

Appendix III

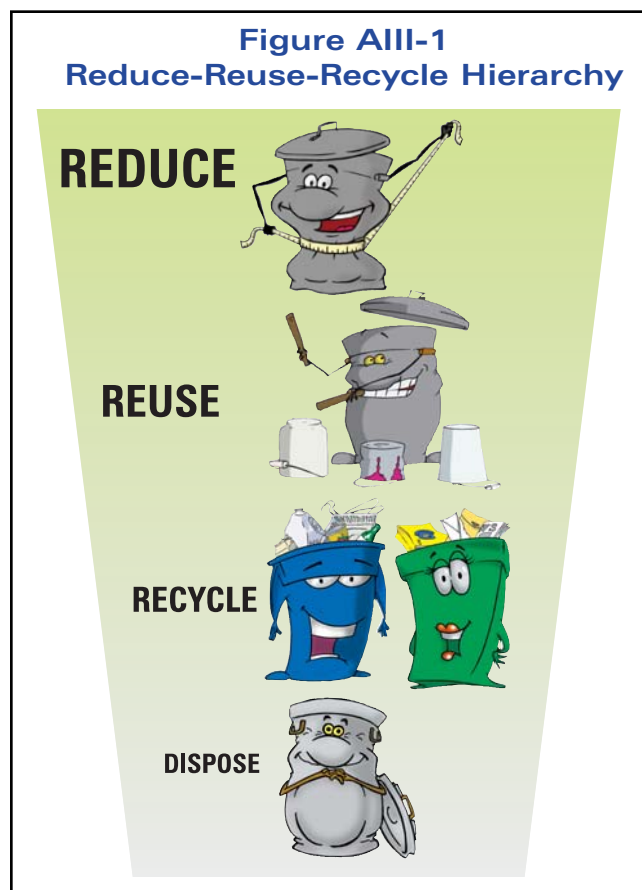
WASTE PREVENTION POLICY AND PLANNING: CLEARING UP CONFUSION

Since New York City's Recycling Program started in 1989, there has been a great deal of interest in waste prevention as a method to address the challenges of managing the waste that New York residents, institutions, and businesses generate each day. "Waste Prevention" refers to practices that eliminate or reduce the amount and/or toxicity of solid waste that is generated in the first place, as opposed to dealing with waste once it has been generated.

Because waste prevention targets many different and multifaceted individual and organizational behaviors, purchasing decisions, and practices that lead to waste creation, it takes many forms, such as:

- Showing industries how to modify production processes or substitute nontoxic chemicals for toxic ones
- Requiring governments to purchase products that are more durable, reusable, and/or repairable
- Urging consumers to buy products with less packaging, to donate unwanted goods to charities, and to reuse materials
- Encouraging homeowners to "Leave It On the Lawn" by not bagging and disposing of grass clippings
- Composting "on-site"—which prevents the waste from ever entering the waste stream

Waste prevention contrasts with other waste-reduction methods like using items that are recyclable or contain recycled material, composting collected organics, and engaging in traditional "recycling." These methods conserve more materials than disposal, but still require collecting, transporting, and processing wastes. For this reason, the widely accepted Reduce-Reuse-Recycle hierarchy sets waste prevention as the first, most efficient, and best step in waste management (Figure AIII-1). In theory,



the premise behind its superiority is clear: for each ton of waste *not* generated, one less ton of collection and transport needs to take place; and—depending on the disposition method—one less ton of material is landfilled, incinerated, recycled, or centrally composted.

The theoretical primacy of waste prevention has led many to ask why New York City is not using it as its premiere method to manage solid waste, and more specifically, why the NYC Department of Sanitation (DSNY) is not formulating solid-waste-management planning with waste prevention as the lead method in its mission. In this Appendix, we answer this question, explaining the following:

- New York City, and DSNY Bureau of Waste Prevention, Reuse and Recycling (BWPRR) specifically, *is already actively engaged in many forms of promoting waste prevention.*
- Over ten years of experience with, and research on, these programs has shown that *potential impacts of waste prevention on the overall waste stream and the DSNY budget are—without state- or federal-level interventions—very small.*
- In some cases, DSNY research has been *mis-cited and misinterpreted* by groups and organizations within the waste-policy community, leading to unfounded expectations of large reductions in the waste stream and massive savings anticipated.
- *DSNY still supports waste prevention at the municipal level because of its great educational benefits and points to the potential for policymaking at state and federal levels for more fundamental impacts on preventing waste.*
- *DSNY does not advocate setting percentage-based waste-prevention goals or mandates, nor conducting long-term planning based on an expectation of a substantial decrease in the DSNY-managed waste stream from waste-prevention programs.*

The Debate Over Waste Prevention

Debate on waste prevention in NYC has centered around two distinct points of view. One position promotes the practice as a *basis for comprehensive, solid-waste-management planning* at the municipal level—advocating that the City commit to, and be held accountable for, preventing the generation of as much as 10 percent of the overall waste stream by imposing a range of programs targeted at residents and public institutions. Those who take this view argue that such goals are not just desirable, they are actually achievable, and that they will mean millions of dollars in annual budgetary savings for the City. Those of this point of view call for more investment in new programs, and a commitment by the City to achieve a measurable reduction in the overall waste-generation rate of residents and institutions.¹

