



New York City Department of Sanitation

Kevin P. Farrell
Commissioner

Martha K. Hirst
Deputy Commissioner, Solid Waste

NYC Recycles

*More Than a Decade of Outreach Activities
by the NYC Department of Sanitation
FY 1986-1999*



Without New Yorkers recycling, it's all just trash.

Prepared by:
Bureau of Waste Prevention, Reuse and Recycling
Robert Lange, Director



Fall 1999

TABLE OF CONTENTS

Abbreviations and Definitions	2
Director's Note	3
Introduction	4
PART 1	
Borough Level Public Education and Outreach	7
General Pattern and Types of Activities	7
Staten Island	17
Manhattan	20
Brooklyn	25
Bronx	29
Queens	32
PART 2	
Citywide Advertising and Outreach Campaigns	34
1st Citywide Phase	34
2nd Citywide Phase	36
Fall and Spring Animation Campaigns	38
PART 3	
Other Community-Based Recycling Outreach and Education	41
Public Schools	41
Low-Diversion Districts	44
PART 4	
Outreach for Particular Waste Streams	47
Special Seasonal Programs and Composting	47
Office White Paper Program	51
Commercial Recycling	51
Household Hazardous Waste	56
PART 5	
Waste Prevention	59
The Partnership for Waste Prevention	59
Waste Assessments	62
Materials for the Arts	62
Brooklyn Community Board 6 Intensive Zone	63
Educational Materials	63
Programs in Progress	64

PART 6	
Outreach Using Centralized Information Delivery	66
Sanitation Action Center (SAC)	66
Yellow Pages Directories	66
Sanitation Website	67
PART 7	
Market Research	68
Baseline Research on Recycling, Fall 1995	68
Additional Studies by Subject, 1996-1998	68
Benchmark and Follow-up Research on Recycling, Fall 1997 and Summer 1998	70
What We've Learned	72
The Challenges Ahead	73
Endnotes	89

EXHIBITS, AND APPENDICES

Exhibit 1	
Borough Expansion Direct Mail Materials	11
Exhibit 2	
Highlights of Department of Sanitation Recycling Outreach and Public Education	15
Exhibit 3	
NYC Recycling Program Time Line	16
Appendix 1	
Demographic Characteristics and Diversion Rates, by Borough and Community District	75
Appendix 2	
Current BWPRR Public Education Materials	77
Appendix 3	
Media Outlets and Select Samples for Citywide Recycling Advertising Campaigns	78

ABBREVIATIONS AND DEFINITIONS

Board	New York City Board of Education
BWPRR	Bureau of Waste Prevention, Reuse and Recycling (formerly known as the Recycling Programs and Planning Division)
Bk	Brooklyn
Bx	Bronx
CBNS	Center for the Biology of Natural Systems (at Queens College)
CD	Community District
CENCY	Council on the Environment of New York City
CFC	Chlorofluorocarbon gas, also known as Freon, is used as a refrigerant in appliances. When improperly disposed, it damages the ozone layer of the atmosphere.
Curbside Collection	Recyclable materials are placed at the curb the night before an area's recycling collection day.
DEC	(NY State) Department of Environmental Conservation
DEP	(NYC) Department of Environmental Protection
Diversion Rate	The portion of total discarded material collected by the Department of Sanitation that is diverted from the waste stream through recycling. Diversion rate is measured by dividing the weight of collected recyclables by the weight of collected waste plus recyclables.
DMA	Direct Marketing Association
DOS	(NYC) Department of Sanitation
EPA	(US) Environmental Protection Agency
FY	Fiscal Year (runs from July 1st to June 30th)

HHW	Household Hazardous Waste: products that, when disposed, are characterized as being harmful to the environment.
Household Metal	Household items that contain more than 50% metal, such as irons, pots and pans, scissors, etc.
HPD	(NYC) Department of Housing Preservation and Development
LDC	Local Development Corporation
LL19	Local Law 19 of 1989 (the NYC recycling law)
Low-Diversion Districts	Districts within the City that have recycling diversion rates below 12%
m/c	Magazines and corrugated cardboard (also referred to as mag/corr)
m/g	Metal/glass (metal cans, aluminum foil products, glass bottles and jars)
mag/corr	Magazines and corrugated cardboard
Mechanized Collection	Recyclable materials are placed in special dumpsters and collected on a prearranged schedule by special trucks.
MFA	Materials for the Arts
Mn	Manhattan
MRF	Material Recovery Facility
NYCHA	New York City Housing Authority
Plastic	Plastic bottles and jugs
PSA	Public Service Announcement
Qn	Queens
SAC	Sanitation Action Center
SI	Staten Island
Street Blimp	Mobile billboard with sound
Subway Brand Trains	Advertising that appears on an entire side of a subway car
SWAB	Solid Waste Advisory Board (borough-level boards established under LL19)
SWMP	Solid Waste Management Plan

DIRECTOR'S NOTE

New York City's recycling program began as a bold experiment to test the notion that one of the world's largest cities could readjust its disposal system in favor of keeping some material from ending up in a growing mound of refuse. There were tremendous odds against its success. City dwellers were not concerned with where their garbage went, as long as it was not in their apartments. Buildings were not designed to provide adequate storage space for refuse, let alone recycling. Garbage collection systems were perceived as both efficient and working. Many believed there was no need to fix what didn't appear to be broken.

But as the century began to draw to a close, there was a need to rethink how New York disposed of its garbage. Thanks to the leadership of a succession of Department of Sanitation Commissioners, and the enormous talent of the staff they assembled to address recycling, this undertaking was implemented through sheer creativity and persistence. There were no adequate models to adapt. There was no blueprint to follow. The recycling team, working in borrowed space at salvaged desks, were pioneers in reshaping the relationship between New Yorkers and their garbage. This team developed public education and outreach strategies to convince more than 7 million people that New York City is a recycling city. And in doing so they set a standard for the nation.

This report documents a substantial portion of the public education and outreach activities that supported the development of this groundbreaking recycling program. It is impossible to include all the work that was accomplished. Early efforts were experimental, created in reaction to immediate needs, and often unrecorded. The multiple undertakings of the early years are mostly excluded from this report; included, in limited detail, are the larger outreach components that have shaped the program as we know it today. In the future, the Department plans to prepare periodic supplements

to the report, as an ongoing record of its recycling and waste prevention efforts.

Now that New York City's recycling program is fully implemented and uniform, the challenge is to increase diversion rates further to meet City and State goals. The experience gained through implementing and promoting the recycling program provides the foundation for the Department's future endeavors in developing and managing the strategies necessary to meet our ambitious goals.

I am proud to have been an original member of New York City's recycling program team and thank every employee, past and present, who contributed to this remarkable example of how people working together can create doable solutions to pressing needs.

