bluffs Recycling Center - Division of CB Health Dept.	Loess Hills Regional Sanitary Landfill	\$22.51/Ton for Council Bluffs residential waste							
City of Cedar Falls	Black Hawk County Sanitary Landfill	\$34.25, going up to \$36.25 July 1st							
Iowa Recycling Association	Iowa County Sanitary Landfill	\$35	unknown					not very much	if anything left put into financial institution
Metro Waste Authority	Metro Park East Sanitary Landfill & Metro Park West Landfill (Formerly North Dallas)	\$38 commercial ; \$37 residential	Free at the landfill; collection at curb is charged through city	\$28/ton	If meets requirements: Rubble - free; Shingles \$15 metal same as tip fee	n/a	n/a	n/a	Receive a percentage of the sale from the processing contractor.
City of Iowa City Landfill and Recycling Center	City of Iowa City Sanitary Landfill	\$42.50 or \$47.40	no fee for residents, varies by type for CESQG businesses	no fee for residents; \$24/ton for businesses	appliances \$12.50; brown goods \$2, \$10 or \$15 Tires \$0.07/lb. shingles \$30/ton	\$7,750 (drop-off only)	\$60,000	scrap metal depends on market value: approx. \$2,000	Few programs cover costs. The ones that do subsidize other programs.
Dubuque Metropolitan Area Solid Waste Agency	Dubuque Metropolitan Sanitary Landfill	\$45 and below for contact customers	\$0	\$29	\$15	\$0	\$0	\$0	It's not the processor keeps the funds. Pay a tipping fee

Organization	Landfill(s) used	MSW tipping fee (\$/ton)	Recyclables tipping fee (\$/ton)	Yard debris tipping fee (\$/ton)	Special materials (e.g. scrap metal & C&D) tipping fee (\$/ton)	Recyclables gross revenue (\$/year)	Mulch or compost gross revenue (\$/year)	Special materials gross revenue (\$/year)	Distribution of revenue from sale of recyclables

Survey Respondents Below this line noted that they do not manage recycling

Waste Authority of Jackson County	Out of State	\$49.00 MSW \$59.00 C&D							
Jones County Solid Waste Commission	Out of State	\$50	\$50		\$50	\$12,000		n/a	general operating fund
Landfill of North Iowa	Landfill of North Iowa	\$31.00/commercial & trailers, \$15.00 sm vehicles							
Northern Plains Regional Landfill//City of Spencer	Northern Plains Regional Landfill	\$52.91 including state fees	\$0	\$0	No charge for scrap metal, C&D \$4.50/cy	\$2,900	-\$20,000	\$14,000	n/a
Dickinson landfill	Dickinson Landfill Inc.	\$57.00 per ton plus fuel surcharge and taxes	same	same	same	n/a	n/a	n/a	n/a
City of Council Bluffs	Loess Hills Regional Sanitary Landfill	City of Council Bluffs contract rate \$22.51	\$20	\$20	\$50	\$250,000	\$100,000	\$75,000	Used to fund facility operations.
Harrison County Landfill Commission	Harrison County Sanitary Landfill	Currently \$43/ton after July 1st, 2016 - \$45/ton	\$20/Ton	n/a	Scrap Metal sold to Alter Scrap for Market Value	None - Pay \$20.00/ton to get rid of	n/a	Scrap Metal sold = \$2,500	Scrap metal revenue is put into General Fund

3.0 RURAL RECYCLING PROGRAMS IN SELECT STATES

An evaluation of rural recycling programs, including Hub and Spoke systems, implemented in other states was undertaken to provide information related to establishing and maintaining a hub and spoke, or other similar system, in the State of Iowa. Project Team members drew upon their extensive knowledge of recycling programs throughout the country and particularly in rural states to summarize other state's rural recycling programs, hub and spoke systems, legislation, funding and lessons learned. Additional resources used for the analysis included online research, interviews with other state recycling professionals, county and municipal websites, and a review of existing contracts, reports, research papers, and professional journals.

For each program, the following information, where available, is provided:

- Program location.
- Contact information.
- Population served.
- Types of materials collected.
- Quantities of materials collected.
- Number and types of facilities implemented as part of program.
- Program costs, including start-up and ongoing.
- Legislation and/or policies adopted.
- Economic impacts, including number of jobs created.
- Lessons learned and recommendations.

3.1 NEW MEXICO

Program location: Statewide with specific hub regions

Contact information: Sarah Pierpont, Executive Director, New Mexico Recycling Coalition;
505-603-0558 or sarah@recyclenewmexico.com

Population served: New Mexico (NM) is a low population state (2,085,109) with 21.3% of its population living below the poverty level (US Census 2014) compared to the national average of 14.8%. Of the 58 communities eligible to receive federal grant assistance for hub and spoke recycling, 31 communities gained new recycling access directly through the project. At least 7 more communities received educational or technical assistance associated with this project.

Types of materials collected: Hubs and spokes were designed to collect source-separated household recyclables, specifically #1 Plastic Bottles, #2 Plastic Bottles, Aluminum Cans, Tin Cans, Newsprint or Mixed Paper, and Cardboard.

Quantities of materials collected: In 2014 (the most recent data available), the New Mexico Environment Department: Solid Waste Bureau reported 1,959,963 tons of MSW generated in the State. Of that, 312,308 tons were recycled and 624,227 tons were diverted, equaling a 16% recycling rate and 23% diversion rate. New Mexico uses the EPA's 1997 standard definitions of

recyclables for measurement. The diversion rate in New Mexico includes all materials recycled plus materials beneficially used. The diversion rate is calculated by dividing all in-state generated recycled and beneficially used material, by all in-state generated MSW, C & D, clean fill, and divertible special waste (Sludge, Offal, PCS, etc.) totals. In 2012 - 2014, the Rural Recycling Resources Cooperative brokered a total of 3,652 tons of common household recyclables for its nine members, consisting of rural recycling hubs.

3.1.1 Summary of Hub and Spoke System

Successful recycling programs depend on efficient collection and basic-processing of materials. Additionally, hub and spoke systems greatly reduce transportation requirements and increase overall efficiency of program operations from both a capital and operational cost perspective. The hub and spoke system was implemented in New Mexico primarily because it was the most efficient means of meeting the state's need of increasing access to recycling.

The hub and spoke model works by creating regional recycling processing centers within larger communities that serve as "hubs," and encouraging smaller communities or "spokes," to deliver their recyclables to these hubs. The materials from these mobile drop-off stations, or spokes, are easily transported to nearby recycling hubs.

Number and types of facilities implemented as part of program: In 2010, New Mexico benefitted from American Recovery and Reinvestment Act (ARRA) funding to build recycling infrastructure throughout rural parts of the state. This program produced four new and two vastly improved regional recycling hubs that accept recyclables from surrounding communities. Furthermore, the funding created over 40 new recycling drop-off sites, or spokes, in regions that previously had to travel long distances if they wanted to recycle. Funding was also utilized to produce educational recycling brochures to help educate the public about new recycling opportunities in their region. The grant allowed for the creation of the Rural Recycling Resources marketing cooperative (R3 Coop), which had nine members and served as a broker for rural recycling programs that may not have been receiving fair market value for their materials. The R3 Coop took the administrative burden away from small government entities to market recyclables, educated communities on how to market their materials, and ensured a fair price for materials by working closely with regional recycling hubs and with end-markets to coordinate efficient transportation. The R3 Coop closed in 2014 primarily because it put itself out of business by bringing in new buyers for recyclables and creating a competitive market, as well as taught members the necessary skills for marketing their own materials. At the same time, Albuquerque built the state's first-ever, large-scale, single stream Materials Recovery Facility that could process materials from many areas of the state.

Program costs, including start-up and ongoing: Actual ongoing costs were not tracked as part of the project. Communities have maintained the following on-going expenses: equipment maintenance; replacement signs; collection trailers for expansion of access; outreach and education; and labor.

The New Mexico Recycling Coalition received \$2.8 million as part of the ARRA grant in 2010 to grow recycling infrastructure in rural parts of the state. Nearly \$2 million of this fund was sub-awarded to communities to build recycling centers. The New Mexico Environment

Department (NMED) also received approximately \$500,000 in similar federal stimulus funds that year. Utilizing both of these programs, New Mexico has six new regional recycling processing hubs, and two improved existing hubs, and funded more than 40 new drop-off locations, all in rural and underserved areas.

Three other regional recycling hubs launched or expanded their programs either during the 2010-2013 period by using their own funds or by utilizing the state Recycling and Illegal Dumping (RAID) Act grant fund. The RAID fund (created by a \$.50 tax on each vehicle registered in New Mexico) provides approximately \$300,000 per year that can be sub-awarded to communities to support and grow their recycling programs.

Legislation and/or policies adopted: The main focus of the Hub & Spoke project was to support the state's 1990 Solid Waste Management Act and the 2007 Solid Waste Management Plan, which found that creating access to recycling is the state's number one priority and that the lack of access to domestic markets is the state's number one barrier to recycling. Another focus of the project was to support communities with rate structuring to incentivize recycling, however, no communities were interested in adopting Pay-As-You-Throw or in changing local rate structures. No new statewide or local policies were created in connection with this project.

Governmental entities engaged in the hub and spoke project were encouraged to sign MOU's with each other and all agreed. The MOU's, at least, outlined what materials would be collected, how the materials would be collected, which entity was responsible for transportation, and how material revenue would be handled.

Created separately from the Hub and Spoke project, but providing a support for the system, the NMED manages a unique state statute which encourages a common statewide recycling structure. New Mexico Solid Waste Rules state that, "any person seeking to construct, operate, modify or close a solid waste facility shall first obtain a permit." Additional permit application requirements also exist for "processing facilities and for recycling facilities that accept solid waste that accompanies the recyclable material." In order to be a permitted facility, there must be a certified operator on site. In order to become a certified recycling facility operator, individuals must:

- Attend the appropriate 3-day long training (recycling, composting, transfer station or landfill)
- Pass a test at the end of the training with a score of 70% or higher
- Have one year of experience in the field
- File an application with NMED's Solid Waste Bureau
- Meet the requirements of the Parental Responsibility Act, NMSA 1978, Sections 40-5A-1 to 40-5A-13 (1998 Cum. Supp.)

State permit and certification requirements for recycling facilities have shown clear benefits to not just the operators, but for the entire recycling system in New Mexico. Certifications and permits:

1. Allow operators to network and share experiences. (This is especially helpful for the staff of rural facilities.)

2. Produce a knowledgeable work force which understands basic safety and operation procedures, but also stays up-to-date with industry changes.
3. Create a level playing field for private and municipally run facilities and program staff.
4. Provide a systematic and beneficial way for the NMED to keep track of facilities.

Economic impacts, including number of jobs created: The launch of the Hub and Spoke program created a total of 39.43 Full Time Employment Equivalent positions.

Part of the ARRA funded project included a study to determine the feasibility of implementing Pay-As-You-Throw (PAYT) in the state. This 2010 study found that if New Mexico's recycling rate increased to the national average of 34%, over 9,000 new direct and indirect jobs would be created, of which nearly 5,000 would stay in New Mexico. The study also found that in 2010 alone, New Mexicans buried approximately \$168 million worth of recyclables in landfills and spent \$51 million to do so.

Additionally, the new recycling facilities and related drop-off areas reduced costs for recycling hubs. As an example, two case studies from recycling hubs are highlighted below:

3.1.2 Case Studies

3.1.2.1 Silver City, NM

BEFORE: Silver City, NM had a curbside, single-stream (mixed materials) residential recycling program. However, they had no way to sort or bale their material. They were sending loose, non-baled recyclables to a processor at a cost of \$18/ton. The high cost of recycling created a financial burden for the community.

AFTER: In 2012, Silver City received an "improvement" grant from the New Mexico Recycling Coalition (NMRC) as part of the ARRA funding. This funding provided the City with a high-capacity horizontal baler, efficient conveyor system and yard ramp. This enabled the City to bale the single stream material. They also chose to "cherry pick" the cardboard out of the single stream and sell it to the highest bidder, thus creating a more efficient process and generating a more valuable commodity. As a result, instead of paying \$18/ton to process their recycling, the City now receives \$8-\$15/ton (depending on markets) for the baled single stream material, and has dramatically increased transportation efficiency. The compacted bales allow for loading 23.3 tons of material per trip, as opposed to an average of 10.56 tons of loose material per trip, saving an estimated 11 trips to the end market in just three months. Silver City also joined the Rural Recycling Resources (R3) Coop, which enabled them to find consistent buyers for clean cardboard and to receive fair market value. The financial benefit of the new recycling processing system is matched by improved staff morale due to increased efficiency and drastically improved safety resulting from the new yard ramp.

3.1.2.2 Otero County, NM

BEFORE: In 2010, Otero County had only three household recycling collection drop-off sites for its nearly 65,000 residents. These sites only accepted cardboard. The recycling rate for the county was 2.71% (New Mexico Environment Department) and solid waste transportation

expenses were high with the local landfill approximately 60 miles to the south of the county's largest city, Alamogordo.

AFTER: Otero County received three EECGB funded grants from NMRC in 2011 and 2012: a “hub” grant to purchase a horizontal baler, related infrastructure and one and a half sets of collection equipment; a “spoke” grant for three sets of collection equipment; and an “improvement” grant that funded six sets of recycling collection equipment. This created eleven new drop-off sites for recycling in the County and provided two “switch-out” containers to reduce hauling time and expenses. Each site collects an expanded list of traditional household recycling, including aluminum, tin, mixed paper, cardboard, plastic #1 bottles and plastic #2 bottles. The drop-off locations provide Otero County and the surrounding rural communities or “spokes” with new access to recycling. Increased recycling reduced landfill transportation miles by 17,466 in one year alone and saved associated costs. Increased public awareness led to the creation of a local citizen activist group. This group tables at local events and works to further promote recycling in the county.

Otero County joined the R3 Coop and received an average of \$10 per ton more for fiber materials. Prior to joining the R3 Coop, the County had no knowledge of plastic markets, and is now able to meet market specifications and sell materials directly to market for fair market value. With improved capacity to process recyclables, the County was able to write a successful grant to the NMED to receive five containers that are used to collect cardboard from businesses, further increasing the tons of material recycled. The recycling rate for the County has increased to 5% (2014) and continues to increase. The County has plans to expand operational and storage capacity.

The County brought on one new full time employee to help operate the recycling programs and utilized their own funds to purchase a pick-up truck to haul recyclables to the new regional hub. Additionally, recycling facility operators report positive feedback from the community with numerous calls coming in from the public noting their appreciation of the new recycling program.

3.1.3 Summary of New Mexico Rural Recycling

New Mexico is a large state with a low population density; roughly 85 percent of its communities are classified as rural. This factor, and the low-income nature of the state, has led to significant barriers related to waste management and recycling. Low volume and long distances, a culture of littering and few progressive recycling laws to date required a multi-year strategic planning approach to recycling.

In order to address these barriers, the NMRC, a statewide member-supported, non-profit organization, obtained federal grant dollars for a Rural Recycling Development Program. This comprehensive plan relied on cooperative recycling efforts, in conjunction with a hub and spoke recycling structure and local rate incentive support, to increase access to recycling in New Mexico.

Before implementing hub and spoke recycling, however, it was necessary to document the current state of recycling in New Mexico. Geographic information system (GIS) tools were used

to map the state's recycling processing infrastructure and waste sheds, identifying how trash and recycling flowed. The resulting map revealed recycling "holes," where infrastructure investments were critically needed to support recycling. The potential hub locations were first identified in 2009. By the end of 2011, six new recycling processing facilities (hubs) were built.

In conjunction with the strategic development of recycling processing infrastructure, NMRC launched a marketing cooperative to help smaller hubs gain fair market pricing. The cooperative facilitated "milk runs" between processors in order to fill trucks, and minimize storage and transport time. It was the goal that this marketing technical assistance would help communities navigate the market place and teach them to eventually sell their own materials.

Finally, a Pay-As-You-Throw (PAYT) education campaign was released as part of this project that linked recycling to economic development and jobs.

The hub and spoke system in New Mexico was very successful at increasing statewide access to recycling, moving the needle from 81 to 196 communities with recycling within 30 miles within a five year period.

Lessons learned and recommendations: While access increased dramatically, New Mexico did not see an immediate, dramatic increase in the recycling rate, but does continue to see modest improvements year over year. The original New Mexico Hub and Spoke concept outlined three components necessary to dramatically increase recycling and recycling access:

- Infrastructure
- Rate structuring
- Cooperative marketing

Recent market price falls have hit extra hard in New Mexico communities that built the infrastructure, but did not adopt rate structures to cover their operating expenses even in times of low commodity prices. In most cases, no efforts were made to increase commercial recycling, adopt new rate structuring, like PAYT, or implement material bans. Each of these concepts, proven in both national and community studies, has a direct effect on recycling volume and participation. All states with recycling rates higher than the national average (above 34%) have implemented state and local policies in conjunction with outreach campaigns in order to boost recycling. New Mexico hubs did not continue with outreach campaigns or recycling program advertising at the end of the ARRA funding cycle (2013).

Communities need diversified funding strategies, not only to operate during low markets, but also to fully realize the benefits of a recycling program. Many communities in New Mexico could not communicate other benefits besides the potential revenue of material sales, so when markets changed and material prices declined, municipalities were stuck with an expensive program. Some began selling source-separated material to the state's new Material Recovery Facility; others changed collection methods to a single stream mix that the new MRF accepted for a much lower price.

Covering costs with appropriate fees is critical to any successful recycling program. A variety of incentives and rate structures can be used. It is also necessary to manage expenses on a full-cost

accounting basis and calculate cost savings associated with recycling material versus landfilling. Transportation to the landfill and landfill tip fees can both be reported as cost savings for any material that is diverted.

Many very rural drop off recycling facilities are unstaffed and in remote locations, simply because communities don't have budgets to allow for staffing of these remote sites. This can lead to contamination of materials. NMRC found the best solutions for this include the following: co-locate drop off recycling centers with drop off trash centers if possible so residents can bring their materials to a one-stop location; have clear and concise signage in both English and Spanish; provide community education; and locate the drop off centers near shopping centers, churches, schools, sheriff offices, rural fire departments or other high traffic areas.

It is also important to weigh the costs and programmatic benefits to decide between single stream versus source separated materials. Baled, source separated materials requires more operational cost to process the material, but yields higher returns when sold to market. A community may be interested in processing their own materials or decide to give away their recyclables, or pay to have it processed simply for the sake of ease.

To reduce contamination and safety concerns New Mexico's hub and spoke project does not include glass recycling, however some of the larger rural communities have separate glass drop off recycling programs that are separate from the hub and spoke system.

3.2 WEST CENTRAL ILLINOIS – PUBLIC PRIVATE PARTNERSHIP WITH PRIVATELY OPERATED REGIONAL “HUB”

Program location: City of Monmouth, Illinois and 11 Counties in West-Central Illinois

Contact Information: Chad Braatz, Sustainability Coordinator for the City of Monmouth (formerly with the Western IL Tri-County Planning Commission), (309) 255-5076, chad.braatz@cityofmonmouth.com; Adam Jaquet, Eagle Enterprises Recycling, Galva, Illinois, 309-932-2936, adamj@eerecycling.com

Population Served: Eagle Enterprises Recycling (Eagle) services all or part of 11 counties in West Central Illinois from the Quad Cities region. Currently, they have 19 municipal curbside recycling programs (serving approximately 15,000 – 20,000 residents), approximately 25 municipal drop-off programs, and a large number of unincorporated subdivisions. Each year, they create between 80 and 90 different customer collection calendars. Each calendar may range from a single person to an entire municipality. Monmouth, Illinois is the largest community, and consists of 3,400 households and approximately 9,000 residents.

Types of Material Collected: Household Recyclables – Single stream, including all fibers, glass, and plastics #1-#7.

Quantities of Materials Collected: Eagle's materials recovery facility (MRF) handles about 650 tons per month, of which approximately 5.7% - 8.3% comes from Monmouth. Town of Monmouth, IL generates approximately 30 tons per week of MSW.

Number and types of Collection Programs and Facilities implemented as part of program:

The majority of Eagle's material is from curbside programs. They operate 19 programs in communities ranging from 108 households to 3,300 households. Most of their programs collect the entire community in a single day, but 4 of them require 2-5 days depending on size.

Eagle also operates approximately 25 municipal or township drop off programs. Sometimes drop off programs are coupled with a curbside program to target rural residents, other times drop off is the only option. If they have a curbside or commercial truck that travels through the vicinity, they try to set up the drop off as single stream dumpsters. This helps keep costs lower and predictable. Drop offs outside of their other collection routes are serviced with a hook-lift truck and roll-off containers. Roll-offs range in size from 15 to 30-cubic yards, depending on volumes and collection schedules.

The lowest volume drop-offs get what they refer to as a "10-compartment." These containers were originally for source-separated materials. Due to the cost of replacement versus return on investment, they have continued to use these containers when necessary, but all 10 bins are single stream. Higher volume drop-offs get 20-yard slant top boxes. The two highest volume drop-offs (which are both on regular schedules for service) have 24-cubic yard slant top boxes. The longest roll-off run is about 150 miles round trip. Eagle also services a large volume of businesses. Some are part of curbside programs and receive the same containers and service as a residence. Others use single stream dumpsters. Eagle has a few customers who use compactors and 40-yard receiver boxes. These customers are usually high volume generators, and a significant portion of their material is cardboard.

Eagle's MRF is located in Galva, Illinois. The MRF is a 28,000 square foot facility, located on 5 acres; 2.5 acres of the land was purchased and the City gave Eagle the other 2.5 acres. The facility includes space to sort, process and bale materials plus storage, offices and a staff break room.

3.2.1 Summary of Rural Recycling

The City of Monmouth operates a transfer station and monitors a closed landfill. Through public private partnerships, the City has a curbside, residential recycling program operated by Eagle Enterprises Recycling on a five year contract with a renewal option for another five years. The City pays approximately \$42/ton to send items to the MRF for processing. Landfill tipping fees in the area are in the high \$40's per ton.

Much of Illinois has individual subscription service in the rural areas. This often results in inefficiencies in service and transportation. Previously, none of the eleven communities in the Monmouth area had municipal contracts for solid waste, and often three or four garbage trucks were driving along roads each week. As many as five companies serviced a town of 350 people. With the numerous service providers, "trash day" was nearly every day, which created a "raccoon and possum buffet" with animals tearing up trash and creating messes each day of the week.

In response to this situation, the City's Sustainability Coordinator approached the street superintendent about establishing a municipal contract for solid waste collection, with the

objective of reducing heavy truck traffic on the streets and litter issues created by animals. Implementation of the single collection contract resulted in garbage and recycling set out on one day per week in each community or neighborhood for larger towns, thereby reducing the wear and tear on the streets and reducing litter problems created by wildlife.

The City of Monmouth built recycling into their solid waste operations by releasing a request for proposals to provide curbside recycling services. Currently, the City operates two contracts for their solid waste collection: a contract with Waste Management for trash; and a contract with Eagle Enterprises Recycling for curbside recycling. The City ensured that the recycling service contract payments were high enough to cover expenses for the service providers to withstand low markets. In the future, the contracts may be combined into one contract that can allow for sub-contracting out services, for example Waste Management could collect trash and sub-contract with Eagle Enterprises for the curbside recycling.

The solid waste contract also requires that the recycling service provider provide containers and service recycling drop off at the local transfer station. Three eight-yard drop off containers are available at the transfer station for single stream recycling. There is also a 40 yard container for scrap metal drop off that is managed separately.

The City has a separate contract for yard waste picked up at the curb and composted at the transfer station. Composted or mulched material is then given away to residents free of charge. It is unscreened so particle sizes can be large. Curbside yard waste is placed into brown paper bags and the pick-up charge is \$0.50 per month.

The per household rate for recycling is \$3.67 per month and includes a 48, 64 or 96 gallon Toter recycling cart. They do not have Pay-As-You-Throw rate incentives. Trash is placed into trash bags and/or cans and is manually collected curbside at the rate of \$11 per month. Garbage and yard waste are picked up weekly and recycling is picked up biweekly in Monmouth.

All of Eagle's trucks originate and return to the same location daily. Every day seven trucks-6 residential/commercial collection trucks and one hook lift roll-off truck are dispatched. The longest drive any truck makes is about 225 mile round trip for a mixed route of subscription curbside and municipal drop off. The shortest run does not require the truck to leave the town in which they operate.

The majority of Eagle's recycled material is single stream. They do have some customers who create a source-separated material consisting of mostly baled cardboard. They encourage single stream as a more convenient method for their customers.

The Eagle MRF separates certain materials, including cardboard, high-grade newspaper, hard-back books, rigid plastics, plastic film, stretch film, super sacks, and some metals. The materials they separate are baled and usually shipped to mills. Some items such as aluminum cans from the buy-back are baled and shipped to a larger MRF. All materials not sorted in their facility are baled and shipped to a 22-ton per hour MRF in Normal, IL for further processing.

Program costs, including start-up and ongoing: The owners of Eagle utilized their farming and manufacturing backgrounds to design and develop one of the area's first single stream

sorting lines back in 1996. They started as a recycling company, not as a garbage collection operation, and originally processed old newspaper into animal bedding for farmers.

Illinois diverts money from the landfill tipping fees to two government agencies: Department of Commerce and Economic Opportunities (DCEO); and the Illinois Environmental Protection Agency (IEPA). DCEO provides grants to increase the diversion of recyclables from the landfills. These funds have helped to launch many projects for the town of Monmouth and for the region in general.

Over the past 23 years, Eagle Enterprises has received 4 or 5 grants from the DCEO and through the Illinois Department of Commerce and Community Affairs (DCCA-the predecessor to DCEO). These grants were funded by a fee on every ton going into the landfills. The money has been used to purchase the following equipment: a new collection truck; a new 2-ram baler; an eddy current separator; and recycling carts for an upgraded curbside recycling program in the town of Monmouth. Most grants would fund up to 50% of the project. Occasionally, there were grants for up to 90% of project expenses.

Legislation and/or policies adopted: No official policies have been adopted, and there are no mandated requirements, however the state of Illinois has set goals for waste diversion. The best driver for diversion has tended to be grassroots desire, or a strong advocate in an area. In the past, this has included a county solid waste coordinator who would push local governments to include recycling in their garbage bid packages, or groups of citizens approaching their municipalities asking for a program, or someone already in a government position interested in boosting recycling.

Economic impacts, including number of jobs created: The City of Monmouth solid waste department employs one full time gatekeeper and one sustainability coordinator to oversee their solid waste operations. Eagle Enterprises Recycling employs 23 full time employees.

To gain support for a municipal solid waste contract, the City of Monmouth reached out to service providers to explain the benefits of regular payment from the City instead of from individual customers. Individual subscription service had a default payment rate of 15%, as some residents would not pay their bills and simply switched providers. With municipal contracts, private service providers received payment for each household within the service area. This allowed for better financial management and the ability for private entities to generate credit that they could borrow money against in order to expand their operations.

Lessons learned and recommendations: According to Mr. Braatz, City of Monmouth, the key to rural recycling success in this region is thoughtful public, private partnerships and service contracts that require the management of both MSW and recyclables. Monmouth is home to a meat packing plant that brings in employees from a wide range of backgrounds. This small town has 11 spoken languages, many of which are uncommon regional dialects. This causes challenges to outreach and education campaigns. The City has responded by providing picture-based instructional and educational materials that are laminated onto the lids of the recycling bins.

Approximately \$2/ton for tip fees is diverted to fund recycling programs in the state, however this money often gets siphoned off for other projects. Staff discussed the importance of securing a system for designating recycling funds when developing state funding mechanisms for recycling.

When implementing new recycling programs with one service provider for the community, Mr. Braatz noted that he started with the most difficult town first and once they were on board, word about the success of the program spread and other communities launched similar programs.

Mr. Braatz also recommended to, “start small, know what your residents really want, find reliable service providers and do your due diligence by conducting both announced and unannounced, on-the-ground visits at all service providers and locations where the projects are going to be before you start anything.”

The City of Monmouth attributes its success to ensuring that everyone involved in the project, including the janitors, street department workers, council persons and county board members, supported the recycling project and stayed informed as things progressed.

According to representatives from Eagle Enterprises Recycling, cost is always a big factor for success and efficiencies can help keep costs down. For a small municipality, it is often harder to start recycling programs because the cost of travel is high and spread over a small population. Eagle has tried to combat this by collecting multiple small communities on the same route, as well as combining services for residential and commercial customers to help control costs.

Consistently strong markets would help to increase demand and reduce the cost on rural recyclers. Presently, Eagle pays a tipping fee to the large MRF to get material processed that they cannot process themselves. In the past, they were paid for this material. Subsequently, they have to charge a fee to other haulers that bring material to their facility. Over this past year, their tipping fee to other haulers exceeded the landfill tipping fee by \$10-\$25. This is due to the time involved to process the material, plus transportation costs, and the tipping fee to the other MRF. For their own material, the lower fuel costs help to cover the increased tipping fees. They noted that expensive fuel and low recycling markets will cripple the industry.

Eagle echoed what many other states have experienced: the most important driver for expanded recycling would be a combination of good recycling markets and higher landfill tipping fees. Illinois' tipping fees are generally below \$50 per ton, and it is not a strong incentive to find new outlets for material.

A certain segment of the population will seek out recycling, but the majority will only do it if it is convenient. They won't take the initiative to seek out a program or opportunity and therefore recycling must be as easy as throwing something away. Many municipalities want recycling and solid waste provided by a single service provider; Eagle is beginning to haul trash as well as recyclables to meet municipalities' demand for a single service provider.

