

Minneapolis' Recycling Program

Blazes a Trail

By Robert Craggs
and Susan Young

Through the Marketplace

Like those in many US cities, the recycling program has become an integral part of the solid-waste management program within the city of Minneapolis, and has a long history of doing so. In fact, Minneapolis has offered a residential curbside recyclable materials collection program to its nearly 400,000 residents since 1982. Over the last 22 years, the program has grown into one of the premier recycling programs in the nation, and now it is blazing a trail into a new area of success.

Program Parameters

The materials collected in the Minneapolis program include:

- newspaper
- magazines
- glass
- metal food and beverage containers
- corrugated cardboard
- phone books
- plastic bottles with a neck
- office paper and junk mail
- boxboard
- household batteries

Approximately 108,000 customers are offered biweekly source-separated curbside recycling. An estimated 90% of the households participate in the program by placing the 10 different types of materials in separate bags and/or containers for collection.

To encourage collection, households participating in the recycling collection program are provided a rebate on their solid-waste utility bill.

Thanks to recent efforts associated with the contracting for recyclable materials processing services, Minneapolis can make the rare boast that it has a financially self-sustaining program.

The City of Minneapolis Division of Solid Waste and Recycling (DSWR), in cooperation with neighboring Hennepin County, also offers curbside collection of e-waste—including

computers, televisions, and CRTs.

Approximately half of the city is provided collection service by city-operated crews and the remaining half is serviced by Minneapolis Refuse Inc., a consortium of private haulers. However, the city oversees the entire city program to ensure a uniform program and standards of performance throughout the service area.

The recyclable materials collected through the city's program are transported to a private materials recovery facility (MRF), located within the city and owned/operated by Browning Ferris Industries. The residentially generated recyclable materials are processed and sold to various markets throughout the United States and Canada.

Historically, the high quality of the materials collected has enabled the city to negotiate a processing and marketing agreement requiring the processor to provide a revenue share to the city for each ton delivered to the



Photos: Robert Craggs, R.W. Beck

MRF. Moreover, the city has specified in its processing agreement that 99.5% of the materials deposited at the MRF through the city's program must be recovered for end use.

The existing agreement had specified per-ton processing fees, floor prices, and market indices for each type of commodity collected. With this type of pricing structure, the city received an average net return of approximately \$27 to \$36 per ton. The net return represents the per-ton processing costs offset by the per-ton revenue received for all the collected commodities. Overall, this level of net return represented an effective processing agreement, but offered some opportunities that were yet to be explored.

The Procurement Process

In 2003, the DSWR initiated a competitive procurement process to solicit proposals for the processing and marketing of residential recycling materials. The city was interested in improving its existing contractual arrangement. A Request for Proposals (RFP) was distributed in October that included:

- A three-year term with two one-year renewals



- Minimum performance requirements for facility receiving and processing materials, including hours of operation, traffic flow, facility layout, safety, and staffing
- Completion of proposed pricing schedules that identify processing fees, floor prices, and applicable market indices by commodity type; with schedules to be completed applying actual quantities of materials collected in 2001 and 2002
- A detailed plan for marketing the recyclable materials

In addition, vendors responding to the RFP could propose to accept and process dual- and single-stream recyclable materials as an alternative to the present processing of source-separated materials. However, as part of such a proposed alternative, the proposer was to provide the estimated cost savings associated with transforming the present 10-sort collection method to a method with fewer sorts involving the commingling of



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materials.

The city received three proposals in November 2003 to provide recyclable materials processing and marketing services. Management consulting and engineering firm R.W. Beck Inc. and DSWR staff members evaluated the proposals and presented the results to the City of Minneapolis' Transportation and Public Works Subcommittee (T&PW) in December 2003.

- The technical review criteria included:
- Processing facility distance from the city fleet staging location
 - Scope of materials accepted



- Reference facility qualifications
 - Strength of marketing agreements
 - The net financial return to the city
- As reflected within the table, the net return

to the city was the highest under the present 10-sort collection design. The more commingling associated with collection, the less the net return. Thus, for dual- or single-stream

recycling programs to be cost-competitive with the existing program, the city would need to have reduced its collection costs by \$10 and \$22 per ton, respectively, to offset the lost net revenue from the sale of the recyclable materials.

Due to the present effectiveness of the program and existing fleet investment, the city decision-makers chose to move forward with consideration of the present 10-sort

Table 1. City of Minneapolis First-Round Results; Net Revenue (Two-Year Total)

Types of Materials Processing	Vendor A	Vendor B	Vendor C	Average	Per Ton
10-Sort Base	\$1,685,000	\$1,506,000	\$1,617,000	\$1,603,000	\$36
Dual-Stream	\$1,192,000	\$1,068,000	\$1,176,000	\$1,145,000	\$26
Single-Stream	—	\$630,000	—	NA	\$14

The per-ton net revenue estimates assume the collection of 22,000 tons of recyclable materials each of the two years.