In contrast, BWPRR contends that the strength of waste-prevention programs lies in their *educational value*. Potential impacts of waste-prevention programs in terms of the reduction of overall waste tonnages have, in reality, proven to be quite limited. Using the same research on its own programs that those of the opposing view reference, BWPRR has pointed out that the evidence does *not* support the assertion that: (1) waste-prevention programs can prevent more than incremental amounts of waste generation; or (2) that benefits balance, let alone outweigh, costs. As a consequence, major budgetary savings should not be expected by implementing waste prevention programs, and solid-waste-management planning should not be based upon

expectations of significant waste reduction through such programs. Making this argument is not, however, to advocate abandoning current waste-prevention programs, nor does it propose ceasing research on the potential of waste-prevention alternatives.

The Problem with the Debate

While debate is healthy in policymaking, it is important that arguments be grounded in empirical evidence. Without evidence, options cannot be accurately compared, and realistic planning cannot take place. Yet, unfortunately, the argument for waste prevention as a basis for solid-waste planning has been, and continues to be, seriously misinformed about the potential impacts of waste-prevention policies and programs.² Despite its reference to published research, its claims are often not empirically grounded. Statements that were never based on evidence have gone on to be cited without verification and have gained acceptance as fact, when in truth they are not accurate.³ This approach to policy debate both delays and confuses the real work that needs to be done to address serious issues facing waste management in New York City today.

For this reason, it is important to clear up the confusion surrounding what can and cannot be expected from waste prevention. To do this, we need to begin by acknowledging the waste-prevention programs that BWPRR has implemented, and the research on the impacts of those programs that has been published. We can then contrast what we have learned with claims in some published work that overestimate the impacts of waste prevention as a basis for solid-waste-management planning. This comparison shows little or no empirical basis to these claims. In fact, many of them contain serious flaws in reasoning. Since such claims, in published form, cite BWPRR's own work, it is important to explicitly refute these assertions. The goal of this exercise is not to discourage interest in waste prevention, but to lay the groundwork to *move on* from a debate that repeats misinformation. There are many serious issues facing waste management in this City today that need clear-sighted attention.

A History of BWPRR's Work on Waste Prevention in New York City

Table AIII-1 (pages 146–147) provides a summary of the various waste-prevention initiatives that BWPRR has conducted over the years. Some of these are described in more detail below.

Early Years

BWPRR's first waste-prevention initiative dates to the early days of the NYC recycling program. In 1990, the Bureau of Waste Prevention, Reuse and Recycling partnered with the Department of Cultural Affairs to support its Materials for the Arts (MFA) exchange program. The program (in existence since 1979) solicits and warehouses items donated by businesses, organizations, and individuals, and makes them available to nonprofit local arts, cultural, and school groups. DSNY supports MFA to this day. In Fiscal Year 2002, it took in about 540 tons of materials that might otherwise have been discarded as trash.

In 1991, BWPRR began to investigate the potential of business waste-prevention programs through the Partnership for Waste Prevention, a group convened to gather and share information, and develop waste-prevention strategies among the City's commercial sector. During the same year, it produced *New York City's Waste Reduction Handbook*, a general guide designed to acquaint New Yorkers with basic waste-prevention

Table AIII-1
A History of BWPRR Waste-Prevention Initiatives

1990 to present	Funding support to Materials for the Arts , a citywide materials-exchange program providing NYC arts and educational groups with no-cost furniture and supplies.
1991	Outreach staff distributes <i>New York City's Waste Reduction Handbook: Practical Ways to Prevent Waste and Save the Environment</i> as an introduction to practical waste-prevention tips for use at home, work, or school.
1991	Pilot household-hazardous-waste public education and collection events in Brooklyn.
1991	Launch of Partnership for Waste Prevention , a NYC government- and business-sponsored association providing strategies and models for waste prevention in different business sectors, including dry cleaners, supermarkets, Chinese restaurants, and hotels.
1993	Partnership for Waste Prevention conducts reusable tote bag campaign in cooperation with Food Merchants Association . Poster campaign in cooperation with the Dry Cleaners Association encourages patrons to return hangers, recycle polyethylene bags, and purchase reusable garment bags. Chinese American Restaurant Association distributes bilingual signs encouraging patrons to prevent waste by requesting needed condiments with take-out orders. Laminated Bring Your Own Bag signs distributed to small merchants.
1993	Partnership for Waste Prevention targets junk-mail reduction through the How to Stop the Junk Mail Bandit postcard campaign with the Direct Marketing Association .
1993	The <i>How to Recycle or Reuse Almost Anything</i> guide and the <i>Reuse It, Repair It, Rent It, Donate It—But Don't Throw It Away!</i> guide were created to educate and encourage New Yorkers to find other outlets for items normally discarded as trash.
1993	Launch of pilot waste-assessment and assistance program targeting select businesses and nonprofit organizations. Development and distribution of resulting guide— <i>Cutting Costs and Preventing Waste in NYC Office Buildings and Institutions: Three Case Studies</i> .
1993–94	Household-hazardous-waste public education campaign and collection events occur citywide. The <i>It Makes Business Cents to Prevent Waste</i> guide was also developed, which contained waste-prevention case studies and resources for the business sector.
1995	Partnership for Waste Prevention holds a training seminar and produces a waste-reduction guide for local hotels— <i>Make Waste an Unwelcome Guest: The NYC Guide to Hotel Waste Prevention</i> .
1996–2000	The NYCWasteLe\$\$ Business Project , a comprehensive waste-assessment and technical-assistance program targeting multiple participants in nine business and institutional sectors, is launched. Training seminars, a series of newsletters, and a video are produced and widely distributed to all businesses within the targeted sectors. Program results, case studies, and a broad array of waste-prevention tips are presented in a printed summary report and on the newly launched NYCWasteLe\$\$ Business Project website .
1996–2001	The NYCitySen\$e Project , a comprehensive waste-assessment and technical-assistance program targeting different functions within 11 NYC Mayoral Agencies, is launched. <i>Finding Dollars in City Trash: The Budget Stretching Guide to Preventing Waste in NYC</i>

