



Butler County Recycling Plan

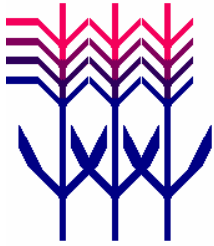
Prepared for and presented to

The Butler County Commission

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Engineering Solutions & Design, Inc.





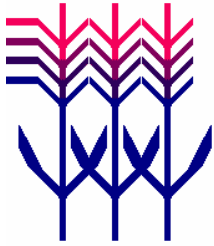
Estimation of Recycling Potential From All Tons Currently being Delivered to the Butler County Landfill

Category	Andover	Augusta	Benton	Cassoday	Douglass	Elbing	El Dorado	Latham	Leon	Potwin	Rose Hill	Towanda	Whitewater	Townships	Total
Population	8,617	8,560	817	127	1,810	210	12,717	164	648	438	3,857	1,342	639	21,882	61,828
Total Tonnage	1,947	5,660	238	229	455	5	9,925	15	435	68	809	582	641	4,130	25,139
Tons/Person	0.23	0.66	0.29	1.80	0.25	0.02	0.78	0.09	0.67	0.16	0.21	0.43	1.00	0.19	0.41
Newspaper (6.9%)	134	391	16	16	31	0	685	1	30	5	56	40	44	285	1,735
Office Paper (8.2%)	160	464	20	19	37	0	814	1	36	6	66	48	53	339	2,061
Corrugated Paper (14.4%)	280	815	34	33	66	1	1,429	2	63	10	116	84	92	595	3,620
Magazines (3.9%)	76	221	9	9	18	0	387	1	17	3	32	23	25	161	980
Other Paper (6.2%)	121	351	15	14	28	0	615	1	27	4	50	36	40	256	1,559
PET (1.2%)	23	68	3	3	5	0	119	0	5	1	10	7	8	50	302
HDPE (1.2%)	23	68	3	3	5	0	119	0	5	1	10	7	8	50	302
Tin (4.1%)	80	232	10	9	19	0	407	1	18	3	33	24	26	169	1,031
Aluminum (0.6%)	12	34	1	1	3	0	60	0	3	0	5	3	4	25	151
Glass (2.7%)	53	153	6	6	12	0	268	0	12	2	22	16	17	112	679
Remaining Tons	985	2,918	121	116	231	3	5,022	8	220	34	409	294	325	2,089	12,775

NOTES:

1. Total tonnage based on the amount of solid waste delivered to Butler County Landfill.
2. Category percentage based on 2003 State of Kansas Waste Characterization Study.
3. Population figures based on 2004 population estimate.





Estimation of Recycling Potential From All Tons Generated in Butler County

Category	Andover	Augusta	Benton	Cassoday	Douglass	Elbing	El Dorado	Latham	Leon	Potwin	Rose Hill	Towanda	Whitewater	Townships	Total
Population	8,617	8,560	817	127	1,810	210	12,717	164	648	438	3,857	1,342	639	21,882	61,828
Total Tonnage	5,687	5,660	539	229	1,195	139	9,925	108	434	289	2,546	886	639	14,442	42,701
Tons/Person	0.66	0.66	0.66	1.80	0.66	0.66	0.78	0.66	0.67	0.66	0.66	0.66	1.00	0.66	0.69
Newspaper (6.9%)	392	390	37	16	82	10	684	7	30	20	176	61	44	997	2,946
Office Paper (8.2%)	466	463	44	19	98	11	813	9	36	24	209	73	52	1,184	3,501
Corrugated Paper (14.4%)	819	814	78	33	172	20	1,428	16	63	42	367	128	92	2,080	6,149
Magazines (3.9%)	222	220	21	9	47	5	387	4	17	11	99	35	25	563	1,665
Other Paper (6.2%)	353	350	33	14	74	9	615	7	27	18	158	55	40	895	2,647
PET (1.2%)	68	68	6	3	14	2	119	1	5	3	31	11	8	173	512
HDPE (1.2%)	68	68	6	3	14	2	119	1	5	3	31	11	8	173	512
Tin (4.1%)	233	232	22	9	49	6	407	4	18	12	104	36	26	592	1,751
Aluminum (0.6%)	34	34	3	1	7	1	60	1	3	2	15	5	4	87	256
Glass (2.7%)	154	153	15	6	32	4	268	3	12	8	69	24	17	390	1,115
Remaining Tons	2,877	2,858	272	116	605	70	5,019	55	219	146	1,288	448	324	7,308	21,605