Eagle previously operated a full sorting MRF. The materials were all manually sorted, except for a cross-belt magnet and an eddy-current separator. Eagle estimated a per ton processing cost between \$125 and \$150. Through the years, they have gained a strong knowledge of what is in each ton of their single stream recycling (i.e. 12-17% glass, 75% fibers, etc.). Using that

information, they were able to calculate what a ton of recycling is worth and compare it to their cost of processing. They determined that in average to low markets, their cost of sorting and preparing one ton of recycling is more than the value of that ton when sold. In good markets, their profit margin was so small that it couldn't make up for the bad markets. However a facility like Midwest Fiber in Normal, Illinois, with their 22-ton per hour MRF, employs about 17 people to process 22-tons per hour as compared to their 17 employees that processed 2.5 tons per hour with manual sorting. Midwest Fiber therefore has a reduced cost per ton rate, so much so that they are even able to pay for material being delivered to their MRF in good markets.

In 2011 Eagle made the decision to curtail the full sorting operation. At that time they were receiving \$40/ton from Midwest Fiber, which was a higher profit margin than they could realize sorting it themselves. They continued to sort and bale cardboard even after they shut down their full sorting operation.

As markets started falling after 2011, the profit margin per ton began to shrink as well, until they arrived at a point that the value of the material no longer covered the trucking. Then it went lower to the point where it didn't cover the trucking and they also had to pay a tipping fee. As the markets continued to decline, the tipping fee climbed. Their tipping fee to Midwest Fiber peaked around \$18.50/ton in addition to the costs for transportation that they have to cover. Taking all of this into account the cost per ton of material was between \$30 and \$35 per ton.

To help generate some income and avoid costs, they still sort some materials in their facility. They structured their program to accept certain items that can cause issues for the bigger MRF, like plastic film and large rigid plastics. Additionally, they sort materials that they can recover for a higher, better use, such as sorted office paper instead of mixed paper and over-issue newspaper instead of #8 news. The items they separate are high volume in the mix and can be separated quickly with a small labor investment.

3.3 TEXAS - COOPERATIVE TEAMWORK & RECYCLING ASSISTANCE

Program Location: Cooperative Teamwork & Recycling Assistance (CTRA) is based in Austin, Texas but services the entire state. They work primarily with rural communities that do not have nearby markets for recyclables.

Contact Information: Rachel Hering, Executive Director, (512) 236-1134, recycletxrachel@gmail.com

Population Served: CTRA currently consists of 60 rural recycling members representing more than 500 public, private, and nonprofit entities, such as municipalities, school districts, economic development councils, military bases, private industry, or Keep Texas Beautiful Affiliates. The majority of its members are from towns with populations of approximately 5,000. Their smallest community has a population of 500 and their largest has a population of 40,000. Recyclables are collected primarily via source separated drop off locations, however a few of their members do provide curbside single stream to residential customers. CTRA will market any source separated items from the single stream communities, such as commercial cardboard or recyclables received

at drop off locations. They primarily work with cities and counties and the material typically comes from households and commercial recycling operations.

Types of Materials Collected: CTRA brokers sales for source separated household recyclables, including cardboard; sorted office paper, mixed paper, plastics 1, 2, and 4 with limited plastics 3-7, aluminum, tin and electronics.

Quantities of Materials Collected: CTRA brokers approximately 6,000 tons per year.

Number and types of facilities implemented as part of program: No new facilities have been implemented as part of this program however, CTRA recommends that their members have a loading dock, fork lift, and collection containers. Each of their communities is different, based on their markets and distance to the markets. Many of their members borrow equipment from other city departments. Texas' state funding has declined over the years for solid waste grants, however state solid waste grants continue to be the best resource for communities to obtain the equipment they need.

3.3.1 Summary of Program

Cooperative Teamwork & Recycling Assistance is a 501 c3 nonprofit organization which was formed in 1994, based on the concept of cooperative marketing. CTRA formed to address rural recycling issues, such as rural towns not getting fair market prices because of low volumes of material, the need to coordinate "milk runs", and a lack of commodity marketing experience among rural staff. Currently, CTRA consists of 60 rural recycling cooperatives representing more than 500 public, private and nonprofit entities.

In addition to brokering the sales of material, CTRA assists its members in applying for grants from the State, and helps communities receive recognition for their recycling efforts. Recognition may include presenting recycling results to political officials or nominating members for awards. Members must agree to sell all of their fiber and plastic material through CTRA. They can choose to sell their aluminum and tin through CTRA or through a local scrap metal dealer. This is an effort to not take business away from local scrap metal dealers.

Program costs, including start-up and ongoing: CTRA does not charge membership fees, but takes a 10% administrative fee on all recyclable sales. During high markets for recyclables, this fee covers costs, but when markets are low, CTRA depends on additional funding opportunities, such as sponsorships or grants. Like most non-profits, they look to diversify their funding mechanisms. Solid waste grants are available to CTRA members from the state of Texas to help purchase recycling-related infrastructure.

Legislation and/or policies adopted: No specific policies or legislation were adopted to launch CTRA, as it is an independent non-profit organization.

The Texas Recycling Data Initiative (TRDI) is the result of a recent resolution in Texas. TRDI is a collaborative effort to measure recycling in the state of Texas, and to develop a baseline MSW recycling rate against which future improvements can be measured. The effort was initiated by a consortium of many stakeholders and is led by the State of Texas Alliance for Recycling (STAR). The goal of TRDI is to quantify the amount of recycling in Texas in order to examine

environmental, economic and policy issues of interest to businesses, citizens and governmental agencies.

In 2010, a group of stakeholders conducted a series of meetings to build the framework for a statewide recycling study. They concluded that since very little statewide data existed, the effort would require a broad survey of Texas recyclers. In 2011, the State of Texas Municipal Solid Waste Management and Resource Recovery Advisory Council (MSWMRRAC) passed a resolution supporting the study. The need for a statewide survey gained greater visibility during the 2011 and 2013 sessions of the Texas Legislature. In response, STAR and the Lone Star Chapter of the Solid Waste Association of North America (TxSWANA) partnered to develop the Statewide Survey Development Stakeholder Group. In order to build support for a new survey requesting sensitive business data, this diverse consortium of public, private and nonprofit stakeholders recommended the following: 1) a voluntary approach to data gathering; 2) confidential process to ensure protection of proprietary data; and 3) a narrow focus on the most essential data from key business types (mainly processors plus selected end users) that are needed to be as complete as possible while preventing double counting, based on real-world material flows.

The TRDI report found the Texas Recycling rate for 2013 to be 18.9%. The full 2015 TRDI report and results can be found at:

https://www.recyclingstar.org/wp-content/uploads/2015/02/TRDI_Report_print-0204.pdf

CTRA was a key participant in the Texas Recycling Data Initiative, and is hoping to highlight the amount of recyclables from rural communities that are leaving the state to surrounding mills and therefore providing jobs in other states. The hope is that this has an impact for future decisions and leadership pertaining to recycling in Texas.

Economic impacts, including number of jobs created: CTRA employs two full time employees and estimates at least one job has been created per site for its 60 members. Furthermore, by ensuring fair market value of commodities collected in rural communities and efficient transportation, they are working to ensure program sustainability for their members.

The 2015 Texas Legislature passed a bill to Study the Economic Impacts of Recycling. The Texas Commission on Environmental Quality (TCEQ) will conduct the study on the current and potential economic impacts of recycling, including state and local revenue that may be considered lost because recyclable materials are not recycled. Results will be included in the TCEQ report, "Municipal Solid Waste in Texas: A Year in Review, 2016 Data Summary and Analysis." Further details about this study can be found at the following link:

<https://www.tceq.texas.gov/p2/recycle/study-on-the-economic-impacts-of-recycling>

Lessons learned and recommendations: CTRA noted they are still addressing many of the same on-going issues today, as when they started operations over 20 years ago. These include low volume of material in rural communities, transportation challenges in remote areas, fair market value for rural operations, and rural operators with limited knowledge of marketing recyclables.

In rural parts of Texas, CTRA has found an unwillingness to pay more for recycling/solid waste services and that community members would rather have source separated rural drop off of recyclables to keep their costs down. CTRA noted that when a community's recycling program isn't a priority to elected leaders, CTRA is able to find other options within the community. For example, they may start programs with volunteers, Keep Texas Beautiful affiliates, or high school classes. This flexibility allows CTRA to launch recycling programs without having to secure political support. They have also benefited from the resourcefulness of their rural communities. Each program is unique in terms of what they can and can't do. It is therefore important to tailor each program, there is no "program in a box" for their communities.

3.4 STATE OF COLORADO – LIMITED HUB AND SPOKE PROJECT

Program location: Statewide but primarily on the western slope or southern Colorado for traditional recyclables. Blue Star Recycling has full scale facilities in Denver and Colorado Springs, and partner programs in Alamosa, and Ogallala, NE that perform first stage de-manufacturing and sorting. Blue Star also has collection only locations in Canon City, Salida, Vail and Boulder, Colorado.

Contact Information: Bill Morris, Blue Star Recyclers, (719) 494-4436, bill@bluestarrecyclers.com

Population served: State population 5,456,574 (2015)

Types of materials collected: Household recyclables; all electronics including small appliances.

Quantities of materials collected: Colorado's recycling rate is 11%; 23% if materials from Scrap Metal dealers are included. In 2015 Blue Star Recycling collected 2.5 million pounds of electronics. Their volume has grown about 30% annually. To date, they have recycled over 10 million pounds.

Number and types of facilities implemented as part of program: So far, no new facilities have been constructed as a part of any state legislation. However, funding has supported new infrastructure for recycling, such as collection containers and balers in communities noted in the summary of rural recycling below.

3.4.1 Summary of Rural Recycling

The Colorado Department of Public Health and Environment (CDPHE) manages recycling funding through the Recycling Resources Economic Opportunity Act (RREO). Since this funding became available (2007), CDPHE has awarded funds to try to get hub and spoke recycling started with limited success. Currently, there are some programs in the following areas: Pueblo (non-profit hub), Steamboat Springs (private), Pitkin County (public), Durango (public), Eagle County (public) Summit County (public), Grand Junction (private). Most of these hubs however, only have two or three spokes and are based on informal agreements. As a result, the spokes will go elsewhere with their material if markets change. At a June, 2016

Colorado Association for Recyclers conference, CDPHE representatives noted the need to tactically allocate the RREO funds to limit competition for the same volume of recyclables by strategically locating recycling centers.

A private electronics recycler operates a functioning hub and spoke system in Colorado. Blue Star Recycling is an e-steward certified, 501c3, social enterprise organization with locations in Colorado Springs and Denver. Founded in 2009, their core mission is recycling electronics and other materials to create jobs for people with autism and other developmental challenges. They are a triple bottom line operation focusing on people, planet and profit. The Colorado Springs facility serves as a spoke to the Denver hub and they also have three vocational sub-spokes and are looking to expand into other regions as well.

Blue Star Recycling has divided the state into northern and southern sections – with Colorado Springs receiving all materials from their upstream collection programs in communities south and east of Colorado Springs (Alamosa, Canon City, Salida and Ogallala, NE), and Denver receiving all materials from communities north and west of Denver (Vail, Boulder). Starting in July, 2016, Denver will be the “official” hub for the entire network. They recently received a Recycling Resources Economic Opportunity grant for \$127,000 to fund major equipment, supplies, and services to enhance their hub capacity there, as well as in their spoke locations.

Program Costs Including Start Up and On Going: The Recycling Resources Economic Opportunity Act (HB 07-1288) created the RREO Grant Program with the intent to fund implementation projects that promote economic development through the productive management of recyclable materials that would otherwise be treated as discards.

Projects that meet this goal are designed to implement recycling, composting, anaerobic digestion, source reduction, and beneficial use/reuse for a wide variety of materials. The act, which became law in 2007, was extended via House Bill 10-1052 through July 1, 2017, and again via Senate Bill 13-050 through July 1, 2026.

Since its inception, the grant program has awarded more than \$7.1 million to businesses, local governments, nonprofit groups, and schools and universities throughout Colorado to help develop recycling infrastructure. The grant program is under the authority of the Pollution Prevention Advisory Board (a part of CDPHE) and is administered by the Assistance Committee to the Board.

According to Blue Star, program startup costs for electronics hub and spoke recycling varies and depends on existing resources already in place. Some of their partners have come online with less than a \$10,000 investment, while others spent over \$100,000. Blue Star Recycling charges its customers \$0.39 per pound to recycle electronics. Blue Star offers an assessment and program development plan for any community wanting to get started. This includes visiting a community, meeting with the program stakeholders, assessing resources and needs, and providing the community with a comprehensive business plan, which they can use to acquire funds and write their budgets. The business plan also includes the cost for Blue Star to provide training on the recruitment, training, and employment of local persons with autism and other disabilities to work in the programs (if the program can generate enough revenue for a payroll). If needed, they also provide training for the program to acquire third party certification in the e-

Stewards standard. These trainings towards certification can also be included in the business plan.

Blue Star Received a RREO grant for \$127,000, of which approximately half will go to their recycling hub and the rest will fund three or four of their spoke locations. Some communities have been able to access some or most of the capital equipment and supplies through donations, while others have received their own grants to make those same purchases. Bill Morris of Blue Star noted that they are able to estimate budgetary numbers for others once they have a few basic pieces of information and are happy to give a rough cost estimate to any community that is seeking to implement an electronics hub and spoke recycling system.

Statewide legislation and/or policies adopted: Aside from legislation to fund recycling projects in Colorado, the Colorado Department of Public Health and Environment commissioned, "The Economic Study of Recycling in Colorado," in 2014. The overall purpose of the study was to identify the economic impacts the recycling, remanufacturing, and reuse (RRR) industry has on the State economy, with particular focus on how RRR affects both urban and rural areas of the state. The report found the following:

- The direct impact of the RRR industries totals \$8.7 billion, with most of that (\$8.1 billion) occurring in urban areas.
- Urban jobs in the RRR industry account for 80,394, or 2.9 percent of all urban employment, and rural jobs in the industry are estimated to total 5,433, or 1.2 percent of all rural employment.
- This employment translates to over \$200 million in labor wages in the rural region, and greater than \$5 billion in the urban region.

The full report can be found at the following link:

https://www.colorado.gov/pacific/sites/default/files/DEHS_Environ_RecyclingInCO_FinalReport.pdf

Other work involving statewide recycling initiatives: The Colorado Association for Recycling is an active non-profit organization that works to support, educate, and guide individuals and leaders in business, education, nonprofits and government to take action that turns ever greater amounts of waste into marketable resources. They host an annual professional conference each year that brings together the state's recycling professionals to learn about recycling best practices and work towards increasing Colorado's recycling rate.

Lessons learned & recommendations: Hubs need to have formal agreements with their spokes in order to ensure that the material continually comes to the regional hub, despite changing markets. Furthermore, in high markets, many spokes feel as though they are giving away cash when they feed their recycling into the hub. There is a sense that they could process their own material and generate revenue by doing so. This can spark competition, instead of cooperation, between the hubs and spokes. It is important to highlight the ease of operations and avoided costs for spokes to simply transport their material to hubs instead of processing it themselves. Geographic scenarios can also assist with these logistics. For example if a spoke is over a

mountain pass, then the expense to have large semi-trucks transport their material may outweigh any revenue gains.

3.5 STATE OF MICHIGAN – LEGISLATIVE ACTION & RURAL PLANNING

Program location: Statewide

Contact information: Kerrin O’Brien, Director of Michigan Recycling Coalition; kobrien@michiganrecycles.org

Population served: State population 9,922,576 (2015)

Types of materials collected: Michigan is a bottle deposit state. Covered containers include carbonated beverages, beer, wine coolers and canned cocktails in metal, glass, plastic or paper. The deposit is 10 cents per container. Michigan’s Residential Recycling Plan of Action (The Plan) explained in detail below, references household recyclables (containers and fibers) which are not covered under Michigan’s Beverage Container Act.

Quantities of materials collected: Included below in summary

Number and types of facilities implemented as part of program: To date, no new facilities have been constructed as a part of any state legislation.

3.5.1 Summary of Rural Recycling

In 1976, Michigan adopted its bottle deposit law. This action was successful in controlling litter and in showing the nation that Michigan was a leader in environmental stewardship. However, these covered containers only represent 2% of all waste in Michigan. Low residential recycling participation rates and lack of convenient access to recycling has many state-level leaders looking for the next step to capture recyclable materials beyond the deposit containers. It became clear that in order to have an efficient and well-funded state-wide recycling system, Michigan needed a recycling plan of action.

In 2014, Governor Snyder announced Michigan’s Residential Recycling Plan – to increase the number of counties with recycling access (as defined by 1 drop-off per 10,000 residents) from 25 to 83 by 2017. The Governor’s plan also states the ambitious goal of doubling the recycling rate in just two years. These are just two goals within a 15-point plan, focusing on four key areas: benchmarking and measuring progress; education and technical assistance; investment and collaboration; and market development.

A study by Resource Recycling Systems found that currently, two-thirds (67%) of Michigan households have access to convenient recycling. Curbside recycling service is available to 49% of households, but 30 counties still do not have this access. Drop-off recycling opportunities exist across the state. Reports show that 94% of households have access to these drop-off stations, however only 7% of Michigan households meet the state’s definition of “convenient access” (1 drop-off per 10,000 residents). Within these rural areas, participation in drop-off

recycling centers is only at about 9%. At least 43% of Michigan households have access to composting services for green waste.

Michigan's current recycling rate is about 15% or 1,414,029 tons. While participation in deposit returns is still high after 40 years, the container deposit program accounts for only 11% of total recycled MSW in Michigan. Traditional household materials (Tin cans, Aluminum cans, Cardboard, Mixed Paper, and Plastics), organics, and take-back program materials (electronics, paint, textiles, batteries, tires) comprise the rest of recycled MSW.

Program Costs Including Start Up and On Going: FY 2015 state funding for recycling initiatives was acknowledged by the Governor within Michigan's Residential Recycling Plan in 2014. According to this report, Governor Snyder recommended an additional \$1 million and an additional three FTE positions at the Michigan Department of Environmental Quality (MDEQ) to bolster state level oversight of recycling technical assistance and other key initiatives mentioned in The Plan.

Governor Snyder also recommended redirecting existing Pollution Prevention (P2) funding from unclaimed bottle deposit revenues for recycling grants. Some sources estimate that the state will need to spend about \$6 to \$10 million to boost support and fill infrastructure gaps, as P2, alone, will not be sufficient funding to meet The Plan's goals. So far, no new funding sources to implement plan goals have been proposed.

Statewide legislation and/or policies adopted: The Governor appointed a nine member recycling council to make policy recommendations and another group to look at Michigan laws which work to transform sustainability goals into laws. Recycling advocacy groups hope that guidance from these documents, due later in 2016, will provide further guidance on actionable items.

The Plan triggered several waste studies and work has begun on key components of The Plan. Stakeholders such as MDEQ and Michigan Recycling Coalition (MRC) have begun implementing several tasks outlined in The Plan to achieve goal success.

In May of 2015, MDEQ and MRC partnered to hire a consulting firm to work on task 1 of Governor Snyder's plan – benchmarking and measurement. The Michigan Recycling Index team was then launched to gather data. The project's task was to measure access to recycling throughout Michigan, evaluate participation in recycling, and calculate the rate of recycling for municipal solid waste (MSW). The data collected during this study will show the current state of recycling in Michigan.

In April 2016, West Michigan Sustainable Business Forum released a report which studied the "economic and environmental opportunities available through recycling, composting and other waste diversion strategies." These results on the economic benefits of recycling can be very successful at bringing on more stakeholders and at informing state and local decision makers of the recycling potential. The bulk of data in this study came from on the ground waste audits at eight sites throughout Michigan.

One common thread running through these studies is participation from MDEQ. It is clear that without state agency support, aggressive recycling goals in Michigan cannot be met.

Other work involving statewide recycling initiatives: The Michigan Recycling Coalition convened a Recycling Summit in 2009 to bring recycling stakeholders together for a dialogue that “ultimately results in the identification of priority pro-recycling initiatives and action steps...” Then, in May 2016, MRC convened again to hold the Governors Recycling Summit on Recycling to, “highlight both the economic and environmental opportunities from increased recycling, to connect market participants, and to encourage technical innovation.”

In response to Michigan’s Recycling Plan of Action, MDEQ released education and technical assistance resources for municipal recycling programs. Several resources for the community, schools, and businesses have been developed, including videos on how to recycle right, pamphlets on why recycling costs money, and flyers on why to recycle. The key to the success of these educational tools is consistent messaging and compatible formatting. Michigan state recycling leaders consistently use the message that recycling is about managing a resource rather than managing waste. Resource or recycling education is used in place of waste education.

MDEQ has also created a guide on operations and funding for managers of municipal recycling programs. This guide walks managers through different operational strategies. Among several options, from operating your own equipment to contracting with public or private haulers, managers can determine the best option based on individual circumstances. The guide also sets up a minimum expectation for service, quoting, “A municipal program should...provide for the collection of residential recyclable material at the residents’ curbs, at one or more drop-off sites, or a combination of both.”

Lessons learned & recommendations: Set appropriate, attainable goals to boost morale and ensure success at each step. Doubling a state’s recycling rate is a huge undertaking. Recommending that it happen in just 2 years may be too aggressive to attain. One report predicted that in order to increase Michigan’s recycling rate from 15% to 20.2% all households in the state (including single and multi-family) would need to recycle aggressively, producing about 550lbs. of recyclables per household annually. It is clear that residential recycling improvements alone will not be sufficient to achieve the Governor’s goal of a 30% recycling rate, set forth in The Plan.

Ensure sustainable funding mechanism(s) are in place to attain goals. Michigan’s governor set aside an initial \$1 Million to initiate the recycling plan of action. This allowed MDEQ to hire new recycling coordinator positions and to conduct preliminary waste characterization studies. In order to continue the momentum, and thus reach the goals set forth in The Plan

3.5.2 Resources

http://www.michigan.gov/deq/0,4561,7-135-70153_69695-313206--,00.html

Study Finds Recycling Michigan Garbage Potential \$399Million Economic Impact, April 18, 2016, Daniel Schoonmaker.

<https://wmsbf.org/author/danschoon/>.

Economic Impact Potential and Characterization of Municipal Solid Waste in Michigan. 2016.

<https://wmsbf.org/msw/>

Michigan's Residential Recycling Plan, April 14, 2014, Dan Wyant, Director, MI DEQ

http://www.michigan.gov/documents/deq/DEQ-OWMRP-SWS-Proposed_Recycling_Action_Plan_448494_7.pdf

Snyder announces statewide recycling initiative, April 14, 2014, Press Release

http://www.michigan.gov/snyder/0,4668,7-277-57577_57657-326217--,00.html

Michigan trash increase heightens interest in recycling. The Macomb Daily. Gina Joseph., March 20, 2015.

<http://www.macombdaily.com/article/MD/20150320/NEWS/150329984>

Measuring Recycling in the State of Michigan. Project of the Michigan Recycling Coalition with funding from Department of Environmental Quality. May 2015

<http://www.michiganrecycles.org/images/MRIP2Objective1ExecutiveSummary.pdf>

Key Issues for Recycling in Michigan. Kerrin O'Brien. March 27, 2009.

<http://www.michiganrecycles.org/images/bak-12-17-2013/newpdf/RecyclingSummitSummary.pdf>

Michigan Scrap Tire Program Overview. Slide Presentation by MDEQ. June 25, 2015.

https://www.colorado.gov/pacific/sites/default/files/HM_swppt-wt-conf-MI-scrap-tire-program.pdf

4.0 CONCEPTUAL HUB AND SPOKE PROGRAM

The research conducted for this project of recycling operations in Iowa revealed that the existing recycling infrastructure is varied and plentiful, possibly to excess. Every combination of public and private, rural and urban, sorted and single stream recycling system currently exists somewhere in Iowa. While the existing system contributes to a high level of access to recycling within rural communities, it also reveals too many players competing for, what could be, a static amount of material (history shows us that without a major strategic effort the 20% and then the 45% - 50% recycling rates are common plateaus for communities and states).

The ability to earn revenue from recyclable commodities depends largely on volume, not just from each household, but also from the collection across a region. Only if enough volume exists, can many facilities earn revenue from marketing their own materials. More markets are open to fully loaded trucks and certainly full trucks are more efficient.

Aside from volume, market pricing also has an effect on the number of facilities that can earn enough revenue to break even. High market pricing can spur a multitude of players. This will work until market pricing drops and volume again becomes a more important factor. Low pricing for recyclable commodities can create panic for low volume marketers as they compete for material tons and reach the close geographical boundaries of other small, rural players.

The map in Attachment 1 highlights this competition. The green hexagon, blue hexagon, and green circle symbols, all indicate facilities that earn revenue from recyclable materials. This allows us to better understand whether or not numerous facilities (sometimes within small areas of Iowa) are potentially competing for revenue. Without regional material volume, the smaller facilities' price per ton to process and deliver to market may be relatively high.

The map also highlights examples of recycling operations in Iowa that can weather the market storms. Medium- to large-sized processors and marketers with diversified funding streams, crucial partnerships, and a solid understanding of efficiency have naturally organized into a hub and spoke system. As this map indicates, some facilities are operating successful hubs by processing, and then marketing, materials from surrounding producers. Smaller facilities within the region, or spokes, do not spend money on processing and marketing, but rather send their material to the nearest large facility that can take on such expenses. Van's Recycling and Carroll County are both good examples of this hub and spoke organization (see detailed information in following sections). Black arrows, indicating material movement, actually look like spokes into a wheel. Site visits during the study revealed that each of these facilities is operating a successful hub with interest in expansion, even during current low market times.

The Peach and Yellow Hexagon symbols indicate a facility that currently does not market, or earn revenue, from their collected material. All of these symbols should have arrows outward indicating where the material is further processed and marketed. If there is no arrow outward, please see Attachment 3 for more information. In some cases, the contact person did not have knowledge of the market or they contracted with a private hauler who did not reveal market information. Many other questions may also have answers contained within Attachment 3, as this presents a complete list of facilities, and detailed facility information within a spreadsheet format.

4.1 PRIVATELY OPERATED HUB AND SPOKE

Van's Sanitation and Recycling (Van's) is a private business located in Le Mars that transports MSW and recyclables, as well as processes and markets recyclables. They currently process approximately 450 tons per month of single stream recycling at a rate of eight tons per hour and essentially operate as a regional recycling hub.

In 1998, they started their recycling operations by recycling the cardboard from the Blue Bunny ice cream plant. In 2012 they opened their recycling center that handles all recycling from Plymouth County and Cherokee County. Their recycling center also processes material for the curbside programs from the Cities of Fort Dodge, Spencer and Sioux City. Van's also serves as an end market for other processors, for example: Waste Management in Creston, Iowa (Union County) and Midwest Sanitation in Oskaloosa (271 miles away) both sell some recyclable materials to Van's.

Van's biggest success story during low market is their industrial recycling operation, which provides them with material that requires less processing (source separated). They pick up cardboard and other recycling from over 25 commercial customers and several Wal-Mart stores in the surrounding area, and opened a facility in Omaha, Nebraska to provide cardboard recycling to Wal-Mart stores in the area.

In addition to Van's, other examples of privately run, "one-stop-shops" that serve as a small-scale regional hub and that have diversified their income by providing solid waste and recycling hauling, as well as processing of recyclables include: Trashman in Webster City; Jendro Sanitation in Charles City; Midwest Sanitation (Kal Services) in Oskaloosa; and Hawkeye Recycling in Cresco. Mason City Recycling Center in Mason City has taken it one step further and also offers document destruction services and serves as an end-user by manufacturing cellulose insulation on site, in addition to operating their MRF.

4.2 PUBLICALLY OPERATED HUB AND SPOKE

Carroll County Sanitary Landfill and Recycling Center (Carroll County) is a publically operated landfill and recycling center located in Carroll, Iowa. The service area population is approximately 60,000 residents. The facility has operated as a dual stream MRF since its inception in 1991 (**Exhibit 12**). Paper and cardboard create the fiber stream and the container stream includes glass, plastics, and aluminum and tin containers. The material is sorted on two sort lines, baled and sold to market. The facility utilizes three vertical balers for containers and a large auto-tie baler for fiber. Glass is manually sorted by color. The facility produces only a two to three percent residual waste material, much of which is from glass. The clean products have earned them excellent relationships with their buyers. In 2015, the facility marketed roughly 5,000 tons of household recyclables.

**Exhibit 12. (Clockwise from top left):
Carroll County Pre-Sorted Containers, Sort Line, and Fiber Baler**



Carroll County's commercial cardboard recycling program consists of contracted haulers bringing material to the facility. Previously, during high markets, the County offered haulers and communities variable pricing rebates. Presently they are unable to offer the rebates, although they provide processing of the materials.

Carroll County serves as a recycling hub to smaller spoke operations, including Shelby County's drop off materials from transfer stations, Guthrie County Transfer Station, Crawford County Transfer Station, the southern half of Calhoun County, all of Carroll County and most recently Sac County. There are no balers in this relatively large service area except Carroll County's.

Other examples of publicly operated facilities that operate a form of hub and spoke recycling include: Area Recyclers in Des Moines County which accepts material from communities in Hendry and Louisa County, as well as Des Moines County; and Council Bluffs Recycling Center, which accepts material not only from the residential curbside program in Council Bluffs, but also drop off recycling containers from rural Pottawattamie, Mills and Harrison Counties.

