

Recycle – or not? Evidence from New York City

Dateline: 30 June, 2005

New York City suspended residential recycling of glass and plastics on 1 July 2002. Mayor Michael Bloomberg, in presenting this proposal to the City Council, said that “The recycling program is not, with the exception of paper, saving the ecology of the world very much. And it is very expensive.” The Mayor did not eliminate recycling entirely. Curbside recycling for paper continued on a weekly basis. Curbside recycling for glass and plastics was suspended until 1 April 2004. Sanitation Department of New York City (DSNY) officials forecast that this suspension will result in annual savings of \$51 million.

This suspension was not popular with environmentalists. “To stop recycling would be to turn the clock backward,” said Suzanne Shepard of the New York chapter of the Sierra Club. “Recycling and waste reduction are the cornerstones to reducing this city’s waste stream.” City Council member Michael McMahon, head of the council committee on sanitation and solid waste, said the city has never fully committed to its decade-old recycling program. He feared that if the city suspended the program, it would disappear forever. “I’m very discouraged that in this tough budgetary time, they use that as an excuse to kill the program,” said McMahon, a Staten Island Democrat whose borough was home to the city’s recently closed landfill.

Mayor Bloomberg bowed to the opposition. He brought back plastics recycling on 1 July 2003, and glass recycling on schedule in 2004. In both cases, he asked the Sanitation Department to review and revise their collections system to make recycling a competitive alternative to refuse collection.

You work for Mayor Bloomberg, and you know that he’s a “numbers” guy. We’ve now observed a complete year of operation of recycling once again through the DSNY, and he’d like your assessment of the costs and benefits of recycling as a city service. The budget remains tight, and he’s considering rolling back the recycling program once again. Your analysis will form the basis of his argument, either for or against.

Background.

While recycling has been around New York City in one form or another for decades, a landmark 1989 mandatory recycling law, initiated by the New York City Council, triggered an increased emphasis on this solid waste strategy during the 1990s. When the recycling law was enacted, then City Council chief Peter Vallone called it “one of the most significant pieces of legislation in the history of the city.”

The 1989 statute required the DSNY to meet annual recycling tonnage requirements that were designed to boost recycling over the next five years. And in the summer of 1989, the department launched what would soon become the first citywide curbside collection of recyclables in New York history. From less than one percent in the late 1980s, recycling in New York City climbed to roughly 20 percent of the city’s total residential waste stream by mid-2002. And the 1989

statute (and follow-up state court orders) required the DSNY to achieve further incremental increases in citywide recycling collections.

In February 2002, the Bloomberg administration proposed to suspend the recycling of metals, plastic and glass. With the city facing a serious budget shortfall, the mayor forecast substantial savings due in large part to the reduced number of waste collection trucks that would be needed for recycling runs under the proposed cutbacks. This suspension began 1 July 2002, and as indicated above plastic and glass recycling returned on a staggered schedule in 2003 and 2004.

Putting a value on recycling has never been easy in New York City. Since the passage of Local Law 19, the 1989 ordinance that ordered the DSNY to set up a city-wide recycling program, recycling advocates and department of sanitation officials have butted heads over how to turn coins and bottles into cash. From the DSNY perspective, recycling has put a consistent drain on both manpower and equipment. From the recycler's perspective, DSNY's penchant for one-size-fits-all solutions has made it difficult to tailor the city's recycling in a way that would make it more economically productive. "It almost seems that whenever there was a decision that needed to be made, they made the wrong decision," says Marjorie Clarke, co-chair of the New York City Waste Prevention Coalition. "You begin to wonder: This can't totally be happenstance."

DSNY provided you with the revenues and expenditures for refuse collection and recycling for fiscal year 2005 (beginning 1 July 2004) in the summary on the next page.

There is also some concern that New Yorkers after all this time still don't understand recycling. A Marist College poll in 2001 - before the gutting of the recycling program - found most New Yorkers scoring below 50 percent on a pop quiz about whether 12 common household items could be recycled. (Only 3 out of 918 respondents got all 12 answers right.) Another study found that in the average household, one person spent 5 minutes per week on sorting and recycling in addition to the time spent on garbage collection and disposal. There are roughly 3 million households in the DSNY collection area. The minimum wage in 2005 was \$5.15 per hour.

Financial Information on costs and benefits to the city of refuse collection and recycling.

DSNY keeps annual financial records of its activities by type of activity. In the following table, it reports the breakdown of its costs in fiscal year (FY) 2005 for five activities: refuse collection, recycling, street cleaning, snow removal, and lot cleaning. The total operating costs of DSNY are given in the first column of figures, and the following columns report the costs by each of the five core activities. Total costs of \$1352 million were roughly one-quarter the size of the total budget in 2005 for states such as Vermont and Delaware.

The rows of the table report costs by administrative category. Payments to sanitation workers (Collection operations) and waste disposal (Long-term export/Waste disposal) are by far the largest items among these costs. The final two rows report per-ton costs of the five activities: the salient measures for our purposes are the per-ton cost of refuse collection and disposal (\$262) and the per-ton cost of recycling collection and disposal (\$306).