Robert Lange

Director

Bureau of Waste Prevention, Reuse and Recycling

INTRODUCTION

The challenge of changing the way New Yorkers handle their garbage is not a new one. Only the ruthlessness of Peter Stuyvesant in the mid-17th Century could stop the residents of the emerging City from throwing rubbish, filth, ashes, oyster shells, and dead animals onto the streets.¹ Much later,



Colonel George Edwin Waring, the late 19th Century reformer who modernized

the Department of Street Cleaning, had to have 40 enforcement officers assigned to him to get people to obey new garbage rules. The rules included the requirement that households separate the material they put out for curbside collection.

With the passing of Local Law 19 in 1989, recycling became mandatory in New York City. The City's Department of Sanitation (DOS or the Department) implemented recycling within the context of a Solid Waste Management Plan, required under New York State environmental regulations. The first Plan was approved by the City Council on October 28, 1992



and has subsequently been modified and updated.

Recycling in NYC began in the Fall of 1986, on a voluntary, newspaper-only basis in Community Board 2 in Manhattan. By the following summer, each borough had a single-district, newspaper pilot project. In the decade that followed, the City's recycling program became the largest, most

ambitious, and most comprehensive program of its type in the nation, picking up a full range of materials citywide by the Fall of 1997. The program encompasses residential recycling (including single-family homes and apartment buildings), institutional and commercial recycling, composting, and waste prevention. In terms of recycling alone, the Department collects materials from more than three million residences and five thousand institutions throughout the City's five boroughs. At the end of Fiscal Year 1999 (June 1999), households and institutions were recycling over 2,200 tons a day, an 18% citywide recycling diversion rate.²

Out of necessity, the recycling program developed in stages, with some revisions along the way. There was little infrastructure in place or experience from other large cities (with such complex compositions) that New York could build upon to smooth out operational logistics. Collection, processing, and marketing components had to be put in place, all

New York City's Mandatory Recycling Law: Local Law 19

Questions and Answers for Residential Building Owners, Managers, and Tenants





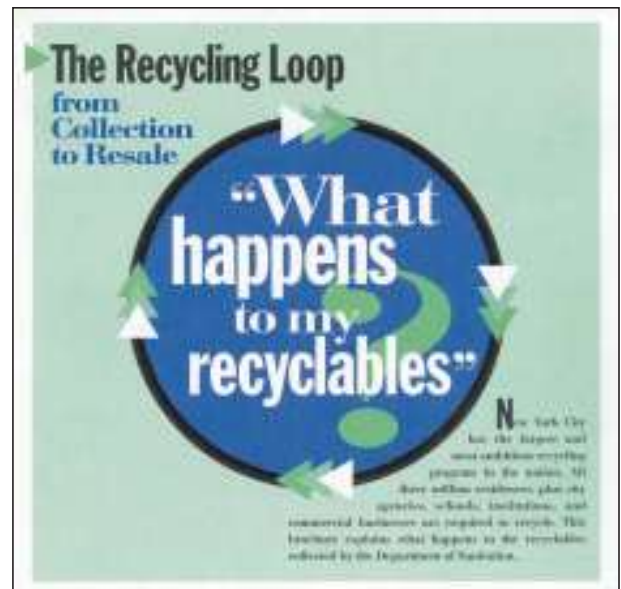
during a time when local and national demand for the materials collected was changing. The City's density and demographics, as well as budget constraints that emerged in the early and mid-1990s, contributed added complexity.

On the collection side, systems had to be developed and tested for both truck types and labor changes associated with new collection routes. Overall, DOS had to balance operational factors (such as fewer trips and less material separation) that reduce costs, and in turn reduce the value of the materials collected, against factors that increase both cost and value. Thus, over the course of a decade, DOS experimented with collecting recyclables separated and mixed together (commingled); in metal dumpsters; in bins and in bags; and in single- and dual-bin trucks, side-loaders, back-loaders, and E-Z Packs (shown in photo). The Department also negotiated route changes and productivity targets when labor contract renewals allowed.

On the processing and marketing side, infrastructure had to be developed or expanded. At the outset, the City lacked the facilities — known as material recovery facilities, or MRFs — to which the Department could deliver the recyclables and prepare them for market. In addition, the Department had to decide whether to assume some or all of the market risk in selling secondary materials, or pay the cost of letting other parties assume the risks. The contractual system of private MRFs and market-linked prices in place today is very different from what was envisioned a decade ago, when there was discussion of having one or two City facilities in each borough³ (one indication of

how much conditions have changed as the recycling program grew). Over time, DOS developed an institutional understanding of secondary materials markets for paper, metal, glass, and plastic. These markets involved industries that were themselves changing as productive capacity was added around the country to address legislative and consumer demands, and to use the tens of thousands of

tons of post-consumer "secondary raw" materials being generated through municipal recycling programs. Today we tend to take this capacity for



granted, but industrial use of secondary materials from the residential waste stream was limited in the early 1990's.⁴

Even without these substantial operational and logistical hurdles, the City's demographics presented hearty challenges to a local recycling program. All agree that storage space for recyclables is limited. However, the types and quantities of materials generated, as well as storage issues, vary throughout the City. Some New Yorkers live in homes with yards to mow, some live in 3- to 5-story buildings without elevators, and some reside in high-rise apartment houses. In fact, 14% of New York City homes are single-unit, while 31% are in large buildings with more than 50 units. Incentives to recycle and legal authority to enforce compliance

differ across households, as 23% of New Yorkers own their homes or apartments while the rest rent.

A particular problem is that efforts to inform the public come up against a population in flux. For example, almost the same number of people lived in New York City in 1997 as in 1990, but close to 1.1 million moved away during that period, while 700 thousand moved here from foreign countries and births exceeded deaths by 400 thousand.⁵ According to 1990 census data, 41% of those older than five spoke a language other than English at home, and 20% said they did not speak English very well.

Differences in household income also pose problems for public education, as many City residents grapple with social and economic problems that make recycling less of a priority. Citywide, in 1990, half of all households had a total income below \$30,000, and 13% of households received public income support (other than Social Security).⁶ Appendix 1 shows these characteristics for the City as a whole, as well as by borough and community district.

In sum, New York's City's 7.3 million residents, in 3 million households, had to learn to recycle different materials at different times, as a system was established and phased in, first district-by-district and then borough-by-borough. For example, one household may have received a notice to add plastic bottles and jugs to the items they were already recycling while a neighbor two blocks away (who resided in a different Sanitation district) did not (or was not even recycling at all). Though this seemed to not make any sense, it was part of the overall plan to gain experience with a new material (and its processing and markets for end use) during the district phase-in period.