Table AIII-1
A History of BWPRR Waste-Prevention Initiatives *(continued)*

1996–2001 (continued)	Government Agencies is distributed to City employees. Project findings, resulting waste-prevention recommendations, and case studies are presented in eight educational seminars, a summary report, and on the newly launched NYCitySen\$e website .
1996	Special Waste Recycling Pilot Drop-off Site is established in Staten Island. Safeguard Your Home From Harmful Products brochure is developed and mailed to all households citywide.
1997	Training Program for Local Development Corporations and Academia to explore the economic development opportunities of waste prevention and associated technical-assistance programs.
1997	NYWa\$teMatch , a Department-sponsored materials-exchange and technical-assistance program targeting NYC manufacturers, is launched.
1999	NYC Stuff Exchange , a hotline (1-877-NYC-STUFF) promoting the reuse of second-hand goods in New York City, is launched. The hotline provides information on stores and organizations that buy, sell, or accept second-hand goods as donations.
2000	Five permanent Special Waste Recycling Drop-off Centers open citywide, based on the success of the Staten Island pilot.
2001	An Environmentally Preferable Purchasing Guide and training course for NYC agency purchasing personnel is developed, and presented at six training sessions.
2001	Full-page ads are placed in the City’s major daily papers addressing recycling and waste prevention issues. Making use of the “RRR” theme, the waste-prevention ads entitled “RRRRemove It” and “RRRethink It” encourage removing names from junk mail lists and provide simple ways to reduce waste at home or work.
2002	NYCWasteLe\$\$ individual , a comprehensive and interactive website promoting the benefits of practicing waste prevention at home, work, and school, is launched.
2002	The NYCitySen\$e website is revamped and renamed NYCWasteLe\$\$ government to better match the content structure and style of the NYCWasteLe\$\$ individual site. Rather than focusing on project results and case studies, the site presents a comprehensive look at waste-prevention and recycling opportunities for all organizations.
2004	A revamped and renamed website for the NYCWasteLe\$\$ Business Project is launched, with new sections added on Green Building and Extended Producer Responsibility. Now known as the NYCWasteLe\$\$ business site, it is housed with the NYCWasteLe\$\$ <i>individual</i> and <i>government</i> sites under one URL, which is then branded as the NYCWasteLe\$\$ website . BWPRR promotes the NYCWasteLe\$\$ website through press releases, Go Cards, email announcements, links on the NYC.gov and Sanitation websites, as well as newsletter articles in energy and water bills. In addition, all recycling decals, flyers, and brochures produced by the Department point people to the NYCWasteLe\$\$ website for waste-prevention information.

practices. This guide has been available ever since—and can be ordered through DSNY’s website or by calling the 311 Citizens Service Center. The introduction of the handbook was paired with a poster campaign mounted in the subways and at businesses, schools, city agencies, and various organizations.

By 1992, these waste-prevention–education materials and others were being regularly distributed, and waste prevention was incorporated into the Department’s outreach to residents. In the years that followed, literally millions of brochures, flyers, postcards, posters, and reports were mailed. DSNY staff made appearances at tens of thousands of special events, meetings, and seminars in schools, community organizations, academic venues, and other public fora.

The First Solid Projections of Waste-Prevention Impacts—the 1992 SWMP

Nineteen ninety-two was also the year that the City’s first *Comprehensive Solid Waste Management Plan* (SWMP) was published. This multivolume document covered all aspects of wastemanagement planning—including collection, recycling, landfilling, and closure of outdated facilities. One section examined waste prevention in detail, and was the Department’s first attempt to estimate the potential impacts of this method on the City’s future waste stream.

Using the results of a just-completed waste-composition study, which broke down the waste stream into material categories such as paper, plastics, glass, organics, metals, etc., the Plan provided an initial estimate of the long-term, waste-reduction impacts of eight waste-prevention programs, none of which had been implemented at the time—but all of which had been recommended by waste-prevention advocacy groups involved in drafting this portion of the SWMP.

