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More Recycling Needed to Help Lower City's Trash Costs

AS IBO HAS NOTED IN PAST REPORTS, the costs for handling the two main components of the city's waste stream—recyclables and refuse from households, schools, and other institutions—can differ. A new IBO analysis finds that the city's cost for collecting and processing recyclables is expected to remain higher next year than the cost for collecting and disposing of refuse. IBO estimates that the total cost of collecting and processing recyclables will be \$206 per ton in fiscal year 2008, 23 percent more than the \$167 per ton it will cost to collect and dispose of refuse.

Recycling remains more costly per ton despite the rising price for shipping refuse to landfills and incinerators outside the city. The higher per ton cost is due to the relative inefficiency of collecting the smaller volume of curbside recycling as we detailed in our 2004 report *Refuse and Recycling: Comparing the Costs* (the per ton costs presented in our current report are not comparable to the 2004 report; see sidebar for explanation).

But as the charge for shipping refuse out of the city grows, the difference in per ton costs between refuse and recycling will narrow. If the new Office of Recycling Outreach and Education—created by the City Council last fall as a condition for approval of the city's Solid Waste Management Plan (SWMP)—succeeds in promoting recycling, the cost gap could narrow even more. And if market conditions were to permit an expansion of recyclable materials as well—especially plastics—the potential exists to make recycling a more cost-effective solution to city waste than disposal, and slow the projected growth in sanitation costs.

Waste Disposal. Waste haulers have been raising the prices they bid to transport and dispose of the city's refuse in landfills and incinerators while the tons of waste hauled are expected to remain roughly constant. As a result, the cost of Department of Sanitation (DSNY) waste export contracts continue to rise, from \$258.5 million in 2005, to a budgeted \$283.3 million in the current year, and \$296.0 million for 2008.

The average export cost per ton was \$72.02 in 2005 and \$75.92 in 2006. Based on the forecast for waste tonnage in the most recent *Preliminary Mayor's Management Report*, IBO projects the cost to rise to approximately \$79 per ton this year, and over \$83 per ton in 2008. Long-term waste export contracts, part of the Solid Waste Management Plan approved last year, are still under negotiation, however, leaving the future cost per ton uncertain. To hedge against both the uncertainty of future export contract prices and delays in state approval of the final closure plans for Fresh Kills, the sanitation department included a \$15 million contingency in its preliminary 2008 budget.

Other costs associated with waste disposal include operations of the Bureau of Waste Disposal and of transfer stations and waste management facilities, export contract administration, and long-term export planning.¹ Together these activities added approximately \$24.6 million in 2005 and

Rising Costs for Transporting City's Refuse Out of Town

	2005	2006	2007	2008
DSNY Waste Disposal Spending (<i>Dollars in thousands</i>)				
Export contract costs	\$258,460	\$270,232	\$283,333	\$296,002
Other disposal costs*	24,599	25,787	34,770	33,543
TOTAL	\$283,059	\$296,019	\$318,103	\$329,545
Annual tons disposed (<i>in thousands</i>)	3,588.6	3,559.3	3,588.4	3,559.0
Average cost per ton				
Export only	\$72.02	\$75.92	\$78.96	\$83.17
TOTAL	\$78.88	\$83.17	\$88.65	\$92.59

SOURCES: IBO; Mayor's Office of Management and Budget; *Preliminary Mayor's Management Report*, February 2007. Figures for 2007 and 2008 are as budgeted.

NOTE: *See text for discussion of included costs.

\$25.8 million in 2006, or about another \$7 per ton. These costs will rise to nearly \$10 per ton in 2008 under current projections, bringing the average cost per ton of waste disposal to about \$93, excluding the \$15 million in contingency funding.

Recycling. After halting plastic and glass recycling in 2002, the city resumed its full weekly recycling program in April 2004. The city pays a fee to its vendor, Hugo Neu Schnitzer East, to process the metal, glass, and plastic recyclables collected by DSNY. In fiscal year 2005 the city paid \$51 per ton from July through March, then \$53 per ton through June. The price rose to \$55 per ton in April 2006, and rises to \$57 this month. In contrast, the city receives revenue for recycled paper, although the average price has fallen from a high of \$16 per ton in 2005 to under \$10 per ton in 2006.

The recycling diversion rate—the share of the total waste stream set out for recycling collection, rather than disposal—has never fully returned to its pre-suspension level. Recycling collection data for the first eight months of fiscal year 2007 show a further decline in recycling compared to the same period in 2006. DSNY attributes the decline to lower newspaper readership (circulation of major dailies has steadily declined), and to more food and other producers shifting from glass containers to non-recyclable plastics.