In cities and towns where households pay separately for garbage pick-up, the fee structure is a very effective tool for getting residents to recycle. Many localities charge for garbage removal but not for recycling, and the cost difference provides an incentive for people to change their behavior.⁷ In New York City, the preponderance of multiple dwellings means that individual household garbage (and now recyclables) gets combined with that of other households before it is placed out for collection. Due to the efficiency of this method, and other considerations, the costs of garbage collection and disposal are paid out of local taxes. Therefore, DOS has had to rely on public education instead of pricing to motivate people to separate recyclables from their garbage.



PART 1: BOROUGH LEVEL PUBLIC EDUCATION AND OUTREACH

General Pattern and Types of Activities

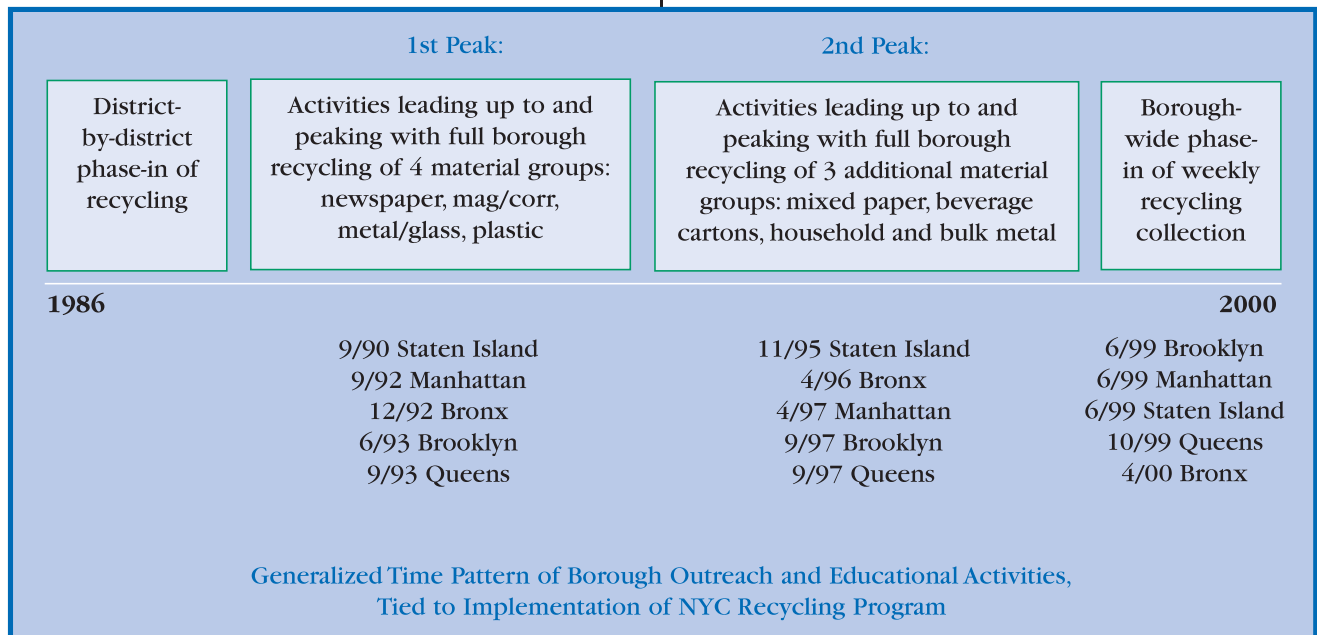
Beginning in 1990, BWPRR developed a general recycling implementation strategy for each of New York's City's five boroughs. When entire boroughs began to recycle all of the same materials (as opposed to individual districts recycling different materials at different times), BWPRR was able to coordinate its educational and outreach efforts in a much more efficient and effective manner. To the extent possible, outreach was tailored to each borough's diverse population and housing stock.

Each borough had two peaks of outreach and educational activity. The first peak occurred when the borough's recycling program expanded to include all of the first four material groups

(newspaper, magazine/corrugated, metal/glass, and plastic). This citywide expansion was implemented over three years, beginning in Staten Island in September 1990 and finishing in Queens in September 1993.

The second activity peak heralded the addition of mixed paper, beverage cartons, and household and bulk metal items to the original four material groups collected in each borough. All seven material groups were first collected in Staten Island in November 1995; by September 1997, all five boroughs were recycling these materials.

Depending upon population density and recycling diversion rates, some districts received weekly recycling collection while others had their recyclables collected every other week. As of June 1999, all of Brooklyn, Manhattan, and Staten Island receive weekly pick-ups. Queens and the Bronx are scheduled to receive weekly collection in October 1999 and April 2000, respectively.



Though some outreach activities varied and the boroughs were (for the most part) brought on at different times, the strategies used for educating City residents about the changes in the recycling program in their boroughs employed the same basic components:

- **Contact and meetings with elected officials.** All elected officials were contacted in writing, by phone, and/or in person so that they could learn more about recycling regulations, ask questions, and help with implementation. Before the first expansion phase (when not all districts in each borough were recycling), individual meetings were held with each of the 52 City Council Members, Borough Presidents, borough environmental representatives, and the City's 59 community District Managers. In addition, elected leaders were invited to meet collectively at Borough Halls. Prior to the second expansion, elected officials received informational letters and were asked to attend a breakfast seminar in their borough. Contact names and lists, including local media, were solicited from all officials. They were incorporated into Department contact lists and were used for subsequent mailings.
- **Mass mailings: standardized lists.** Information packets were sent to residents, building owners/managers, and institutions that receive DOS waste collection (for example, schools, churches, and some non-profit organizations). Mailing lists came from professional list sources, the NYC Department of Finance, and DOS. When DOS mailed to individual districts (prior to 1991), the process was expensive and difficult, and caused much confusion. Since community districts do not conform to zip code boundaries (or any other standard), mailing lists did not exist and had to be specially created.
- **Mass mailings: customized lists.** Using a variety of sources and in consultation with elected officials and community District Managers, BWPRR prepared extensive contact lists of key people, institutions, and community-based organizations.

The lists included all known institutions with a mailing address that received free DOS collection or could help educate the public. They were: civic, block, neighborhood, homeowner, tenant, and co-op associations; religious institutions, organizations, and councils; senior centers; schools; day care centers; libraries; police community councils; Community Board and Solid Waste Advisory Boards (SWABs); merchant groups; local development corporations; community groups; and youth organizations. In addition to providing a recycling expansion brochure, the mailings offered to have BWPRR staff address each group.