The Grundy County Citizen Convenience Center in Grundy Center, Iowa has further expanded on the concept of regional partnerships. They bale and sell their source-separated cardboard, and they partner with Hardin County to cooperatively market their materials due to both counties' low volumes. Hardin County sells the material to end-markets and takes a small administration fee out of the funds that they distribute to Grundy County. This arrangement helps both communities move their material more quickly and receive a fairer market value by being able to sell full loads of material. It also allows Grundy County to decrease staff time for marketing recyclables.

4.3 POTENTIAL HUB AND SPOKE EXPANSION OPPORTUNITIES

Both Van's and Carroll County operations could potentially be expanded using the hub and spoke model, for further increased efficiency. In both examples, private and public entities could work together either by sharing resources or sharing duties. In this way, the hub operates a complete, efficient recycling system, processing and marketing, and often hauling, as well. Smaller surrounding communities, or spokes, do not invest in processing equipment and related expenses, nor do they spend resources marketing small volumes of materials.

Currently Van's recycling center is open three-and-a-half to four days a week, with capacity to accept more recyclables. They could increase their processing rate with a few additional pieces of equipment, such as a new conveyor belt. Van's could expand their volumes by seeking new spoke partners, such as the Northwest Iowa Area Sanitary Landfill in Sheldon, which is operating its recycling center at maximum capacity and processes approximately 200 tons of recyclables per month. Sheldon is less than 35 miles from Le Mars. Van's is also interested in expanding their volumes with education and outreach efforts targeted at the communities they service. Currently, the City of Le Mars in Plymouth County alternates weekly trash and recycling curbside pickup and currently recycles approximately 60-70 tons per month with Van's. The City of Le Mars noted that with increased outreach or service they have the potential to increase the recycling volumes sent each month to Van's.

The Carroll County sort line conveyor operates 40 hours per week, but they report having capacity to process additional materials. Finding additional tons for Carroll County to manage may be challenging. Managers noted that the politics of recycling agreements can often get in the way of partnerships. Geographically, it would make sense for Audubon County to partner with Carroll County and serve as a spoke that feeds into the Carroll County hub, however Audubon manually sorts their material and markets it themselves. Recyclables from both Audubon and Ida counties previously went to Carroll County. Ida County is currently sending loose single stream material to market at either a small expense or a small income depending on markets. However, it is typically more efficient to send baled material to market.

One key to successful operations whether they are publicly run, private, or a public/private partnership, is the importance of service contracts or rate structures that cover operational costs using MSW processing or recyclable hauling fees, and do not rely solely on the sale of recyclable materials. This is particularly important during low market conditions.

4.4 MODIFIED CONCEPTUAL HUB AND SPOKE

Prior to conducting this study, information was not available on the existing number of recycling operations and the amount of material flowing through each center. The main assumption used to develop the project scope of work was that recycling infrastructure and recycling access was lacking in the state of Iowa, and therefore it was proposed to outline a hub and spoke system from the ground up. The system would be modelled after those in New Mexico, where hub and spoke could solve the issues of recycling access and expensive transportation inefficiencies. However, as a result of the research and field work conducted for this study, the opposite appears to be true in Iowa. Iowa has an extensive recycling infrastructure and access, almost to excess.

Drawing upon our research across Iowa, the following sections will outline a conceptual hub and spoke recycling program, but *without* the emphasis on statewide replication to avoid shutting down or drastically reducing the number of current recycling operations in Iowa, overnight. Rather it is our recommendation to focus resources and attention on efficiency. Those systems which are operating efficiently will lead and grow. Low commodity values will effectively force small operations to either work together or close down.

4.4.1 Location and Number of Spoke Sites

Jendro Sanitation Services (Jendro) operates a hauling business, single stream recycling center with a sort line, and transfer station in Charles City, Iowa. Currently, Jendro processes recyclables from the following areas: the curbside programs and commercial and drop off cardboard in the northern half of Butler County; the City of Plainsfield in Bremer County; recycling drop offs in Chickasaw and Floyd Counties; the City of Osage; and the recycling from Mitchell County. Spoke expansion could be difficult for this area as there are many surrounding competitors (Attachment 1), such as Mason City Recycling in Mason City, Hawkeye Recycling in Cresco, The Trashman in Webster City, and new recycling opportunities recently brought to the Landfill of North Iowa in Clear Lake. Opportunities could exist for partnerships, for example, the Cresco facility is small with one baler and no sort line.

4.4.2 Equipment Needs

Jendro has an existing small conveyor for a manual sort line, however an updated, longer conveyor sort line would be required for expansion. They currently have one horizontal auto-tie baler and 8 vertical balers. Assuming these are all in good working condition, these could suffice for expanded operations depending on the layout of the sort line and new facility. Task 4 will present the tonnage requirement needed to break even, assuming low market value.

4.4.3 Transport from Spokes to Hub Needs

As a hauling operation, along with a recycling center, Jendro can charge for its hauling services to transport material or have it brought to them directly from their spokes. Management noted that a garbage truck can drive fifty miles in one hour; potential spokes should lie within this radius.

4.4.4 Processing, Storage, Transport to Market Needs

Due to a lack of storage capacity, recyclables have to be “touched” often both before they are processed and after bales are made. Each “touch” reduces efficiency and increases cost per ton. Creative solutions have been employed to address the lack of space, however if the facility is going to expand and serve as a regional recycling hub, it will need at a minimum a 4,000 square foot indoor space for storage of recyclables.

4.4.5 Volume of Material to Efficiently and Economically Operate Hub

Jendro currently processes approximately 50 tons per week of commingled material. If they are backlogged with processing and baling of recyclables, they deliver commingled materials to Cedar Valley Recycling in Waterloo or Dittmer Recycling in Dubuque, at a cost of \$10/ton or \$20/ton respectively, to process the material. Jendro has established a goal of processing 1,000 pounds per hour of material on the sort line.

Expanded spoke operations would require processing higher volumes, based on market prices, transportation distance, and capital investments. In order to become a sustainable hub, Jendro will need to be able to process materials in a more cost effective manner.

4.4.6 Evaluation of Single Stream vs. Source Separated Materials

Jendro currently operates a single stream recycling center that accepts commingled material from curbside programs. They accept source separated material from commercial accounts, in an effort to keep their operating expenses low. For maximum efficiency, each spoke which sends material to this hub should also collect and transport single stream (commingled) material, unless stated otherwise by the hub, for example, separate cardboard-only containers.

4.4.7 Employment Impacts

Management noted that finding staff for the facility is difficult because employees handle multiple job functions from processing material to driving large vehicles. Individuals with

commercial driver's license are in high demand in the region and wages are high for this expertise. Increasing operations and volumes could mean creating more jobs. On average, for one ton of material recycled ten times more jobs are needed compared with sending that same ton to the landfill (Institute for Local Self Reliance).

4.4.8 Marketing Needs

Jendro sells a truck load of cardboard to market each week. They do not currently have an issue filling a truck of material to sell to market for high volume materials, such as cardboard. Greater storage space for lower volume materials, such as plastics, would allow them to store enough material to fill a truck load and therefore receive highest market value for the material. Jendro has established a creative storage solution for the recovered recyclables, using old semi-trailers, as shown in **Exhibit 13**. The materials are stored temporarily in the storage trailers and then reloaded onto the buyers' trailers when the trailer is full.

Exhibit 13. Jendro Sanitation Storage Solution



4.5 TOOLS FOR OPERATIONAL EFFICIENCIES

While regional hub and spoke systems that already exist in Iowa continue to grow, it will be crucial for statewide efforts to remain focused on efficiencies. The most effective tools which can be used by Iowa DNR to encourage operational efficiencies and better track recycling activity in the state are highlighted here.

4.5.1 Capturing Recycling Data

Adding recycling facilities to the list of permitted operations within the State of Iowa would assist in capturing data pertaining to recycling tons and the movement of materials. Permit obligations would need to include requirements to report recycling tonnages to the State on an annual basis. The State could then publish an annual recycling rate based on this information and would possess a benchmark by which to measure future successes. Additional requirements can be added to the permitting process as well, such as training programs or certifications for recycling operators.

The current Solid Waste Alternatives Program (SWAP) grant applications ask applicants about regional impacts on the targeted solid waste stream, as well as asking the applicant if they are aware of current competitors for the targeted solid waste material and if the proposed project will adversely affect the operations of the competing entity. This is important information to gather, however without knowledge of permitted recycling centers, it is most likely difficult for DNR staff to corroborate information presented in the application. The project description aspect of the application could be structured to encourage applicants to address regional recycling opportunities or plans. Including this request could assist the SWAP review committee to reconsider funding to facilities that will compete for the same volume of material in the future.

4.5.2 Strategic Allocation of Funding

Without a statewide system to permit and track existing recycling operations, Iowa cannot strategically plan for expanded operations and increased efficiencies with SWAP funding. Current permitting of landfills, transfer stations and citizen convenience centers could be augmented to include recycling centers or recycling processors.

Newly permitted facilities would require funding to administer the permitting process, however it is possible to have a tiered registration and permitting program that could limit this administrative burden. The tiered system would be based on populations served and tons managed and would entail different levels of oversight and reporting requirements, as well as fees.

As examples, the State of California permitting system includes criteria for the amount of residuals generated as a percent of the incoming materials. If a facility produces more than 10% residuals after processing, then it is permitted as a solid waste facility, instead of a recycling facility. The solid waste facility permit has higher fees, more inspections, and more stringent reporting requirements. The State's regulations regarding solid waste handling and disposal are included in the California Code of Regulations:

<http://www.calrecycle.ca.gov/Laws/Regulations/Title14/>

The State of New Mexico does not require recycling facilities to obtain permits, but they are required to be registered with the state. Permits require public hearings, engineering and are much more involved. New Mexico's recycling facility registration form is four pages minus attachments, and there is no fee. This is by design. The New Mexico Environmental Improvement Board did not want to discourage the creation of recycling facilities with onerous requirements. Similar to California, the only situation in which a recycling facility would need to be permitted in New Mexico would be if it receives more than 240 cubic yards per day and is deemed a solid waste facility because the material is being stockpiled, not recycled, or if a MRF has a high contamination rate that it cannot be considered a recycling facility. This has never happened in the state. By definition no solid waste should be received by a recycling facility and any waste inadvertently received must be removed daily. If solid waste is accepted, the facility is considered a transfer station. New Mexico has one full time employee that manages the registration of recycling facilities, along with other tasks. With this as an example, it is assumed that one quarter time or one part time employee could manage the registration of recycling facilities in Iowa. The New Mexico requirements are detailed in the state's Solid Waste Rules: (<https://www.env.nm.gov/swb/CurrentRules.htm> and <https://www.env.nm.gov/swb/ApplicationsRegistrationsandForms.htm>).

There are 148 facilities included in the map in Attachment 1, of which 116 are permitted transfer stations, citizen convenience centers, municipal landfills, construction and demolition landfills, or composting facilities, and many of these also perform recycling. During the permit application or renewal process, the State could include registration requirements for recycling operations as part of the existing permit. In fact, the current State of Iowa transfer station permit includes a question about whether or not recyclables are accepted for drop off at the facility. The State could expand on the existing permit application to garner further information, such as the types of materials accepted, the source of the recyclables, on-site equipment used for recycling, and the tons collected per year, as part of a recycling facility registration.

The other entities on the map in Attachment 1 that are not permitted by the state consist primarily of private MRFs and end-users. It would not be necessary to capture the information of end users unless they directly accepted the material from the public. However, it would require administrative time to inform these private operations that registration of their facility is required.

Capturing annual tons of recyclables from facilities is a key data point and could be captured during the permitting process or as an annual report. The annual report could be as simple as an online questionnaire or a comprehensive tool to measure recycling in the state. As a means to limit administrative costs, a phased in approach could begin with a more simple reporting system that eventually expands as needed.

The Department of Natural Resources Solid Waste Division appears to capture quarterly transfer station/citizen convenience centers tonnage reports for MSW. Adding a table to capture recycling tonnage to this existing report could easily increase the knowledge of recycling operations in Iowa. It would be important for the part time employee tasked with overseeing registered recycling facilities to collaborate with the DNR Solid Waste Department. Piggybacking on the obligations the Iowa Solid Waste Division requires its permitted facilities could serve as an alternate way to obtain the desired data. This reporting would need to be

expanded to include recycling and it would be necessary for this type of reporting to be required (not voluntary), with penalties for non-compliance or compliance incentives.

The administrative costs could be partially funded with registration fees; however this could impede the real and perceived expansion of recycling operations. Recycling facilities that process low volumes of material could be exempt from registration fees, while larger operations could pay annual registration fees (and possibly move into the “permitting” level of registration).

Another option is to simply include recycling facility registration as a requirement for permitted facilities only and roll the recycling registration process into the existing permitting process. A third funding option is to utilize SWAP funding towards one part time employee to manage the recycling registration operations, or to utilize SWAP funding to release an RFP for a third party to establish and develop a simple recycling registration program, complete with outreach to targeted recyclers in the state.

A fourth funding option is to establish a state run training or certification program that is part of the registered recycling facility requirements. For example, in order to become a registered recycling facility, a certified operator must be on site. To become a certified operator, a representative from a facility must attend the state run training, which has an associated fee. If the state is not allowed to accept payment for such trainings, finding an appropriate partnering organization such as the Iowa Recycling Association, to manage fees and tasks is an option. This fee could cover the cost to administer the training as well as produce revenue to administer the facility registrations. Recycling facilities benefit because there is a state operated program teaching best practices within the industry, including safety: a key concern within the solid waste industry as it is the fifth most dangerous industry in the country according to the Bureau of Labor Statistics (2014). It might also be easier to persuade recycling facilities to pay for trainings that will benefit their programs than to pay for registration fees.

Regarding incentives, an extreme example to encourage partnerships is to not award SWAP funds to programs that do not include collaborations or partnerships or to award additional scoring points to applications that include letters of support from appropriate partners. For example private operations that receive letters of support from counties noting the need for the private operation to exist and accept their recyclables or public operations writing letters of support for another public operation looking to expand their regional collection of recyclables. Furthermore, the state could set annual funding priorities or goals related to partnerships, such as public private collaborations (this could expand into non-traditional-household recyclables such as compost/food waste operations, concrete crushing, wood chip production, electronics, etc.) or expanding regional partnerships.

The state could also create Recycling Market Development Zones (California and Utah currently have these), which focus on recycling as an economic development tool. The state works to attract new business development zones around the state to ensure rural and urban areas are served by offering tax credits, technical assistance and other incentives to recycling related businesses.

California’s Recycling Market Development Zone (RMDZ) program combines recycling with economic development to fuel new businesses, expand existing ones, create jobs, and divert

waste from landfills. This program provides attractive loans, technical assistance, and free product marketing to businesses that use materials from the waste stream to manufacture their products and are located in a zone. The zones cover roughly 88,000 square miles of California from the Oregon border to San Diego. Assistance is provided by local zone administrators. Local government incentives may include relaxed building codes and zoning laws, streamlined local permit processes, reduced taxes and licensing, and increased and consistent secondary material feedstock supply. Local incentives vary from jurisdiction to jurisdiction. In addition to loans, CalRecycle offers free product marketing through their RecycleStore.

Utah's RMDZ Success Story:

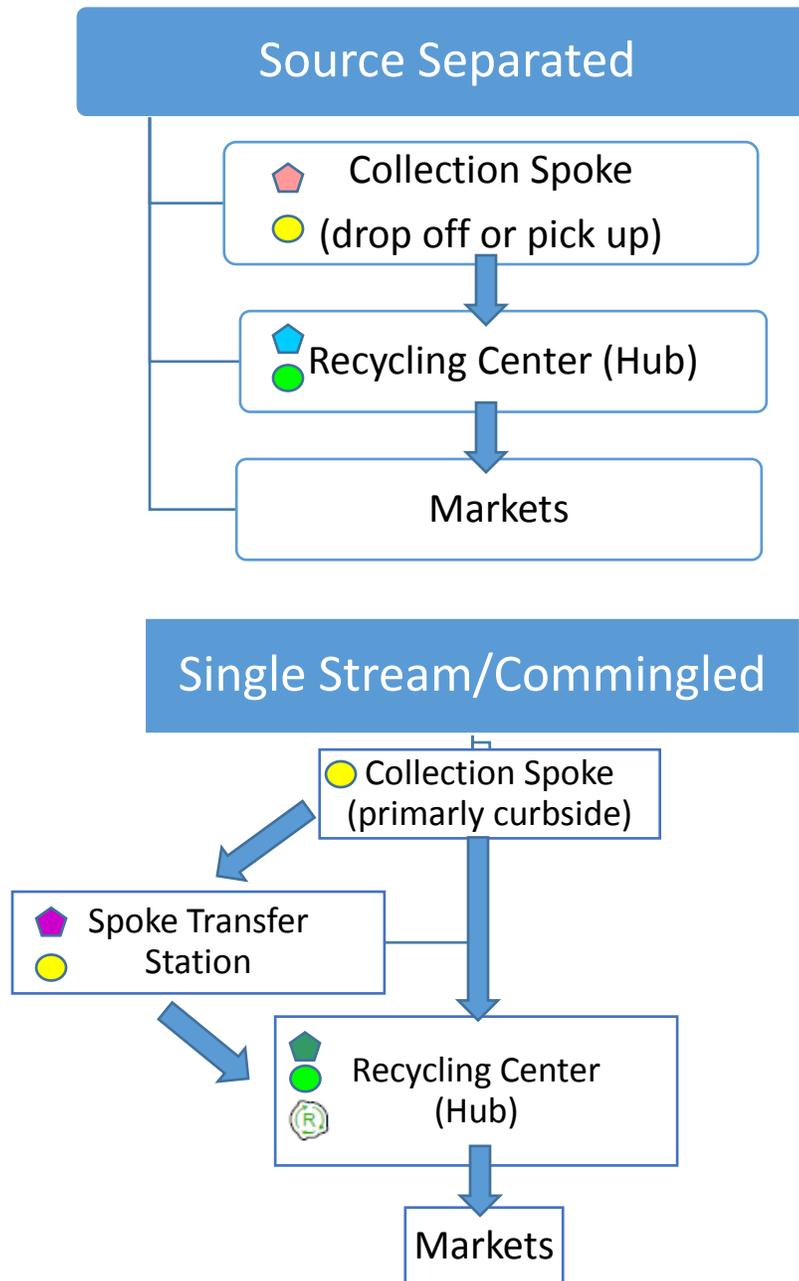
- 5% tax credit on the investment of machinery and equipment
- 20% state income tax credit on operating expenses (up to \$2,000)
- Technical assistance from recycling professionals
- From 1997-2007, \$192,000 in equipment investments have been made, creating 1,900 jobs with a payroll of \$39,200,000.
- Generated \$2,000,000 in state sales tax and \$1,500,000 in state income tax.
- Generated \$800,000 in local sales tax and \$12,600,000 in local property tax.
- The return on investment is \$2.87 for every dollar invested through the tax credit

As outlined in Section 2, Colorado is able to support recycling infrastructure with the Recycling Resources Economic Opportunity Act (RREOA) grant program. Since 2007 Colorado has awarded \$7.1 million in RREOA funding to businesses, local governments, nonprofit groups, and schools and universities throughout Colorado. The state recently released \$250,000 and a request for proposals for five to six Regional Studies to Optimize Waste Diversion. The intent of this solicitation is to incentivize regional planning initiatives that focus on examining how existing waste diversion activities can be better coordinated in a defined region to maximize waste diversion in the future. These studies can assist Colorado in improving the strategic allocation of their funding.

5.0 COST-BENEFIT ANALYSIS

A pro-forma model was developed for the Iowa Hub and Spoke project to help communities answer two basic questions: 1) should a given facility be a hub that accepts material regionally, or a spoke that feeds its material into a regional hub and; 2) If the facility is interested in being a hub, then what volume of material is needed and/or what other sources of income (tip fees or hauling income) are needed in order to make this economically feasible. **Exhibit 14** presents the scenarios analyzed in the model.

Exhibit 14. Flow Chart of Scenarios for Source Separated and Commingled Materials*



* Symbols correspond to State-wide map of solid waste facilities developed for this project.

5.1 PRO-FORMA MODEL

The model includes five tabs. The first tab is the data entry tab for source separated materials, the second tab is the data entry tab for single stream or commingled materials. The information in these tabs populates values in the fifth tab, the pro forma or calculations tab. The third tab is an operating expenses tab, and the fourth tab is a general capital expenses tab. Due to the high number of external variables, such as tipping fees, quality and quantity of recyclables, market value, hauling expenses, etc., the model was created as a working document that can be adjusted depending on specific program operations. Details are included in the following sections on how the model can be used to evaluate the costs and benefits of a hub that accepts material regionally, or a spoke that feeds its material into a regional hub, and the corresponding volumes of materials and/or what other sources of income are needed to make the options economically feasible.

5.1.1 Data Input Tabs

The data input tabs have two primary data input sections, which are highlighted in yellow and green. All cells that require initial input of data are highlighted in yellow. All cells that can be updated based on actual local data are highlighted in green. The yellow cells include population data from the US Census for a geographic area (the geographic area used as an example is Mitchell, Floyd and Chickasaw Counties in northern Iowa). The MSW annual tons is calculated using the United States EPA estimated MSW generation rate of 4.4 pounds per person per day, multiplied by the population, divided by 2,000 (resulting in tons per year). Users can modify the population information, and the resulting estimated “Tons of Predicted Annual MSW” will change accordingly.

The model allows the user to input the following variables as they pertain to the specific geographic/planning area of interest: roundtrip hauling miles per load of recyclables; recycling hauling truck capacity; miles per gallon for recycling hauling truck; driver hourly labor rate; current price of diesel; annual recycling equipment maintenance costs; landfill tipping fee per ton; MSW hauling cost per ton; annual tipping fees received (if any) and hauling fee income (if any). This information will help to determine recycling costs, and avoided MSW costs, assuming the landfill tipping fee and hauling charges are paid for by the subject planning area or private entity. For example, if a transfer station within a planning area pays a landfill tipping fee of \$35 per ton, and \$30 per ton for MSW transportation expenses, then these values are entered into the respective cells on the data input tab. If the model is utilized by a private entity that does not pay landfill tipping fees or hauling fees, then no values would be input into these cells.

The green cells are utilized to input available data on the percentage of recyclables captured, the current market price of recyclables, and the residual waste from single stream recycling operations. In the model, the capture rate for recyclables is set at 15%-20% for source separated materials and 25% for single stream materials. These percentages can be increased or decreased, and the model and corresponding values will modify accordingly.

The data input page for single stream assumes that a facility, most likely a spoke that supplies its material to a larger processor, is receiving revenue for single stream material. If a facility is not receiving revenue for single stream materials, the blue cell on this tab should be zero. If the facility is PAYING a per ton tip fee to have their material processed, this value should be

negative (e.g. if a facility has to pay \$12 per ton to a processor for their single stream, then the value of -\$12 should be entered).

While single stream often captures a higher volume of material for diversion, the fact that it requires more processing reduces its value. This can be balanced by reduced or eliminated operational fees for spoke communities providing single stream recyclables to processors. The model takes this into account on the Pro Forma tab.

5.1.2 Operating Expenses

The operating expenses tab allows for data input related to annual operating expenses. It is important that the data input into this tab is only related to the recycling operations. For example, if an administrator shares her time between a community's parks and recreation, roads and solid waste/recycling departments, only the percentage of her time that is spent on solid waste/recycling should be entered into this model as labor.

5.1.3 Capital Expenses

The fourth tab is a general capital expenses tab. The assumptions for the capital expenses include the following: a 40' x 75', 3,000 square foot three sided pole barn style structure; two 10' wide x 12' tall roll up doors; two 30" man-doors; five 9'x15' loose storage bunkers (jersey barriers with chain link risers and gates); 300 square foot interior bale storage; 7' x 45' baler footprint; +/- 130' steel push walls; 17.5' height at open side; 13.75' at back and one commingled collection container for single stream/commingled materials, one cardboard only container, and one divided container for source separated collection spokes. These values are based on information obtained from the GSA and previous project experience. It is also assumed that spoke communities already own roll off or trailer transportation vehicles that can be used to haul recyclables. The equipment needs are set up for a facility that has the capacity to process approximately 100 tons per month.

5.1.4 Pro Forma – Calculations Tab

The fifth tab includes annual revenues, expenses, and cost avoidance for three scenarios: 1) source separated processor that accepts materials and markets the materials themselves; 2) single stream spoke operation that accepts and consolidates material and provides single stream recyclables to a market; and 3) single stream hub operation that accepts single stream materials, sorts and processes the materials, and sells the materials to markets.

The Pro Forma Calculations Tab demonstrates the importance of capturing a high volume of material in order to increase revenues, as well as diversifying income sources with hauling or processing fees, if possible. Factoring in avoided costs is also an important step when calculating net revenues or losses.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 CONCLUSIONS

The Iowa Department of Natural Resources (DNR) contracted with SCS Engineers (SCS) to conduct a comprehensive study assessing the existing recycling infrastructure in rural Iowa, with the goal of developing recommendations for implementing a Hub and Spoke recycling system as a means of increasing rural recycling participation, while maintaining and improving rural recycling efficiencies and economics. The study included identifying existing rural recycling services, service providers, and recycling gaps, and providing strategies to fill recycling gaps, including a hub and spoke recycling system.

In order to determine existing recycling capacity, volumes generated, and current programs, surveys were distributed to 93 individuals representing the 44 planning areas in the State. A total of 45 responses were received, consisting of 34 complete surveys and 11 incomplete surveys. For facility categories or geographic locations that were not represented by the survey results, 14 site visits and 200 phone interviews were completed. The surveys and site visits provided a broad scope of information on existing recycling activities, collection centers, transfer stations, and landfills, as well as transporters and haulers.

The DNR data indicates in 2015, a total of 2.6 million tons of Iowa-generated MSW was disposed in landfills. Therefore, approximately 1,336,116 tons of MSW generated in Iowa needs to be diverted in order to meet the 50% recycling goal. According to the State-wide waste characterization study, the top materials still being disposed include food waste, corrugated cardboard and Kraft paper, other film plastic, compostable paper, and untreated wood. All of these materials are presently processed by at least one facility that responded to the project survey.

Over 84% of the survey respondents noted that their facility or planning/service area manages recycling. The most common recyclable materials processed include aluminum and tin cans, plastic bottles and other plastics, paper, yard debris, and metals. The methods used to collect and deliver household recyclables to a facility include commingled collection (41%) and source separated materials (31%). Furthermore, drop off sites are most prevalent (80%), and curbside collection is used by 55% of the respondents.

Utilizing the information from the surveys and site visits, a GIS-based map was created that identifies facility location, classification, and processing destination of the recyclables. The Permitted Waste Facilities Map in Attachment 1 includes information on 148 facilities, of which 116 are permitted transfer stations, citizen convenience centers, municipal landfills, construction and demolition landfills, or composting facilities, and 106 are permitted facilities that process recyclables.

The results of the study indicate the existing recycling infrastructure is varied and plentiful, possibly to excess. Every combination of public and private, rural and urban, sorted and single stream recycling system currently exists somewhere in Iowa. While the existing system

contributes to a high level of access to recycling within rural communities, it also reveals too many players competing for, what could be, a static amount of material.

The ability to earn revenue from recyclable commodities depends largely on volume, especially from the collection across a region. Only if enough volume exists, can many facilities earn revenue from marketing their own materials. Aside from volume, market pricing also has an effect on the number of viable facilities. High market pricing can spur a multitude of players. This will work until market pricing drops and volume again becomes a more important factor. Low pricing for recyclable commodities can create panic for low volume marketers as they compete for material tons and reach the close geographical boundaries of other small, rural players.

The distribution of facilities in the State highlights this competition. As graphically depicted on the Permitted Waste Facilities Map in Attachment 1, the green hexagon, blue hexagon, and green circle symbols include facilities that earn revenue from recyclable materials. This information is valuable in understanding whether or not numerous facilities are potentially competing for revenue. Without regional material volume, the smaller facilities' price per ton to process and deliver to market may be too high to remain viable.

The Permitted Waste Facilities Map in Attachment 1 also highlights examples of recycling operations in Iowa that can weather the market storms. Medium- to large-sized processors and marketers with diversified funding streams, crucial partnerships, and a solid understanding of efficiency have naturally organized into a hub and spoke system. As the Permitted Waste Facilities Map in Attachment 1 indicates, some facilities are operating successful hubs by processing and then marketing materials from surrounding producers. Smaller facilities within the region, or spokes, do not spend money on processing and marketing, but rather send their material to the nearest large facility that can take on such expenses. Van's Recycling and Carroll County are both good examples of this hub and spoke organization.

6.2 RECOMMENDATIONS

Prior to conducting this study, information was not available on the existing number of recycling operations and the amount of material flowing through each center. The main assumption used to develop the project scope of work was that recycling infrastructure and recycling access was lacking in the state of Iowa, and therefore it was proposed to outline a hub and spoke system from the ground up. However, as a result of the research and field work conducted for this study, the opposite appears to be true in Iowa. Iowa has an extensive recycling infrastructure and access, almost to excess.

Drawing upon our research across Iowa, a conceptual hub and spoke recycling program was outlined, but without the emphasis on statewide replication to avoid shutting down or drastically reducing the number of current recycling operations in Iowa. Rather it is our recommendation to focus resources and attention on efficiency. Those systems which are operating efficiently will lead and grow. Low commodity values will effectively force small operations to either work together or close down.

Private and public entities could work together either by sharing resources or sharing duties. In this way, the hub operates a complete, efficient recycling system, processing and marketing, and often hauling, as well. Smaller surrounding communities, or spokes, do not invest in processing equipment and related expenses, nor do they spend resources marketing small volumes of materials. One key to successful operations whether they are publicly run, private, or a public/private partnership, is the importance of service contracts or rate structures that cover operational costs using MSW processing or recyclable hauling fees, and do not rely solely on the sale of recyclable materials. This is particularly important during low market conditions.