NOTES:

1. Total tonnage based on an estimate of 0.66 tons per person rate for those communities that do not send all of their solid waste to the Butler County Landfill. Those that do send all of their waste to the Butler County Landfill the amount provided is based on information provided by Butler County.
2. Category percentage based on 2003 State of Kansas Waste Characterization Study
3. **Population figures based on 2004 population estimate**





Present Interests and Activities Relating to Recycling

1. The county and its communities are favorable to a more aggressive recycling program.
2. Recycling programs are in place that provide various levels of service to the citizens of the county.
3. The majority of the population of Butler County is located in the West Central portion of the county, which has a significant transportation system in place.
4. Recycling programs for rural areas are in place and functioning well.
5. A variety of recycling programs such as curbside collection, drop-off centers, and rotating trailers are presently in place in the county.
6. There are efforts in place to educate the public on the benefits of recycling and waste reduction.



Limitations of Present Recycling Efforts

- Some communities do not control nor provide solid waste collection.
- The use of drop-off centers and the rotating trailers varies from community to community.
- The existing processing facilities for recyclables are limited in capacity due to a lack of space or equipment.
- Public awareness and education programs are not consistent throughout the county.
- There is a lack of coordinated involvement by commercial and industrial sectors in recycling and waste reduction.



List of Criteria the Optimal Recycling Program Should Meet or Satisfy

- The establishment of a focused recycling and waste reduction program throughout the county.
- Greater access to recycling collection particularly in the four largest communities in the county.
- Expanded access to the present rotating recycling trailer system.
- Provide access to the recycling program for commercial and industrial sectors of the county.
- Expand recyclables processing through the utilization of existing facilities or consolidation of facilities.
- A centralized coordination of the overall recycling efforts in the county.



Existing Recycling System

- Curbside Collection Provided by the City of El Dorado
- Curbside or Similar Collection in Selected Communities or Areas provided by Private Haulers
- Drop-off Trailers provided by County
- Processing of Recyclables provided by City of Augusta and City of El Dorado or taken out of county



Matrix Decision

Responsibility Matrix

Responsibility Matrix	Implementation of Option	Resistance to Option	Confidence in Management	Control Issues	Long-Term Viability	Ease of Operation	Cost	Total
Community and Area Based	5	10	10	8	5	5	8	51
County Based	9	15	15	10	10	10	8	77
County/Community Coordination	8	15	12	8	5	5	8	61
New Authority	4	9	10	5	10	6	6	50



Matrix Decision

Education Matrix

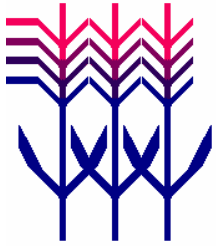
Education Matrix	Ease of Operation	Confidence Level	Long-Term Viability	Commitment	Cost	Total
School Program	10	10	5	8	8	41
Public Awareness Program	5	10	5	8	5	33
Centralized Program	8	10	10	10	8	46



Matrix Decision

Collection Matrix

Collection Matrix	Process	Resistance to Option	Confidence in Option	Control Issues	Long-Term Viability	Commitment	Ease of Operation	Cost	Total
Expand Drop-Offs	10	10	8	10	10	15	15	15	93
Expand Trailer Program	10	10	8	10	10	15	15	15	93
Expand Curbside Collection to Four Communities	5	8	8	5	20	15	20	10	91
Status Quo	10	5	3	5	0	10	10	10	53

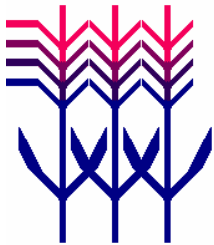


Matrix Decision

Processing Matrix

Processing Matrix	Process	Access	Long-Term Viability	Ease of Operation	Cost	Total
Upgrade Existing Facilities	10	15	10	10	10	55
Modify Facilities	8	18	10	15	10	61
Centralized Facility	8	18	20	15	10	71
Status Quo	5	15	5	5	15	45