- **Special events.** The Department held special kick-off events for the recycling expansions in each borough. They were planned to promote recycling awareness and generate excitement. The events included a rally at Union Square Park with Kermit the Frog and Ms. Piggy, a movie screening at the Brooklyn Museum (sponsored by Warner Bros.), and free photos with Thomas the Tank

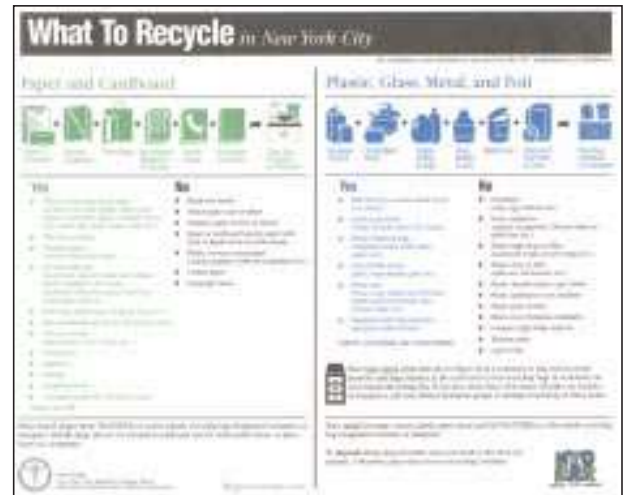


Engine at The New York Botanical Garden in the Bronx. In Brooklyn, Queens, and the Bronx there were neighborhood lot clean-up days and press conferences at the Borough Halls. Another event was "Great Balls of Foil" (sponsored by Reynolds), which began with school kids wrapping a



Sanitation truck in aluminum foil, and included a foil sculpture contest at the Queens Hall of Science and a contest to collect the most foil, from each school.

- **Internal education.** Presentations were made to DOS operations staff at the district garages in each borough.
- **Mechanized site mailings and visits.** The Department sent letters explaining how to properly separate materials to the 900 apartment complexes and institutions that placed recyclables in dumpsters (instead of curbside containers). In addition, district-level outreach included site visits with personalized instruction.
- **Community-based outreach through local organizations.** BWPRR outreach staff attended day and evening meetings and events where they gave presentations and distributed information. They responded to every meeting request; providing up to 30 group presentations in each community district during the recycling expansion phases. At street fairs, staff was available to hand out literature and answer questions. At some events, the Department used a street blimp, a vehicle equipped with a billboard and sound system.



- **Distribution of literature and decals.** BWPRR produced brochures, flyers, and posters for mailings and outreach. They explained to residents (in apartment buildings and one- and two-family homes) and landlords what materials to separate for recycling, how to prepare materials for pick-up, and when to place materials out for collection. All educational materials and advertising were bilingual (English/Spanish) in Manhattan, the Bronx, Brooklyn, and Queens. Brochures and ads for Staten Island were in English only. Information was also printed in Chinese, Korean, Russian, Polish, Greek, and French Creole and distributed where applicable.

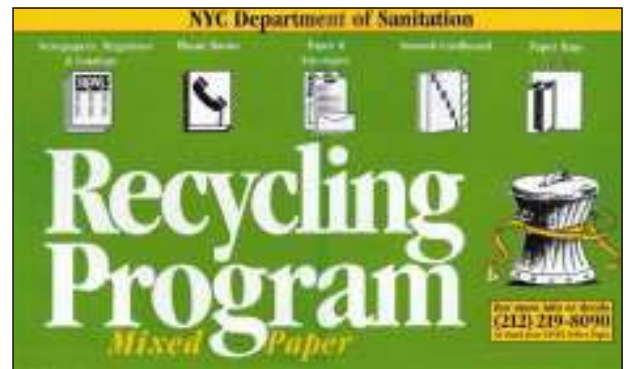


BWPRR also produced and distributed three kinds of recycling decals: blue container decals for the collection of beverage cartons, metal, glass, plastic, and foil (beverage cartons and household metal were added when the program expanded); green container decals for mixed paper; and yellow decals to identify recycling areas.

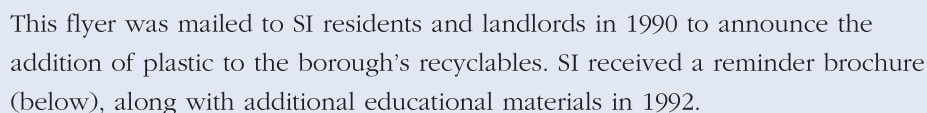
All of the first expansion mailings contained a recycling magnet, and most of them contained a sample blue plastic bag and manufacturer's coupon, in addition to a brochure and mini-flyer. Packets to landlords included a building poster and a reply card for ordering additional free literature and decals. Blue and green recycling container decals were

mailed to all residents in one- and two- family homes as part of the second expansion mailing (except in Staten Island, where all residents received a reply card to order decals). Exhibit 1 shows the materials that were mailed to each borough for both expansion phases.

Recycling brochures and decals were also distributed through community district offices, libraries, post offices, firehouses, DOS garages, schools, and other organizations. BWPRR staff also enlisted civic associations, churches, colleges, and other institutions to disseminate information to their members through their own channels, such as blurbs in newsletters and postings on bulletin boards.



1st Expansion Phase



All NYC landlords received a cover letter, borough brochure, building poster (similar to the mini-flyer), magnet, sample blue bag, and literature reply card.



2nd Expansion Phase

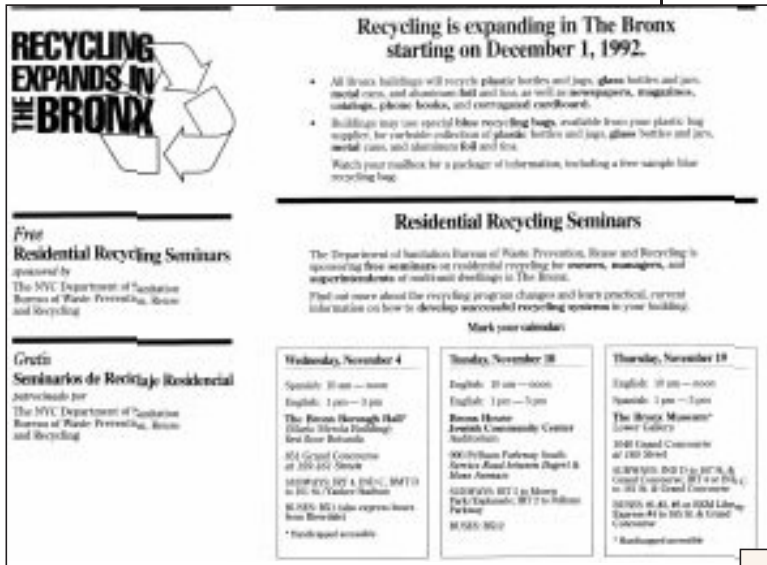
All NYC residents received a brochure, mini-flyer, yes/no flyer, and buy recycled flyer. SI residents received the decal reply card; residents in 1- and 2-family homes in all other boroughs received blue and green recycling decals.

Landlords received a cover letter, brochure, building poster (similar to the mini-flyer), yes/no flyer, buy recycled flyer, and literature reply card.