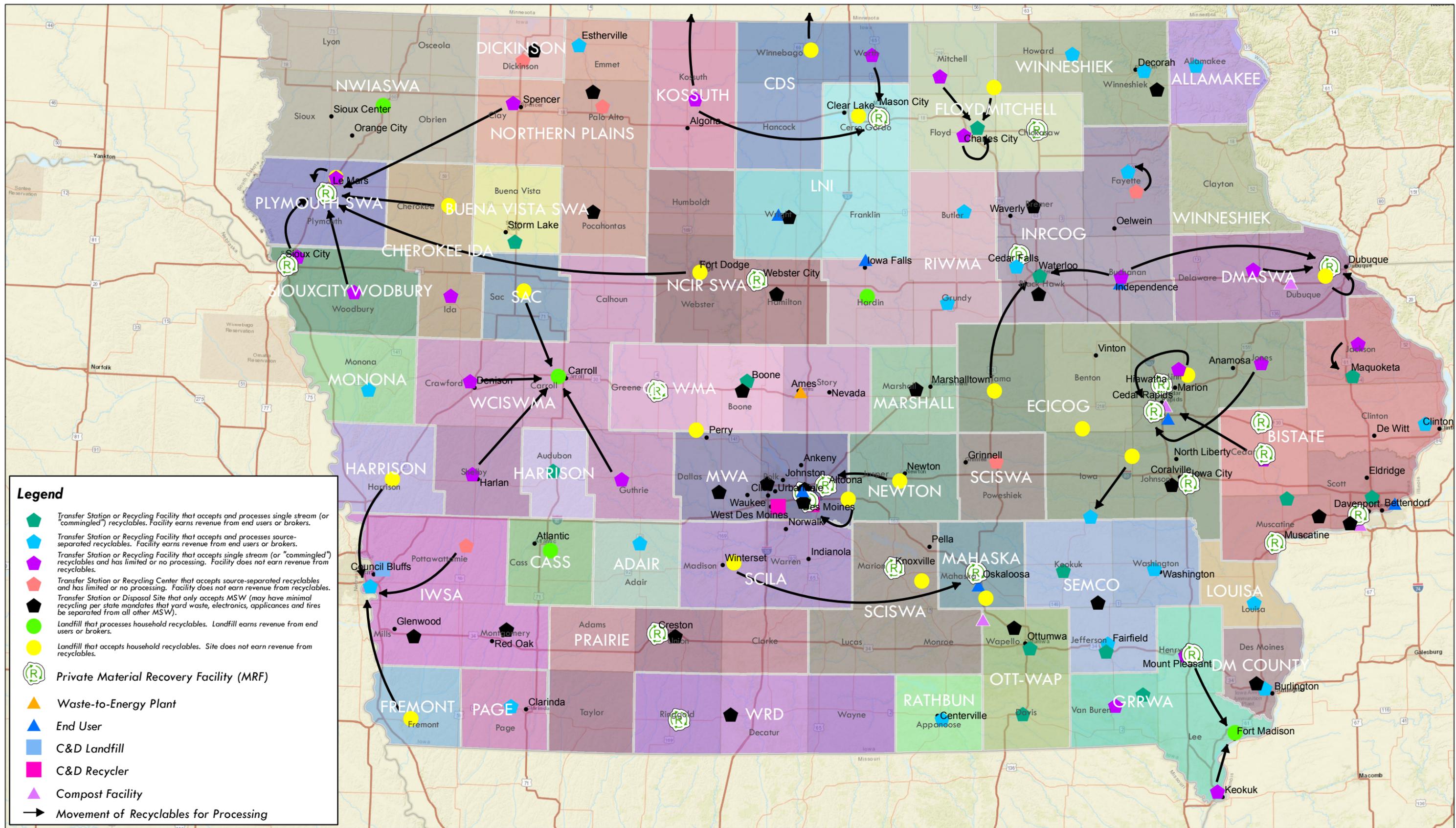
While regional hub and spoke systems that already exist in Iowa continue to grow, it will be crucial for statewide efforts to remain focused on efficiencies. The most effective tools which can be used by Iowa DNR to encourage operational efficiencies and better track recycling activity in the state include capturing recycling data, which could be captured during the permitting process or as an annual report. The annual report could be as simple as an online questionnaire or a comprehensive tool to measure recycling in the state. If recycling tonnages are reported to the state annually, it creates a mechanism to measure recycling and thereby allows the state to evaluate which programs are working best.

Section 4.5 further explains tools for operational efficiencies including capturing recycling data and strategic allocation of funding.

An extreme example to encourage partnerships is to not award SWAP funds to programs that do not include collaborations or partnerships, or to award additional scoring points to applications that include letters of support from appropriate partners. The state could also create Recycling Market Development Zones (California and Utah currently have these), which focus on recycling as an economic development tool. The state works to attract new business development zones by offering tax credits, technical assistance, and other incentives to recycling related businesses.

This study was a crucial step in understanding how recycling materials flow in the state of Iowa. Further studies or more attention in the areas of best methods to capture recycling and diversion rates, updating state-wide goals, and statewide recycling marketing campaigns could be extremely helpful in keeping the momentum and increasing the recycling rate.

ATTACHMENT 1
PERMITTED WASTE FACILITIES MAP



SCS ENGINEERS
 Environmental Consultants
 8799 Balboa Avenue, #290
 San Diego, California 92123

Permitted Waste Facilities State of Iowa

Client:
 Iowa Dept.
 of
 Natural Resources

Figure 1
 Project #: 01215320.00
 Date Drafted: 9/13/2016

Source: Esri, Digital Globe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
 Esri, HERE, DeLorme, MapmyIndia, OpenStreetMap contributors
 Iowa Department of Natural Resources



ATTACHMENT 2
SUMMARY OF SURVEY RESULTS

Name	Title	Organization (e.g. facility, county, solid waste authority, planning area, etc)	Planning Area	Email	Phone	Which landfill(s) does your facility or planning/service area use (check all that apply)?	Comment	Tipping fee per ton for MSW at this landfill	Does your facility or planning/service area manage recycling?	Does your recycling center, transfer station or convenience center have capacity to transport and/or process additional materials?	Items Recycled	How many tons per year of household recyclables do you process?	How many tons per year of yard debris do you process?	How many tons per year of special materials (e.g. scrap metal & C&D) do you process?	What is your tipping fee per ton of household recyclables?	What is your tipping fee per ton of yard debris?
Myron Parizek	Benton County Engineer	Benton County	East Central Iowa Council of G	mparizek@co.benton.ia.us	319.472.2211	Benton County Sanitary Landfill	Benton County manages the rural drop-off sites. The Benton County Landfill Commission manages only the landfill site and activities within the Landfill.	\$ 60.00	Yes	No	Tin Cans, Plastic 1-7, mixed paper, cardboard, chipboard	200			approx \$4/per capita figured into rural property tax	
Rhonda O'Connor	Project/Strategy Manager	Metro Waste Authority	Metro Waste Authority	roc@mwatoday.com	515-323-6524	Metro Park East Sanitary Landfill & Metro Park West Landfill (Formerly North Dallas)		\$38 commercial; \$37 residential	Yes	Yes - We contract out hauling and processing.	Aluminum cans, Tin cans, mixed paper, cardboard, chipboard, yard debris, electronics, motor oil, tires, scrap metal, Construction & Demolition Debris (C&D is asphalt shingles and rubble recycling only)	27000	30000	14000	Free at the landfill; collection at curb is charged through city	\$28/ton
Janet Hansen	Director	Audubon County Solid Waste Management Commission	Harrison County Landfill Com	audcoswm@iowatelecom.net	712-563-3589	Harrison County Sanitary Landfill		\$ 43.00	Yes	No	Aluminum cans, tin cans, plastic 1-7, mixed paper, cardboard, chipboard, yard debris, electronics, cooking oil, motor oil, tires, lead acid batteries, scrap metal	221	61	30	0	25
Renee Roland	Secretary	Sac County Solid Waste Agency	Sac County	rroland@sacounty.org	712-662-7310	Carroll County Sanitary Landfill/Recycling Center & Sac County Sanitary Landfill		\$ 43.00	Yes							
Daniel Barry	H.C.L.C. Solid Waste Mgr.	Harrison County Landfill Commission	Harrison County Landfill/City	hclco@iowatelecom.net	712-644-3093	Harrison County Sanitary Landfill		Currently \$43/ton after July 1st, 2016 - \$45/ton	Yes	No	Aluminum cans, Tin cans, plastic 1-7, mixed paper, cardboard, chipboard, electronics, motor oil, tires, lead acid batteries, scrap metal	930 Tons	N/A	Scrap Metal 20 Tons	\$20/Ton	N/A
Larry Oldenkamp	Director	Northwest IA. Area Solid Waste Agency and Recycling	Northwest IA. Area Solid Waste	lwflarry@netllc.net	712-324-4026	Northwest Iowa Area Sanitary Landfill		\$ 33.00	Yes	Unsure	Aluminum cans, tin cans, plastic 1 & 2, Plastic #5, mixed paper, cardboard, chipboard, electronics, motor oil, tires, lead acid batteries,	2500			0	
Dave Carlson	Manager	Monona Co. Sanitary Landfill	Monona County	mcolff@wiatel.net	712 353 6300	Out of State		\$ 20.00	Yes							
Donn Dierks	Director of Public Health	Council Bluffs Recycling Center - Division of CB Health Dept.	Iowa Waste Systems Associati	ddierks@councilbluffs-ia.gov	712-328-4666	Loess Hills Regional Sanitary Landfill		\$22.51/Ton for Council Bluffs residential waste	Yes							
Hal Morton	Executive Director	Des Moines County Regional Solid Waste Commission	Des Moines County Regional	hmorton@dmcwaste.org	(319) 753-8126	Des Moines County Regional Sanitary Landfill		\$ 50.00	Yes	Unsure - Could handle more of same source-separated materials already accepted.	Aluminum cans, tin cans, plastic 1&2, plastic #5, mixed paper, cardboard, yard debris, electronics, motor oil, cooking oil, tires, lead acid batteries, scrap metal, Mixed glass, including windows, crystal, ceramics.	3121 tons	1588 tons Yardwa	672 units Appliances;43 tons Tires; 50 tons Batteries	Recycling & HHM management is funded by a per household fee of \$3.45/month (NOT tipping fee and NOT per capita)	0

Name	Title	Organization (e.g. facility, county, solid waste authority, planning area, etc)	Planning Area	Email	Phone	Which landfill(s) does your facility or planning/service area use (check all that apply)?	Comment	Tipping fee per ton for MSW at this landfill	Does your facility or planning/service area manage recycling?	Does your recycling center, transfer station or convenience center have capacity to transport and/or process additional materials?	Items Recycled	How many tons per year of household recyclables do you process?	How many tons per year of yard debris do you process?	How many tons per year of special materials (e.g. scrap metal & C&D) do you process?	What is your tipping fee per ton of household recyclables?	What is your tipping fee per ton of yard debris?
Alan Schumacher	Operations Manager Can Shed	Iowa Recycling Association	ECICOG	alan@canshed.com	319-930-6332	Iowa County Sanitary Landfill		\$35?	Yes	Unsure	Aluminum cans, plastic 1&2, glass			7500 tons	unknown	
Mary Wittry	Director	Carroll County Solid Waste Management Commission	West Central Iowa Solid Waste	mwittry@carrollcountylandfill.com	712-792-5001	Carroll County Sanitary Landfill/Recycling Center		\$ 43.00	Yes	Yes	Aluminum cans, tin cans, plastic 1-7, mixed paper, cardboard, chipboard, yard debris, electronics, cooking oil, motor oil, tires, lead acid batteries, scrap metal	5000	product is not weighed	45	non applicable	non applicable
Stephen Patterson	Director	Guthrie Co. Solid Waste & Recycling	Guthrie County	enwhlth@netins.net	641-747-8320	Carroll County Sanitary Landfill/Recycling Center		\$ 43.00	Yes	Yes	Aluminum cans, tin cans, plastic 1-7, mixed paper, cardboard, chipboard, yard debris, electronics, motor oil, tires, lead acid batteries, scrap metal, Construction & Demolition Debris (C&D), fluorescent bulbs, rechargeable batteries, oil filters	469 tons	Not recorded	scrap(150 ton)/C&D not separated from garbage	0	0
Rick Hurt	Director	South Central Iowa Solid Waste Agency	South Central Iowa Solid Waste	rhurt@sciswa.org	(641) 828-8545	South Central Iowa Solid Waste Agency Landfill		\$ 37.00	Yes	Yes - Minimal involvement in recycling	Aluminum cans, tin cans, plastic 1-7, mixed paper, cardboard, chipboard, yard debris, electronics, motor oil, cooking oil, tires, lead acid batteries, scrap metal	we haul to Midwest disposal for processing		scrap - 100 ton/yr	0	0 grass/leaves 25/ton branches etc
Lou Lorenson	District Manager	Central Disposal	CDS	llorenso@wm.com	641-590-6448	Central Disposal Landfill		\$ 85.00	Yes	Yes	Aluminum cans, tin cans, plastic 1-7, mixed paper, cardboard, chipboard, yard debris, electronics, tires, scrap metal, Construction & Demolition Debris (C&D)	200	30	30	free	30/ton
Jody Rhone	Public Works Operations Superintendent	Planning area	Newton Sanitary Landfill / Jass	jodyr@newtongov.org	641-791-0827 ext23	City of Newton Sanitary Landfill		\$ 52.00	Yes	No	Aluminum cans, tin cans, plastic 1-7, mixed paper, cardboard, chipboard, yard debris, motor oil, cooking oil, tires, lead acid batteries, scrap metal		unknown		No charge	No charge
Jennifer Jordan	Recycling Coordinator	City of Iowa City Landfill and Recycling Center	Johnson County	jennifer-jordan@iowa-city.org	319-887-6160	City of Iowa City Sanitary Landfill		\$42.50 or \$47.40	Yes	Yes	Aluminum cans, tin cans, plastic 1-7, mixed paper, cardboard, chipboard, yard debris, food waste, electronics, motor oil, cooking oil, tires, lead acid batteries, scrap metal, appliances, shingles, cartons, corks	750 via drop-off sites	7500	shingles (450 tons); scrap metal (70 tons); appliances (340 tons); tires (318 tons); brown goods (200 tons); HHW (30 tons)	no fee for residents, various by type for CESGQ businesses	no fee for residents; \$24/ton for businesses
Merle Tank	Chairman	Jones County Solid Waste Commission	ECICOG	mht@netins.net	563-826-2068	Out of State		\$50 per ton	Yes	Yes	Aluminum cans, tin cans, plastic 1-7, mixed paper, cardboard, chipboard, yard debris, food waste, electronics, motor oil, cooking oil, tires, lead acid batteries, scrap metal, Construction & Demolition Debris (C&D)	250	none	3000	50	
Brent Kach	Manager	Cherokee County Solid Waste Commission	Cherokee/Ida	bkach.ccswa@qwestoffice.net	712-225-3749	Cherokee County Sanitary Landfill		\$ 42.00	Yes	Yes	Aluminum cans, tin cans, plastic 1-7, mixed paper, cardboard, chipboard, yard debris, electronics, motor oil, tires, lead acid batteries, scrap metal, asphalt shingles	780 tons	200 tons	350 tons	0	0
Craig Poulsen	Assistant Public Works Director	Northern Plains Regional Landfill//City of Spencer	Northern Plains Regional Plan	cpoulsen@spenceriowacity.com	712-580-7200 ext 216	Northern Plains Regional Landfill		\$2.91 including state fees	Yes	Yes - We don't process recycling, only collect and transport. We de-manufacture appliances, collect e-waste package those items	Aluminum cans, tin cans, plastic 1-7, mixed paper, cardboard, chipboard, yard debris, electronics, motor oil, cooking oil, tires, lead acid batteries, scrap metal, Construction & Demolition Debris (C&D) - These Items above are accepted at our Spencer Transfer Station and the Spencer Tree Site	850	1000	We don't track C&D separately. We don't process scrap metal but we collected and transported 140 ton in 2015	0	0
Laura Liegois	Solid Waste Manager	City of Muscatine	Bi-State Waste Coalition	lliegois@muscatineiowa.gov	563-263-9689	Muscatine County Sanitary Landfill		\$ 60.00	Yes		Tin cans, plastic 1-7, mixed paper, cardboard, yard debris, electronics, motor oil, tires, lead acid batteries, scrap metal	60	15	100		0
Dave Sherwood	Adminaerator	county	Tama County Landfill	tamalandfill@aweioa.com	641-484-5061	Tama County Sanitary Landfill		\$ 50.00	Yes	No						

Name	Title	Organization (e.g. facility, county, solid waste authority, planning area, etc)	Planning Area	Email	Phone	Which landfill(s) does your facility or planning/service area use (check all that apply)?	Comment	Tipping fee per ton for MSW at this landfill	Does your facility or planning/service area manage recycling?	Does your recycling center, transfer station or convenience center have capacity to transport and/or process additional materials?	Items Recycled	How many tons per year of household recyclables do you process?	How many tons per year of yard debris do you process?	How many tons per year of special materials (e.g. scrap metal & C&D) do you process?	What is your tipping fee per ton of household recyclables?	What is your tipping fee per ton of yard debris?
Lori King	Office Manager/Landfill Operator	Floyd-Mitchell-Chickasaw counties	Floyd-Mitchell-Chickasaw	landfill@myomnitel.com	641-982-4288	Floyd-Mitchell-Chickasaw Counties Sanitary Landfill		\$ 41.00	Yes	Unsure	Aluminum cans, tin cans, plastic 1&2, plastic #5, mixed paper, cardboard, electronics, motor oil, tires, lead acid batteries	n/a	n/a	n/a	0	
Joellen Schantz	Secretary/Treasurer -Louisiana Regional Solid Waste Agency	Louisa Regional Solid Waste Agency	Louisa Regional Solid Waste	locoe@louisacomm.net	319-523-5271	Out of State	MWI/Quad Cities Landfill, Milan, IL	\$ 23.90	Yes							
Lois Powers	Landfill Administrator/Recycling Coordinator	Boone County Landfill	Central Iowa Waste Management	loisp@boonelandfill.org	515-433-0591	Boone County Sanitary Landfill		\$ 31.00	Yes	No	Aluminum cans, tin cans, plastic bottles 1&2, mixed paper, cardboard, chipboard, yard debris, tires, lead cid batteries, scrap metal	790	829	scrap metal 40	0	31
Mark Ripplinger	Director, Municipal Operations & Programs	City of Cedar Falls	Public Works/Park Divison	mark.ripplinger@cedarfalls.com	(319) 268-5510	Black Hawk County Sanitary Landfill		\$34.25, going up to \$36.25 July 1st	Yes							
Jeff Vassar	Site manager	Dickinson landfill	Dickinson county landfill	jvassar@wm.com	712-330-1227	Dickinson Landfill Inc.		\$7.00 per ton plus fuel surcharge and taxes	Yes	Yes - center is run by landfill commision	I do not recycle at the landfill, all recycling goes thru the recycling center, but not household recycling just items such as yard debris, electronics, appliances, etc	n/a	n/a	n/a	same	same
Janice Bain	Recycling Coordinator	Ottumwa/Wapello County Solid Waste Commission (City of Ottumwa)	Ottumwa/Wapello	bainj@ci.ottumwa.ia.us	641-683-0684	Ottumwa-Wapello County Sanitary Landfill		\$ 57.00	Yes	Yes - We could process additional materials.	Aluminum cans, tin cans, plastic bottles 1&2, mixed paper, cardboard, chipboard, electronics, motor oil, tires, lead acid batteries, scrap metal, Glass, Re-chargeable batteries, appliances. We do take plastic of any number, but only bottles and jars. No Styrofoam, toys, and etc.	1,494.71 we also additio	1,730.66 this is all	132.93	0	The Landfill only charges businesses for yard waste, and that charge is \$30.00 per ton \$7.50 Minimum
Susan Engelking	Director	Hardin County Solid Waste	Hardin County	skengelking@hardincountysolidwaste.com	641-939-5808	Rural Iowa Sanitary Landfill	The name of the landfill that we use is named Rural Iowa Waste Management Association in Hardin Co., Iowa	\$ 51.00	Yes	Yes	Tin cans, plastic 1-7, mixed paper, cardboard, chipboard, yard debris, electronics, tires, lead acid batteries, scrap metal, Our site also has a HHW satellite building for Metro Waste Authority to accept hazardous waste.	1375 tons	1 ton	5940 tons	0	0
Doyle Smith	Public Works Supervisor	City of Cedar Falls	Black Hawk County	Doyle.Smith@cedarfalls.com	319-273-8629	Black Hawk County Sanitary Landfill		\$ 34.25	Yes	Yes	Aluminum cans, tin cans, plastic 1-7, mixed paper, cardboard, chipboard, yard debris, electronics, motor oil, cooking oil, tires, scrap metal, Construction & Demolition Debris (C&D)	1,613.40	1259.13	514	0	29.5
Kathy Morris	Director	Waste Commission of Scott County	Bi-State Regional Planning Area	kmorris@wastecom.com	563-381-1300	Scott Area Sanitary Landfill		\$ 26.65	Yes							
Tony Fiala	Solid Waste Management Supervisor	City of Council Bluffs	Tony Fiala	tfiala@councilbluffs-ia.gov	4026991576	Loess Hills Regional Sanitary Landfill		City of Council Bluffs contract rate \$22.51	Yes	Yes	Aluminum cans, tin cans, plastic 1-7, mixed paper, cardboard, chipboard, yard debris, electronics, motor oil, cooking oil, tires, lead acid batteries, scrap metal, Construction & Demolition Debris (C&D)	3700	5500	7500	20	20
John Foster	Agency Administrator	Dubuque Metropolitan Area Solid Waste Agency	DMASWA	jfoster@cityofdubuque.org	5635894354	Dubuque Metropolitan Sanitary Landfill		\$45 and below for contact customers	Yes	Unsure - Potentially with the proper investment	Aluminum cans, tin cans, plastic 1-7, mixed paper, cardboard, chipboard, yard debris, electronics, motor oil, cooking oil, tires, lead acid batteries, scrap metal, Construction & Demolition Debris (C&D) - We do yard waste processing all others are collection for others	0	1300	1600	0	29
Lori Dicks	Manager	Buena Vista County solid waste and recycling	Buena Vista Solid Waste Agency	bvcorecycle@evertek.net	7127327171	Carroll County Sanitary Landfill/Recycling Center		\$ 26.65	Yes	Yes - Potentially we could	Aluminum cans, tin cans, plastic 1-7, mixed paper, cardboard, chipboard, yard debris, electronics, motor oil, cooking oil, tires, lead acid batteries, scrap metal, Construction & Demolition Debris (C&D)	1500	300	2500	Coming led \$25/sorted \$0	Free for residents/\$30 for commercial
Matt Wyant	Director of Planning Pottawattamie County	Pottawattamie County	Iowa Waste Systems	matthew.wyant@pottcounty-ia.gov	712-328-5792	Loess Hills Regional Sanitary Landfill		\$ 23.50	Yes	No - Looking into new facility right now	Aluminim cans, tin cans, plastic containers 1-7, mixed paper, cardboard, chipboard, yard waste tires, scrap metal, glass containers, appliances, yard waste is composted	partner with CB on this	do not accept	300	free	

Name	Title	Organization (e.g. facility, county, solid waste authority, planning area, etc)	Planning Area	Email	Phone	Which landfill(s) does your facility or planning/service area use (check all that apply)?	Comment	Tipping fee per ton for MSW at this landfill	Does your facility or planning/service area manage recycling?	Does your recycling center, transfer station or convenience center have capacity to transport and/or process additional materials?	Items Recycled	How many tons per year of household recyclables do you process?	How many tons per year of yard debris do you process?	How many tons per year of special materials (e.g. scrap metal & C&D) do you process?	What is your tipping fee per ton of household recyclables?	What is your tipping fee per ton of yard debris?
Keith Laube	Public Works Director	City of Newton - Manager of Landfill	Jasper County	keithl@newtongov.org	641-791-0827 ext 30	City of Newton Sanitary Landfill		\$ 52.00	Yes		No answer on survey - follow up call notes: drop off recycling comingled at landfill - plastic 1-7, aluminum and tin cans, glass, mixed paper, separated container for cardboard, yard waste drop off and use on site.					
Doug Miller	Engineer, Kossuth County Landfill and Transfer Station	Kossuth County Transfer Station	Kossuth Waste Management	engineer@co.kossuth.ia.us	515-295-3320	Central Disposal Landfill		\$ 70.00	Yes	Unsure	Aluminum cans, tin cans, plastic 1&2, mixed paper, cardboard, glass	560	0	0	No fee for recycling	Not accepted
Jody Gates	Director of Health, Inspections, Planning and Solid Waste	Ottumwa/Wapello County Solid Waste Commission	Ottumwa/Wapello	gatesj@ciottumwa.ia.us	641-683-0694	Ottumwa-Wapello County Sanitary Landfill		\$ 57.00	Yes		No answer on survey					
Terry Buenzow	Winneshiek County Recycling Department Manager	Winneshiek County	Winneshiek County Area Solid Waste	recycling@co.winneshiek.ia.us	563-379-6239	Winneshiek County Sanitary Landfill	Floyd-Mitchell-Chickasaw serves as our RCC	\$ 67.00	Yes	Yes - The recycling center could absorb a lot more material	Aluminum cans, tin cans, plastic 1-7, mixed paper, cardboard, electronics, scrap metal, textiles, shoes, Electronics (no CRTs), soft toys, books (swap shop)	2500		300	None	N/A
Jenny Nickell	WRD Office manager HHM manager	WRD Solid Waste	Wayne Ringgold Decatur County	wrlandf@grm.net	641-773-5229	Wayne-Ringgold-Decatur County Sanitary Landfill		\$ 56.00	No							
Mark Beck	Director	Waste Authority of Jackson County	Bi-State	markb@wasteauthority.org	563-652-5658	Out of State		\$49.00 MSW & \$59.00 C&D	No							
Bret Bienemann	Landfill Manager	Bremer Co. Landfill & RCC	Iowa Northland Regional Council	bbienemann@co.bremer.ia.us	319-352-4574	Black Hawk County Sanitary Landfill	We accept household hazardous waste from Bremer County	\$ 71.00	No							
Marcia Beeler	Manager	solid waste	South Central Iowa Landfill	scilamab@aol.com	515-462-3083	South Central Iowa Sanitary Landfill		\$ 24.00	No							
Ben Kvigne	Environmental Planner	Comprehensive Solid Waste Management Planning Area	INRCOG	bkvigne@inrcog.org	319-235-0311	Black Hawk County Sanitary Landfill		\$ 34.25	No							
Mitzi Brunsvold	Education Coordinator	Landfill of North Iowa	Landfill of North Iowa	education@landfillnorthiowa.org	641-357-5452 x12	Landfill of North Iowa		\$1.00/commerical & trailers, \$15.00 sm vehicles	No							
Amy Schultes	Manager	Prairie Solid Waste	Prairie Solid Waste	recycle@iowatelecom.net	641-347-5022	Metro Park East Sanitary Landfill		\$ 65.00	No							

What is your tipping fee per ton of special materials (e.g. scrap metal & C&D)	Please list all end-markets for household recyclables	Please list all end-markets for mulch or compost	Please list all end-markets for special materials (e.g. scrap metal & C&D)	What is your gross revenue per year from the sale of household recycling, if applicable?)	What is your gross revenue per year from the sale of mulch or compost, if applicable?	What is your gross revenue per year from the sale of special materials (e.g. scrap metal & C&D), if applicable?	How is the revenue from the sale of recycled materials distributed?	How is your household recycling collected (please note all that apply)?	How is your household recycling processed?	Do you pay a hauler to transport your material to an end market?	If yes, what is the rate (per ton or per pull, etc).	Please list all facilities in your planning/service area that accept household recycling and note their location if possible.	Please list all of the facilities in your planning/service area that accept yard waste and note their location if possible.	Please list all facilities in your planning/service area that accept special materials (e.g. scrap metal & C&D) and note their location(s) if possible.	Please select existing types of recycling education and outreach for your planning area/service area. Note all that apply.	How are recycling education and outreach efforts funded?
	Republic (City Carton)			zero)			no revenue. currently costs about \$30/ton to process.	Drop Off	Shipped loose	Yes	\$75/hr for the 15 cy containers \$90/hr for the 20 cy containers				Flyers, posters	rural property tax
If meets requirements: Rubble - free; Shingles - \$15; metal - same as tip fee	Not applicable	Sell to wholesalers (compost only)	Rubble used for road base at landfill; shingles asphalt companies	Not applicable)	Not applicable	Not applicable	We get a percentage of the sale from the processing contractor.	Single Stream, Curbside, Drop Off	Contract to a company	Yes	We don't pay, the processing contractor pays for this.				Special Events, Bill Inserts, Radio Ads, Television Ads, Flyers, Posters, Social media, Press releases, Grants to communities for education and outreach	Annual budget
0	MDK, Inc., broker	spread on the landfill	Scrap metal dealers	\$ 16,000.00	1400	\$1000 plus	It is used for general operations.	Sorted, Curbside, Drop Off	We use Horizontal and Vertical baler.	No					Flyers	Through tipping fees and recycling revenue.
Scrap Metal is sold to Alter Scrap for Market Value	Co. Bluffs Recycling Center	N/A	Scrap Metal sold to Alter Scrap	None - We pay \$2	N/A	Scrap Metal sold =	Scrap metal revenue is put into General Fund	Drop Off	Shipped loose	No					Print Ads, Flyers, Grants to communities for education & outreach	By Retained Fees "Savings" Account
	MDK, City Carton			\$ 160,000.00			Operation expense	Single Stream, Curbside, Drop Off	Horizontal baler	No					Print Ads, Flyers, Social Media	In house
\$20/ton Scrap Metal; \$10/Appliance; \$250/ton Tires; \$2/Battery	Sell to qualified bidders	given away and used on-site	Sell Scrap to Alter's	\$ 200,000.00	0	not available	Offsets cost to collect and process.	Sorted, Curbside, Drop Off	We use a horizontal baler for OCC, bimetals, and office paper. We loose load mixed residential paper. We granulate plastics #1,2 and 5 sorted by color.	No					Special Events, Radio Ads, Print Ads, Flyers, Social Media, Press Releases	Comes out of the per household fee.