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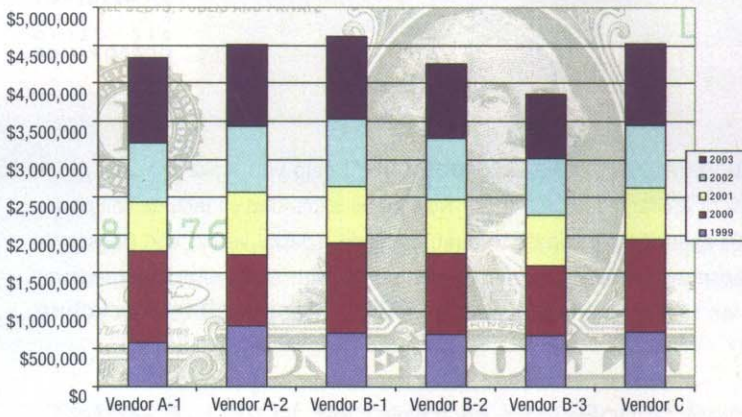
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Figure 1. City of Minneapolis Proposal Review Results—Five-Year Net Revenue



collection program.

To more comprehensively address the proposed pricing, T&PW requested additional pricing information from each of the vendors. Specifically, the vendors were asked to submit the projected net revenue upon applying their proposed pricing for three additional years: 1999, 2000, and 2003.

As a result, the city could evaluate the potential pricing as proposed during a five-year time frame that represents both some variability in quantities collected and commodity pricing. In other words, the volatility in the commodities market could be more completely evaluated by reviewing its application over a longer period of time to pro-

ject potential future net revenue.

The results of the proposed pricing as applied to a five-year time frame are reflected in the figure at left.

Based on the additional submitted information, the proposal providing the greatest return for the city averaged more than \$900,000 per year in net revenue.

T&PW was not convinced that the vendors were offering their most beneficial proposals to the city. Consequently, T&PW requested "best and final" pricing in February 2004 from the vendors for the specified five-year historical analysis of 1999–2003.

The figure on page 69 represents the results of the pricing information submitted as part of the "Best and Final" pricing proposals.

The dotted line represents the projected value of the net return for the best proposal of the previous round of pricing proposals submitted by the vendors. Overall, the increase in the projected five-year net revenue was as much as \$1.6 million.

Following the submittal of the results of "best and final" proposals to the city, some additional evaluation was undertaken by staff members.

At a lengthy city council meeting in April 2004, the existing processor was selected by the council as the preferred proposer based upon the application of both technical and non-technical criteria. However, the preferred proposer did not offer the highest net revenue to the city based on the five-year historical analysis. DSWR and R.W. Beck staff members were directed to negotiate with the representatives of the preferred proposer on behalf of the city.



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- Key outcomes of the negotiations included the following:
- Five-year projected net revenue of more than \$6.16 million
- Nearly double the average net-per-ton revenue projected from \$27 to \$30 under the existing agreement to a projected \$56 per ton under the proposed new agreement
- Net-return stabilized prices for 50% of the newspaper and 50% of the aluminum by weight delivered to the processor by the city of \$73 and \$1,200 per ton, respectively

Summary

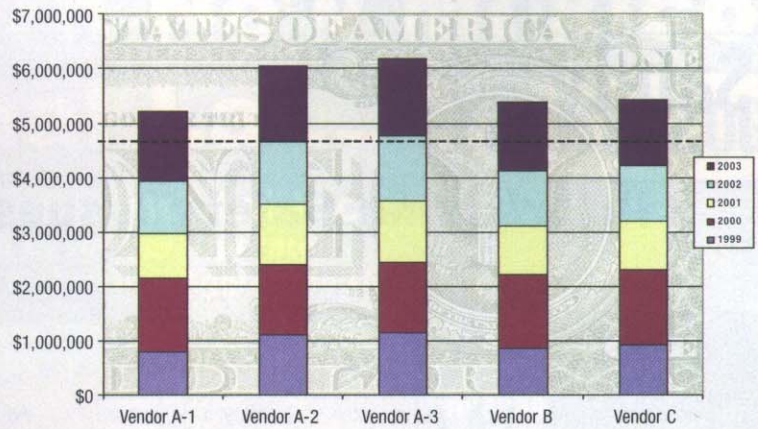
Overall, the City of Minneapolis' competitive procurement process for recyclable materials processing and marketing services was highly successful from several perspectives.

First, the city effectively leveraged the existing competitive marketplace to substantially increase its projected net return from the processing and sale of the recyclable materials.

Second, because the proposals submitted did include pricing associated with the processing of commingled materials, the city was provided with the potential financial impacts of transitioning to a commingled recyclable materials program should it choose to do so in the future.

Third, the impacts of the volatility of commodity pricing will be minimized through the use of a "cutting edge" approach that includes a combination of stabilized and floating per-ton pricing to hedge against commodity volatility and take advantage of strong markets.

Figure 2. City of Minneapolis Five-Year Net Revenue—Best and Final Proposals



Finally, with the estimated direct costs of residential recycling at \$55 to \$65 per ton for the city, the projected net revenue under the new processing and marketing agreement likely will offset the collection costs.

Therefore, excluding the indirect costs of the recycling program, the City of Minneapolis' recycling program pays for itself, which is a rare accomplishment in the industry today. **MSW**

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