Please note: SI, Mn, and the Bx received separate borough brochures with the same look and content as the citywide brochure pictured above, except that they contained borough maps. The citywide brochure was produced when Qn and Bk expanded and it replaced the other brochures. Since the citywide brochure does not contain maps, a separate 5-borough map was included in the mailings to Bk and Qn residents.

- **DOS seminars and workshops for building superintendents.** Substantial efforts were made to reach out to residential building superintendents in each borough. In the first expansion phase, 30 superintendent recycling seminars (8 in Spanish) were conducted throughout the City; reaching



RECYCLING EXPANDS IN THE BRONX

Recycling is expanding in The Bronx starting on December 1, 1992.

- All Bronx buildings will recycle plastic bottles and jars, glass bottles and jars, metal cans, and aluminum foil and foil as well as newspapers, magazines, catalogs, phone books, and corrugated cardboard.
- Buildings may use special blue recycling bags, available from your plastic bag supplier, for curbside collection of plastic bottles and jars, glass bottles and jars, metal cans, and aluminum foil and foil.

Watch your mailbox for a package of information, including a free sample blue recycling bag.

Residential Recycling Seminars

The Department of Sanitation Bureau of Waste Prevention, Reuse and Recycling is sponsoring free seminars on residential recycling for owners, managers, and superintendents of multi-unit dwellings in The Bronx.

Find out more about the recycling program changes and learn practical, current information on how to develop successful recycling systems in your building.

Mark your calendar:

Wednesday, November 4	Thursday, November 18	Thursday, November 18
<p>English: 10 am — noon Spanish: 1 pm — 3 pm</p> <p>The Bronx Borough Hall (Gloria Steinberg Building) 100 West Broadway 100 West Broadway at 100 West Broadway</p> <p>SEPARATE BY 4 (SBC) BMT to 100 West Broadway BMT to 100 West Broadway from BMT to 100 West Broadway</p> <p>* Hands-on activity</p>	<p>English: 10 am — noon Spanish: 1 pm — 3 pm</p> <p>Bronx House Jewish Community Center 100 West Broadway 100 West Broadway at 100 West Broadway</p> <p>SEPARATE BY 4 (SBC) BMT to 100 West Broadway BMT to 100 West Broadway from BMT to 100 West Broadway</p> <p>* Hands-on activity</p>	<p>English: 10 am — noon Spanish: 1 pm — 3 pm</p> <p>The Bronx Museum Lower Level 100 West Broadway 100 West Broadway at 100 West Broadway</p> <p>SEPARATE BY 4 (SBC) BMT to 100 West Broadway BMT to 100 West Broadway from BMT to 100 West Broadway</p> <p>* Hands-on activity</p>

approximately 3,500 people. Attendees included superintendents from private, City-owned, and City-run buildings. The seminar topics included residential recycling, recycling operations and enforcement, and the Sanitation Action Center. Dedicated workshops for superintendents in residential buildings owned or run by the City through the Department of Housing Preservation and Development (HPD) have been held quarterly since the late 1980s. HPD hosts the Department-run seminars. HPD also runs a general certification program for people interested in becoming building superintendents; BWPRR provides the recycling training for those programs. (Additional seminars for building superintendents in low-diversion districts are covered in Part 4.)

- **Voluntary Recycling Centers.** Before recycling was implemented citywide, the Department promoted the use of voluntary recycling centers in each borough. Some of the sites were run by non-profit organizations, while others were simply DOS-serviced dumpsters located behind neighborhood

supermarkets. Through the Mobile Drop-Off Program, a Sanitation truck visited specified locations at designated times to collect recyclables.

- **Local media advertising and coverage.** To promote each borough



expansion, the Department advertised through local media. DOS placed print ads in community and real estate papers.

There were also outdoor ads on bus shelters, billboards, storefronts, telephone kiosks, and subway station platforms. When recycling expanded citywide, ads also ran on buses, subways, and radio. News articles written about the program provided additional coverage.



Advertising for the second borough expansion also included cable TV. First, three 15-second commercials, customized for each borough, were produced. Referred to as the “New Perspective”



campaign, they each focused on one group of recyclables and how they should be set out for collection: mixed paper in a labeled green bin; beverage cartons, bottles, cans, metal, and foil in a labeled blue bin; and bulk metal placed next to containers. English and Spanish versions of the spots ran on each borough's local cable stations. When the expansion was completed in all boroughs, a New York City version of the ads ran citywide.

The rest of Part 1 contains a detailed account, by borough, of the key outreach and educational activities described above. The major, citywide advertising campaigns that followed and reinforced these activities are described separately in Part 2. Exhibits 2 and 3 highlight the main outreach activities that supported program development.

EXHIBIT 2: HIGHLIGHTS OF DEPARTMENT OF SANITATION RECYCLING OUTREACH AND PUBLIC EDUCATION (FY 1986-1999)

- Actively participated in 1,550 public meetings around the City in churches, Community Boards, senior centers, apartment houses, civic and neighborhood associations, hospitals, etc. Some of the meetings were large ones that the Department convened; others resulted from invitations to speak.
- Staffed information tables at 214 events, from street fairs to association events.
- Organized 28 major introductory special events, including a rally at Union Square Park with Kermit the Frog and Ms. Piggy, and a Warner-Brothers' sponsored movie at the Brooklyn Museum.
- Met with all elected officials and community District Managers, and contacted people and organizations that they recommended.
- Prepared contact lists of, and mailed information to, over 4,000 institutions that receive free DOS collection. Explained the recycling program expansions as they were implemented.
- Mailed over 35 million brochures to residents. (There were two citywide mailings [borough-by-borough] that explained the recycling program expansions, as well as many district-level mailings in the early years of the program.) In addition to English and Spanish, information was printed in Chinese, Korean, Russian, Polish, Greek, and French Creole.
- Mailed over a quarter of a million brochures to building owners and managers (each was sent information at least twice), and sponsored more than 30 seminars for building superintendents, including some at Shea and Yankee stadiums.
- Mailed almost 1,500 brochures to superintendents and managers at mechanized DOS collection sites.
- Placed over 41,000 ads on subways, buses, bus shelters, storefronts, telephone kiosks, and other sites in English, Spanish, Chinese, and Korean.
- Placed 1,666 print ads in more than 80 publications, including the major city dailies, community papers, and real estate publications.
- Placed over 12,000 network and cable television ads on 17 different NYC channels.
- Placed 6,000 radio spots at over 20 different stations.
- Arranged for recycling information to be incorporated into each borough's Yellow Pages telephone directory. Since 1992, recycling information has been available to all NYC residents with telephones in their homes.
- Provided information to three-quarters of a million callers through the Sanitation Action Center telephone hotline.
- Gave almost 600 school recycling assemblies during the first phase of borough-wide recycling; provided multiple mailings and information to schools and districts; and, overall, provided technical assistance to half of NYC schools through a combination of site visits, recycling dumpster provision, and training sessions.
- Contacted 550 supermarkets, through site visits and mail, to prepare for blue and clear bag supplies.

