



Recycling Technical Assistance Project # 508

City of Scranton, Lackawanna County

**Evaluation of Recycling Programs for a Financially
Distressed Municipality**

*Sponsored by the Pennsylvania Department of Environmental Protection
through the Pennsylvania State Association of Township Supervisors*

FINAL REPORT

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RECYCLING TECHNICAL ASSISTANCE PROJECT #508

CITY OF SCRANTON, LACKAWANNA COUNTY

EVALUATION OF RECYCLING PROGRAMS FOR A FINANCIALLY DISTRESSED MUNICIPALITY

1. STATEMENT OF THE PROBLEM

The City of Scranton (City) provides public refuse and recycling collection to approximately 30,080 households and an unknown number of businesses. These services are currently funded out of the City's General Fund. The City was designated as an Act 47 distressed municipality on January 10, 1992. The City has a structural General Fund operating budget deficit crisis according to the August 24, 2012, Revised Recovery Plan. The City's recurring operating revenues received in the past and projected to be received in the future have not been, and will not be, enough to meet its 2012 and future years operating expenditures. Mandates issued require the City to eliminate operating budget deficits and return the City to fiscal stability. Therefore, the City is interested in ideas to increase both residential and commercial recycling using the current City funding and assets.

Currently, the City provides every-other-week curbside collection for commingled recyclables and mixed paper for all residential units and small businesses. Because of the economic problems within the City – the labor force layoffs and Public Works Department downsizing – recycling is not reaching its full potential in the City. There is a shortfall in the annual refuse fee budget, which is currently about \$1.1 million under City projection, with no projected increase planned. One of the mandates requires the City to provide the Act 47 Coordinator with a plan of sources of revenue or reductions in expenditures to compensate for the difference to the adopted 2013 operating budget (Revised and Updated Act 47 Recovery Plan, http://www.newpa.com/webfm_send/2657).

2. SUMMARY OF WORK COMPLETED

MSW Consultants performed the following tasks in the course of this project:

- Met with City Public Works officials to assess the problem.
- Submitted a data request to the City to identify collection routes, residential and business collection stops, disposal data and recycling performance.
- Observed the City's collection fleet and noted its condition.
- Encouraged the City to work with the Scranton Chamber of Commerce to develop a full list of businesses served by the City's collection fleet.
- Held detailed discussions with City Public Works officials on municipal disposal and recycling contracts, including revenue sharing contracts with the City Public Works officials.
- Prepared a draft report for the City and integrated comments into a final report for submittal to the Pennsylvania Department of Environmental Protection (DEP).

2.1 RESIDENTIAL REFUSE COLLECTION

The City collects residential refuse once-per-week at the curb using municipal crews in rear load trucks. The Public Works Department reported that 30,379 tons of residential refuse were collected during 2011 from its 30,080 households. The average weight collected per household is calculated to be 38.84 pounds per week, which is comparable to national averages. The residential refuse is disposed at the Keystone Sanitary Landfill in Dunmore, PA. The landfill facility is about 3.4 miles from the Public Works garage, making it a very convenient and cost-effective site for disposal. The City is charged a landfill tipping fee of \$47.95 per ton.



Public Works currently operates 10 residential collection routes per day, working five days per week. The crews consist of a driver and two loaders working 8 hour shifts. The crews have an incentive to complete their routes as quickly as possible because they are allowed to go home when the routes are complete and get paid for 8 hours even if their routes are completed in less than 8 hours. Typically the routes are completed after lunch, which lets the crews leave after working only 6 to 7 hours. However, simple calculations reveal that crews are only collecting 602 homes each day, which is well below the national standard.

2.2 RESIDENTIAL RECYCLING

The City provides every-other-week curbside collection of commingled recyclables, which includes #1 & #2 coded plastic bottles, aluminum cans, glass containers, and tin and bi-metal cans. The City also provides every-other-week collection of mixed paper with collection on the opposite week from the commingled recyclables.

The 2011 Annual Recycling Report indicates that 1,494 tons of commingled recyclables and 1,595 tons of newspaper were collected and processed. This calculates to be 1.91 pounds of commingled recyclables and 2.04 pounds of newspapers per household per week.

Each Scranton household is provided with a 20 gallon bin for commingled recyclables and a 12 gallon bin for mixed papers. Municipal crews collect the recyclables using rear loading trucks. Collection occurs along four collection routes per week, which calculates to 1,504 households per route. The City utilizes the Lackawanna County Recycling Center to process the recyclable material. This facility is located 2.1 miles from the Public Works Department.