IBO's projections for fiscal years 2007 and 2008 assume that the contract price for processing recyclables remains at the current level, that the volatile, market driven price DSNY receives for paper also remains at its current level, and that the tonnage in 2008 is the same as 2007, based on collections through the first

Processing Recyclables, Costs and Revenue				
	2005	2006	2007	2008
Metal, glass, plastic processing fees	\$12,707,229	\$12,978,464	\$12,903,938	\$13,368,923
Other BWPRR Costs	13,109,396	12,172,134	15,164,593	14,688,087
Total Recycling Budget:	\$25,816,625	\$25,150,598	\$28,068,531	\$28,057,010
Less: Revenue from paper	\$6,654,533	\$3,929,425	\$3,725,712	\$3,725,712
Net Total Recycling:	\$19,162,092	\$21,221,173	\$24,342,819	\$24,331,298
Total tons (Metal, glass, plastic & paper)	661,720	641,476	610,748	610,748
Average cost per ton	\$28.96	\$33.08	\$39.86	\$39.84

SOURCES: IBO; Department of Sanitation.

eight months of this fiscal year. Our projections also include other costs of the Bureau of Waste Prevention, Reuse, and Recycling (BWPRR) and of the new recycling education office. The result is an estimated net average cost per ton for recycling of approximately \$40 in 2007 and 2008.

Costs Including Collection.

A comparison of the costs of recycling and refuse must also include expenditures for curbside collection. Because of the smaller volume of recycling set out for collection, the collection efficiency is lower—on average, about 6.0 tons per truck-shift in 2006, compared to 10.6 tons per truck shift for refuse collection. As a result—since the cost to run one truck shift is essentially the same whether for refuse or recycling collection—the collection cost for recycling on a per ton basis is higher.

Based on the projection of how many tons of recyclables and refuse DSNY will pick up in 2008, our estimate of the cost per ton of collecting recycling remains higher than that of refuse collection—roughly \$166 per ton, compared to \$74 per ton for refuse. Including collection, IBO projects that the total cost per ton of handling refuse for disposal will be approximately \$167 per ton in 2008, while the total cost per ton of recycling will be approximately \$206.

Changing Assumptions. If more of the waste stream is diverted into recycling than we have projected, the cost of collection would decline. A 10 percent increase in projected recycling tonnage in 2008, for example, could result in a decrease of roughly \$11 per ton for recycling collection compared to our current estimate. Similarly, if the price the city receives for paper were to rise to an average of \$12 per ton, the net recycling fee per

ton would decline to \$38.

Narrowing the Gap. The cost differential between recycling and refuse will begin to converge as the Solid Waste Management Plan is implemented and long-term export contracts, which are expected to stabilize costs—although at a higher level of over \$100 per ton— are negotiated and signed. Simply waiting for this to happen will not make recycling collection any more cost effective, however, unless at the same time the volume of recycling diverted from the waste stream also rises.

Such an increase in the amount of material that is recycled is the key to making recycling more cost-effective, because as the volume of recycling increases, the collection cost differential should begin to narrow. A recycling diversion rate of 25 percent—the current city goal in the SWMP—assuming no

Estimated Refuse and Recycling Costs per Ton, Fiscal Year 2008

	Refuse	Recycling
Collection	\$74	\$166
Disposal / Recycling (net)	\$93	\$40
TOTAL	\$167	\$206

SOURCES: IBO; DSNY; Office of Management and Budget.
NOTE: Costs include direct DSNY program costs, excluding fringe benefits and debt service. See text for discussion.

major increases in processing fees or further decline in paper prices, would most likely result in roughly comparable costs per ton of both recycling and waste disposal, and perhaps even a lower average cost per ton for recycling.

There are at least two avenues for reaching the 25 percent recycling diversion rate: improving New Yorkers' recycling habits and expanding the types of materials that the city recycles. The Office of Recycling Outreach and Education was created to boost recycling and one of its goals will be to raise the "capture" rate—the share of potentially recyclable materials that is actually set out for recycling, rather than thrown away. Currently only about half of the materials that the city has designated as recyclable actually winds up in recycling bins for collection.

The Bloomberg Administration has also begun to look at the potential for expanding the types of materials that the city could recycle. Additional plastics and other materials that a recent DSNY waste stream study identified as "potentially recyclable" could increase the recyclable share of the waste stream from its current 35 percent to 45 percent. With current capture rates, that by itself would raise the diversion rate to 22 percent of the waste stream. Starting from that base, a 10 percent increase in the capture rate would achieve a 25 percent diversion rate.

Written by Preston Niblack

END NOTE

¹We exclude landfill closure costs, which are in essence "sunk costs" not directly related to the cost of disposal of current waste.

IBO's Allocation of Costs

The per ton cost figures shown in this analysis are not comparable to those reported in the Mayor's Management Report (MMR) nor to IBO's 2004 cost comparisons. The figures reported in the MMR allocate all departmental spending, including administrative overhead and support functions, plus city spending from central accounts for fringe benefits and debt service attributable to the Department of Sanitation, to each of four primary functions: collection; cleaning; recycling, and disposal. Our analysis includes only DSNY spending, based on our programmatic presentation of the Department of Sanitation budget (*Analysis of the Mayor's Preliminary Budget for 2008 and Financial Plan through 2011*; March 2007, p. 50), and includes only direct program costs of recycling and refuse management without allocation of administrative and support costs. This is different than the method we used in our 2004 report and therefore the cost per ton figures in the earlier report cannot be compared with those presented here.

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