EXHIBIT 3: NYC RECYCLING PROGRAM TIME LINE

NYC RESIDENTIAL RECYCLING PROGRAM DEVELOPMENT	OUTREACH AND EDUCATION HIGHLIGHTS	RESULTS
<p><u>1986 – 90:</u> Collection of designated recyclables — newspaper, magazines, corrugated, metal, glass, and plastic — in many of the City's 59 Community Districts; curbside and containerized services provided.</p> <p><u>1990 – 93:</u> ➔ Borough-wide collection and processing of designated recyclables phased-in for all 3 million City households plus public institutions.</p> <p><u>1991 – 95:</u> Two Intensive Zones test participation and costs of recycling expanded materials, including textiles and food waste.</p> <p><u>1992 - 96:</u> Phase-in and expansion of collection of Christmas trees and Fall leaves for composting.</p> <p><u>1993 - Present:</u> Voluntary backyard composting assistance.</p> <p><u>1995 – 97:</u> ➔ Program expanded citywide to include mixed paper, and bulk and household metal.</p> <p><u>1997 – Present:</u> Ongoing program support; weekly collection expanded.</p>	<p><i>Localized outreach during pilot phases:</i> Massive community outreach with development of site and mailing lists for targeted outreach to curbside and containerized sites, since program trials were not the same in each neighborhood.</p> <p><i>Activities during this recycling implementation phase:</i> Meetings with elected officials and district managers; gathering of organizational contacts for meetings and mailings. Print ads in local and citywide newspapers. Educational literature produced in English, Spanish, Chinese, Korean, Greek, French Creole, Polish, and Russian. Mailings to 3 million households, 138,000 apartment building owners and managers, and churches and other institutions. Special kick-off events (Kermit the Frog visits the Greenmarket!). Hundreds of school assemblies. Visits to churches, senior centers, and other community groups. Landlord and tenant seminars, decal distribution, sound trucks, and moving billboards. Ads on radio, TV, subways, buses, bus shelters, store fronts, and billboards. Ads in newspapers.</p> <p><i>Activities during and following expansion phase:</i> New rounds of meetings with elected officials, community groups, schools, and building superintendents. Mailings to all 3 million households, some with reply cards and decals. Mailings to all building owners and managers, public institutions, and residential management companies. Bus, subway, bus shelter, and other outdoor posters. Local newspaper and cable ads.</p> <p>Outreach in districts with low-diversion rates, including targeted advertising and distribution of recycling videos to schools and libraries.</p> <p>Seminars for building superintendents.</p> <p>On-going school visits and presentations to community groups.</p> <p>Spring and Fall comprehensive advertising campaigns, including TV, radio, newspapers, and outdoor media outlets.</p> <p><small>*Municipal Solid Waste Recycling Rates; New York City and the US; Comparison and Analysis (Franklin Associates, June 1999).</small></p> <p><small>**Multi-Family Recycling: Costs, Diversion, and Program Characteristics (Barbara Stevens; prepared for US Conference of Mayors/US EPA, May 1999).</small></p>	<p>FY92: Households and institutions recycle 194,000 tons; diversion rate is 5.4%.</p> <p>FY94: Diversion rate is 12.8%.</p> <p>FY98: 595,000 tons recycled — 1,900 a day; 16% diversion rate.</p> <p>June 1999: 2,200 tons a day recycled; 18% diversion rate.</p> <p>(1999 finishes at 20% diversion.)</p> <div> <p>➔</p> <p>NYC is like a microcosm of the nation. The US residential recycling rate (excluding grass & yard waste) was 13% in 1996.* The rate for cities with multi-family recycling is 14% to 18%.** In NYC, 59 districts' rates range from 6% to 31%.</p> </div>

Staten Island

Staten Island at a Glance

Population:	378,977
Housing density, by unit:	53.5% single family; 7.7% in buildings with 50 or more apts.
% not speaking English very well:	6.7
Number of Sanitation districts:	3
Recycling diversion rate, 6/98	21.2%

Source: 1990 Census and Department of Sanitation

Early Stages & 1st Borough-Wide Phase:

In September 1990, Staten Island (SI) was the first borough in which recycling was implemented borough-wide. Prior to this time, materials were added in different districts at different times. As a result, by September 1990 all of SI had already been recycling newspapers, magazines, catalogs, corrugated cardboard, metal cans, aluminum foil, and glass bottles and jars. In the first borough-wide expansion, plastic bottles and jugs were added to the materials collected from all three districts at the same time.

Three unique mediums were used to promote the recycling program expansion in SI — a weekend information table at the Staten Island Mall (in place for one month), a week-long marquee announcement on the Verrazano Narrows Bridge, and electronic messages on the Met Life and Goodyear blimps. There were also meetings with all elected officials, District Managers, and Community Board members. In addition, information was distributed from tables at six events and a recycling seminar was held for landlords.

A flyer — *Staten Island Recycles Plastic, Too!* — was mailed to residents and landlords in 1990. In 1992, a reminder brochure (that included information on leaf collection), mini-flyer, magnet, and sample blue bag were sent to approximately 144,000 residences, 1,000 landlords, and 160 sites that received mechanized waste collection (see Exhibit 1). There was also a mailing to 290 institutions and civic organizations that offered to have BWPRR outreach staff give

Staten Island Recycling Implementation Timetable

5/87	1st pilot, newspaper, SI 3
11/88	metal/glass, SI 3
4/89	newspaper and metal/glass, SI 1 & 2
2/90	mag/corr, borough-wide
9/90	plastic, borough-wide * 4 material groups now borough-wide
11/95	mixed paper, beverage cartons, household and bulk metal, borough-wide * 7 material groups now borough-wide
6/99	borough-wide weekly recycling collection

presentations. Outreach workers also visited hospitals, nursery schools, libraries, and Sanitation garages.

Advertising in SI included cable TV spots, local newspaper ads, electronic marquees at tollbooths, posters and announcements on the SI ferry, a sound car, and radio announcements. BWPRR staff also distributed brochures, magnets, and posters at the ferry. Between the two major phases of the recycling program, there was also some outdoor advertising. In 1992, reminder ads were displayed on 75 buses, 24 billboards, and 54 subway car card units. These ads coincided with the mailing of the reminder brochure. In 1993, the Department ran two more local advertising campaigns. From July to September, eight ads were placed in the *Staten Island Advance*. In November and December, an enforcement campaign — “We Expect More From You, Staten Island” — included five newspaper ads and 722 spots on ten radio stations.