The Lackawanna County Recycling Center accepts the following as shown on the facility website:

- **Items Accepted at No Charge:** plastic & glass bottles/jars, aluminum & tin (steel) cans, newspapers, phone books, catalogs, magazines, brown bags, office paper, envelopes, note pad paper, corrugated cardboard/boxes, cell phones.
- **Items Accepted for a Fee:** computers, monitors, printers, copiers, scanners, televisions, phones, calculators, fax machines, stereo equipment, speakers, brush, wood chips, wooden pallets.



- **Unacceptable Items:** margarine tubs, deli & yogurt cups, plastic & Styrofoam dishes, plastic bags, bakery boxes, drinking glasses, plate & window glass, ceramic cups, plates, dishes, light bulbs, flower pots, Tyvek envelopes, food wrappers, motor oil & chemical containers, books, cereal boxes, bubble wrap, paint cans.



Bulky waste is collected at no extra charge on an on-call basis, with residents scheduling special collections. Scheduled bulky waste is collected on normal residential collection routes with the rear load collection trucks. Scheduling a collection can be accomplished by calling the Public Works Department or going to the Public Works office in person.

Leaves are collected either loose at the curb by both vacuum truck and street sweepers, or in bags by rear load trucks during one week in the late fall each year. The leaves are taken to a compost facility for processing. During the fall of 2011, the City collected 132 tons of leaves.

The 2011 Annual Recycling Report shows an average recycling rate of 9.6 percent for the City's residential sector, as shown in Table 2-1. This is below the national recycling rate of 34 percent as reported for 2010 by the U.S. Environmental Protection Agency.

Table 2-1 City of Scranton Residential Recycling Rate

Material	2011 Tons	Percent
OCC	1,494.44	4.4%
Commingled	1,595.49	4.7%
Yard Waste	132.23	0.4%
Sub-Total	3,222.16	9.6%
Refuse	30,379.49	90.4%
Total	33,601.65	100.0%

In summary, the City's collection system appears to be operationally adequate, although the combination of relatively low recyclables collection frequency and an apparent low participation rate results in below-average performance of the recycling program

2.3 REVIEW OF FLEET

At the outset of the project, the City had hoped to be able to compile an inventory of fleet equipment and fleet operating and maintenance cost information for review. This information was ultimately not readily available and consequently no analysis could be made.

A visual assessment of a portion of the solid waste and recycling fleet was made during the kick-off meeting on June 19, 2012. Ten trucks were visually inspected with most in good shape. One major problem was noted in half of the trucks, on which it was found that the crews were not cleaning behind the ejection blades. Examples of this are shown in Figure 2-1. Additionally, four trucks had tires that were in need of replacement due to worn tread.

Figure 2-1 Examples of Materials Behind Rear Load Truck Ejection Blades



In summary, the fleet was found to be adequate and it would appear that the fleet is operating efficiently; however, incremental cost savings may be possible if the fleet was better maintained.

2.4 REVIEW OF CONTRACTS

The City was unable to provide the project team with copies of two contracts; one for disposal of wastes at the landfill and a second for processing the City's recyclables. However, detailed discussions were held with the City Department of Public Works regarding these contracts. The refuse contract is in effect until December 31, 2012. The current processing contract with the Lackawanna County Recycling Center has technically expired, but the City reported that they have negotiated an extension at the same rate that also includes a reduction in the tip fee at the landfill.

Although not discussed with the City, research identified a recent *Times-Tribune* article that claimed "the city has negotiated with Keystone Sanitary Landfill in Dunmore a deferred payment of \$1 million in landfill fees in 2013, the mayor said. The city budgeted \$1.5 million in landfill fees in 2012, but is only budgeting \$500,000 in 2013. The mayor said the city has worked out a deal with Keystone to pay back the \$1 million by paying \$333,000 in each of 2014, 2015 and 2016, Efforts to reach a Keystone representative were unsuccessful." (<http://thetimes-tribune.com/news/scranton-budget-doles-out-hefty-raises-to-solicitors-1.1406625>) It was beyond the scope of this project to investigate the facts of this situation and its implications for recycling in the City.

2.5 TRACKING AND REPORTING OF RECYCLING PROGRAM

The City has had Recycling Ordinances (Files of the Council No. 122) since 1990 that provide for the listed materials to be recycled, storage of recyclables, ownership of recyclables, and enforcement of recycling regulations.

The City is having a problem with the reporting of recyclables by the commercial sector as required by ordinance. Until recently the City did not have a good list of all City businesses but has worked with the Chamber of Commerce to develop a full list.