The Department’s consultant, CalRecovery, Inc., forecast the potential, waste-reduction impacts of these programs using data available in 1992 about economic conditions in New York City and the nation at the time, as well as a number of assumptions about the future. These impacts were forecast in the context of an envisioned (but never realized) scenario in which:

- Widespread packaging and other legislation aimed at producers would be in place throughout the U.S.
- A host of material-specific, waste-reduction programs, implemented at the state and federal levels, would be active in NYC.

At the time, CalRecovery took great pains to stress the tenuousness of their forecasts, writing that “it is important to recognize the[ir]

The 1992 Solid Waste Management Plan’s Proposed Waste-Prevention Programs

1. Legislate waste-audit requirements
2. Fund a nonprofit waste exchange for shipping waste and nonhazardous material
3. Support efforts to promote voluntary reduction in packaging
4. Modify City procurement guidelines to stipulate the purchase of reusable products and to minimize packaging
5. Develop programs for “junk mail”
6. Increase support for reuse centers
7. Develop “Leave It On the Lawn” and backyard composting programs
8. Monitor the progress of “Leave the Packaging Behind” initiatives

Source: New York City Department of Sanitation, *Comprehensive Solid Waste Management Plan*, pp. 7-8 to 7-10.

speculative character.”⁴ Continuing, CalRecovery noted that “three key factors make the assumptions...at best educated guesses.”⁵ These included:

- “A near complete absence of data—many of the strategies [upon which the estimates were based] have never been implemented anywhere...”⁶
- The fact that “waste prevention activities are likely to have interdependent and cross-cutting impacts. Efforts to reduce one type of waste may increase the generation of another. [But] a model that could account for these interdependencies would be enormously expensive to develop and unwarranted given the dearth of data...”⁷
- The need to rely on, “composition data by material—[such data] simply do not provide the level of detail needed to make estimates of waste prevention impacts.”⁸

As a result, CalRecovery concluded, “the assumptions that follow may err by considerable margins. *These assumptions should not be taken as estimates of likely programmatic impacts* [emphasis added], but as rough guesses intended to appraise the scale of impact of an aggressive waste prevention program, to uncover inconsistencies and to identify important subjects for future research.”⁹

With these caveats, the Plan presented *potential* material-specific impacts that totaled a reduced tonnage of 670,000 tons per year, or 8 percent of the total DSNY and commercial waste stream—then a little over 8 millions tons. Out of this, 250,000 tons would come from the roughly 3 million tons of residential waste prevented (representing 9 percent of the total residential stream). CalRecovery then extrapolated the potential cost savings from such reduced tonnage, using the costs to process waste that prevailed at the time. In this hypothetical scenario, savings were estimated to be in the range of \$87 to \$90 million in FY 2000; or when totaled in real dollars, \$700 to \$800 million between 1992 and 2010.

Program Development Continues

After the publication of the SWMP, BWPRR turned its focus to developing and implementing waste-prevention programs in the real world. In mid-1993, its partnership efforts led to four major business-focused campaigns. First, BWPRR worked with the Neighborhood Dry Cleaners Association (NDCA), which represents more than half of the City’s 2,200 businesses, to promote awareness of waste prevention and its potential cost savings. Mail surveys gathered information about business practices, which was used to develop store posters encouraging customers to return hangers and to opt for reusable garment bags. The NDCA distributed posters to cleaners throughout the City, and BWPRR staff conducted 70 in-person outreach visits as follow-up. A second, similar partnership with the Food Merchant’s Association led to the distribution of brochures and store posters to hundreds of outlets encouraging customers to bring reusable bags and refuse unnecessary plastic bags. Work with the Chinese American Restaurant Association led to production and dissemination of posters encouraging customers not to take more single-use utensils or sauce packets than needed. A fourth project was conducted in 1995 with the Hotel Association of New York City to address waste prevention in this sector. It included a series of seminars and the subsequent production of a booklet entitled, *Make Waste an Unwelcome Guest: The NYC Guide to Hotel Waste Prevention*.

The year 1993 also saw a new campaign designed to help residents prevent waste by removing their names from household direct mail lists. BWPRR worked with the Direct Marketing Association to develop a

postcard telling residents how to register for the Association's "Mail Preference Service," and then sent bilingual English-Spanish postcards to all 2.9 million NYC households that year. These efforts were reinforced by continuing to distribute the cards through public offices, libraries, and other organizations, as well as making this information available through the Sanitation Action Center (DSNY's customer-service hotline) and on the DSNY website. In that same year, BWPRR began including waste-prevention information in the consumer Yellow Pages directories distributed by the local telephone company (then NYNEX, now Verizon). A second informational brochure, *Reuse It, Repair It, Rent It, Donate It—But Don't Throw It Away!*, was developed with information about the repair, rental, purchase, and donation of used goods. Also launched in 1993 was the Botanical Gardens Compost Projects, a program to promote backyard and small-scale composting to New York City residents, institutions, and businesses through outreach, education, and technical assistance.