Summary of DSNY Total Costs and Costs by Activity for FY 2005						
<i>Main DSNY Activities (in millions of US dollars)</i>						
DSNY Cost Categories	Total	Refuse	Recycling	Street Cleaning	Snow	Lot Cleaning
DSNY Administration (1)	\$32.9	\$10.4	\$5.5	\$2.4	\$1.5	\$0.4
Enforcement	15.5	0	3.3	11.7	0.5	0
Administrative supplies, materials and contracts	25.6	13.6	6.4	2.9	2.1	0.6
BWPRR / SWM	29.0	0	29.0	0	0	0
Building Management & Motor Equipment	93.0	41.6	13.9	24.6	9.8	3.0
Collection Operations	632.9	391.7	138.0	86.7	2.2	14.3
Field Support	80.9	51.1	18.8	11.0	0	0
Long Term Export/ Waste Disposal	376.1	357.7	0.1	18.1	0	0.2
Snow	66.1	0	0	0	66.1	0
	\$1,352.0	\$866.1	\$215.0	\$157.4	\$82.2	\$18.5
Tons Managed		3,300,222	702,337	159,543	N/A	14,439
Cost / Ton		\$262	\$306	\$987	N/A	\$1,286
(1) Excluded Paid/Free Disposal which totals 12.6 million						

Source: National Defense Resources Council (2008), from DSNY financial reports
 DSNY: Department of Sanitation in New York
 BWPRR: Bureau of Waste Prevention, Reuse and Recycling
 SWM: Solid Waste Management

The revenues to DSNY from these activities are separate from these costs. In FY 2005, there were no revenues from refuse collection and disposal. The resale of recyclable materials by DSNY led to revenues of \$ 6.6 million for the year, or \$9.40 per ton of recyclable materials.

Your charge.

The Mayor has turned to you as his trusted aide. He's depending upon you to provide him with a clear and unbiased summary of costs and benefits to the city, and to the citizens of the city, of the expanded recycling program. As an economics maven, he's also asked you to state clearly the next best alternative to recycling. And he wants this all within an hour!

Resources and references:

- (1) **Recycling is Garbage**, by John Tierney, New York Times Magazine, 30 June 1996.
- (2) **Recycling Hangs Tough**, by Eric A. Goldstein, Gotham Gazette, April 2003.
- (3) **Trash talk: New York mayor's proposed recycling halt angers environmental groups**, by Larry McShane, Associated Press, 23 April 2002.
- (4) **Recycling Revived**, by Sam Williams, Gotham Gazette, 14 January 2004.
- (5) **Sorting Refuse Would Be a Snap if Only They Could Sort the Rules**, by Andy Newman, New York Times, 4 March 2004,
- (6) **Forced Recycling is a Waste**, Angela Logomasini, 19 March 2002.
(<http://cei.org/print/12116>)
- (7) **[Final Report: Analysis of New York City Department of Sanitation Curbside Recycling and Refuse Costs](#)** Prepared for Natural Resources Defense Council, May 2008.

NYC RECYCLING LAW: LOCAL LAW 19 (1989)

Chapter 3 of Local Law 19, originally enacted in 1989, is also known as the New York City Recycling Law. The law establishes the “policy of the city to promote the recovery of materials from the New York City solid waste stream for the purpose of recycling such materials and returning them to the economy.” Subchapter 2 describes the Citywide Recycling Program and Subchapter 5 addresses the City Purchase of Recycled Products.

SUSPENSION OF DESIGNATED RECYCLABLES: LOCAL LAW 11 (2002)

Due to budgetary constraints resulting from the September 11, 2001 tragedy, the Mayor of New York and the NYC Council agreed to temporarily suspend the recycling of designated materials through March 2004. Local Law 11 of 2002 amends the Administrative Code of the City of New York to temporarily suspend the recycling of glass, plastic, and beverage cartons starting July 1, 2002.

New York City Recycling Case
P. Conway

Teaching notes:

Externalities are among the important concepts covered in introductory economics courses. As such, I like to reinforce and deepen the students' understanding of this concept through discussion and analysis of a real-world example. I use a case to do so.

Prior to the class period:

I will distribute the case a week prior to its use. With it I will distribute a "reading guide" that asks the students to read carefully and to write down both the dollar costs and the opportunity cost of the New York City recycling program. I will also ask them to write down the benefits of that program. This will not be collected and graded, but will be used by the students as they discuss in class.

During the class period.

I can place this case discussion either at the beginning of my discussion of externalities or after the exposition of the theoretical concept: the class organization will differ slightly, but it will be useful either way. I will plan to spend 30 minutes on the topic.

The initial 5 minutes will be devoted to identifying the major economic issues raised and ensuring that everyone understands the salient facts. I could begin, for example, with the question: Why did Mayor Blumenthal establish a moratorium on recycling? The students can then use their notes to provide a list of the nominal costs of recycling, and can establish that trash collection is the opportunity cost of recycling. Finally, we'll review the distinction between private cost and social cost, private benefit and social benefit, and we'll create examples of each.

The next 10 minutes will be small-group work: each group of five students will prepare an argument either for lifting the moratorium or for keeping it in place – I'll assign the topic to groups randomly.

In the next 10 minutes we'll have a meeting of the Mayor's council – representatives of each side will argue the case before a group of five students serving as the Mayor. The arguments must be economic in nature. We'll vote as a group on the appropriate direction forward.

In the final 5 minutes we'll summarize what we've learned about the social costs and benefits of recycling.