2.6 FINAL REPORT

The final task was the writing of this report. A draft report was first provided to City staff for review.

3. RECOMMENDATIONS

The following recommendations are offered for consideration by Scranton. Given the City’s inability to increase spending, recommendations have been limited to those that require no incremental costs or that will produce some savings.

- Consider Switching to Single Stream Recycling:** During a meeting with the Public Works Department, single stream recycling was suggested as a method to increase recycling by making it more convenient and easier for the residents and businesses to recycle. This option could also enable the City to develop a convenient single stream drop-off recycling program for the small businesses. Finally, a change to single stream also means that residents set out all their recycling every other week instead of having to remember which week to set out paper products and which week to set out commingled containers.

This solution has the potential to increase residential recycling rates by 10 to 20 percent. A second benefit to this solution is that the City could possibly reduce the number of daily routes required to service the residential recycling customers, which would be expected to decrease system costs. The current system uses 16 routes per week to collect the residential recyclables. By implementing single stream recycling, the number of collection routes could be reduced to 8 as illustrated in Table 3-1.

Table 3-1 Number of Recycling Routes

	1 st Week	2 nd Week	3 rd Week	4 th Week	Total Routes
Routes in Current System					
Commingled Recyclables	4	0	4	0	8
Newspaper	<u>0</u>	<u>4</u>	<u>0</u>	<u>4</u>	<u>8</u>
Subtotal Current System	4	4	4	4	16
Proposed Single Stream Recycling (Every-Other-Week frequency)	2	2	2	2	8

- Collection Routes:** Currently the City crews collect 602 homes per day which is less than the industry standard. MSW would recommend that the number of homes collected per day be increased to 752, an increase of 25 percent. This would increase daily work hours from the current subpar level up to just shy of an 8-hour work day. The increase in households served per route would enable the elimination of 2 daily routes. This change could save approximately \$500,000 annually based on industry average annual route cost of \$250,000.

Should the City adopt a single stream recycling program as mentioned above, the size of the fleet could be reduced by an additional two trucks. Labor cost could also be reduced as the numbers of daily routes are reduced. This could result in another \$300,000 to \$400,000 annual savings.

- **Negotiate or Rebid for Revenue Sharing:** One pressing issue that concerns the City is the contract to process recyclables. The detailed discussions and information provided by the City demonstrated that there are opportunities to receive some revenues for municipally collected recyclables. Many local recycling facilities, such as Waste Management in Dunmore, PA, can process single stream recycling and would be operationally convenient for the City.

MSW Consultants provided copies of recycling contracts (included as Appendix A) that illustrate how other municipalities have handled recycling processing. Most of those sample contracts included an option where the municipality received a rebate or revenue share for the material processed. This information was used by the City during recent negotiations with recycling processing firms.

MSW Consultants discussed the possibility of negotiating a revenue sharing contract, or going out to bid for such a contract. Through the discussions and the information on model revenue sharing ordinances provided, the City is in the process of negotiating a favorable extension of their recycling processing contract that does not include revenue-sharing, but does include a significant reduction on their landfill tipping fees. The final details were not available yet as negotiations are still underway.

- **Update Ordinance to Conform with State Requirements:** It is strongly recommended that the City recycling ordinance be amended to require detailed reporting by all commercial, institutional and municipal establishments in the City and to bring it into full compliance with State requirements.
- **Focus on Public Education:** It is recommended that the City maintain an up-to-date web site with recycling information for its residents, businesses and institutions. The City should continue to work closely with the Lackawanna County Recycling Coordinator to collaborate on recycling education opportunities from that office.
- **Monitor and Pursue Act 101 Recycling Grants:** Finally, the City should work closely with the PA DEP Northeast Regional office to be kept abreast of recycling grant opportunities, especially for the next application round for Act 101 Section 902 recycling development and implementation grants. A pre-application conference with the DEP Regional Recycling Coordinator is required. The Act 101 Recycling Performance Grant deadline for recycling performed in the City during 2011 has been extended to December 28, 2012.
- **Establish User Fees for Integrated Waste Management:** Although perhaps a more difficult recommendation to implement, Scranton provides collection, recycling and disposal service directly to its residents, and accordingly can justify the imposition of a user fee to cover the costs of these critical public services. Many jurisdictions in Pennsylvania and across the nation impose such fees. Certainly, there are myriad details that would need to be worked out prior to implementing such a sustainable funding system. However, such a user fee system would bestow the additional advantage of reducing the financial strain on the City.