What is your tipping fee per ton of special materials (e.g. scrap metal & C&D)	Please list all end-markets for household recyclables	Please list all end-markets for mulch or compost	Please list all end-markets for special materials (e.g. scrap metal & C&D)	What is your gross revenue per year from the sale of household recycling, if applicable?)	What is your gross revenue per year from the sale of mulch or compost, if applicable?	What is your gross revenue per year from the sale of special materials (e.g. scrap metal & C&D), if applicable?	How is the revenue from the sale of recycled materials distributed?	How is your household recycling collected (please note all that apply)?	How is your household recycling processed?	Do you pay a hauler to transport your material to an end market?	If yes, what is the rate (per ton or per pull, etc).	Please list all facilities in your planning/service area that accept household recycling and note their location if possible.	Please list all of the facilities in your planning/service area that accept yard waste and note their location if possible.	Please list all facilities in your planning/service area that accept special materials (e.g. scrap metal & C&D) and note their location(s) if possible.	Please select existing types of recycling education and outreach for your planning area/service area. Note all that apply.	How are recycling education and outreach efforts funded?
			UBC, glass and PET			not very damm mu	if there is anything left we put it into our financial institution	Drop Off	Vertical baler	Yes	private				Special Events, Radio Ads, Print Ads, Public Service Announcements, Social Media, Press Releases	tipping fees
43	plastic lumber, insulation, new steel, paper	none	scrap yard	\$ 430,000.00	none	2000	Used to operate the recycling center	Sorted	Horizontal baler	No					Special Events, Bill Inserts, Radio Ads, Print Ads, Flyers, Posters	through operating budget - tipping fees
scrap \$0/C&D \$50.00	Carroll Co. Recycling Facility	Old landfill soil enhancement	scrap to scrap yard/C&D to Carroll Co Landfill	\$ - 0		scrap(\$10,000-20,000)	Just to general fund account	Sorted, Curbside, Drop Off	Shipped loose	Yes	\$296/pull				Print Ads, Press Releases	General budget item
scrap - 0	Midwest disposal	self	Tomorrows resources	\$ - 0		2000-5000	n/a	Single Stream	Shipped loose	Yes	Midwest - single stream 25/ton				Special Events, Bill Inserts, Radio Ads, Print Ads, Flyers, Posters, Public Service Announcements, Press Releases	by tipping fees
metal free C&D 85/ton	WM recycling	none	China	Loss year over year	none	break even	We use the recycling fund to bring single sort curb side recycling to all comp plan members	Single Stream	Shipped loose	Yes	10/ton				Special Events, Bill Inserts, Radio Ads, Print Ads, Direct Mail, Flyers, Social Media, Press Releases	Recycling fund
No charge	recycler market price	On site beneficial use	Sold to local scrap metal dealer	None)	None		Stays in Landfill funds.	Single Stream, Curbside, Drop Off	Shipped loose	Yes					Special Events, Print Ads, Direct Mail, Flyers, Social Media, Press Releases	Recycling reserve & landfill funds
appliances (\$12.50), brown goods (\$2, \$10 or \$15), tires (\$0.07/lb); shingles (\$30/ton)	Republic Services in Iowa City (formerly City Carton)	sell to public and contractors	contractors: Peterson's Iron and Metal; Midwest Electronics Recovery; Liberty Tire Recycling; LL Pelling (shingles)	\$7,750 (drop-off o	60000	scrap metal (depend	Few programs covers costs. The ones that do subsidize other programs.	Sorted, Curbside, Drop Off	Shipped loose	Yes	We drop it loose at Republic Services as part of our contract; they handle it from there.				Special Events, Bill Inserts, Radio Ads, Print Ads, Direct Mail, Flyers, Posters, Social Media, Press Releases, partnerships with multiple City departments/divisions, other agencies such as Johnson County and organizations such as 100 Grannies, Backyard Abundance and Take a Kid Outdoors	landfill tipping fees and the solid waste surcharge
50	City Carton, Cedar Rapids		for metal-A-line Iron and Metal	\$ 12,000.00		NA	Put in general operating fund	Single Stream	Shipped loose	Yes	\$185 per pull for most				Special Events, Flyers, Posters, Social Media	Through retainer for ECICOG
scrap - 0 asphalt shingles - \$28 ton	sold to other recycling companies	on site use	scrap - metal recycling shingles - road base	\$ 25,000.00 0		Scrap - \$1,200	Put in general account	Single Stream, Curbside, Drop Off	Horizontal baler	No					Special Events, Bill Inserts	general fund
No charge for scrap metal, C&D is 14.50 per Cu yd	A recycling processor in Lemars Iowa	This product is offered free for the taking to residents and businesses	Local metal processor	\$ 2,900.00	-20000	14000	NA	Single Stream, Curbside, Drop Off	Shipped loose	No					Radio Ads, Print Ads, Flyers, We are in the process of adding an educator for the planning area to enhance our outreach.	Landfill retained fees
0	midwest electronics	landfill	A-line	\$ - 0		4000	0	Drop Off	Shipped loose	Yes						

What is your tipping fee per ton of special materials (e.g. scrap metal & C&D)	Please list all end-markets for household recyclables	Please list all end-markets for mulch or compost	Please list all end-markets for special materials (e.g. scrap metal & C&D)	What is your gross revenue per year from the sale of household recycling, if applicable?)	What is your gross revenue per year from the sale of mulch or compost, if applicable?	What is your gross revenue per year from the sale of special materials (e.g. scrap metal & C&D), if applicable?	How is the revenue from the sale of recycled materials distributed?	How is your household recycling collected (please note all that apply)?	How is your household recycling processed?	Do you pay a hauler to transport your material to an end market?	If yes, what is the rate (per ton or per pull, etc).	Please list all facilities in your planning/service area that accept household recycling and note their location if possible.	Please list all of the facilities in your planning/service area that accept yard waste and note their location if possible.	Please list all facilities in your planning/service area that accept special materials (e.g. scrap metal & C&D) and note their location(s) if possible.	Please select existing types of recycling education and outreach for your planning area/service area. Note all that apply.	How are recycling education and outreach efforts funded?
41	Jendro Sanitation		landfilled	n/a)	n/a	n/a	We don't sell any recycled materials. We actually pay to have a recycle bin at our facility for customers.	Drop Off	Shipped loose	Yes	\$65.00 every time we get an empty dumpster				Radio Ads, Social Media	some grants some self funded
31	handled for us by Genesis Development	used on site	Pickett's Salvage takes scrap metal	no revenue)	? We offer 6 weeks	3500	We have no revenue for recycling except the scrap metal. It goes back into landfill operations.	Single Stream	Horizontal baler	No					Special Events, Radio Ads, Print Ads, Social Media	Landfill funds
same	n/a	n/a	n/a	n/a)	n/a	n/a	n/a	Drop Off	Shipped loose	No					Print Ads	n/a
Scrap Metal \$0. The Landfill charges \$57 for C&D	I'm not sure I know what you want here	Our Landfill is going to use the mulch internally. Chamness grinds the wood waste.	Alter for metal. We don't do C&D	We don't separate	Wood is an expense	This varies greatly	Our Landfill and Recycling Center and all of the services we offer, like sharps disposal, and five tires free are funded by Landfill Tipping Fees and the sale of recyclable material. The money from the sale goes in the Solid Waste Fund.	Sorted, Curbside, Drop Off	Horizontal baler	No					Special Events, Bill Inserts, Radio Ads, Print Ads, Direct Mail, Flyers, Posters, Public Service Announcements, Social Media, Press Releases. We've only did TV ads once. Sometimes we get coverage from our local TV Station. Ottumwa has a Government Access Channel that has education on it. The City of Ottumwa has a website, and we have a solid waste website.	From our Solid Waste Fund.
51	brokered out	landfill	metal to scrap yard & C&D to landfill	\$ 88,312.00	0	291800	Household Recycling goes towards recycling employees payroll	Sorted, Curbside, Drop Off	Horizontal baler	No					Special Events, Press Releases	through recycling income and county assessments
\$30.00 Clean Shingles	Republic Services	Black Hawk County Landfill	Alters Metal	\$ 46,000.00	0	33000	It goes back into the Refuse budget	Drop Off	Horizontal baler	No					Special Events, Social Media, Press Releases, Website	Refuse Budget
50	Spot market to brokers	retail and wholesale customers (bulk only)	Alter, concrete recyclers, grind lumber on site, shingles to recycling	\$ 250,000.00	100000	75000	The revenue is used to fund facility operations.	Sorted, Curbside, Drop Off	Horizontal baler	Yes	All materials are sold FOB our dock.				Special Events, Bill Inserts, Print Ads, Direct Mail, Flyers, Social Media, Press Releases	Revenues from operations and curbside household fees.
15	Processor does this	On site erosion control	On site road base fill	\$ -	0	0	Its not the processor keeps the funds. Pay a tipping fee	Single Stream, Curbside, Drop Off	Shipped loose	No					Special Events, Bill Inserts, Print Ads, Flyers, Posters, Social Media, Press Releases, Grants to communities for education and outreach	Landfill tipping fees
Metal free/recyclable wood \$41/c&d \$55	Broker to mills	Residents	Grind wood for fuel-bid out	With labor \$0)	0		Used for operations-typically there is no revenue.	Single Stream, Curbside, Drop Off	Horizontal baler	No					Special Events, Bill Inserts, Radio Ads, Print Ads, Direct Mail, Flyers, Public Service Announcements, Press Releases	Tipping fees
100	CB handles this for us					scrap metal 10k	NA	Single Stream	Shipped loose	No					None as of yet	we are looking in to this

What is your tipping fee per ton of special materials (e.g. scrap metal & C&D)	Please list all end-markets for household recyclables	Please list all end-markets for mulch or compost	Please list all end-markets for special materials (e.g. scrap metal & C&D)	What is your gross revenue per year from the sale of household recycling, if applicable?)	What is your gross revenue per year from the sale of mulch or compost, if applicable?	What is your gross revenue per year from the sale of special materials (e.g. scrap metal & C&D), if applicable?	How is the revenue from the sale of recycled materials distributed?	How is your household recycling collected (please note all that apply)?	How is your household recycling processed?	Do you pay a hauler to transport your material to an end market?	If yes, what is the rate (per ton or per pull, etc).	Please list all facilities in your planning/service area that accept household recycling and note their location if possible.	Please list all of the facilities in your planning/service area that accept yard waste and note their location if possible.	Please list all facilities in your planning/service area that accept special materials (e.g. scrap metal & C&D) and note their location(s) if possible.	Please select existing types of recycling education and outreach for your planning area/service area. Note all that apply.	How are recycling education and outreach efforts funded?
not accepted as recycling	Waste Management Recycling Centers	N/A	N/A	\$ -	N/A	N/A	N/A	Curbside, Drop Off	Shipped loose	No					Print Ads, Flyers	Operating Fund
None	International Paper, Clarion Packaging, Greenline Polymers, Midland Davis, Republic Services	N/A	Clayton County Recycling (Auto Shredder), Behr Iron and Metal	\$ 250,000.00	N/A	20000	Goes into the Winneshiek County General Fund	Sorted, Curbside, Drop Off	Horizontal baler	No					Special Events, Radio Ads, Print Ads, Direct Mail, Public Service Announcements, Social Media, Press Releases, Grants to communities for education and outreach. Also do over 100 tours and/or school visits each year	Thru the recycling education line item in the budget
												Jims Trash Lamon, Midwest Sanitation Corydon, City of Humeston, City of Mount Ayr	Wayne County, Corydon, Decatur County, Leon, Ringgold County, Mt. Ayr	WRD Landfill, Grand River	Print Ads, Press Releases, Grants to communities for education and outreach	Grants
												DAC, Maquoketa Iowa	Each town is responsible for their own yard waste program	BG Salvage-Scrap metal, Maquoketa Jackson County Transfer Station...C&D 25146 184th St. Maquoketa, IA	Tipping Fees	Tipping fees
												Cities of Waverly, Denver, Sumner, Readlyn, Plainfield	Cities of Waverly, Denver, Readlyn, Sumner, Plainfield	Bremer Co Landfill	Special Events, Flyers, Posters, Social Media, Bremer Co. Conservation does a lot school programs and community club programs.	Through Recycling Reimbursements
												Earlham City Hall Warren County Courthouse SCLA Landfill	Landfill City of Indianola	Landfill		
												City of Cedar Falls Recycling Center 1500 State Street Cedar Falls, Iowa 50613 Contact Person: Brian Heath, Public Works Manager 319-273-8629 brian.heath@cedarfalls.com Cedar Valley Recycling** 1920 Water Street Waterloo, Iowa 50703 Contact Person: Blane Benham, General Manager 319-232-4150 blane@blackhawkwaste.com Fayette County Recycling Center 18525 Lane Road Fayette, Iowa 52142 Contact	Black Hawk County Sanitary Landfill 1509 East Washburn Road Waterloo, IA 50701 319-296-2524 Most of the cities in my planning area take yard waste from their residents. The landfill takes from everyone in the planning area.	City of Cedar Falls Recycling Center 1500 State Street Cedar Falls, Iowa 50613 Contact Person: Brian Heath, Public Works Manager 319-273-8629 brian.heath@cedarfalls.com Accepts for recycling: shingles, glass, Styrofoam (EPS), appliances, e-waste. A-line Iron and Metals 1500 David Street Waterloo, IA 50703 319-233-7310 Recycles: all metals including appliance, electronics Toumier's	Special Events, Flyers, Social Media, Waste Trac utilizes Billboards to promote the Spring and Fall Drop-off events	Solid Waste Commission
												LNI currently only takes cardboard for recycling and will be implementing commodity recycling this spring with the addition of 1 bin	LNI collects yard waste at this site.	LNI collects scrap metal at it's site	Special Events, Bill Inserts, Radio Ads, Print Ads, Flyers, Posters, Social Media, Grants to communities for education and outreach.	It is funded through LNI's annual budget
												Waste Management - Creston	Each city has their own yard waste	none	Special Events - Waste Management owns the recycling center so we don't do much advertising in our area.	none

ATTACHMENT 3
FACILITIES DATA COLLECTION

Facility	County	Planning Area	Type of Facility	Facility Type Details (map legend)	Material Types	Where does recycling come from (if recyclables come from areas other than just the county that the facility is in)?	Where does recycled material go to if not sold directly to market?
Adair County Transfer Station	Adair	Adair	Transfer Station	Transfer Station or Recycling Facility that accepts and processes source-separated recyclables. Facility earns revenue from end users or brokers.	Mixed paper, clear glass, cardboard, plastic 1-7, newspaper, metal, tires, shingles	Adair County - drop off and curbside	City Carton Primarily
Allamakee County CCC	Allamakee	Allamakee	Citizen Convenience Center	Transfer Station or Recycling Facility that accepts and processes source-separated recyclables. Facility earns revenue from end users or brokers.	Plastic #1-2, office paper, newsprint (no magazines/glossy paper), OCC, aluminum and tin cans, cardboard, eggcartons, glass bottles - separates and bales (plastic, aluminum, tin) and sells it to Winneshiek County Recycling, paper/fiber - given loose to Town and Country Sanitation in Wisconsin		
City of Davenport Sludge Composting Facility	Scott	Bi-State	Composting Facility	Compost Facility			
Greystone	Scott	Bi-State	End User	End User	Produce 100% recycled plastic pallets, purchase HDPE scrap, pellets, purchings, dust, shavings and parts. Periodically sell some excess pelletized Santoprene, HDPE and comingled-baled scrap TPU and ABS car bumpers		
City of Muscatine Xfr Stn, Recyc. Ctr & HHM Collection Ctr. Republic Recycling located at TS (Formerly City Carton)	Muscatine	Bi-State	Transfer Station & Recycling Center	Private MRF	Private MRF (City Carton/Republic) is part of Transfer Station. Plastic 1-7, mixed paper, OCC, chip board, aluminum cans and foil, tin, glass		
Cedar Poly, LLC	Cedar	Bi-State	Recycling Processor	Private MRF	Primarily plastics. After buying commercial recycling material, they sort, grind, and sometimes wash/dry/pelletize it into reusable material for manufacturers all over the United States. Also offer sorting, baling, confidential shredding, and mill direct brokerage services for all types of fiber material. Also purchase metals	Commercial sector, not municipalities	
North Cedar Recycling (private)	Cedar	Bi-State	Recycling Processor	Private MRF	All fibers, little plastic and metal	Commercial sector, not municipalities	
Republic (City Carton).	Scott	Bi-State	Recycling Processor	Private MRF			
Scott Area Sanitary Landfill	Scott	Bi-State	Municipal Landfill	Transfer Station or Disposal Site that only accepts municipal solid waste (MSW) (may have minimal recycling per state mandates that yard waste, electronics, appliances and tires be separated from all other MSW).			
Muscatine County Sanitary Landfill	Muscatine	Bi-State	Municipal Landfill	Transfer Station or Disposal Site that only accepts municipal solid waste (MSW) (may have minimal recycling per state mandates that yard waste, electronics, appliances and tires be separated from all other MSW).	Accepts HHW as well also from Louisa County residents. Not open to the public		
Cedar County Transfer Station	Cedar	Bi-State	Transfer Station	Transfer Station or Recycling Facility that accepts comingled recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	Accepts all household recycling from rural residents (plastic 1-7), no glass. They pay Waste Management to haul a 40 yard compacter of loose material to Cedar Rapids for processing		

Facility	County	Annual MSW tons	Tons Household recycling processed per year	City	Address	Curbside Recycling (1=yes)	County	Planning Area	Contact	Received Survey	Completed Survey	Email	Phone
Adair County Transfer Station	Adair	4,739		Greenfield		1	Adair	Adair	Frisbie Delmar - Adair Cty Sanit. Landfill comm	yes	no	aclr@wildblue.net	641-743-0133
Allamakee County CCC	Allamakee			Waukon (Same as Rural Recycling Center?)		1	Allamakee	Allamakee	Dave Mooney - Allamakee county SWM Agency	yes	no	aswd@acskyways.com	(563) 568-4806
City of Davenport Sludge Composting Facility	Scott			Davenport		1	Scott	Bi-State					
Greystone	Scott			Bettendorf	2601 Shoreline Drive		Scott	Bi-State	Ron Schelhaas, Plant Manager			rschelhaas@greystonelogistics.com	563-343-4583
City of Muscatine Xfr Stn, Recyc. Ctr & HHM Collection Ctr. Republic Recycling located at TS (Formerly City Carton)	Muscatine			MUSCATINE	1000 S Houser St	1	Muscatine	Bi-State	Laura Liegois	yes		lliegois@muscatineiowa.gov	(563) 263-9689
Cedar Poly, LLC	Cedar			Tipton	200 Commerce Blvd		Cedar	Bi-State	Scott Rogers				563-886-2811
North Cedar Recycling (private)	Cedar			Stanwood	1147 US Hwy 30		Cedar	Bi-State	Scott & Dennis Rogers			northcedar123@aol.com	
Republic (City Carton).	Scott			Davenport	4002 Kimmel Dr		Scott	Bi-State					
Scott Area Sanitary Landfill	Scott	142,049		Buffalo		1	Scott	Bi-State	Kathy Morris	yes	yes - Incomplete	kmorris@wastecom.com	(563) 381-1300
Muscatine County Sanitary Landfill	Muscatine	38,939		MUSCATINE		1	Muscatine	Bi-State	Laura Liegois	yes	yes - Incomplete	lliegois@muscatineiowa.gov	(563) 263-9689
Cedar County Transfer Station	Cedar			TIPTON	1202 240th Street	1	Cedar	Bi-State	Gary Crock	yes		ccswc@netins.net	563-886-6437

Facility	County	Planning Area	Type of Facility	Facility Type Details (map legend)	Material Types	Where does recycling come from (if recyclables come from areas other than just the county that the facility is in)?	Where does recycled material go to if not sold directly to market?
Waste Authority of Jackson County Transfer Station	Jackson	Bi-State	Transfer Station & Recycling Center	Transfer Station or Recycling Facility that accepts commingled recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	Drop off recyclable materials (5 drop off locations in county accept unbroken container glass, plastic containers, paper & cardboard products, aluminum & tin cans, and scrap aluminum & steel), materials of hazardous waste (household cleaners, home improvement, pesticides, automotive, etc.) and sharps disposal (needles, syringes, lancets, or self-administering medicinal pens in a secure closed container), motor oil, car and household batteries, tires, ink cartridges. Recognize there are other people wanting their material so DAC annual rate recently decreased by \$20k. Give DAC an average of about 2005 tons of material per year of recyclables. Noted DAC is an expensive single stream as it is not automated.	Rural parts of the county. Towns have curbside.	sends material to DAC who processes it. They pay DAC a subsidy to run the program \$50k per year. The county picks up rural bins and takes to DAC.
Scott Area Recycling Center	Scott	Bi-State	Recycling Center	Transfer Station or Recycling Facility that accepts and processes single stream (or " commingled ") recyclables. Facility earns revenue from end users or brokers.	Plastic 1-2, mp, OCC, aluminum cans and foil and tin, grey board, glass. Scott Area Recycling Center receives & processes all of the residentially generated recyclables from Scott County communities. Materials are hand-sorted, baled or crushed and marketed from this location. Annually, the facility processes nearly 10,000 tons of material		
City of Wilton Citizen Convenience Center	Muscatine	Bi-State	Citizen Convenience Center	Transfer Station or Recycling Facility that accepts and processes single stream (or " commingled ") recyclables. Facility earns revenue from end users or brokers.	Plastic bottles & jugs 1-7: remove caps, lids or rings, rinse out with water, Newspaper: tie with string or place in bags, Cardboard: flatten cartons or use a large box to hold cardboard, yard waste and brush. Hand sorted single stream	Just City Limits	They hand sort and make bales of OCC, paper and plastic and sell to market directly. Aluminum and tin are sent loose to local scrap recycler that pays them for the material
Clinton County Sanitary Landfill (East Site)	Clinton	Bi-State	Municipal Landfill & Recycling Center	Transfer Station or Recycling Facility that accepts and processes source-separated recyclables. Facility earns revenue from end users or brokers.	Bring your plastic food containers #1 - #7, tin cans (no labels), glass food jars, aluminum foil, pans, e-waste, newspapers, corrugated cardboard (3' x 3'), cereal boxes, shoe boxes, tissue boxes, frozen food boxes, soda boxes, magazines, and more to Clinton County Area Solid Waste Agency. Clinton Chips - composted, woody, landscape residuals for both landscape and erosion control mulching - are now available for only \$5 per ton		
DAC Inc	Jackson	Bi-State	Recycling Processor	Transfer Station or Recycling Facility that accepts and processes source-separated recyclables. Facility earns revenue from end users or brokers.	Apparel (clothing and shoes), glass, aluminum and tin, plastic 1-7, mp and cardboard. Glass at drop off only not in curbside. Program for adults with developmental disabilities. Source separated material pre-sorted, hand sorted with conveyors. Single stream do separately. NO magnets but hand sorted on conveyors.	Private haulers bring everything to them from curbside programs in county and cities and towns bring it to them, all separated except one hauler brings in single stream. 24 hour sorted drop off and haul into plant during business hours	
Buena Vista County Transfer Station	Buena Vista	Buena Vista	Transfer Station	Transfer Station or Recycling Facility that accepts and processes single stream (or " commingled ") recyclables. Facility earns revenue from end users or brokers.	Accepts all mixed paper, OCC, aluminum and tin cans, plastic 1-7, batteries, tires, yard waste for composting, motor and cooking oil, scrap metal, C&D. Hand sorted	All of Buena Vista County and Pocahontas County rural areas (source separated)	
Cass County Sanitary Landfill	Cass	Cass Cty	Municipal Landfill & Recycling Center	Disposal Site that includes a Recycling Facility that accepts and processes recyclables. Facility earns revenue from end users or brokers.	Plastic 1-7, aluminum and tin cans, glass, mixed paper, OCC, books - Source Separated. Bale solid waste before landfilling it		play the market
Worth County Recycle Center CCC	Worth	Central Disposal Systems	Citizen Convenience Center	Transfer Station or Recycling Facility that accepts commingled recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	Glass, plastic 1-7, aluminum and tin, mixed paper and cardboard, no yard waste. Containers on site that they fill up and call to be hauled when full to a facility in Cerro Gordo County. Worth County pays WM a fee for hauling and get rebates for material (very low this year with low market prices)	Rural residents only, town people not allowed to as that is curbside (tires, TVs, used oil and scrap metal anyone can bring)	Facility in Cerro Gordo County

Facility	County	Annual MSW tons	Tons Household recycling processed per year	City	Address	Curbside Recycling (1=yes)	County	Planning Area	Contact	Received Survey	Completed Survey	Email	Phone
Waste Authority of Jackson County Transfer Station	Jackson		Currently cooperative efforts between DAC Inc. and the County divert approximately 2000 tons of recyclable material from the waste stream each year.	ANDREW		1	Jackson	Bi-State	Mark Beck	yes	yes	markb@wasteauthority.org	(563) 652-5658 x3
Scott Area Recycling Center	Scott			Buffalo	5640 Carey Avenue	1	Scott	Bi-State					
City of Wilton Citizen Convenience Center	Muscatine			Wilton		1	Muscatine	Bi-State					
Clinton County Sanitary Landfill (East Site)	Clinton	56,924		Clinton	4292 220th St.	1	Clinton	Bi-State	Brad Seward	yes		ccaswa@gmtel.net	(563) 243-4749 or(563) 242-5320
DAC Inc	Jackson		1450	Maquoketa	1710 E Maple Street		Jackson	Bi-State	Matt Otting			motting@dacincorp.com	563-652-5252 x1113
Buena Vista County Transfer Station	Buena Vista	14,442		STORM LAKE		1	Buena Vista	Buena Vista	Lori Dicks	yes	yes	bvcorecycle@evertek.net	712-732-7171
Cass County Sanitary Landfill	Cass	8,720		Atlantic		1	Cass	Cass Cty	Wendy Wittrock	yes		casscountylandfill@gmail.com	(712) 243-1991
Worth County Recycle Center CCC	Worth			Kensett		1	Worth	Central Disposal Systems		No			(641) 845-2200

Facility	County	Planning Area	Type of Facility	Facility Type Details (map legend)	Material Types	Where does recycling come from (if recyclables come from areas other than just the county that the facility is in)?	Where does recycled material go to if not sold directly to market?
Central Disposal Landfill - owned by Waste Management	Winnebago	Central Disposal Systems, Winnebago landfill - NO 28E agreement with planning area members - WM Owned landfill.	Municipal Landfill & Recycling	Disposal Site that accepts household recyclables. Facility does not earn revenue from recyclables.	C&D, tires, scrap metal, electronics, yard waste, chip board, OCC, plastic 1-7, tin cans, aluminum cans, mixed paper. Loose single stream taken to WM Facility in Minnesota for processing. Comingled drop off bins at landfill as well (utilized by Minnesota residents as well). Story county takes material to Ames WTE - sort a bit out and they get their fluff	Provides single sort curbside recycling for all planning area cities and rural residents	Waste Management facility in Minnesota for processing
Metro Park West Landfill (Formerly North Dallas)	Boone	Central IA SWMA	Municipal Landfill	Disposal Site that accepts household recyclables. Facility does not earn revenue from recyclables.	Source separated - Metal Cans, Clear Glass Bottles and Jars, Plastics Containers (#1 and #2 only), Newspaper (including advertisements), Mixed Paper, Junk Mail, Phone Books, Brown Paper Bags, Office Paper, Tissue Boxes, Cereal Boxes, Stationary, Magazines, Shredded Paper, Food cartons, Corrugated Cardboard (except pizza boxes), Cardboard (includes any non corrugated cardboard-like material such as tissue or cereal boxes.)	Service Area	Private contractor takes it away for them
Genesis Development	Greene	Central IA SWMA	Recycling Center	Private MRF	Dual Stream system - containers in one and fibers in the 2nd stream. Operated by developmentally challenged adults. Accepts - Metal Cans, Clear Glass Bottles and Jars, Plastics Containers 1-5, Newspaper (including advertisements), Mixed Paper, Junk Mail, Phone Books, Brown Paper Bags, Office Paper, Tissue Boxes, Cereal Boxes, Stationary, Magazines, Shredded Paper, Food cartons, Corrugated Cardboard (except pizza boxes), Cardboard (includes any non corrugated cardboard-like material such as tissue or cereal boxes.)	Greene County - City Brings it to them, drop off collection bins	
Boone County Sanitary Landfill	Boone	Central IA SWMA	Municipal Landfill	Transfer Station or Disposal Site that only accepts municipal solid waste (MSW) (may have minimal recycling per state mandates that yard waste, electronics, appliances and tires be separated from all other MSW).	No recycling at landfill		
Boone County Recycling Center	Boone	Central IA SWMA	Recycling Center	Transfer Station or Recycling Facility that accepts and processes single stream (or "comingled") recyclables. Facility earns revenue from end users or brokers.	Metal Cans, Clear Glass Bottles and Jars, Plastics Containers (#1 and #2 only), Newspaper (including advertisements), Mixed Paper, Junk Mail, Phone Books, Brown Paper Bags, Office Paper, Tissue Boxes, Cereal Boxes, Stationary, Magazines, Shredded Paper, Corrugated Cardboard (except pizza boxes), Cardboard (includes any non corrugated cardboard-like material such as tissue or cereal boxes.) Could take more recycling. Boone County purchased land in northwest Boone on which a new recycling center to be constructed starting FY2015.	Boone County's curbside - haulers bring it to them, also have a 24 hour drop off. They get "fluff" fiber from Story County's WTE plant	
City of Ames Resource Recovery Plant	Story	Central IA SWMA	Refuse Derived Fuel (RDF) The RDF is mixed with coal in a ratio of 10% RDF to 90% coal at the adjacent City of Ames electricity generating facility	WTE Plant	Before incineration they sort out ferrous and nonferrous metals and sell them loose. The facility also handles appliances, scrap metal, waste oil, tires, household hazardous waste, leadacid batteries and glass. Items removed prior to shredding are tires, appliances, propane tanks, furniture and mattresses. Everything else goes into the primary shredder and is reduced to the size of a football; ferrous metals are removed after the first shred, and then everything is shredded again, reducing the size to about that of a golf ball. Material is then air classified (rejects or refuse-derived fuel or RDF); RDF is conveyed to the power plant and rejects then go through our non-ferrous metal capture system. After non-ferrous has been gleaned from the waste, the rejects are then hauled to Boone County Landfill for disposal.	Story County (with the exception of Collins, Colo, and Sheldahl) are participants. Residents pay a per capita fee to participate (currently \$9.10 per residence per year).	