2nd Borough-wide Phase: The November 1995 expansion of Staten Island recycling to include mixed paper, beverage cartons, and household and bulk metal started with direct mail to 148,000 residents, 2,000 landlords, 252 institutions, and 66 schools. BWPRR outreach workers met with all the NYCHA and SI District Managers prior to implementation and gave them decals and technical assistance. All SI SWAB members received a mailing with expansion information.

The introduction of the new green mixed paper decal was used to draw attention to the expansion. The Department distributed close to 300,000 blue and green decals through a number of different channels. About 14,000 were handed out by outreach staff, along with recycling flyers, on the Staten Island side of the ferry as part of the expansion kick-off. Over 200 landlords and more than 17,000 residents sent in reply cards requesting decals. DOS also distributed tens of thousands of decals to SI libraries, post offices, elected officials, Community Boards, and Sanitation garages.

The media plan included 20 ads in local papers and real estate trade publications from November 1995 to February 1996. In January and February 1996, 324 spots ran on SI cable TV. From April through June 1996, reminder ads ran in local Staten Island papers.

To promote the recycling of beverage cartons and drink boxes, BWPRR teamed up with the Aseptic Packaging Council, a trade association representing the major U.S. manufacturers of drink boxes (Tetra Pak Inc. and Combibloc, Inc.). The Council sponsored a drawing contest in March 1996 for third-, fourth-, and fifth-grade students. The SI Borough President declared the day the contest winners were chosen to be "Milk Carton and Drink Box Recycling Day." Winning pictures were displayed at the SI Children's Museum for a month.

In March 1997, the Department mailed recycling reminder postcards to all Staten Island residents and landlords. The postcards contained a copy of the mini-flyer (see Exhibit 1) that had also been mailed to residents in 1995. The postcards preceded the ten ads that ran in Staten Island papers from April to June 1997 that encouraged readers to "Recycle Everything and the Kitchen Sink." On SI cable channels, 670 spots ran for ten weeks (April 15 - June 30).

Also in Spring 1997, outdoor reminder ads were placed on bus shelters and storefronts. To simplify the recycling message, the Department used the concept of blue and green that corresponded to the blue and green decals used to identify containers for



recycling. The outdoor ads displayed the words Blue and Green in large letters with the items associated with each listed inside the large letters.



In June 1999, when all of Staten Island began to receive weekly recycling collection, the Department mailed announcement postcards to residents, building owners and managers, schools, and institutions. The postcards included the new recycling checklist that showed which items belonged in the blue bin, green bin, and the trash. Also included was information about new procedures for the disposal of appliances containing CFC gas.

Manhattan

Manhattan at a Glance

Population:	1,487,536
Housing density, by unit:	0.6% single family; 53.0% buildings with 50 or more apts.
% not speaking English very well:	19.3
Number of Sanitation districts:	12
Recycling diversion rate, 6/98	21.6%

Source: 1990 Census and Department of Sanitation

Early Stages & 1st Borough-Wide Phase: In September 1992, after nearly six years of phasing in districts and materials, all of Manhattan began recycling the first four material groups: newspaper, magazines/corrugated, metal/glass, and plastic. As the districts were phased in, outreach staff visited several hundred buildings with nine or more units and personally explained the program to the site manager or superintendent. Just before recycling was implemented uniformly borough-wide, staff arranged meetings with elected officials and District Managers.

The first expansion packet of materials (see Exhibit 1) was mailed to 744,000 residents, 22,000 building owners and managers, and 278 mechanized collection sites. There were also 2,244 pieces mailed to institutions, organizations, and key individuals.

Manhattan Recycling Implementation Timetable

11/86	newspaper pilot, M 2
11/87	newspaper, M 4
2/89	mag/corr, M 2 & 4
5/90	metal/glass, M 7
6/90	* newspaper, mag/corr now borough-wide
4/91	plastic, M 7
9/92	* 4 material groups now borough-wide
4/97	mixed paper, beverage cartons, household and bulk metal, borough-wide
	* 7 material groups now borough-wide
6/99	borough-wide weekly recycling collection

Outreach staff followed up the mechanized site letters with visits and demonstrations to workers at over 200 locations. Separate meetings were held with the Housing Authority, which maintains 50 of the mechanized sites.

The Department hosted seven kick-off events, including one at the long-established Village Green Recycling site. From late Summer through the Fall, BWPRR staffed 41 informational tables, mainly at street fairs and busy subway stops. The street blimp was used at particularly strategic, high-exposure locations, including the Union Square Greenmarket and along 125th Street. In addition, a car with a sound system announced the recycling program in every community district.

The Upper West Side Recycles Plastic, Too!

Manhattan Community Board #9
Starting April 1, 1995

Now you can recycle more than ever! The Department of Sanitation will collect and recycle your plastics, in addition to your glass, metal and/or newspapers, magazines, catalogs and corrugated cardboard. You'll be amazed how much of your household waste can be recycled.

Recycling is something you can do to help our planet. Separate your household waste into newspapers, magazines, catalogs, corrugated cardboard, glass, metal, and plastic. Place each in its own container.

How To Recycle Plastic

- Plastic can be recycled plastic. Recycle any plastic you can (bottles, containers, etc.)
- Place your plastic in a plastic bag or in a plastic bag and place it in your recycling bin.
- Plastic can be recycled plastic. Recycle any plastic you can (bottles, containers, etc.)
- Place your plastic in a plastic bag or in a plastic bag and place it in your recycling bin.

Do Not Include

- Styrofoam cups, bowls, plates, etc.
- Styrofoam cups, bowls, plates, etc.
- Styrofoam cups, bowls, plates, etc.
- Styrofoam cups, bowls, plates, etc.

For more information, call 212-312-6000, ext. 4000, or visit us at 125th Street, New York City.

The Upper East Side Recycles!

Newspapers, Magazines, and Corrugated Cardboard
Starting the week of March 26, 1990, the Department of Sanitation will recycle your newspapers, magazines, and corrugated cardboard. Recycling is easy—and it's now a New York City law. After March 26, you must separate designated recyclables from the rest of your trash, or you may receive a summons.

How To Recycle

- Newspapers, magazines, and corrugated cardboard must be clean, dry, and free of tape.
- Place your newspapers, magazines, and corrugated cardboard in a plastic bag or in a plastic bag and place it in your recycling bin.
- Place your newspapers, magazines, and corrugated cardboard in a plastic bag or in a plastic bag and place it in your recycling bin.

Do Not Include

- Styrofoam cups, bowls, plates, etc.
- Styrofoam cups, bowls, plates, etc.
- Styrofoam cups, bowls, plates, etc.
- Styrofoam cups, bowls, plates, etc.

For more information, call 212-312-6000, ext. 4000, or visit us at 125th Street, New York City.

Harlem Recycles Glass & Metal, Too!