In 1993, with funding from the New York State Office of Recycling Market Development and initial input from INFORM, a nonprofit environmental group, BWPRR began working with the Council on the Environment of New York City (CENCY) to conduct a series of waste-prevention assessments and assistance projects with businesses and nonprofit organizations in New York City. HBO, Kinney Shoe, and Columbia University participated during the first year of the Program. The results of waste audits and subsequent operational changes to prevent waste in these organizations was presented in a guide called *Cutting Costs and Preventing Waste in NYC Office Buildings and Institutions: Three Case Studies*. Results were impressive. Each organization reduced its waste stream by approximately 11 percent, and cut costs considerably.

In 1994, BWPRR bolstered its business waste-prevention efforts by adding two pages of waste prevention tips in the business to business Yellow pages, and publishing a new guide on the topic. *It Makes Business Cents to Prevent Waste* included real examples of cost-saving initiatives that companies had adopted, and listed organizations that would accept donation of corporate goods. The guide was included in the commercial-recycling-law information packet distributed to all NYC businesses that year.

In 1996, the Department targeted other City agencies with a new guide: *Finding Dollars in City Trash: The Budget Stretching Guide to Preventing Waste in NYC Government Agencies*. This was accompanied by a poster campaign among agencies, which included posters encouraging city employees to save paper by making double-sided copies. The next year, the Department used an EPA grant to link Local Development Corporations (LDCs) and academic institutions and explore their role in waste-prevention training and technical assistance. Seven LDCs (from Brooklyn and the Bronx), seven academic institutions, and several businesses—a total of 40 organizations—were brought together for two days of discussion, observation of manufacturing facilities, and training. The seminar resulted in the development of a training pack for future use by these and other LDC's, as well as working collaborations.

To promote the benefits of waste prevention and recycling to New York City businesses and institutions, BWPRR, with its consultant, Science Applications International Corporation (SAIC), developed the NYC WasteLe\$\$ Business Project—a waste-assessment and technical-assistance program, conducted from October 1996 through 2000, that targeted nine business and institutional sectors, including airports and airlines; hospitals; manufacturing facilities; restaurants; retail establishments; retail food establishments; schools; stadiums, arenas, and convention centers; and wholesale industries. The Project focused on helping participating companies reduce the volume and toxicity of their solid waste, increase energy and water efficiency, and reduce waste-related costs.

Waste-prevention teams worked with individual businesses and institutional partners within each sector to identify specific, cost-saving, waste-reduction opportunities and to establish implementation plans. After implementation, Project staff presented project case studies and key, industry-specific waste-prevention issues at numerous educational seminars. In addition, the Project developed and disseminated periodic, industry-targeted newsletters to the larger NYC business and institutional community. A video, *NYCWasteLe\$\$: Cutting Costs by Cutting Waste*, was also created and distributed. The work of the NYC WasteLe\$\$ Business Project is described in detail in the comprehensive NYC WasteLe\$\$ Summary Report, and formed the basis for the development of the NYCWasteLe\$\$ website (described below), originally launched in 2001. Relevant, sector-specific, waste-prevention tips can be found in the virtual business tour section of the site.

In addition to the NYC WasteLe\$\$ Business Project, BWPRR worked with SAIC to launch NYCitySen\$e—a research and technical-assistance program for City agencies to increase waste prevention and enhance recycling, in operation from 1996 to 2001. As part of the program, 11 agencies, representing a cross-section of City services, received waste audits. The program also involved gathering information on purchasing and operating procedures through questionnaires, staff interviews, and on-site observations. Program staff used this data to identify cost-effective waste-prevention opportunities for each agency, which were then reviewed with agency personnel. NYCitySen\$e offered follow-up technical assistance to help document the quantities of waste reduced, as well as the cost savings resulting from the implementation of these strategies in the selected agencies. BWPRR and SAIC disseminated results of the NYCitySen\$e program through various means, including eight educational and training seminars, a *NYCitySen\$e Project Summary Report*, and a newly established CitySen\$e website. The NYCitySen\$e website has since been revamped and renamed “NYCWasteLe\$\$ government” and is housed within the NYCWasteLe\$\$ website described below.

In 1997, the Department contracted with the Industrial Assistance Corporation and the Long Island Business Corporation to develop [Wa\\$teMatch](#), a service that helps businesses save money by providing a brokerage service for industrial scrap materials, pallets, packaging, and other reusable items that do not have well-established recycling markets. Today, Wa\$teMatch is still going, sponsored by DSNY in a cooperative effort with the City University of New York, the Industrial Technology Assistance Corporation, and the Empire State Development Corporation.

In 1999, BWPRR launched a pilot version of an automated telephone system with information about how to donate, buy, sell, rent, or repair reusable goods. Today, that hotline, the NYC Stuff Exchange, is active citywide, and lists over 10,000 organizations and businesses. An easy-to-follow menu allows callers to choose from several options (such as donate, sell, buy, repair, or rent) and then select from a list of item categories (such as clothing, furniture, books, electronics, appliances, etc.) to get information for the entered zip code. If a particular listing cannot be found for that zip code, the system provides information for the neighboring zip code areas. Users have the option of listening to the information or requesting a fax of the listings.