Facility	County	Annual MSW tons	Tons Household recycling processed per year	City	Address	Curbside Recycling (1=yes)	County	Planning Area	Contact	Received Survey	Completed Survey	Email	Phone
Central Disposal Landfill - owned by Waste Management	Winnebago	74,446	200	Lake Mills		1	Winnebago	Central Disposal Systems, Winnebago landfill - NO 28E agreement with planning area members - WM Owned landfill.	Lou Lorenson	yes	yes	llorenso@wm.com	(641) 592-9182, 641-590-6448
Metro Park West Landfill (Formerly North Dallas)	Boone	24,900		PERRY		1	Boone	Central IA SWMA					(515) 244-0021
Genesis Development	Greene			Jefferson			Greene	Central IA SWMA					
Boone County Sanitary Landfill	Boone	71,840		Boone		1	Boone	Central IA SWMA	Lois Powers	yes		loisp@boonecounty.iowa.gov	515-433-0591
Boone County Recycling Center	Boone			Boone	1109 Division Street in northwest Boone		Boone	Central IA SWMA	Lois Powers	yes		loisp@boonecounty.iowa.gov	515-433-0591
City of Ames Resource Recovery Plant	Story	Receives 54000 tons anually, 35,000 tons converted to refuse derived fuel, 15,000 waste goes to Boone County Landfill as trash		Ames			Story	Central IA SWMA	Bill Schmidt	yes		rrp@city.ames.ia.us	(515) 239-5238

Facility	County	Planning Area	Type of Facility	Facility Type Details (map legend)	Material Types	Where does recycling come from (if recyclables come from areas other than just the county that the facility is in)?	Where does recycled material go to if not sold directly to market?
Cherokee County Sanitary Landfill	Cherokee	Cherokee Ida	Municipal Landfill & Recycling Center	Disposal Site that accepts household recyclables. Facility does not earn revenue from recyclables.	Accepts mixed paper, OCC, chipboard, tin and aluminum cans, plastic 1-7, asphalt shingles, electronics and fluorescent light bulbs. Vans gets all their comingled but some local groups collect fiber. Comingled shipped loose to Vans. They pay these groups \$40/ton for fiber and then bale and sell this as a MP load about 1x per month. Asphalt shingles are collected, ground and used onsite with gravel for parking lots, etc. Aprox 300 tons a year		Vans Recycling
Ida County Citizen Convenience Center	Ida	Cherokee Ida	Citizen Convenience Center	Transfer Station or Recycling Facility that accepts comingled recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	<ul style="list-style-type: none"> • "Triple stream" – paper, OCC and plastics, tin and aluminum. Private Hauler operates convenience center only open Sat am for rural areas only. Cities have to have curbside. Recycling center is shared bldg. with CCC. • Residents sort at the curb into above 3 categories and hauling collection operators help to ensure it's so. Sends items loose to market and is paid a small fee for materials (fee doesn't cover transportation) • Vans is his competitor 		Gets paid to send them loose to market - depends on who is paying highest rate
Des Moines County Regional Sanitary Landfill	Des Moines	Des Moines County	Municipal Landfill	Transfer Station or Disposal Site that only accepts municipal solid waste (MSW) (may have minimal recycling per state mandates that yard waste, electronics, appliances and tires be separated from all other MSW).			
Area Recycler (Des Moines County Recycling Center)	Des Moines	Des Moines County	Recycling Processor	Transfer Station or Recycling Facility that accepts and processes source-separated recyclables. Facility earns revenue from end users or brokers.	The Area Recyclers facility receives and processes approximately 3,000 tons of recyclable materials each year. This includes materials collected curbside and at the public drop-offs located throughout Des Moines County. Appliances are also accepted at Area Recyclers for a fee of \$10 each. Plastic 1,2 & 5, Al and Sn, OCC, MP, newspaper, glass. Give a rebate for haulers to bring their OCC to them. They granulate their sorted plastic for higher value, sort line for plastics. tires, electronics, car batteries. • Glass – giveaway to residents as landscaping mulch or use as new cell liner. Had concrete grinder/manufacture put it in their bricks for their landfill building. Have recycled product store on site. • Wood Chips – used to give away but ash beetle stopped this so use on site as mulch. Compost give away free to public. Offers rebates to haulers for OCC to ensure they get the material.	Des Moines county + Mt Pleasant (in Henry Cty), Salem, New London & Morning Sun in Louisa County	
Dickinson Landfill Inc.	Dickinson	Dickinson	Municipal Landfill	Transfer Station or Disposal Site that only accepts municipal solid waste (MSW) (may have minimal recycling per state mandates that yard waste, electronics, appliances and tires be separated from all other MSW).	All recycling handled at Dickinson recycling facility		
Dickinson Recycling Facility	Dickinson	Dickinson	Recycling Processor	Transfer Station or Recycling Facility that accepts source-separated recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	Does not accept residential, household recycling, but accepts the following: Electronics, Waste Tires, Scrap Metal, White Goods, Yard Waste and Household Hazardous Materials (HHMs) from residents of Dickinson County. Process appliances and wood waste themselves, the rest is sent to brokers or end markets for processing. Wood chips and compost given to residents free of charge. Cities in the county have their own curbside or drop off programs individually.		

Facility	County	Annual MSW tons	Tons Household recycling processed per year	City	Address	Curbside Recycling (1=yes)	County	Planning Area	Contact	Received Survey	Completed Survey	Email	Phone
Cherokee County Sanitary Landfill	Cherokee	15,202	300	CHEROKEE		1	Cherokee	Cherokee Ida	Brent Kach	yes	yes	bkach.ccswa@qwestoffice.net	712-225-3749
Ida County Citizen Convenience Center	Ida		800	IDA GROVE		1	Ida	Cherokee Ida	Justin Georg & Joseph Cronin	yes		jgeorg@netllc.net, idacoaud@longlines.com	712-369-1677
Des Moines County Regional Sanitary Landfill	Des Moines	48,324		West Burlington		1	Des Moines	Des Moines County	Hal Morton	yes		hmorton@dmcwaste.org	(319) 753-8126
Area Recycler (Des Moines County Recycling Center)	Des Moines			West Burlington	1818 W. Burlington Ave	1	Des Moines	Des Moines County	Hal Morton	yes	yes	hmorton@dmcwaste.org	(319) 753-8126
Dickinson Landfill Inc.	Dickinson	33,648					Dickinson	Dickinson	Jeff Vassar	yes	yes	JVassar@wm.com	(712) 336-2700
Dickinson Recycling Facility	Dickinson			Milford	2260 220th St		Dickinson	Dickinson	John Walters	yes		jwalters@co.dickinson.ia.us	(712) 338-2549

Facility	County	Planning Area	Type of Facility	Facility Type Details (map legend)	Material Types	Where does recycling come from (if recyclables come from areas other than just the county that the facility is in)?	Where does recycled material go to if not sold directly to market?
Full Circle Organics, LLC - Farley Organic Composting	Dubuque	Dubuque Metropolitan Area Solid Waste Agency	Composting Facility	Compost Facility			
Dubuque Metropolitan Sanitary Landfill	Dubuque	Dubuque Metropolitan Area Solid Waste Agency	Municipal Landfill	Disposal Site that accepts household recyclables. Facility does not earn revenue from recyclables.	Aluminum cans, tin cans, plastic 1-7, mixed paper, cardboard & chipboard for no fee - comingled. Dittmer recycling containers on site so Dittmer processes the material. Landfill also accepts yard debris, electronics, motor oil, cooking oil, tires, lead acid batteries, scrap metal, Construction & Demolition Debris (C&D). Landfill processes their own yard waste, but all other recyclables are collected for others to process, sell, etc	Dubuque urban and county	Only to Dittmer
Dittmer Recycling	Dubuque	Dubuque Metropolitan Area Solid Waste Agency	Recycling Processor - so	Private MRF	Plastics 1-5 + 7, OCC, Mixed paper, chipboard, steel, tin and aluminum cans, Christmas tree lights, aerosol cans, pots and pans	Counties serviced- Jackson, Dubuque, Clayton, Jones, Delaware, Floyd. City of Dubuque and some cities in southern IA. Businesses who pay Dittmer to collect or take their recycling – Jendro, Klesner, Rowling, Waste Management, Republic, Bi-County, (IL-Montgomery, WI - T&C)	Markets: International Paper, GreenLine Polymers, (WI, IL, IN,)
Bi-County Disposal Inc.	Delaware	Dubuque Metropolitan Area Solid Waste Agency	Transfer Station	Transfer Station or Recycling Facility that accepts comingled recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	Comingled - aluminum and tin cans, mixed paper, plastic 1-7 (no styrofoam), cardboard, electronics (fee). Private entity. They are a hauler and do not sort and bale material, but compact it and take it to Dittmer in Dubuque	Delaware & Dubuque Counties	Dittmer in Dubuque
Benton County Sanitary Landfill	Benton	East Central Iowa Council of Governments	Municipal Landfill	Disposal Site that accepts household recyclables. Facility does not earn revenue from recyclables.	Drop off point for MP, OCC, Plastics 1-7, Aluminum and tin cans. Private hauler takes material for them	Benton County residents	Varies depending on market - private haulers take it
Iowa County Sanitary Landfill	Iowa	East Central Iowa Council of Governments	Municipal Landfill	Disposal Site that accepts household recyclables. Facility does not earn revenue from recyclables.	Cardboard	Iowa County	Cardboard to Cox Sanitation
Cedar Rapids/Linn Co. Solid Waste Agency #2 Sanitary Landfill	Linn	East Central Iowa Council of Governments	Municipal Landfill	Disposal Site that accepts household recyclables. Facility does not earn revenue from recyclables.	Single Stream recycling - OCC, mixed paper, glass, aluminum and tin cans, plastic 1-7 goes to Republic Recycling. No hard plastic toys or plastic bags. Renegotiating their contract. They were paying \$34.50/ton to process recycling, but poised to go up to \$65/ton with possible rebate. Also accept electronics, lead acid batteries, fluorescent bulbs at landfill for recycling		Republic (City Carton) in Cedar Rapids
Tama County Sanitary Landfill	Tama	East Central Iowa Council of Governments	Municipal Landfill	Disposal Site that accepts household recyclables. Facility does not earn revenue from recyclables.	Dual stream - fiber and plastic and aluminum containers. Drop off containers located throughout town. All drop off no curbside in the Tama/Toledo area. Private hauler, Sanitary Refuse has a contract with County to haul recyclables up to Waterloo for processing. Shipped loose.		Recyclables go to Waterloo
International Paper (Cedar River Paper)	Linn	East Central Iowa Council of Governments	End User	End User	Mill that produces new OCC liners		
Republic (City Carton).	Johnson	East Central Iowa Council of Governments		Private MRF	Newspaper, white paper, corrugated cardboard, glass (clear, brown, green), #1 through #5 and #7 plastics, metal cans, magazines, chipboard, telephone books, hard cover and paperback books, cartons and aseptic packaging, plastic grocery bags and film plastic, holiday lights (seasonal)		
Waste Transfer Stations, LLC - Operated by private entity ABC Disposals	Linn	East Central Iowa Council of Governments	Recycling Center	Private MRF	ABC Disposal is a hauler that also processes recycling from both residential and commercial entities. Some businesses do OCC only some mixed household as well. Residential includes comingled recycling for cardboard, paper, aluminum, fiber board and plastic. Service majority of Linn County and south towards Iowa City. Bales recycling themselves and sells it directly.		

Facility	County	Annual MSW tons	Tons Household recycling processed per year	City	Address	Curbside Recycling (1=yes)	County	Planning Area	Contact	Received Survey	Completed Survey	Email	Phone
Full Circle Organics, LLC - Farley Organic Composting	Dubuque			Farley		1	Dubuque	Dubuque Metropolitan Area Solid Waste Agency					
Dubuque Metropolitan Sanitary Landfill	Dubuque	94,560		Dubuque		1	Dubuque	Dubuque Metropolitan Area Solid Waste Agency	John Foster or Doug Hughes	yes - John	yes	jfoster@cityofdubuque.org	(563) 589-4250 or 563.557.8220
Dittmer Recycling	Dubuque			Dubuque	1755 Radford Road		Dubuque	Dubuque Metropolitan Area Solid Waste Agency	Scott Dittmer			dittmerrecy1@yousq.net	563-583-3381
Bi-County Disposal Inc.	Delaware			Dyersville		1	Delaware	Dubuque Metropolitan Area Solid Waste Agency	Jim Steger	yes		stegertrans@iowatelecom.net	(563) 875-9076
Benton County Sanitary Landfill	Benton	11,566		BLAIRSTOWN		1	Benton	East Central Iowa Council of Governments	Eric Werner	no		bentonlandfill@netins.net	(319) 454-6392
Iowa County Sanitary Landfill	Iowa	10,261		Homestead			Iowa	East Central Iowa Council of Governments	Richard Heller	yes		heller@southslope.net	(319) 828-4401
Cedar Rapids/Linn Co. Solid Waste Agency #2 Sanitary Landfill	Linn	175,708		MARION		1	Linn	East Central Iowa Council of Governments					
Tama County Sanitary Landfill	Tama	11,939		TOLEDO			Tama	East Central Iowa Council of Governments	Dave Sherwood	yes	yes	tamalandfill@aweiova.com	(641) 484-5061
International Paper (Cedar River Paper)	Linn			Cedar Rapids	4600 C St SW		Linn	East Central Iowa Council of Governments					
Republic (City Carton).	Johnson			Iowa City	3 E Benton St		Johnson	East Central Iowa Council of Governments					
Waste Transfer Stations, LLC - Operated by private entity ABC Disposals	Linn			HIAWATHA	113 Reynolds Pl	1	Linn	East Central Iowa Council of Governments	ABC Disposals - Mark			markw@abcdisposalsys.com	319-395-0904

Facility	County	Planning Area	Type of Facility	Facility Type Details (map legend)	Material Types	Where does recycling come from (if recyclables come from areas other than just the county that the facility is in)?	Where does recycled material go to if not sold directly to market?
Republic (City Carton).	Linn	East Central Iowa Council of Governments	Recycling Processor	Private MRF			
City of Iowa City Sanitary Landfill	Johnson	East Central Iowa Council of Governments	Municipal Landfill	Transfer Station or Disposal Site that only accepts municipal solid waste (MSW) (may have minimal recycling per state mandates that yard waste, electronics, appliances and tires be separated from all other MSW).	No recycling at landfill. City has drop off locations that they take loose to Republic Services as part of a contract		
Waste Transfer Stations, LLC - Operated by private entity ABC Disposals	Linn	East Central Iowa Council of Governments	Transfer Station	Transfer Station or Disposal Site that only accepts municipal solid waste (MSW) (may have minimal recycling per state mandates that yard waste, electronics, appliances and tires be separated from all other MSW).	Transfer station is SW only Operated by ABC Disposal is a hauler that also recycles - residential and commercial businesses. Some OCC only some mixed household as well. Service majority of Linn County towards Iowa City. Bales recycling themselves and sells it directly.		
Regional Collection Center	Linn	East Central Iowa Council of Governments	Recycling Center	Transfer Station or Recycling Facility that accepts commingled recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	Single Stream recycling - OCC, mixed paper, glass, aluminum and tin cans, plastic 1-7 goes to Republic Recycling. No hard plastic toys or plastic bags. Renegotiating their contract. They were paying \$34.50/ton to process recycling, but poised to go up to \$65/ton with possible rebate. Also accept electronics, lead acid batteries, fluorescent bulbs at landfill for recycling. RCC accepts HHM plus recycling comes there for transport	Cedar Rapids curbside, county residents drop off	Republic (City Carton) in Cedar Rapids
Jones County Transfer Station	Jones	East Central Iowa Council of Governments	Transfer Station	Transfer Station or Recycling Facility that accepts commingled recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	Aluminum and tin cans, plastic 1-7, mixed paper, OCC, gray board, food waste, electronics, motor oil, cooking oil, tires, lead acid batteries, scrap metal, C&D Debris. Paying Republic \$37/ton + hauling to send them their loose single stream		Generally goes to City Carton/Republic in Cedar Rapids
Cox Sanitation Citizens Convenience Center	Iowa	East Central Iowa Council of Governments	Citizen Convenience Center	Transfer Station or Recycling Facility that accepts and processes source-separated recyclables. Facility earns revenue from end users or brokers.	Sorted - Newspaper, White Paper, Junk Mail, OCC, UBC, Tin, Glass, #1-7,	Iowa County	International Paper, the rest goes out of state (OH, IL)
Cedar Rapids/Linn Co. Solid Waste Agency Composting Facility	Linn	East Central Iowa Council of Governments	Composting Facility	Compost Facility	Chipper, windrows, screened and given away for free (1 ton per visit) to residents and sell to businesses		
Floyd-Mitchell-Chickasaw Counties Sanitary Landfill	Mitchell	Floyd Mitchell County Solid Waste Management Agency	Municipal Landfill	Disposal Site that accepts household recyclables. Facility does not earn revenue from recyclables.	They have drop off bins for glass, plastic 1-5, aluminum, tin, OCC, mixed paper. Pay \$65 per pull to have a hauler take it to Jendro Sanitation		Jendro Sanitation
MDK Zero Landfill	Chickasaw	Floyd Mitchell County Solid Waste Management Agency	Recycling Processor & Broker	Private MRF	(Broker) Works with all types of recyclable materials including paper, plastic, textiles and metals. Scrap processing, recycled material buying and selling and waste stream evaluations		
Floyd County Rural Resident Solid Waste Collection Point	Floyd	Floyd Mitchell County Solid Waste Management Agency	Citizen Convenience Center	Transfer Station or Recycling Facility that accepts commingled recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	Rural residents only bring their garbage and recycling here. Clear glass jars and bottles recycled, other glass colors landfilled. They accept comingled mixed paper, chip board, cardboard, plastic #1-7 (no bags or styrofoam), aluminum and tin cans. Recyclables go to Jendros and they process it.		Jendro's Sanitation
Mitchell County Recycling Center	Mitchell	Floyd Mitchell County Solid Waste Management Agency	Citizen Convenience Center	Transfer Station or Recycling Facility that accepts commingled recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	Mixed paper, cardboard, aluminum and tin cans, empty aerosol cans, pots, pans, aluminum foil, clear glass, motor oil and motor filters. Triple stream - fiber and rigids (containers) and glass separate. Drop off there is only for rural county residents only. Curbside is for urban. Modified single stream - Mixed paper and greyboard together, clear glass separated, UBC together, OCC separate. Jendro picks it up for you for a fee per pull.	County	Jendro's Sanitation

Facility	County	Annual MSW tons	Tons Household recycling processed per year	City	Address	Curbside Recycling (1=yes)	County	Planning Area	Contact	Received Survey	Completed Survey	Email	Phone
Republic (City Carton).	Linn			Cedar Rapids	901 Ingleside Drive		Linn	East Central Iowa Council of Governments					
City of Iowa City Sanitary Landfill	Johnson	123,692		Iowa City		1	Johnson	East Central Iowa Council of Governments	Jennifer Jordan	yes	yes	Jennifer-Jordan@iowa-city.org	(319) 887-6160
Waste Transfer Stations, LLC - Operated by private entity ABC Disposals	Linn			HIAWATHA		1	Linn	East Central Iowa Council of Governments	ABC Disposals - Mark			markw@abcdisposalsys.com	319-395-0904
Regional Collection Center	Linn			MARION	1954 County Home Road	1	Linn	East Central Iowa Council of Governments					(319) 377-5290
Jones County Transfer Station	Jones			ANAMOSA		1	Jones	East Central Iowa Council of Governments	Merle Tank	yes	yes	mht@netins.net	(563) 826-2068
Cox Sanitation Citizens Convenience Center	Iowa			North English		1	Iowa	East Central Iowa Council of Governments					
Cedar Rapids/Linn Co. Solid Waste Agency Composting Facility	Linn	1543 - flood waste?		Cedar Rapids		1	Linn	East Central Iowa Council of Governments	Karmin McShane	yes		kmcshane@solidwasteagency.org	(319) 377-5290
Floyd-Mitchell-Chickasaw Counties Sanitary Landfill	Mitchell	23,663		Elma		1	Mitchell	Floyd Mitchell County Solid Waste Management Agency	Jimmy Geerts			landfill@myomnitel.com	(641) 982-4288
MDK Zero Landfill	Chickasaw			New Hampton	625 KLENSKE AVENUE,		Chickasaw	Floyd Mitchell County Solid Waste Management Agency					
Floyd County Rural Resident Solid Waste Collection Point	Floyd		Floyd County 91.54 tons of recyclables last FY 15/16	Charles City	2090 Packard Ave.	1	Floyd	Floyd Mitchell County Solid Waste Management Agency	Lori King or Jimmy Geerts	yes	yes	landfill@myomnitel.com	641-257-6207 County Engineers office 641-257-6151
Mitchell County Recycling Center	Mitchell			OSAGE		1	Mitchell	Floyd Mitchell County Solid Waste Management Agency	Kevin Dammen				(641) 732-4290, (641) 732-4290, (641) 732-3709.

Facility	County	Planning Area	Type of Facility	Facility Type Details (map legend)	Material Types	Where does recycling come from (if recyclables come from areas other than just the county that the facility is in)?	Where does recycled material go to if not sold directly to market?
Jendro Sanitation Services, Inc. Transfer Station	Floyd	Floyd Mitchell County Solid Waste Management Agency	Transfer Station	Transfer Station or Recycling Facility that accepts and processes single stream (or "commingled") recyclables. Facility earns revenue from end users or brokers.	Mixed paper, OCC, plastic 1-7, industrial plastic, aluminum and tin cans, wood pallets. Offers recycling curbside to all cities in planning area with unit based PAYT system since 1992 – by bag or tote or cart size. • NO rebates paid to customers – will pick up OCC from businesses for free (No pay out). Privately operated by Jendro	Recycling comes from Butler Cty – Northern half, only Plainfield in Bremer Cty, Plainfield hauls garbage to black hawk ctly landfill. Plainfield brings their recycling to them. Chicasaw Cty hires Jendro for recycling and trash (5 stops), Northern Butler collects OCC from D/o and commercial and hauls it to them and they bale and sell it, curbside comingled in Butler County residential comes to them. • Floyd Cty drop off recycling managed with a compactor for comingled and Jendro hauls it to their facility, City of Osage takes their source separated materials to Jendro. Landfill in Mitchell County has private hauler bring loose material to them.	
Fremont County Sanitary Landfill	Fremont	Fremont	Municipal Landfill	Disposal Site that accepts household recyclables. Facility does not earn revenue from recyclables.	Accepts source separated household recyclables (mixed paper, OCC, grayboard, plastic 1-5, aluminum and tin cans) at landfill and each town has a drop off site. No curbside in county. Private hauler takes items from landfill and drop off site to Council Bluffs recycling center. They pay hauling, but do not pay processing fee for recyclables. At landfill also accepts appliances, electronics (TVs included), tires and batteries for recycling	Each town in County as a drop off container	Council Bluffs Recycling
Great River Regional Waste Authority Sanitary Landfill	Lee	Great River Regional Waste Authority	Municipal Landfill & Recycling Center	Disposal Site that includes a Recycling Facility that accepts and processes recyclables. Facility earns revenue from end users or brokers.	Recycling center on site at landfill. Composting of leaves and small twigs are processed at the main facility in Fort Madison also. Brush, tree trimmings, yard waste, e-waste, tires, Comingled - Clean cardboard, newsprint, office paper, plastics #1 through #7, shredded office paper (no carbon paper), tin cans, aluminum cans, and clear glass containers (jars, bottles, etc). No plastic bags, window glass, mirrors or ceramics. Recycling Center located at 2092 303rd Ave.		
Republic Recycling (City Carton)	Henry	Great River Regional Waste Authority	Recycling Processor	Private MRF		Mt. Pleasant's recycling goes to Des Moines County Recycling Center	
Henry County Citizen Convenience Center	Henry	Great River Regional Waste Authority	Citizen Convenience Center	Transfer Station or Recycling Facility that accepts commingled recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	Accepts residential recycling - mixed paper, cardboard, aluminum and tin cans, plastics 1-7 and clear glass. 4 drop off locations at each corner of the county for trash and recycling that are staffed one day per week. Drivers Licenses are checked so only rural Henry Cty residents are allowed to utilize service. Convenience Ctr location is central and open one full day each week. Accepts residential garbage and recycling plus electronics, appliances, oil, ashes, scrap metals, bulk garbage. County then hauls recycling to Fort Madison for processing.		Great River Regional WA - recycling center at landfill in Fort Madison,

Facility	County	Annual MSW tons	Tons Household recycling processed per year	City	Address	Curbside Recycling (1=yes)	County	Planning Area	Contact	Received Survey	Completed Survey	Email	Phone
Jendro Sanitation Services, Inc. Transfer Station	Floyd			Charles City		1	Floyd	Floyd Mitchell County Solid Waste Management Agency	Alan Powell			alan@jendrosanitation.com, jendrosanitation@gmail.com	(641) 228-3525
Fremont County Sanitary Landfill	Fremont	5,301		SIDNEY			Fremont	Fremont	Mike Fox	yes		fcsi@iowatelecom.net	(712) 527-4729 or (712) 374-3087
Great River Regional Waste Authority Sanitary Landfill	Lee			FORT MADISON	Recycling Center located at 2092 303rd Ave	1	Lee	Great River Regional Waste Authority	Wade Hamm	yes		w Hamm@grrwa.com	(319) 372-6140
Republic Recycling (City Carton)	Henry			Mt. Pleasant	Industrial park		Henry	Great River Regional Waste Authority					319-385-7206
Henry County Citizen Convenience Center	Henry			Mount Pleasant		1	Henry	Great River Regional Waste Authority	Larry Hite	yes		genesione@hotmail.com	(319) 385-1482