APPENDIX A

REVENUE SHARING

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Recycling Revenue-Sharing

Examples of revenue-sharing contracts (contracts attached):

Lower Paxton Township, PA – Contract between the township and the processor, Penn Waste, Inc.

NOTE: There is no tipping/processing fee to the township or to their hauler.

“3. Price”

“The purchase price for delivered Recyclable [sic] shall be eighty two and one-half percent (82.5%) of Official Board Markets Publication ("OBM") New York High Side for News #6 or Mixed Paper #1, whichever is greater, less twenty five dollars (\$25.00) per ton for processing and marketing, but in no event less than fifteen dollars (\$15.00) per ton. Purchaser is providing Seller with a floor price of fifteen dollars (\$15.00) per ton so that if market conditions deteriorate dramatically, Seller shall receive a minimum floor price of fifteen dollars (\$15.00) per ton for the term of the Agreement and any extensions thereto. For example, the current OMB New York High Side price for News #6 (April 5, 2008) is \$95.00 per ton. The current OMB New York High Side price for Mixed Paper # 1 (April 5, 2008) is \$95.00 per ton. The calculation is as follows: $\$95.00 \times 82.5\% = \78.83 per ton minus \$25.00 per ton = \$53.38 per ton that would be paid to Seller based on current pricing.”

“Current pricing as set forth in this Agreement is based on OMB Publication dated April 5, 2008. Current market pricing each month for the term of this Agreement any extensions [sic] hereto would be based on the price set forth in the OBM Publication set at the first calendar issue of each month. If the OBM Publication is no longer reflective of prevailing market conditions, then Purchaser may propose to use an alternative publication(s) to determine the price for Recyc1ables, provided that the parties agree in writing.”

Jermyn Borough, PA – Contract between the borough and the hauler, Waste Management

SECTION V

“The Contractor further agrees that the Borough shall be reimbursed one hundred percent (100%) for all material, of whatever kind, recycled, to wit: the amount paid each month by the Borough to the Contractor for the collection of garbage shall be reduced in the following manner:

- a) The material to be recycled by the Borough shall be weighed and the Borough shall retain a certified weight slip;
- b) The certified weight slip shall be presented to the Contractor;
- c) Every three (3) months the Contractor may require that the recyclable material first be weighed before being disposed of at the recycling authority; and
- d) The amount credited to the Borough by the Contractor shall be that amount of money which should normally be paid by the Contractor to dispose of the materials at a licensed sanitary landfill (Le., if the Borough recycles 100 pounds of material in a particular month; then, upon presentation of the weight slip to the Contractor, the Contractor shall credit the Borough's

account in that amount it would have cost for the Contractor to dispose of 100 pounds of material at a licensed sanitary landfill).”

Sarasota County, FL – Contract for recycling processing:

	Initial contract	Amendment 2010
Term	5 years, to 10/29/08; option for one 5 year extension	Extension: through 9/30/13
Contractor	Resource Recovery Systems of Sarasota, Inc. and Casella Waste Systems	Resource Recovery Systems, LLC (previously assigned and consented to by Co. on 2/13/07) <i>(Now ReCommunity Recycling dba FCR)</i>
Contractor responsible for:	Operation and maintenance of RMPF and operation of South County transfer Station	No change
Type of Facility	Dual stream	No change
Processing Fee	Processing Fee for “Program User Recyclables and for Program Recyclables delivered by Participating Municipalities” is \$6.50 per ton, adjusted annually by a CPI formula.	Processing Fee for “Program User Recyclables and for Program Recyclables delivered by Participating Municipalities” is \$7.53 per ton, adjusted annually by a CPI formula.
“Residue Allowance”	Limited to 3%	No change
Reduction in Processing Fee	Not in original contract	Added: Processing Fee for “Program User Recyclables” decreases as market prices increase. When Average Commodity Revenue (ACR) is > \$80/ton, < or = \$90/ton, fee reduced by 1/3. ACR > \$90/ton, < or = \$100/ton, fee reduced by 2/3. ACR > \$100/ton, no processing fee.
Revenue Sharing	“The County will receive 75% of all revenue on Program Tons in excess of a Protected Base Price of \$65.00/ton for Recyclable Containers and \$45.00/ton for Recyclable Paper.” “The Contractor is not obligated to provide Revenue Share to the Participating Municipalities.”	“The County will receive 75% of all revenue on Program Tons in excess of a Protected Base Price of \$65.00/ton for Recyclable Containers and \$40.00/ton for Recyclable Paper.”
Calc. of Average Commodity Revenue (ACR) - Paper	ACR for paper calculated by summing revenue for three months (current and 2 previous) for each material in the paper stream and dividing by total tons shipped and sold for the three months.	ACR for paper calculated by summing revenue for the month for each material in the paper stream and dividing by total tons shipped and sold for the month.
Calc. of Average Commodity Revenue (ACR) - Containers	ACR for containers calculated by summing revenue for three months (current and 2 previous) for each material in the containers stream and dividing by total tons shipped and sold for the three months.	ACR for containers calculated by summing revenue for the month for each material in the container stream and dividing by total tons shipped and sold for the month.
Performance Bond	Performance bond of \$1 million	Performance bond reduced to \$500,000.
Boxboard added	Boxboard not included in recyclable materials	Boxboard added (unless with waxed or plastic coating or contaminated with food). (Not official part of program because ordinance would have to be changed.)