Optimal Recycling Program



1. The county would take a greater lead in the recycling efforts in the entire county. This increased involvement would focus on expanded public education, improvements and upgrades to the collection of recyclables, and expanded capabilities within the county to process recyclables.
2. The public education efforts would involve working directly with the school districts within the county to establish a recycling education curriculum that is flexible and meets the environmental education standards for Kansas. The county would establish an on-going public relations campaign that would instruct and inform the public on the recycling efforts in the county and how to utilize the recycling system in their area.
3. The county will expand its present trailer collection program to provide increased times and places for the collection of recyclables. The county would also work directly with the four largest communities in the county - El Dorado, Augusta, Andover, and Rose Hill - to establish curbside recycling collection. For some communities, El Dorado and Augusta, this effort would involve supporting the community's present program and providing guidance and assistance in establishing or enhancing its present system, while with other communities, Rose Hill and Andover, the effort would entail providing guidance and support in establishing a curbside program.



Optimal Recycling Program

4. A commercial recycling program would be established. The county would establish the program requirements and methods of collection. The program would be established in El Dorado, Augusta, Andover, and Rose Hill and would be implemented by these communities.

5. The processing of the recyclables would be centralized. The county would evaluate uses of existing facilities and determine the optimal location of the processing facility.



Schedule

Year 1

1. Adoption of Plan

Year 2

1. Hire Coordinator and Staff
2. Hire Education Consultant
3. Hire Curbside Collection Consultant
4. Waste Characterization Study

Year 3

1. Plan and Implement Public Education Program
2. Obtain Additional Trailers
3. Establish Additional Drop-off Centers
4. Plan and Establish Curbside Collection
5. Establish Commercial Recycling Program
6. Transfer Processing Facilities
7. Complete Waste Characterization Study

Year 4

1. Improvements to El Dorado Facility
2. Improvements to Augusta Facility
3. Add Operations Staff
4. Continue Public Education
5. Curbside Collection in Place
6. Commercial Recycling Program In Place

Year 5

1. Add Operation Staff
2. New Equipment for Processing Facilities
3. Continue Public Education Program
4. Finalize Commercial Recycling Program

Year 6

1. Finalize Maintenance Program for Trailers
2. Finalize Maintenance Program for Drop-off Centers
3. Continue Management Structure for Recycling including Coordinator and Staff
4. Continue Public Education
5. Continue all solid waste management programs.





IMPLEMENTATION AND EDUCATION

Item	Year 2	Year 3	Year 4	Year 5	Year 6
	Cost	Cost	Cost	Cost	Cost
Coordinator	14,000	43,056	44,563	46,123	47,737
Staff	8,400	25,834	26,738	27,674	28,642
Supplies & Printing	1,650	5,175	5,356	5,544	5,738
Education Consultant	5,000	25,875	26,781	27,718	28,688
Waste Characterization Study	35,000	36,225	-	-	-
Total	64,000	136,000	103,000	107,000	111,000

COLLECTION



Item	Year 2	Year 3	Year 4	Year 5	Year 6
	Cost	Cost	Cost	Cost	Cost
Additional Trailers	-	103,500	-	-	-
Service Additional Trailers	-	9,315	10,444	11,642	12,910
Drop-off Centers	-	14,490	-	-	-
Service Drop-off Centers	-	20,700	23,567	26,609	25,246
Curbside Collection Consultant	8,750	36,225	9,373	-	-
Commercial Recycling Consultant	13,500	46,575	9,641	9,978	
Total	22,000	231,000	53,000	48,000	38,000



PROCESSING

Item	Year 2 Cost	Year 3 Cost	Year 4 Cost	Year 5 Cost	Year 6 Cost
Transfer Processing Facilities	300,000	155,250	-	-	-
Initial Operations Staff		124,200	233,956	242,144	250,619
Processing Facility Consultant	-	-	80,342	55,436	28,688
Augusta Facility Improvements	-	-	267,806	554,359	-
El Dorado Facility Improvements	-	-	267,806	207,885	-
New Equipment	-	-	-	498,923	-
Additional Operation Staff	-	-	-	69,894	430,321
Operations Training Consultant	-	-	-	13,859	43,032
Total	300,000	280,000	850,000	1,640,000	750,000
Total Annual Cost	386,000	647,000	1,006,000	1,795,000	899,000



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