Facility	County	Planning Area	Type of Facility	Facility Type Details (map legend)	Material Types	Where does recycling come from (if recyclables come from areas other than just the county that the facility is in)?	Where does recycled material go to if not sold directly to market?
Great River Regional Waste Authority Transfer Station	Lee	Great River Regional Waste Authority	Transfer Station & Recycling Center	Transfer Station or Recycling Facility that accepts commingled recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	Transfer station & recycling drop off center located in Keokuk, IA. Solid waste is accepted at this site and then loaded onto trucks daily and transported to Fort Madison for disposal in the landfill. Recyclables are only accepted at this location during regular business hours. Comingled - Clean cardboard, newsprint, office paper, plastics #1 through #7, shredded office paper (no carbon paper), tin cans, aluminum cans, and clear glass containers (jars, bottles, etc). Serves as a spoke for recycling center hub in Ft. Madison	The recycling that comes to the transfer station in Keokuk comes from curbside pickup in Keokuk, and the surrounding rural areas also (rural Henry County too). Mostly residential some commercial	Recycling Center in Fort Madison at the Great River Regional Waste Authority Sanitary Landfill
Van Buren Co. SW Commission CCC (Operated by Sedore Sanitation and Recycling)	Van Buren	Great River Regional Waste Authority	Citizen Convenience Center & Recycling Center	Transfer Station or Recycling Facility that accepts commingled recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	Accepts - Aluminum, Tin, Mixed Paper, OCC, Plastic 1-5 & Glass. Paper ship loose in gaylord boxes to broker. Usual broker is in Quincy, Illinois. They do have capacity for more materials. They are trash/recyclable haulers that bring the material to their facility to sell loose to market.	Van Buren County	
Sedore Sanitation and Recycling	Van Buren	Great River Regional Waste Authority	Transfer Station	Transfer Station or Recycling Facility that accepts and processes single stream (or " commingled ") recyclables. Facility earns revenue from end users or brokers.	Spoke for Recycling Center Hub in Keosauqua	Van Buren County	
City Carton (Republic)	Henry	GRRWA	Recycling Processor	Private MRF			
Audubon County Transfer Station	Audubon	Harrison	Transfer Station	Transfer Station or Recycling Facility that accepts and processes single stream (or " commingled ") recyclables. Facility earns revenue from end users or brokers.	Plastic 1-7, Paper, Cardboard, Aluminum and Tin cans, chip board, yard debris, motor/cooking oil, electronics, lead acid batteries, scrap metal, tires. Recycling is baled and sold to brokers, such as such as MDK, Inc., Republic Services, Firstar Fiber (Omaha), etc	Audubon County	
Harrison County Sanitary Landfill	Harrison	Harrison	Municipal Landfill	Transfer Station or Recycling Facility that accepts source-separated recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	Tin/Aluminum Cans, plastic #1-2, mixed paper, OCC, newspaper. Drop off located throughout county source separated. Run cardboard route to businesses once a week		Council Bluffs Recycling Center
East Iowa Plastics	Buchanan	Iowa Northland Regional Council of Governments		End User	Thermoform plastics manufacturer, creates items for poultry industry and others using some recycled plastics		
City Carton (Republic)	Black Hawk	Iowa Northland Regional Council of Governments	Recycling Processor	Private MRF			
Black Hawk County Sanitary Landfill	Black Hawk	Iowa Northland Regional Council of Governments	Municipal Landfill	Transfer Station or Disposal Site that only accepts municipal solid waste (MSW) (may have minimal recycling per state mandates that yard waste, electronics, appliances and tires be separated from all other MSW).	Waste Trac promotes recycling for County. Accepts yard waste.		
Bremer County Citizens Convenience Center	Bremer	Iowa Northland Regional Council of Governments	Citizen Convenience Center	Transfer Station or Disposal Site that only accepts municipal solid waste (MSW) (may have minimal recycling per state mandates that yard waste, electronics, appliances and tires be separated from all other MSW).	No recycling drop off here. Anyone from County can bring their garbage. Each City handles their own recycling.		
Waste Management of Independence Transfer Station	Buchanan	Iowa Northland Regional Council of Governments	Transfer Station	Transfer Station or Recycling Facility that accepts commingled recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	Compacted recycling, single stream sold to processors		Dittmer Recycling in Dubuque & Cedar Valley Recycling in Waterloo

Facility	County	Annual MSW tons	Tons Household recycling processed per year	City	Address	Curbside Recycling (1=yes)	County	Planning Area	Contact	Received Survey	Completed Survey	Email	Phone
Great River Regional Waste Authority Transfer Station	Lee	67,258		Keokuk		1	Lee	Great River Regional Waste Authority	Wade Hamm	yes		whamm@grrwa.com	(319) 372-6140
Van Buren Co. SW Commission CCC (Operated by Sedore Sanitation and Recycling)	Van Buren			Keosauqua	19032 Maple Ave	1	Van Buren	Great River Regional Waste Authority					(319) 293 3692 or 319-592-3254
Sedore Sanitation and Recycling	Van Buren			Stockport	28942 Highway 16. Recycling center - North of Keosokua - drop off	1	Van Buren	Great River Regional Waste Authority	Troy				319-796-4499 or 319-288-0908
City Carton (Republic)	Henry			Mt. Pleasant			Henry	GRRWA					
Audubon County Transfer Station	Audubon			AUDUBON		1	Audubon	Harrison	Janet Hansen	yes	yes	audcoswm@iowatelecom.net	(712) 563-3589
Harrison County Sanitary Landfill	Harrison	15,386		LOGAN			Harrison	Harrison	Dan Barry	yes	yes	hclco@iowatelecom.net	800-672-3093 or (712) 644-3093
East Iowa Plastics	Buchanan			Independence	601 - 17th Street S.E.		Buchanan	Iowa Northland Regional Council of Governments					
City Carton (Republic)	Black Hawk			Cedar Falls			Black Hawk	Iowa Northland Regional Council of Governments					
Black Hawk County Sanitary Landfill	Black Hawk	166,314		WATERLOO		1	Black Hawk	Iowa Northland Regional Council of Governments	Brette Vette, Ben Kvigne	yes - both	yes - Ben	bvette@co.black-hawk.ia.us or bkvigne@inrcog.org	(319) 231-3661, (319) 296-2524 (landfill), 319-234-8115
Bremer County Citizens Convenience Center	Bremer			Waverly		1	Bremer	Iowa Northland Regional Council of Governments	Bret Bienemann	yes	yes	bbienemann@co.bremer.ia.us	(319) 352-4574
Waste Management of Independence Transfer Station	Buchanan			INDEPENDENCE		1	Buchanan	Iowa Northland Regional Council of Governments					

Facility	County	Planning Area	Type of Facility	Facility Type Details (map legend)	Material Types	Where does recycling come from (if recyclables come from areas other than just the county that the facility is in)?	Where does recycled material go to if not sold directly to market?
Cedar Valley Recycling & Transfer Company (Formerly Corkery operated by Blackhawk)	Black Hawk	Iowa Northland Regional Council of Governments	Transfer Station & Recycling Processor Sorting Facility	Transfer Station or Recycling Facility that accepts and processes single stream (or "commingled") recyclables. Facility earns revenue from end users or brokers.	Specializes in paper recycling, cardboard recycling, plastic recycling, and metal recycling.	Grundy County towns, as well as Black Hawk County	
City of Cedar Falls Transfer Station & Recycling Center	Black Hawk	Iowa Northland Regional Council of Governments	Transfer Station	Transfer Station or Recycling Facility that accepts and processes source-separated recyclables. Facility earns revenue from end users or brokers.	Accept cardboard, paper, office paper, plastics 1-7, tin cans, glass (all colors), styrofoam, aluminum cans and foil. Source Separated. Drop off program at their facility and throughout town. All drop off.	Black Hawk County/Cedar falls area	Republic
Fayette County Recycling Center	Fayette	Iowa Northland Regional Council of Governments	Recycling Processor	Transfer Station or Recycling Facility that accepts and processes source-separated recyclables. Facility earns revenue from end users or brokers.	Mixed paper, plastic 1-7, OCC, aluminum and tin cans. Source separated with a sort line for plastics, Fayette County Banned OCC from trash. Recycling approximately 42 tons of OCC each month serving approx. area of 12,000 population		
Fayette County Solid Waste Transfer Station	Fayette	Iowa Northland Regional Council of Governments	Transfer Station	Transfer Station or Recycling Facility that accepts source-separated recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	Mixed paper, plastic 1-7, OCC, aluminum and tin cans. Source separated. TS serves as a drop off location for nearly Fayette County Recycling Center. Also accepts scrap metal, appliances, tires and batteries for recycling		Fayette County Recycling Center
Anderson Excavating C&D Landfill	Pottawattamie	Iowa Waste Systems Association	Construction and Demolition Landfill	Construction and Demolition Landfill			
Montgomery County Sanitary Landfill	Montgomery	Iowa Waste Systems Association	Municipal Landfill	Transfer Station or Disposal Site that only accepts municipal solid waste (MSW) (may have minimal recycling per state mandates that yard waste, electronics, appliances and tires be separated from all other MSW).	Landfill operated by private entity - Iowa Waste Systems		
Montgomery County Transfer Station (Operated by Iowa Waste Systems)	Montgomery	Iowa Waste Systems Association	Transfer Station	Transfer Station or Disposal Site that only accepts municipal solid waste (MSW) (may have minimal recycling per state mandates that yard waste, electronics, appliances and tires be separated from all other MSW).	TS operated by Iowa Waste Systems private entity. Each town has their own trailer. No curbside recycling in Montgomery County. All drop off. Batten Sanitation handles recycling trailers and material ends up in Council Bluffs for recycling.		
Loess Hills Regional Sanitary Landfill	Mills	Iowa Waste Systems Association	Municipal Landfill	Transfer Station or Disposal Site that only accepts municipal solid waste (MSW) (may have minimal recycling per state mandates that yard waste, electronics, appliances and tires be separated from all other MSW).	Private landfill. Waste accepted from haulers and private individuals		
Council Bluffs Recycling Center & RCC	Pottawattamie	Iowa Waste Systems Association	Recycling Processor	Transfer Station or Recycling Facility that accepts and processes source-separated recyclables. Facility earns revenue from end users or brokers.	Hand sorted materials - Accepts mixed paper, cardboard, plastic #1-5, aluminum and tin cans and glass. Recycling center - dual stream (metal and plastic + fiber and glass)	The recycling facility currently receives most of its volume from the Council Bluffs residents on curbside recycling and from the recycling containers at seven area locations. It also processes recyclables from containers located in rural Pottawattamie County, Mills County and the Recycling Center's drive-through bay. These items are hand-sorted, baled and sold to brokers and mills by Solid Waste Management Division Staff. Also accepts items from parts of Harrison County	

Facility	County	Annual MSW tons	Tons Household recycling processed per year	City	Address	Curbside Recycling (1=yes)	County	Planning Area	Contact	Received Survey	Completed Survey	Email	Phone
Cedar Valley Recycling & Transfer Company (Formerly Corkery operated by Blackhawk)	Black Hawk	1247 - ash?		WATERLOO		1	Black Hawk	Iowa Northland Regional Council of Governments	Blane Benham, General Manager, Mark Lawson	yes		blane@blackhawkwaste.com, markl@wattstrucking.com	(319) 232-4150
City of Cedar Falls Transfer Station & Recycling Center	Black Hawk		City of Cedar Falls FY 15 1613 tons, not including scrap waste, used oil, shingles	CEDAR FALLS	1524 State St		Black Hawk	Iowa Northland Regional Council of Governments	Brian Heath (Recycling) Bruce Sorensen (TS), Doyle Smith & Mark Ripplinger (City of Cedar Falls)	yes - Bruce	yes - Doyle & Mark	brian.health@cedarfalls.com, bruce.sorensen@ci.cedarfalls.ia.us, Doyle.Smith@cedarfalls.com, mark.ripplinger@cedarfalls.com	319-273-8629, (319) 268-5585
Fayette County Recycling Center	Fayette			FAYETTE	18525 Lane Road (42.899 lat/-91.834 long)		Fayette	Iowa Northland Regional Council of Governments	Brian Schroeder				563-422-6323
Fayette County Solid Waste Transfer Station	Fayette			FAYETTE			Fayette	Iowa Northland Regional Council of Governments	Kenny Meyer	no - email returned new email		gncfccb@alpinecom.net	(563) 425-3037
Anderson Excavating C&D Landfill	Pottawattamie			Council Bluffs		1	Pottawattamie	Iowa Waste Systems Association					
Montgomery County Sanitary Landfill	Montgomery	4		RED OAK			Montgomery	Iowa Waste Systems Association					
Montgomery County Transfer Station (Operated by Iowa Waste Systems)	Montgomery			RED OAK			Montgomery	Iowa Waste Systems Association	Lori Oakleaf	no			712-623-9903 or (712) 623-4222
Loess Hills Regional Sanitary Landfill	Mills			MALVERN			Mills	Iowa Waste Systems Association	Dave Crocket				712-624-8039
Council Bluffs Recycling Center & RCC	Pottawattamie			Council Bluffs	4441 Gifford Rd.		Pottawattamie	Iowa Waste Systems Association	Tony Fiala & Donn Dierks	yes	yes - both responded, Donn's incomplete	tfiala@councilbluffs-ia.gov, ddierks@councilbluffs-ia.gov	712-328-4985

Facility	County	Planning Area	Type of Facility	Facility Type Details (map legend)	Material Types	Where does recycling come from (if recyclables come from areas other than just the county that the facility is in)?	Where does recycled material go to if not sold directly to market?
Pottawattamie County Transfer Station	Pottawattamie	Iowa Waste Systems Association	Transfer Station	Transfer Station or Recycling Facility that accepts source-separated recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	Recycling accepted - source separated at TS household items mixed paper, cardboard, chipboard, aluminum and tin cans, plastic containers and glass containers (scrap metal, tires and white goods also for a fee). Pays Council Bluffs recycling a fee to take their recyclable. At capacity looking to update program and have a recycling center. Tons are down for waste b/c when they launched there were no rural curbside solid waste or recycling carriers and now there are many.	Residents in county	Council Bluffs Recycling Center
Kossuth County Transfer Station	Kossuth	Kossuth Waste Management Association	Transfer Station	Transfer Station or Recycling Facility that accepts commingled recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	Source sorted into two categories – fiber (mp, OCC, chipboard) and rigid (glass, tin, aluminum and plastics). 1 drop off location other than TS.		• Mixed loose rigids sent to Minneapolis • Mixed loose fiber sent to Mason City
Landfill of North Iowa	Cerro Gordo	Landfill of North Iowa	Municipal Landfill	Disposal Site that accepts household recyclables. Facility does not earn revenue from recyclables.	Right now only recycle OCC but soon will have all household recycling items and Habitat for Humanity Restore drop off area. Will include newsprint & magazine, SOP, glass, tin, aluminum and plastic 1-7. Excellent HHM facility, partnering with Habitat ReStore to divert useable construction items from the landfill. Strong compost program. Give compost away for free to public. Wood recycled – very clean no walnut as it is toxic to horses, chipped coarse and fine. Coarse given away for free, fine sold to animal bedding place, Xmas trees mulched for free, Rubble pile – ground up for base course, free to bring it in		
Clarion Packaging	Wright	Landfill of North Iowa		End User	Makes egg cartons, cup holders and insulation out of recycled cardboard and mixed paper		
Mason City Recycling Center	Cerro Gordo	Landfill of North Iowa	Recycling Processor	Private MRF (also end user)	Create cellulose insulation from recycled paper. Accept - Aluminum Cans and Foil, Tin Cans (Lids and labels are ok), Glass (Food and beverage containers only), Plastics #1 - #7 (Excludes automotive containers) Mixed paper, cardboard, greyboard		
Wright County Transfer Station	Wright	Landfill of North Iowa	Transfer Station & Recycling Center	Transfer Station or Disposal Site that only accepts municipal solid waste (MSW) (may have minimal recycling per state mandates that yard waste, electronics, appliances and tires be separated from all other MSW).			
Louisa County Regional Solid Waste Agency Transfer Station	Louisa	Louisa County Regional Solid Waste Agency	Transfer Station & Recycling Center	Transfer Station or Recycling Facility that accepts and processes source-separated recyclables. Facility earns revenue from end users or brokers.	MP, ONP, OCC, Plastic 1-7, Al cans and foil, Tin cans, sorted office paper, mixed paper, No glass. Source separated. Rural residents use drop off bins at Louisa County Transfer Station. Curbside available within cities.	Recycling from Mt Pleasant, Salem, New London & Morning Sun in Louisa County goes to Area Recyclers in Des Moines Cty	
Mahaska County Sanitary Landfill	Mahaska	Mahaska	Municipal Landfill & Recycling Center	Disposal Site that accepts household recyclables. Facility does not earn revenue from recyclables.	Midwest Sanitation has a bin there that they service - plastic 1-7, mixed paper, OCC, aluminum cans & tin cans		
B&B Bedding	Mahaska	Mahaska	End User	End User	Sells wholesale landscape materials and colored mulch, etc. Accepts organics for recycling	Rathbun Planning Area	
Midwest Sanitation (Kal Services)	Mahaska	Mahaska	Recycling Processor	Private MRF	Single stream material - plastic 1-7, mixed paper, OCC, aluminum cans, tin cans, including glass. Contract with county. No curbside in county, all drop off. Noted state could help by helping private entities	Mahaska County - service 12 counties in area	Vans

Facility	County	Annual MSW tons	Tons Household recycling processed per year	City	Address	Curbside Recycling (1=yes)	County	Planning Area	Contact	Received Survey	Completed Survey	Email	Phone
Pottawattamie County Transfer Station	Pottawattamie	600	10	HANCOCK			Pottawattamie	Iowa Waste Systems Association	Matt Wyant 712-328-5792	yes	yes		712-741-5594 or 712-328-5792
Kossuth County Transfer Station	Kossuth	13,527		Burt		1	Kossuth	Kossuth Waste Management Association	Doug Miller	yes	yes	engineer@co.kossuth.ia.us	515- 295-3320
Landfill of North Iowa	Cerro Gordo	88,308		Clear Lake		1	Cerro Gordo	Landfill of North Iowa	Bill Rowland & Mitzi Brunsvold	yes	yes - Mitzi	bill@landfillnorthiowa.org, education@landfillnorthiowa.org	(641) 357-5452
Clarion Packaging	Wright			Clarion	1350 5th Avenue Se		Wright	Landfill of North Iowa					(515) 602-6780
Mason City Recycling Center	Cerro Gordo			Mason City	16615 245th		Cerro Gordo	Landfill of North Iowa					641-423-1531
Wright County Transfer Station	Wright			Clarion		1	Wright	Landfill of North Iowa	Bill Rowland	yes	no	bill@landfillnorthiowa.org, education@netconx.net	(641) 357-5452 or 515-532-2984
Louisa County Regional Solid Waste Agency Transfer Station	Louisa			WAPELLO	14078 70th Street	1	Louisa	Louisa County Regional Solid Waste Agency	Ken Purdy	yes	yes - incomplete	locoe@louisacomm.net	(319) 728-2274 or 319-523-5013
Mahaska County Sanitary Landfill	Mahaska	36,718		Oskaloosa	Recycling center located at 701 Hwy 432, Oskaloosa 52577. Landfill located at 2979 Hwy 63	1	Mahaska	Mahaska	Steve Thomas & Greg Gordy, Lyle Vander Meiden, manager Recycling Center	yes Greg		supervisors@mahaskacounty.org	(641) 673-9266
B&B Bedding	Mahaska			Oskaloosa	2245 275th Street		Mahaska	Mahaska		no			
Midwest Sanitation (Kal Services)	Mahaska		8000	Oskaloosa	701 Hwy. 432		Mahaska	Mahaska	Andrew Kroyman	no	Andrew Kroyman	andrew@midwestsanitation.com	641-628-2610

Facility	County	Planning Area	Type of Facility	Facility Type Details (map legend)	Material Types	Where does recycling come from (if recyclables come from areas other than just the county that the facility is in)?	Where does recycled material go to if not sold directly to market?
Marshall County Sanitary Landfill	Marshall	Marshall	Municipal Landfill	Transfer Station or Disposal Site that only accepts municipal solid waste (MSW) (may have minimal recycling per state mandates that yard waste, electronics, appliances and tires be separated from all other MSW).			
Correll Contractor	Polk	Metro Waste Authority	Recycling Processor	C&D Recycler	C&D Recycler Concrete and Asphalt - concrete free to drop off \$2/ton to drop off. Recycled aggregate product		
Hallett Materials (Concrete, Asphalt, Rubble)	Polk	Metro Waste Authority	Recycling Processor	C&D Recycler	Concrete, Asphalt - accepts for free for recycling		
Metro Park East Sanitary Landfill	Polk	Metro Waste Authority	Municipal Landfill	Disposal Site that accepts household recyclables. Facility does not earn revenue from recyclables.	Metal Cans, Clear Glass Bottles and Jars, Plastics Containers (#1 and #2 only), Newspaper (including advertisements), Mixed Paper, Junk Mail, Phone Books, Brown Paper Bags, Office Paper, Tissue Boxes, Cereal Boxes, Stationary, Magazines, Shredded Paper, Corrugated Cardboard (except pizza boxes), Cardboard (includes any non corrugated cardboard-like material such as tissue or cereal boxes). Shingles come from Adair County for recycling. Landfill offers recycling contract out sorting and processing . Private company sorts and sells recycling from curbside programs and cities contracts out hauling - Mid America and International Paper. Residents can bring out single stream recycling to their landfill. Most recycling occurs with curbside, but anyone can bring recycling (not garbage). Material collected at landfill is taken to the MRF Mid America Recycling	Shingles from Adair County. Urban areas around Des Moines	Mid America
WestRock Company	Polk	Metro Waste Authority	Recycling Processor	End User	Large national company that produces boxes and corrugated items. They recycle their scrap but their recycled raw material could come from anywhere in the US as their parent company gets it to them.		
International Paper	Polk	Metro Waste Authority	Recycling Processor	Private MRF			
MidAmerica Recycling	Polk	Metro Waste Authority	Recycling Processor	Private MRF			
City Carton (Republic)	Polk	Metro Waste Authority	Recycling Processor	Private MRF			
South Dallas County Sanitary Landfill	Dallas	Metro Waste Authority	Municipal Landfill & Recycling Center	Transfer Station or Disposal Site that only accepts municipal solid waste (MSW) (may have minimal recycling per state mandates that yard waste, electronics, appliances and tires be separated from all other MSW).	Curbside through private entites		
Metro Transfer Station	Polk	Metro Waste Authority	Transfer Station	Transfer Station or Disposal Site that only accepts municipal solid waste (MSW) (may have minimal recycling per state mandates that yard waste, electronics, appliances and tires be separated from all other MSW).	Not open to the public - commercial and residential garbage only, compacted into semis and taken to landfill. Drop off stations located throughout area - locations can be found at http://www.mwatoday.com/locations/recycling-drop-offs/default.aspx		

Facility	County	Annual MSW tons	Tons Household recycling processed per year	City	Address	Curbside Recycling (1=yes)	County	Planning Area	Contact	Received Survey	Completed Survey	Email	Phone
Marshall County Sanitary Landfill	Marshall	35,992		Marshalltown		1	Marshall	Marshall	Don Ballalatak	yes		dballalatak@co.marshall.ia.us	(641) 752-0646
Correll Contractor	Polk			West Des Moines	1300 Lincoln St		Polk	Metro Waste Authority					515-221-9669
Hallett Materials (Concrete, Asphalt, Rubble)	Polk			Des Moines	1300 SE 36th St		Polk	Metro Waste Authority					515-263-1176
Metro Park East Sanitary Landfill	Polk	599,417		Mitchellville		1	Polk	Metro Waste Authority	Rhonda O'Connor	yes	yes	roc@mwatoday.com	(515) 244-0021 ext. 502 or 515-323-6524
WestRock Company	Polk			Des Moines	3800 Dixon St		Polk	Metro Waste Authority					515-265-0325
International Paper	Polk			Des Moines	2800 Dixon		Polk	Metro Waste Authority					515-265-0889
MidAmerica Recycling	Polk		Approx. 120,000 households recycle over 18,000 tons per year	Des Moines	2742 East Market		Polk	Metro Waste Authority					515-265-1208
City Carton (Republic)	Polk			Altoona			Polk	Metro Waste Authority					
South Dallas County Sanitary Landfill	Dallas	31,489		ADEL		1	Dallas	Metro Waste Authority				SDCLANDFILL@aol.com	(515) 993-3148
Metro Transfer Station	Polk			Des Moines		1	Polk	Metro Waste Authority	Rhonda O'Conner	yes	yes	roc@mwatoday.com	515-323-6524

Facility	County	Planning Area	Type of Facility	Facility Type Details (map legend)	Material Types	Where does recycling come from (if recyclables come from areas other than just the county that the facility is in)?	Where does recycled material go to if not sold directly to market?
Waste Management of Iowa Des Moines Transfer Station	Polk	Metro Waste Authority	Transfer Station	Transfer Station or Disposal Site that only accepts municipal solid waste (MSW) (may have minimal recycling per state mandates that yard waste, electronics, appliances and tires be separated from all other MSW).			
Metro Northwest Transfer Station	Polk	Metro Waste Authority	Transfer Station	Transfer Station or Disposal Site that only accepts municipal solid waste (MSW) (may have minimal recycling per state mandates that yard waste, electronics, appliances and tires be separated from all other MSW).	Contracted haulers only bring MSW, HHW collection one Saturday per month		
Monona County Transfer Station	Monona	Monona	Transfer Station & Recycling Center	Transfer Station or Recycling Facility that accepts and processes source-separated recyclables. Facility earns revenue from end users or brokers.	Plastics 1&2 &5, glass, mixed paper, cardboard, aluminum cans, tin cans, yard waste and HHW - source separated, but they do hand sort, bale and sell to market themselves.		
City of Newton Sanitary Landfill	Jasper	Newton	Municipal Landfill	Disposal Site that accepts household recyclables. Facility does not earn revenue from recyclables.	Drop off recycling comingled at landfill - plastic 1-7, aluminum and tin cans, glass, mixed paper, separated container for cardboard, yard waste drop off and use on site. Ships loose to Des Moines for processing - pay a small fee for processing that is significantly less than SW tip fee even with hauling. They don't have a grinder. Contractor does their hauling and does curbside recycling in the City. Also has asphalt shingle recycling.		Des Moines
Trashman	Hamilton	North Central IA Regional Solid Waste Agency	Recycling Processor	Private MRF	Cardboard, mixed paper, clear glass, aluminum and tin cans, plastic 1-7. They've been recycling for over 20 years. Has capacity to do more.	Pick-up and drop off recycling services to Wright County, the greater Webster City area, including Eagle Grove and Clarion (47 different communities)	
Hamilton County Transfer Station	Hamilton	North Central IA Regional Solid Waste Agency	Transfer Station	Transfer Station or Disposal Site that only accepts municipal solid waste (MSW) (may have minimal recycling per state mandates that yard waste, electronics, appliances and tires be separated from all other MSW).	Scrap metal is also accepted		
North Central Iowa Regional Sanitary Landfill	Webster	North Central IA Regional Solid Waste Agency	Municipal Landfill	Transfer Station or Recycling Facility that accepts comingled recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	Recycling Center accepts - Cardboard, Glass Bottles/Containers, Paper Drink Cartons, Plastic Containers #1 thru #7, Mixed Paper & Junk Mail, Tin Containers, Electronics, NO STYROFOAM. Regional Recycling Center - 2150 South 22nd Street		Van's Recycling
Northern Plains Regional Landfill	Palo Alto	Northern Plains Planning Area	Municipal Landfill	Transfer Station or Disposal Site that only accepts municipal solid waste (MSW) (may have minimal recycling per state mandates that yard waste, electronics, appliances and tires be separated from all other MSW).	Owned by City of Spencer. Not open to the public for drop off - only private haulers. In order to comply with DNR they do not accept appliances, yard waste, auto bodies, car batteries, hazardous waste, livestock carcasses, paunch manure or tires		
Pocahontas County Transfer Station	Pocahontas	Northern Plains Planning Area	Transfer Station	Transfer Station or Disposal Site that only accepts municipal solid waste (MSW) (may have minimal recycling per state mandates that yard waste, electronics, appliances and tires be separated from all other MSW).	Recycling in the county goes to Buena Vista County Transfer Station		Recycling in the county goes to Buena Vista County Transfer Station
City of Spencer Transfer Station	Clay	Northern Plains Planning Area	Transfer Station	Transfer Station or Recycling Facility that accepts comingled recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	Mixed paper, OCC, chipboard, plastic 1-7, aluminum and tin cans, aerosol cans, aluminum foil, yard debris, electronics, motor oil, cooking oil, tires, lead acid batteries, scrap metal, Construction & Demolition Debris (C&D). Comingled system, glass separate at drop off. NO glass in curbside, drop off only. FOB - Spencer loads it and is paid \$5/ton to load it for Van's. • Does directly sell OCC from drop off and commercial customers - sold 866 tons to them last year.		Vans Recycling

Facility	County	Annual MSW tons	Tons Household recycling processed per year	City	Address	Curbside Recycling (1=yes)	County	Planning Area	Contact	Received Survey	Completed Survey	Email	Phone
Waste Management of Iowa Des Moines Transfer Station	Polk			Des Moines	201 SE 18th St	1	Polk	Metro Waste Authority					(515) 650-1404
Metro Northwest Transfer Station	Polk			GRIMES	4105 Veisser Drive	1	Polk	Metro Waste Authority	Rhonda O'Conner	yes	yes	roc@mwatoday.com	(515) 244-0021
Monona County Transfer Station	Monona	7,471	912	TURIN			Monona	Monona	Dave Carlson	yes	yes	dave-carlson@hotmail.com, mocolf@wiatel.net	(712) 420-2102 & (712) 353-6300
City of Newton Sanitary Landfill	Jasper	28,307		Newton		1	Jasper	Newton	Jody Rhone & Keith Laube	yes	yes	jodyr@newtongov.org, keithl@newtongov.org	(641) 792-6622
Trashman	Hamilton			Webster City			Hamilton	North Central IA Regional Solid Waste Agency					515-832-5516
Hamilton County Transfer Station	Hamilton			Webster City		1	Hamilton	North Central IA Regional Solid Waste Agency	Terry Klaver	yes		hamcosolidwaste@netins.net	(515) 539-4420
North Central Iowa Regional Sanitary Landfill	Webster	104,476		Fort Dodge	Regional Recycling Center - 2150 South 22nd Street	1	Webster	North Central IA Regional Solid Waste Agency	Deb Watson	yes		regionalrecyclingcenter@gmail.com	800-582-4379 or 515-955-2781 or 515-955-6139
Northern Plains Regional Landfill	Palo Alto			GRAETTINGER		1	Palo Alto	Northern Plains Planning Area	Craig Paulsen & Mark White	yes	yes	cpaulsen@spenceriowacity.com, mwhite@spenceriowacity.com	(712) 580-7200
Pocahontas County Transfer Station	Pocahontas			POCAHONTAS		1	Pocahontas	Northern Plains Planning Area					
City of Spencer Transfer Station	Clay			SPENCER	3101 W 18th Street	1	Clay	Northern Plains Planning Area	Craig Paulsen	yes	yes	cpaulsen@spenceriowacity.com	