In 2000 and 2001, as a direct result of the NYCitySen\$e project and other Department-sponsored procurement-policy research, BWPRR and SAIC developed an Environmentally Preferable Purchasing (EPP) Guide, Teacher’s Manual, and class for City agency purchasing personnel. In coordination with Department of Citywide Administrative Services, the Procurement Training Institute (PTI), and the Mayor’s Office of Operations, six trial EPP classes were held in Spring 2001 with City agency procurement personnel. Based upon class evaluations, PTI incorporated the class into its list of regular course offerings that same year.

In 2004, BWPRR debuted a website entirely devoted to waste-prevention outreach and education for individuals, public agencies, and businesses, at www.nycwasteless.org. The interactive site contains a huge amount of information on waste-prevention methods—including a number of self-assessment tools; access to publications and links; and detailed descriptions of ways to reduce, reuse, and lessen the toxicity of materials used in the home, the workplace, and everywhere in-between.

To help get the word out about the NYCWasteLe\$\$ website, BWPRR conducted the following promotional activities:

- Emailed announcements about the site to solid-waste and government organizations, publications, and listserves
- Posted a link to NYCWasteLe\$\$ on the City of New York website: NYC.gov
- Added information about NYCWasteLe\$\$ to many printed materials
- Placed announcements about NYCWasteLe\$\$ in the consumer newsletters that accompany Keyspan Energy bills, Con Edison bills, and NYC Department of Environmental Protection water bills
- Placed over 400,000 postcards in local bookstores, bars, and restaurants with Go-Card; and conducted an outdoor poster campaign with Go-Poster
- Distributed NYCWasteLe\$\$ postcards at NYC Department of Parks MulchFest event and Earth Day events
- Sent letters about NYCWasteLe\$\$ with postcards for distribution to local business development corporations, business improvement groups, environmental organizations, community-based civic organizations, libraries, public schools, and religious institutions
- Contacted civic and environmental websites about placing links to NYCWasteLe\$\$ on their sites

Comprehensive Waste-Prevention Evaluation

In the Spring of 2000, BWPRR issued a series of reports evaluating the impacts—in terms of tons of waste prevented and costs—of programs implemented since 1992. These reports represented the first attempt to measure the impact of actually implemented waste-prevention programs in NYC, and followed on the 1992 SWMP's projections. The reports were written by an independent consultant, Science Applications International Corporation (SAIC), which undertook a comprehensive review of DSNY funds expended on waste prevention programs and tons prevented. It also took into account a host of other variables, including non-DSNY waste prevention initiatives going on in this period, changes in the overall materials economy, indirect costs and benefits of DSNY programs and, in the case of business-focused programs, direct costs and benefits to participants within the private sector.

The evaluation was a complex undertaking, and results do not lend themselves to a “bottom-line” summarization. For the details, readers are strongly urged to consult the reports themselves, which are available at the [Department's website](#).¹⁰ Overall, the reports estimated that DSNY programs had reached an annual impact of preventing 72,529 tons of waste in 1998, the year for which the most complete data was available¹¹ (Table AIII-2).

Table AIII-2
Reproduction of Table Summarizing Annual Impact of
Waste Prevention Due to City Programs and Related Activities

Source of Waste Prevention	Waste Prevented (Tons)	
	1998	2002
City Programs		
<i>NY WasteMatch</i>	293	1,448
<i>NYC Stuff Exchange</i>	N/A*	4,994
<i>NYC WasteLe\$\$</i>	68,830	68,830
Unwanted Direct Mail	186	0
Materials for the Arts	434	578
Outreach to Chinese Restaurants	120	120
Outreach to Dry Cleaners	305	311
Grocery Store Outreach	1,027	1,048
CENYC Waste Assessments	1,334	1,334
DCAS	N/A	N/A
<i>NYCitySen\$e</i>	N/A	N/A
TOTAL	72,529	78,663

* N/A means that the data are not yet available.

Source: First published in SAIC/Tellus Institute, *Measuring Waste Prevention in New York City*, Spring 2000, Table 3-1, page 116.

The major contributor to this tonnage prevented was the NYC WasteLe\$\$ Business Project, which was estimated to prevent 68,830 tons of waste that year. The research projected a growth in waste-prevention programs to close to 79,000 tons by 2002. What about costs? For direct costs to DSNY alone, waste prevention ranged from \$24 per ton for the NYC WasteLe\$\$ Business Project to over \$300 per ton for Materials for the Arts.¹²

SAIC arrived at these estimates using a number of methods, including:

- "Direct Measurement," which included direct program monitoring through case studies, audits, and reporting requirements; surveys and field work; and waste-characterization studies
- "Source Reduction Cost Analysis," in which the cost of undertaking the source-reduction effort and the savings in purchasing and disposal costs were calculated to yield the realized total costs of the effort
- "Source Reduction Program Potential Estimates," which applied existing data regarding the amount of waste generated, detailed information on the waste stream and potential participants, and technological data to calculate program potential expressed in tons of waste per year

The Misuse of DSNY Data in Waste-Prevention Advocacy

The 1992 SWMP and the 2000 SAIC Reports are the only two comprehensive evaluations of the predicted or actual waste-prevention impacts and costs of various DSNY programs. Both consultants responsible for these evaluations stressed the limits to, and proper use of, the estimates and projections they contain. In particular, these consultants argued the impossibility, in some cases, of linking actual effects to waste-prevention actions; the difficulty and cost of getting reliable measures for programs where participants or potential participants are many and dispersed; waste-prevention–evaluation methodology’s heavy reliance on self-reporting; and, finally, the complexity of *indirect* costs and benefits.¹³