Note: In definitions in 2003 contract: “**Program User**” is defined as “Program Recyclables originating from residential users within the unincorporated Sarasota County that are collected and delivered by the County Contract Hauler.”

Other examples of provisions in revenue-sharing contracts:

(From Revenue-Sharing Strategies for Local Government Recycling Programs, SWANA report)

Nashville, TN, Metropolitan Government of Nashville and Davidson County (Metro) – five-year contract that was initiated in 2004

- Contract specifies 5% maximum contamination allowed in material reaching MRF
- Metro does not pay a tipping/processing fee. MRF pays Metro “a ‘material payment’ of approximately \$10 per ton for each ton of recyclable material collected from the curbside recycling program; \$35 per ton for cardboard, market rates for mixed paper; and a weighted average of the market value for aluminum, metal, and plastic from the Metro recycling drop-offs.”
- In addition, MRF pays Metro an “educational payment” to promote recycling
- MRF pays Metro “a ‘host community fee’ of \$5 per ton for recyclable materials delivered to the facility by other local governments and recycling companies in the Metro region.”

Note that the MRF is owned and operated by private industry.

Mecklenburg County, NC – contract was to expire June 30, 2009, but was extended

“Key contract terms with respect to sharing recycling revenues include the following:

- Gross revenues are greater than service fees—In the event that gross revenues are greater than service fees, then the contractor agrees to pay the county 75% of net revenues (i.e., gross revenues less service fees).
- Service fees are greater than gross revenues—In the event that service fees are greater than gross revenues, then the county agrees to pay the contractor an amount equal to the service fees minus gross revenues.”

Note that Mecklenburg County owns the MRF and leases it to a private company.

Processing Costs

(From US EPA, <http://www.epa.gov/wastes/conservation/tools/localgov/economics/processing.htm>)

Examples of sharing market risk include:

Des Moines, IA – recyclables processing contract

- The processor pays a minimum floor price to the city and an “annual minimum payment in return for the city’s guaranteed delivery of a minimum quantity of recyclables.”
- “The processor also agrees to market materials at the high end of prices quoted in the Official Board Markets: The Yellow Sheet (Chicago market) for newspaper and mixed paper, and to share these revenues in excess of floor prices with the city.”

Denver, CO – recyclables processing contract

- Processor is required to offer to pay to the city “recyclable revenue per ton”, “with a share in revenues received in excess of this base amount, which is referred to as the ‘up-market share’.”
- The processor “assumes the risk of market prices dipping below the proposed base market value”.
- “The up-market revenue is computed on a per ton basis; the city’s share is the per ton amount multiplied by the number of tons of recyclables multiplied by the percentage share offered to the city.”

Phoenix, AZ – recyclables processing contract

- Processor must bid “a guaranteed minimum floor price for each of 19 different commodities.”
- Processor must pay “the agreed-upon percentage share to the city, computing the city’s share using the greater of the actual price received for each commodity or the guaranteed minimum price for that commodity.”
- This means that the processor “accepts all of the market risk for prices dropping below the guaranteed minimum, and shares the profit potential if prices rise above the floor.”

Reporting Requirements

In a contract, reporting requirements are important and should be very specific. Some items to be included are:

- Daily records:
 - Date, truck number, ticket number, net weight for all incoming loads from the Borough;
- Monthly records;
 - Tons of material received for processing by type of commodity;
 - Revenues received for materials sold;
 - Any revenue due to the Borough;
 - Record of any rejected loads;
 - Educational and promotional activities conducted (if included in contract);
 - Complaints, accidents, incidents, or downtime that occurred; and
 - Proof of transfer of materials to end markets.