Facility	County	Planning Area	Type of Facility	Facility Type Details (map legend)	Material Types	Where does recycling come from (if recyclables come from areas other than just the county that the facility is in)?	Where does recycled material go to if not sold directly to market?
Emmet County Transfer Station	Emmet	Northern Plains Planning Area	Transfer Station	Transfer Station or Recycling Facility that accepts and processes source-separated recyclables. Facility earns revenue from end users or brokers.	source separated curbside and presort by operators collecting material, then sort by hand, bale and sell it. • Sort by hand at transfer station on a platform. No conveyor belt. • Doing about 10 tons of recycling/month – population base about 12,000. • would like to switch to single stream so she can increase #s of plastics but don't have a ton of storage		
Palo Alto County Transfer Station	Palo Alto	Northern Plains Planning Area	Transfer Station	Transfer Station or Recycling Facility that accepts source-separated recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	Source Separated - plastic 1-7, cardboard, tin, mixed paper, aluminum cans - contract with Shamrock Recycling out of Emmetsburg and pay them a fee		
Northwest Iowa Area Sanitary Landfill	Sioux	Northwest Iowa Area Solid Waste Agency	Municipal Landfill	Disposal Site that includes a Recycling Facility that accepts and processes recyclables. Facility earns revenue from end users or brokers.	Separate building for recycling with sort lines, baler, etc. Can drop off recyclables at landfill but no off site rural drop-offs. Does not have capacity for more material currently. Processing an average of 200 tons per month	Planning area (Lyon, Osceola, Sioux, O'Brien Counties) + a few small towns in Clay County. Curbside recycling from Sioux county. Private haulers bring the recyclables to them	
Chamness Technologies Solid Waste Composting Facility	Wapello	OttumwaWapello County Solid Waste Commission	Composting Facility	Compost Facility			
Ottumwa-Wapello County Sanitary Landfill	Wapello	OttumwaWapello County Solid Waste Commission	Municipal Landfill	Transfer Station or Disposal Site that only accepts municipal solid waste (MSW) (may have minimal recycling per state mandates that yard waste, electronics, appliances and tires be separated from all other MSW).	Recycling handled through Ottumwa Recycling Center		
Ottumwa Recycling Center	Wapello	OttumwaWapello County Solid Waste Commission	Recycling Processor	Transfer Station or Recycling Facility that accepts and processes single stream (or " commingled ") recyclables. Facility earns revenue from end users or brokers.	Curbside Newspapers, catalogues, phone books, magazines Corrugated cardboard and paperboard Office Paper – Always bagged – Used old grocery and discount store plastic bags, Plastic bottles and jars (#1, 2 and 5) Aluminum and Steel cans – including empty aerosol cans, Green, brown or clear glass food and beverage container. Plus a drop-off area for items that are not picked up at the curb. These items include used motor oil, antifreeze, automotive batteries, transmission fluid, used oil filters, textiles, hardback books and usable latex paint in quantities of 1/2 gallon or more. The Recycling Center also has a drop-off area for all of the items that are collected at the curb, including grass clippings and leaves. The Recycling Center does not accept limbs and branches. These may be taken to the Landfill at no charge.	Wapello and Davis Counties	
Waste Mgmt of Iowa/Stevens Sanitation Bloomfield Citizens Convenience Center	Davis	OttumwaWapello County Solid Waste Commission	Citizen Convenience Center	Unable to get ahold of local facility			
Page County Sanitary Landfill	Page	Page County Landfill Association	Municipal Landfill	Transfer Station or Recycling Facility that accepts and processes source-separated recyclables. Facility earns revenue from end users or brokers.	Cardboard, plastic 1-5, mixed, aluminum and tin cans, scrap metal. Anyone can bring it to them (Towns of Bedford, Red Oak, New Market bring materials regularly). Source separated - further hand sort as needed. Private haulers also bring material to them. They pay Shenandoah Sanitation for their source separated materials.	Page County + parts of Fremont, Montgomery (southern portion) and Taylor counties	

Facility	County	Annual MSW tons	Tons Household recycling processed per year	City	Address	Curbside Recycling (1=yes)	County	Planning Area	Contact	Received Survey	Completed Survey	Email	Phone
Emmet County Transfer Station	Emmet			ESTHERVILLE		1	Emmet	Northern Plains Planning Area	<u>Penny Clayton</u>	yes		estherville@mchsi.com	(712) 362-7771
Palo Alto County Transfer Station	Palo Alto	34,868		EMMETSBURG		1	Palo Alto	Northern Plains Planning Area	Joe Neary	yes		paczeh@mchsi.com	(712) 852-3058 or TS (712) 852-2482
Northwest Iowa Area Sanitary Landfill	Sioux	61,307	2400	SHELDON	4540 360th St	1	Sioux	Northwest Iowa Area Solid Waste Agency	Larry Oldenkamp	yes		NWFLLarry@netllc.net	(712) 324-4026
Chamness Technologies Solid Waste Composting Facility	Wapello			Buckhorn			Wapello	OttumwaWapello County Solid Waste Commission					
Ottumwa-Wapello County Sanitary Landfill	Wapello	32,309		Ottumwa		1	Wapello	OttumwaWapello County Solid Waste Commission	Jody Gates & Janice Bain	yes	yes	gatesj@ci.ottumwa.ia.us, bainj@ci.ottumwa.ia.us	(641) 683-0694 , Janice - 641-683-0684
Ottumwa Recycling Center	Wapello		1,494.71 we also additionally have business recycling, but they are tracked separately.	Ottumwa	2415 Emma Street		Wapello	OttumwaWapello County Solid Waste Commission					(641) 683-0685
Waste Mgmt of Iowa/Stevens Sanitation Bloomfield Citizens Convenience Center	Davis			BLOOMFIELD		1	Davis	OttumwaWapello County Solid Waste Commission					(641) 472-3482 or (641) 664-3803
Page County Sanitary Landfill	Page	15,014		CLARINDA		1	Page	Page County Landfill Association	Myron Magwitz	yes		pageland@heartland.net	800-498-4777

Facility	County	Planning Area	Type of Facility	Facility Type Details (map legend)	Material Types	Where does recycling come from (if recyclables come from areas other than just the county that the facility is in)?	Where does recycled material go to if not sold directly to market?
Vans Sanitation and Recycling	Plymouth	Plymouth SWA	Recycling Processor	Private MRF	Currently running sort line 3.5-4 days a week, capacity to process more materials. Operating at about 8 tons per hour, approximately 450 tons per month.	Cherokee and Plymouth County, City of Spencer, Sioux City's curbside, Fort Dodge's curbside	
Plymouth County Transfer Station	Plymouth	Plymouth SWA	Transfer Station & C&D Landfill	Transfer Station or Recycling Facility that accepts commingled recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	Accepts plastic 1-7, mixed paper, cardboard, aluminum and tin cans, shingles, wood. Give it to Vans processes it. Transfer station & C&D Landfill co-located. Recycling program that all cities in county except Akron (no longer in planning area), 96 gallon totes for all residential curbside (every other week recycling pick up). Cities have 4 or 5 haulers in city of LeMars that are registered - just transporting material not processing. Didn't seem interested in franchising for ONE hauler. Garbage from haulers is billed back to the City. Up until April 2016 months ago they got paid \$10/ton for their recycling, right now getting rid of it for nothing. 120 tons per month including curbside programs. MSW goes to Jackson, NE. C&D program they sort every load coming in - all dry wood sorted out and ground and hauled away for fuel at an ethanol plant, asphalt shingles sorted and turned into roads.		Van's Recycling
Waste Management	Union	Prairie Planning Area	Recycling Processor	Private MRF	Drop off locations throughout planning area accept mixed paper, cardboard, aluminum and tin cans, plastic 1-7 and glass. Waste Management operates recycling center. City of Creston just switched to single stream in July of 2016, Waste Management collects and processes it. Waste Management has a small facility in Creston and they accept general household recycling outside their building. Rural residents can drop off material outside of WM office		
Union County Transfer Station	Union	Prairie Planning Area	Transfer Station	Transfer Station or Disposal Site that only accepts municipal solid waste (MSW) (may have minimal recycling per state mandates that yard waste, electronics, appliances and tires be separated from all other MSW).	Does have a cardboard bin that Waste Management will service		
Rathbun Area Solid Waste Management Commission Transfer Station	Appanoose	Rathbun	Transfer Station & Recycling Processor	Transfer Station or Recycling Facility that accepts and processes source-separated recyclables. Facility earns revenue from end users or brokers.	Aluminum and tin cans, mixed paper, plastic 1-7 bottles, cardboard, glass, scrap metal, electronics. No yard waste	Planning area plus Allerton & Seymour, Promise City and Monroe County. Send wood waste to B&B Bedding in Oskaloosa	
Rural Iowa Sanitary Landfill & Hardin County Solid Waste	Hardin	Rural Iowa Waste Management Association	Municipal Landfill & Recycling Processor	Disposal Site that includes a Recycling Facility that accepts and processes recyclables. Facility earns revenue from end users or brokers.	Landfill only accepts MSW - colocated with recycling center in same area but separate entities. Recycling Center is Hardin County Solid Waste - Source separated, bale and sell - Hardin County and some outside. Curbside and drop off and commercial pick. Accepts plastic 1-7, tin, aluminum, mixed paper (source separated), greyboard and cardboard		

Facility	County	Annual MSW tons	Tons Household recycling processed per year	City	Address	Curbside Recycling (1=yes)	County	Planning Area	Contact	Received Survey	Completed Survey	Email	Phone
Vans Sanitation and Recycling	Plymouth		Processing approximately 88 tons for Plymouth County and approximately 30 tons for Cherokee every month using a single stream recycling process.	Le Mars	1553 18th St SW,		Plymouth	Plymouth SWA	Scott			scott@vanssanitation.com	712-548-4644
Plymouth County Transfer Station	Plymouth		1440	Le Mars		1	Plymouth	Plymouth SWA					(712) 546-6071
Waste Management	Union			CRESTON	710 E Monroe St		Union	Prairie Planning Area					(641) 782-7777
Union County Transfer Station	Union	20,660		CRESTON			Union	Prairie Planning Area	Amy Schultes	yes	yes	recycle@iowatelecom.net	(641) 347-5022, 866-282-8787, 641-347-8813
Rathbun Area Solid Waste Management Commission Transfer Station	Appanoose	9,464	1500-1600 tons	Centerville	3020 McCarty Street, Centerville		Appanoose	Rathbun	Rodger Kaster	yes	no	raswc@iowatelecom.net	(641) 437-7279
Rural Iowa Sanitary Landfill & Hardin County Solid Waste	Hardin	28,892		Eldora	20488 M Ave, Eldora	1	Hardin	Rural Iowa Waste Management Association	Susan Engelking & Dan Aastrup	yes	yes- Susan	skengelking@hardincountysolidwaste.com , dan@riwma.net	(641) 858-5904 (landfill), 641-939-5808 (recycling)

Facility	County	Planning Area	Type of Facility	Facility Type Details (map legend)	Material Types	Where does recycling come from (if recyclables come from areas other than just the county that the facility is in)?	Where does recycled material go to if not sold directly to market?
Plastics Recycling of Iowa Falls (Plastics Only)	Hardin	Rural Iowa Waste Management Association	Recycling Processor	End User	Creates recycled plastic lumber and lumber products		
Butler County Transfer Station	Butler	Rural Iowa Waste Management Association	Transfer Station & Recycling Processor	Transfer Station or Recycling Facility that accepts and processes source-separated recyclables. Facility earns revenue from end users or brokers.	Plastic 1-7, mixed paper, cardboard, aluminum and tin cans, electronics, glass. Drop off container for each community in the county - presorted. Also accepted for drop off at their location. No sort line, bale and sell to markets		
Grundy County Citizen Convenience Center	Grundy	Rural Iowa Waste Management Association	Citizen Convenience Center	Transfer Station or Recycling Facility that accepts and processes source-separated recyclables. Facility earns revenue from end users or brokers.	Mixed paper, Cardboard, Newspaper, Tin, Aluminum, plastic #1-7, Separate Glass by Color. Has a baler and markets, sells OCC, everything else co-market with Hardin County (30 miles away), refuse from convenience center also goes there. He bales plastic and other items and Hardin county takes a fee off for admin. A "gentlemen's agreement" type of informal rural cooperative marketing model. Source separated and hand sorted. Had curbside when the landfill was open, but closed 8 years ago. Still gets some drop off from individuals living towns that have curbside pickup. Cedar Valley Recycling & Transfer Company (Corkery Recycling) in Waterloo gets a lot of the curbside recycling in the area = comingled		
Sac County Sanitary Landfill (and Transfer)	Sac	Sac County SWA	Municipal Landfill	Disposal Site that accepts household recyclables. Facility does not earn revenue from recyclables.	Dual stream 1) paper (mixed paper) and OCC and 2) containers (aluminum and tin cans, plastic 1-7) including glass, also accept clothing. Cities have curbside and rural drop off at trailers or drop off directly at landfill. \$10/ton paid to Carroll County to process and \$48 for garbage		Carroll County Sanitary Landfill/Recycling Center
Siouxland Recovery Inc	Woodbury	Sioux Woodbury		Private MRF	Smaller private MRF, Drop off site in the City, trailers for recycling rented, business recycling collection primarily for large businesses or private haulers, they sort and bale it themselves. Single stream - only accepting plastic 1&2, cardboard, mixed paper, aluminum and tin cans		
City of Sioux City Citizens Convenience Center (AKA Gill Hauling Transfer Station)	Woodbury	Sioux Woodbury	Citizen Convenience Center	Transfer Station or Recycling Facility that accepts comingled recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	CCC is mainly for household hazardous waste, special wastes or bulky items. Do have SS-Cardboard, Mix Paper, Tin, Aluminum, #1-7, Glass. Curbside collection - they don't encourage residents to drop off there but to participate in City's program		Taken to Van's sanitation in Le Mars
Woodbury County Transfer Station	Woodbury	Sioux Woodbury	Transfer Station	Transfer Station or Recycling Facility that accepts comingled recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	Plastics 1-7, cardboard, mixed paper, aluminum and tin cans - comingled, cardboard separated out. Bale and sell cardboard themselves, curbside recycling and comingled drop off goes to LeMars and sorted at Van's Sanitation		Taken to Van's sanitation in Le Mars
South Central Iowa Sanitary Landfill	Madison	South Central Iowa Landfill Agency	Municipal Landfill	Disposal Site that accepts household recyclables. Facility does not earn revenue from recyclables.	Single stream-Cardboard, Mix Paper, Tin, used beverage containers, Plastic Bottles, Glass		
South Central Iowa Solid Waste Agency Landfill	Marion	South Central Iowa Solid Waste Agency	Municipal Landfill & Recycling Center	Disposal Site that accepts household recyclables. Facility does not earn revenue from recyclables.	Single stream drop off onsite - News and office paper, including magazines, Cardboard - both boxboard (cereal boxes and shoe boxes) and corrugated (must be cut into pieces less than 2' X 2'), PET and HDPE plastics (#1 and #2), Tin and aluminum cans, Clear glass bottles. They haul loose, single stream to Midwest Sanitation for processing		

Facility	County	Annual MSW tons	Tons Household recycling processed per year	City	Address	Curbside Recycling (1=yes)	County	Planning Area	Contact	Received Survey	Completed Survey	Email	Phone
Plastics Recycling of Iowa Falls (Plastics Only)	Hardin			Iowa Falls	10252 US-65		Hardin	Rural Iowa Waste Management Association	Bob Mesragh	no		info@plasticrecycling.us	641-648-5073
Butler County Transfer Station	Butler			ALLISON		1	Butler	Rural Iowa Waste Management Association	Matt Ramker & Tom Cain	yes Tom		tc@wecycle.net	319-267-2070
Grundy County Citizen Convenience Center	Grundy			Grundy Center	20434 220th Street, Grundy Center	1	Grundy	Rural Iowa Waste Management Association	Jerry				319-824-6967, 319-640-5280
Sac County Sanitary Landfill (and Transfer)	Sac	5,905		SAC CITY		1	Sac	Sac County SWA	Renee Roland	yes	yes	rroland@saccounty.org	(712) 662-7401
Siouxland Recovery Inc	Woodbury			Sioux City	1100 Cunningham Dr.		Woodbury	Sioux Woodbury					(712) 258-2823
City of Sioux City Citizens Convenience Center (AKA Gill Hauling Transfer Station)	Woodbury			Sioux City	5800 28th Street	1	Woodbury	Sioux Woodbury	Melissa Campbell	yes		melissacampbell@sioux-city.org	712-279-6349, 712-255-8345
Woodbury County Transfer Station	Woodbury			MOVILLE	2210 Ida Ave, Merville	1	Woodbury	Sioux Woodbury	Gill James	yes		gillwoodbury@wiatel.net	712-873-3837
South Central Iowa Sanitary Landfill	Madison	42,780		WINTERSET		1	Madison	South Central Iowa Landfill Agency	Marcia Beeler	yes	yes	scilamab@aol.com	(515) 462-3083
South Central Iowa Solid Waste Agency Landfill	Marion	59,278		Tracy	1736 County Hwy T17, Tracy		Marion	South Central Iowa Solid Waste Agency	Rick Hurt	yes	yes	rhurt@sciswa.org	(641) 828-8545 ext. 2

Facility	County	Planning Area	Type of Facility	Facility Type Details (map legend)	Material Types	Where does recycling come from (if recyclables come from areas other than just the county that the facility is in)?	Where does recycled material go to if not sold directly to market?
Browns Sanitation and Regional Recycling Center	Marion	South Central Iowa Solid Waste Agency	Recycling Processor	Private MRF	Paper: Newspapers; Newspaper inserts; Magazines; Catalogs; Office paper; Phone books, Cardboard: Corrugated cardboard only - PLEASE FLATTEN. NO cereal or other non-corrugated packaging, Metal Cans: Food cans, drink cans, and metal ends of juice cans - PLEASE RINSE, CRUSH or FLATTEN and REMOVE LABELS. NO paint or aerosol cans, Glass: Bottles and jars only: clear, brown or green - PLEASE RINSE, REMOVE CAPS, LIDS and RINGS. May leave labels on. NO windows, ceramics, dishes, light bulbs, or broken glass, Plastic: Numbers 1 and 2: Bottles, jugs and other rigid containers - NO motor oil or pesticide containers, styrofoam, bags, film, toys, hose or pipe.	Marion Cty	
Poweshiek Transfer Station	Poweshiek	South Central Iowa Solid Waste Agency	Transfer Station	Transfer Station or Recycling Facility that accepts source-separated recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	Accepts - News and office paper, including magazines, Cardboard – both boxboard (cereal boxes and shoe boxes) and corrugated (must be cut into pieces less than 2' X 2'), #1 - 7 plastics, Tin and aluminum cans, Clear glass bottles, scrap metal, appliances, oil, oil filters, car batteries, tires. Source separated hauler out of Iowa City is paid to take the material to processor for them. Wasn't sure where it ended up. Source separated material may get comingled during hauling		
SEMCO,Southeast Multi-County Sanitary Landfill	Keokuk	Southeast Multi County Solid Waste Agency	Municipal Landfill	Transfer Station or Disposal Site that only accepts municipal solid waste (MSW) (may have minimal recycling per state mandates that yard waste, electronics, appliances and tires be separated from all other MSW).	Appliances, tires, metals, e-waste, OCC, wood waste		
Connelly Recycling, Inc. / Fairfield CCC	Jefferson	Southeast Multi County Solid Waste Agency	Citizen Convenience Center	Transfer Station or Recycling Facility that accepts and processes source-separated recyclables. Facility earns revenue from end users or brokers.	Tin Cans, Aluminum, Glass (white, green, or brown), Plastics #1-#7, Cardboard, Electronics, Plastic Grocery Sacks, Newspaper, Magazines, Phone Books, Colored Paper, White Paper,White Shredded Paper. Privately operated		
Waste Mgmt of Iowa/Stevens Sanitation Fairfield Citizens Convenience Center	Jefferson	Southeast Multi County Solid Waste Agency	Citizen Convenience Center	Unable to get ahold of local facility	Operated by private entity - Waste Management		
Washington County Citizen Convenience Center	Washington	Southeast Multi County Solid Waste Agency	Citizen Convenience Center	Unable to get ahold of local facility	Operated by private entity - Mark's Sanitation		
Waste Management of Iowa Sigourney Citizens Convenience Center	Keokuk	Southeast Multi County Solid Waste Agency	Citizen Convenience Center	Unable to get ahold of local facility	Operated by private entity - Waste Management		
B & M Recycling	Ringgold	Wayne, Ringgold, Decatur	Recycling Processor	Private MRF	Not a full MRF - Cardboard and paper recycling picked up primarily from businesses. Hauls it and bales and sells it or it's already baled and they pick up. Usually sells to Waste Management or Republic. Doesn't have enough access to other materials to expand. Not interesting in expanding into other commodities.	Southwest part of Iowa some in Missouri	
Wayne-Ringgold-Decatur County Sanitary Landfill	Decatur	Wayne, Ringgold, Decatur	Municipal Landfill	Transfer Station or Disposal Site that only accepts municipal solid waste (MSW) (may have minimal recycling per state mandates that yard waste, electronics, appliances and tires be separated from all other MSW).	Recycles oil, cell phones, rechargeable batteries, fluorescent bulbs, tires, appliances and scrap metal at the landfill site	Lineville, IA sends material to Princeton, MO	Corydon's material goes to Midwest Sanitation in Oskaloosa

Facility	County	Annual MSW tons	Tons Household recycling processed per year	City	Address	Curbside Recycling (1=yes)	County	Planning Area	Contact	Received Survey	Completed Survey	Email	Phone
Browns Sanitation and Regional Recycling Center	Marion			Knoxville	517 N Depot St		Marion	South Central Iowa Solid Waste Agency					(641) 842-4170
Poweshiek Transfer Station	Poweshiek			MALCOM		1	Poweshiek	South Central Iowa Solid Waste Agency					641-528-2801
SEMCO,Southeast Multi-County Sanitary Landfill	Keokuk	24,292		RICHLAND		1	Keokuk	Southeast Multi County Solid Waste Agency	Bill Sloop	yes		semcolandfill@gmail.com	888-419-6720
Connelly Recycling, Inc. / Fairfield CCC	Jefferson			FAIRFIELD	903 West Gear Road	1	Jefferson	Southeast Multi County Solid Waste Agency					641-469-3188
Waste Mgmt of Iowa/Stevens Sanitation Fairfield Citizens Convenience Center	Jefferson			FAIRFIELD	2026 Libertyville Road	1	Jefferson	Southeast Multi County Solid Waste Agency					641-472-0159
Washington County Citizen Convenience Center	Washington			WASHINGTON	2170 Lexington Road		Washington	Southeast Multi County Solid Waste Agency	Mark Redlinger?				(319) 653-2463, (319) 653-6373
Waste Management of Iowa Sigourney Citizens Convenience Center	Keokuk			SIGOURNEY	23514 Highway 149	1	Keokuk	Southeast Multi County Solid Waste Agency					(641) 622-3356
B & M Recycling	Ringgold	1,200		Mount Ayr	2531 Hwy 2		Ringgold	Wayne, Ringgold, Decatur	Roger Magahuey				641-344-0192 or (641) 344-0303
Wayne-Ringgold-Decatur County Sanitary Landfill	Decatur	9,777		Kellerton			Decatur	Wayne, Ringgold, Decatur	Jenny Nickell, Karen Denney	yes	yes	wrdlandf@grm.net	(641) 773-5229

Facility	County	Planning Area	Type of Facility	Facility Type Details (map legend)	Material Types	Where does recycling come from (if recyclables come from areas other than just the county that the facility is in)?	Where does recycled material go to if not sold directly to market?
Carroll County Sanitary Landfill/Recycling Center	Carroll	West Central Iowa Solid Waste Management Association	Municipal Landfill	Disposal Site that includes a Recycling Facility that accepts and processes recyclables. Facility earns revenue from end users or brokers.	Dual stream mrf – since its inception in 1991 material collected as dual stream – 1) paper (mixed paper) and OCC and 2) containers (aluminum and tin cans, plastic 1-7) including glass, also accept clothing – this is then sorted on two sort lines, baled and sold. Glass is sorted by color. 80% of what they process by weight is fiber. • Collect branches and contractor grinds and takes them off site. • Service area population base 60k	Recycling comes from - Shelby County get all their drop off TS, Guthrie County Transfer Station, Calhoun County southern half of the county for their curbside programs, all of Carroll County and Sac County. There are no balers in their service area other than theirs.	
Crawford County Transfer Station	Crawford	West Central Iowa Solid Waste Management Association	Transfer Station	Transfer Station or Recycling Facility that accepts commingled recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	Dual stream 1) paper (mixed paper) and OCC and 2) containers (aluminum and tin cans, plastic 1-7) including glass, also accept clothing . Two separate buildings one for recycling and one for MSW, curbside collection comes to them. One contractor (Carroll Refuse) handles all of city curbside. recent improvement from when they used to have multiple haulers managing curbside program. People can also haul their own recycling to them from outside of the city. Rural roll off drop off points for recycling are also brought to them and hauled to Carroll County. They pay a processing fee to Carroll County - based on formula. Education to residents includes monthly advertisements on closed circuit TV.	Crawford County	Carroll County Sanitary Landfill/Recycling Center
Guthrie County Transfer Station	Guthrie	West Central Iowa Solid Waste Management Association	Transfer Station	Transfer Station or Recycling Facility that accepts commingled recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	Dual stream 1) paper (mixed paper) and OCC and 2) containers (aluminum and tin cans, plastic 1-7) including glass, also accept clothing		Carroll County Sanitary Landfill/Recycling Center
Shelby County Transfer Station	Shelby	West Central Iowa Solid Waste Management Association	Transfer Station	Transfer Station or Recycling Facility that accepts commingled recyclables and has limited or no processing. Facility does not earn revenue from recyclables.	Dual stream 1) paper (mixed paper) and OCC and 2) containers (aluminum and tin cans, plastic 1-7) including glass, also accept clothing. Separate building to collect and store material, but not process it. They ship to cardboard and paper separately and comingled.		Carroll County Sanitary Landfill/Recycling Center
Winneshiek County Sanitary Landfill	Winneshiek	Winneshiek County Solid Waste Agency	Municipal Landfill & Recycling Processor	Transfer Station or Disposal Site that only accepts municipal solid waste (MSW) (may have minimal recycling per state mandates that yard waste, electronics, appliances and tires be separated from all other MSW).	All household plus scrap metal, electronics, textiles, shoes, Electronics, but no CRTs, no glass.		
Howard County Recycling Facility (operated by Hawkeye Recycling)	Howard	Winneshiek County Solid Waste Agency	Recycling Processor - sorting facility	Transfer Station or Recycling Facility that accepts and processes source-separated recyclables. Facility earns revenue from end users or brokers.	Mixed paper, OCC, plastic 1-2, aluminum and tin cans, clear glass, electronics (for a fee). Operated by Hawkeye Recycling. Parent company Hawkeye Sanitation is a hauler that owns trucks and delivers curbside recycling to them. Source separated. They do have a small sort line for their plastics and tin because of curbside material, but encourage source separated. They have a 24/7 drop off at their facility and there are a few rural drop offs nearby that are brought to them. Currently at capacity could only accept a bit more material.	Howard and Clayton Counties	
Winneshiek County Recycling	Winneshiek	Winneshiek County Solid Waste Agency	Recycling Processor & Sorting facility	Transfer Station or Recycling Facility that accepts and processes source-separated recyclables. Facility earns revenue from end users or brokers.	Textiles, shoes, mixed paper, OCC, plastic 1-7, aluminum and tin cans. Swap shop for books. All drop off recycling. 46 drop off spots in service area. Winneshiek County banned OCC from landfills	Winneshiek county,	

Facility	County	Annual MSW tons	Tons Household recycling processed per year	City	Address	Curbside Recycling (1=yes)	County	Planning Area	Contact	Received Survey	Completed Survey	Email	Phone
Carroll County Sanitary Landfill/Recycling Center	Carroll	57,086		CARROLL		1	Carroll	West Central Iowa Solid Waste Management Association	Mary Wittry	yes	yes	mwittry@carrollcountylandfill.com	(712) 792-5001
Crawford County Transfer Station	Crawford			DENISON		1	Crawford	West Central Iowa Solid Waste Management Association	Chuck Etleman	yes		cettleman@crawfordcounty.org	(712) 263-2449
Guthrie County Transfer Station	Guthrie			GUTHRIE CENTER		1	Guthrie	West Central Iowa Solid Waste Management Association	Steve Patterson	yes	yes	envhlth@netins.net	(641) 747-8320
Shelby County Transfer Station	Shelby			HARLAN		1	Shelby	West Central Iowa Solid Waste Management Association					712-755-5010
Winneshiek County Sanitary Landfill	Winneshiek	22,232	2500	DECORAH		1	Winneshiek	Winneshiek County Solid Waste Agency	Terry Buenzow	yes	yes	recycling@co.winneshiek.ia.us	563-379-6239, 563-382-2370
Howard County Recycling Facility (operated by Hawkeye Recycling)	Howard		1400	Cresco	811 Airport Road		Howard	Winneshiek County Solid Waste Agency	Ross Merritt III	no			563-547-3199
Winneshiek County Recycling	Winneshiek		2500	Decorah	2510 172nd Ave		Winneshiek	Winneshiek County Solid Waste Agency	Terry Buenzow	yes	yes	recycling@co.winneshiek.ia.us	563-379-6239, 563-382-2370