BWPRR’s concern over the limits of waste-prevention evaluation has been interpreted by some in the waste-prevention community as simply a reflection of DSNY’s negative bias against waste prevention in general.¹⁴ In this view, the fact that some waste-prevention programs have prevented small tonnages of waste at costs that compare favorably to those for recycling or waste export is evidence enough that, in the words of the Waste Prevention Coalition, “waste prevention will, for a relatively small investment, avoid larger expenditures on collection and export.”¹⁵

What is wrong with making such predictions? They are not grounded in fact. There are two sources of error that drive such mistakes, which have made their way into public discussion over solid-waste–management planning in New York City. The first is inappropriate citation of outdated information from the 1992 SWMP. The second is inappropriate citation of more recent data from the 2000 Waste Prevention Reports.

Misuse of 1992 SWMP Data

Despite the caveats published with both of the 1992 SWMP Projections, and the fact that they are now 12 years out of date and have been superseded by more current research, the estimates of preventable waste in NYC are still regularly cited as fact. For instance, an article published in the year 2000 by the Institute for Local Self-Reliance states that:

In 1992 the City adopted but never implemented a waste prevention plan that was projected to achieve a 9% reduction in solid waste by 2000. Such a reduction would save the City hundreds of millions of dollars in avoided collection costs.¹⁶

The New York City Waste Prevention Coalition’s “Bare Facts,” also published in 2000, states in almost identical language that:

In 1992 the City committed to reduce its solid waste by 10% by 2000. At a savings of \$65/ton over export, a reduction of 1,110 a day would amount to a savings of \$71,500/day or well over \$20 million per year.¹⁷

And testimony before the City Council in June 2000 by the Waste Prevention Committee of the Manhattan Citizens’ Advisory Board calls the “Potential for Waste Prevention in NYC, Year 2000” an “Opportunity Missed,” reminding the Council that:

The Department of Sanitation calculated that \$90 million could be saved annually by implementing 9% waste prevention by 2000.¹⁸

Because of (1) the contingent nature of the estimates published in the SWMP, as discussed earlier; and (2) the fact that these estimates are 12 years out of date, it is simply not appropriate to cite “Department of Sanitation calculations” of multi-million dollar cost savings as “opportunities missed.”

Misuse of 2000 Waste-Prevention Reports’ Data

Each waste-prevention program profiled in the Department of Sanitation’s series of waste-prevention reports—prepared by Science Applications International Corporation (SAIC) and published in 2000—targeted a different aspect of the waste stream, contained different cost-benefit assumptions, and was carried out over different time periods. For this reason, nowhere in these reports was an “overall” cost per ton of waste prevented stated. Nonetheless, this figure has been cited, and has been attributed to DSNY’s own research, in several published articles and testimony. Although it is not clear where the mis-cited figure of “\$27 per ton” comes from, it is possible that it was derived from two numbers that were published in these reports. The first is the overall tonnage prevented by DSNY-funded waste-prevention programs. This was projected as 78,663 tons in 2002.¹⁹ The second is the total expenditures in 2002 on DSNY waste-prevention programs. This total was \$2,135,111.²⁰ Dividing total expenditures by estimated tons of waste prevented in 2002 yields a figure of \$29 per ton, which is close to the \$27-per-ton estimate.

What is wrong with using such calculations to estimate the cost of “waste prevention” in general, rather than for a particular program in a particular year? After all, isn’t it reasonable to assume that if the waste-prevention—program expenditures in 2002 prevented an estimated 79,000 tons of waste annually for about \$2.3 million, then double the outlay—\$4.6 million—would prevent double the waste, or 158,000 tons? Unfortunately not. Unlike costs for refuse disposal and recycling—which depend on relatively straightforward, fixed processes—each waste-prevention program is different, contains different costs and benefits, and has impacts that, measurement problems aside, will vary widely from year to year.

Furthermore, the mere fact that an activity is cost-effective says nothing about the amounts of waste that can be reduced by funding it. For instance, the City’s “Unwanted Direct Mail Reduction Campaign” prevented an estimated 1,000 or more tons of waste over five years, and cost roughly \$88,000. This translates to a cost of \$88 per ton, which is competitive with collection and disposal. If double the amount were spent on this program, double the waste might or might not be prevented (this would depend on a complex set of factors having to do with who was or was not reached by the campaign in the first go-around, and how much waste is, under any circumstances, preventable by such a campaign). What is definitely false is that if 100 times the funds were spent on this program, that 100,000 tons would be prevented.

Although this point may seem painfully obvious, it has nevertheless been lost on many in the waste-prevention—advocacy community. When one number is mis-cited, it leads to other

Inaccurate Citations

“Waste prevention is cost effective—DOS’s programs have heretofore cost only \$27 a ton.”²¹

“In 2000 the DOS’s long-delayed, 10-volume waste prevention research by the SAIC consultants showed that the few, mainly business waste prevention programs it had implemented, had cost \$27 a ton.”²²

“Waste prevention programs cost \$27/ton according to SAIC Report (2000)”²³

“DOS’s figures show that its waste prevention programs have cost about \$27 per ton.”²⁴

“Waste prevention costs only \$27 per ton, while exporting it costs up to \$100 per ton”²⁵

Sources cited in Endnotes section, pages 206–207.

miscalculations. These miscalculations, repeated in published sources, take on the appearance of facts. A mythology develops in which it is taken as self-evident that, for instance:

- “As tons of waste are prevented, collection trucks, personnel, and eventually even garages, as well as processing and disposal facilities, can be stretched farther.”²⁶
- “Processing, treatment, and disposal costs associated with the construction and operation of solid waste management facilities can also be reduced.”²⁷
- Single or short-term waste-prevention investments “extend into the future, more than making up for the initial investment.”²⁸
- “Waste prevention has proven itself to be by far the most cost-effective way of dealing with solid waste.”²⁹

Clearly, having an impact on trucks, personnel, garages, facilities, processing, treatment, and, in general, “dealing with solid waste” is dependent upon waste prevention gaining a critical mass so as to be more than a minuscule fraction of diversion, as it currently is now (79,000 tons are 0.002 percent of the DSNY-managed waste stream). While there is no harm in advocating an “every little bit helps” approach to waste-prevention programs, it is not wise to expect that simply increasing funding to such programs will push the City anywhere near this critical mass. And it is, moreover, misleading to argue that the City is needlessly forgoing millions of dollars in savings by not (somehow) attaining this critical mass.






Where Waste-Prevention Programs Can Make A Difference

Waste-prevention policies focus on both producers and consumers (Figure AIII-2). Producer-focused initiatives intervene in the process of manufacturing and distribution. Consumer-focused approaches encourage individuals, agencies, or firms to alter consumption habits.

For reasons of economic and legislative scale, producer-focused policies must be enacted at national or state levels. Experience with Bottle Bills, among the few producer-focused, waste-prevention policies to have significant success in the United States, suggests that intervening at the point of production and distribution is a powerful tool for increasing diversion and achieving product and process modification. Current work on “Extended Producer Responsibility” through the EPA and agencies and organizations seeks to involve the businesses who create what will eventually end up as garbage in partnerships that will save money all around.

DSNY is very interested in pursuing Extended Producer Responsibility as a means of preventing waste, but implementation of producer-focused policies are currently outside of the sphere of DSNY’s jurisdiction. As a result, all of the waste-prevention initiatives that DSNY has implemented have focused on consumers. The consumer focus is also seen in the 2002 Community-Based “Waste Prevention Coordinator” project, funded by the City Council and overseen by DSNY, and staffed by an independent group of waste-prevention facilitators working on a variety of community projects to reduce waste.³⁰ It is easy to see why efforts at this scale—efforts to persuade individuals or institutions to change purchasing decisions and alter consumption practice—are incremental, hard to sustain, and, in the face of overall waste-generation trends, tiny.

**Figure AIII-2
Types of Waste-Prevention Policies**

	Policy Focus	Mandatory (laws)	Voluntary (programs)	
PRODUCERS	 Manufacturers	recycled-content laws taxes on wasteful products or processes material bans	process change change in materials	design change waste exchanges
	 Marketers/Distributors	Bottle Bills other deposit laws	packaging reduction take-back programs	
CONSUMERS	 Businesses		waste exchanges double-sided copying disposable item reduction	buying less buying in bulk pre-arranged take-back agreements
	 Public Institutions	environmentally preferable purchasing laws	double-sided copying disposable item reduction buying less	buying in bulk pre-arranged take-back agreements
	 Residents		junk-mail–reduction programs clothing/furniture donation buying less buying in bulk	backyard composting “Leave It On the Lawn” or grass recycling

Area where a municipality has jurisdiction

Waste-generation trends are linked not primarily to individual or institutional behavior, but to the growth of the national and global economy. Over the decades, general output of consumer products has risen, periodic recessions and source-reduction goals notwithstanding. For example, Americans used 10 percent more paper per capita in 1997 than a decade earlier, and 34 percent more than two decades earlier.³¹ Overall growth in commodity output is seen worldwide, even in countries like Germany and the Netherlands, where a stronger tradition of government regulation has enabled the imposition of producer taxes for waste reduction (such as Germany’s Green Dot program).

At the same time, the total tonnage of waste in New York City has, since the 1970s, gradually decreased, largely for reasons having to do with the lightweighting of consumer products and other changes in the way goods are manufactured.³² This reduction, which has taken place in periods with and without waste-prevention programs—or even recycling programs—reflects the fact that broad-scale changes in the U.S. economy drive waste generation. In this regard, it is all the more crucial to be informed about the scale at which policy intervention will, and will not, make a difference.

In sum, waste-prevention programs are not a practicable method to address the enormous challenges New York City faces in waste management today. Recognizing this does not negate their educational value. It does argue against spending time, effort, and resources on planning as if waste-prevention programs could actually save money or reduce tonnages in any significant way.