Manhattan Community Board #10 and #11
Starting July 13, 1990

Now you can recycle more than ever! The Department of Sanitation will collect and recycle your glass, metal, and plastic, in addition to your newspapers, magazines, catalogs, and corrugated cardboard. You'll be amazed how much of your household waste can be recycled.

Recycling is something you can do to help our planet. Separate your household waste into newspapers, magazines, catalogs, corrugated cardboard, glass, metal, and plastic. Place each in its own container.

How To Recycle

- Glass, metal, and plastic can be recycled glass, metal, and plastic. Recycle any glass, metal, and plastic you can (bottles, containers, etc.)
- Place your glass, metal, and plastic in a plastic bag or in a plastic bag and place it in your recycling bin.
- Place your glass, metal, and plastic in a plastic bag or in a plastic bag and place it in your recycling bin.

Do Not Include

- Styrofoam cups, bowls, plates, etc.
- Styrofoam cups, bowls, plates, etc.
- Styrofoam cups, bowls, plates, etc.
- Styrofoam cups, bowls, plates, etc.

For more information, call 212-312-6000, ext. 4000, or visit us at 125th Street, New York City.



More than 1,400 community associations were contacted. Just under 5% responded to offers of meetings, including tenant and block associations, religious councils, precinct community councils, and Community Boards. This represented an average of five presentations-by-invitation per district. But in fact, the districts were quite varied in their level of response. For example, in Manhattan (Mn) Community Board 6 (the East Side of Manhattan, from 14th St. to 59th St.), outreach staff visited the Board members, two precinct councils, and six different tenant and neighborhood associations, each representing a relatively large number of people. However, in Mn 8, just to the north, only two associations responded to invitations. There were Sunday church visits in Mn 10. In Mn 12 (Washington Heights and Inwood), the Department was invited to speak to three large groups of building superintendents and managers.

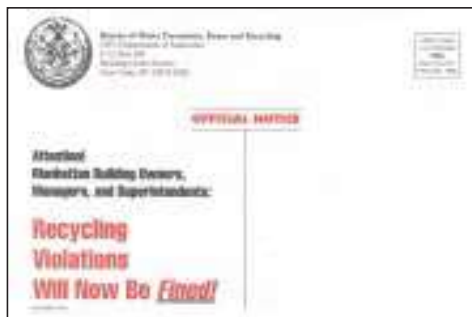
During the Fall of 1992 and the Spring of 1993, recycling assembly programs were presented in 48 public schools. (This was in addition to outreach staff contacting public and private schools to help them set up recycling programs.) As a follow-up to the earlier contact with Community Board managers, DOS hosted a borough breakfast seminar in February 1993. During this time, the Department also conducted five residential recycling seminars for

landlords; reaching an audience of 500. Informational brochures were widely distributed.

In 1992, announcer-read spots were purchased on five radio stations (with versions in English, Spanish, and Chinese) over a three-week period; PSA's and staff interviews provided further coverage. In addition, outdoor ads were placed on 190 bus shelters, 200 buses, 500 subway platforms, and 73 billboards. Twenty-five print ads ran in local papers in English, Spanish, and Chinese.



In Spring 1993, the Department launched a recycling enforcement campaign in Manhattan and the Bronx. Postcards were sent to building owners/managers reminding them of recycling regulations and informing them that they could be fined for not recycling. To reinforce the mailing, print ads ran in local Manhattan papers. The campaign received media attention, which resulted in news stories and interviews in six Manhattan-based community newspapers.



Manhattan residents and residential landlords:

We Want You To Recycle

We gave you recycling brochures, refrigerator magnets, and posters... mailed to every Manhattan resident and landlord — explaining what, how and where to recycle.

We gave free seminars to help landlords, managers, and superintendents set up recycling systems in apartment buildings.

We gave you advertisements in newspapers, every subway station, on billboards, sides of buses, bus shelters, street corners, radio and TV.

We gave you a hotline to call 7 days a week, 9am to 11pm, for information or free literature.

We gave you free decals to designate a container for recycling, and to label your building's Recycling Area.

We gave you free posters for your lobby or refrigerator.

We gave you educational warnings for more than six months.

But just in case you still don't get it:

NOW WE'RE GIVING YOU TICKETS

Recycling is the law in New York City. Fines for non-compliance with Department of Sanitation residential recycling regulations start at \$25 and can escalate to \$500 per violation.

For more information or free literature, call The Sanitation Action Center at **(212) 219-0090** 7 days a week from 9am to 11pm.

New York City Department of Sanitation

In 1994, recycling was becoming more in vogue; Bloomingdale's department store used BWPRR's blue recycling bins and decals for one of their clothing displays.



2nd Borough-wide Phase: Just before the April 1, 1997 recycling expansion in Manhattan (to include mixed paper, beverage cartons, and household and bulk metal), BWPRR staff briefed Manhattan Sanitation Operations Supervisors, and supplied Sanitation garages with public education material. To announce the expansion, information packets (see Exhibit 1) were mailed to 785,750 households, 22,800 building owners/managers, all 256 of the mechanized collection sites, and schools and institutions. Another round of letters and information was sent to elected officials and District Managers. Information was also sent to 182 Manhattan management companies; this was followed-up with phone calls and meetings. BWPRR outreach staff made about 40 additional presentations, including a training session for superintendents in buildings owned by HPD and meetings with the Housing Authority. In Mn 3 (Lower East Side), more than 30



presentations were given in Chinese to different organizations. A Chinese version of the Yes/No flyer was distributed extensively (in addition to the English/Spanish version).

Because of the number of New York City government offices located in Manhattan, two extra steps were taken. First, government agencies already participating in the City's Office White Paper Recycling Program received a letter explaining the relationship between the new curbside collection of mixed paper and the existing white paper recycling program. To prevent confusion, BWPRR provided on-going follow-up visits. Second, the Sanitation Commissioner sent a letter to other City agency Commissioners explaining the importance of recycling mixed paper. A follow-up letter containing sample educational materials was also sent.

Citywide advertising was not possible for Manhattan's mixed paper recycling expansion, because Brooklyn and Queens were not yet part of the program. A brief "teaser campaign" ran just



before the expansion during the first half of April 1997, which consisted of an "unfinished" graphic with the words "blue" and "green" printed in large letters on bus shelters and subway platforms. When the program was underway, the graphic was shown in its completed form, which was "blue" and "green" in large block letters containing lists of what to recycle. The finished ads ran from April through June 1997 on 24 bus shelters, 200 subway platforms, and 250 storefronts throughout Manhattan. The outdoor ads were also used to create small posters that were distributed to stores throughout the borough. These posters were produced in English, Spanish, Chinese, and Korean.

Two different print ads announcing the Manhattan expansion ran a total of 54 times from April through June 1997 in 12 different publications. During this same period, over 800 cable TV spots aired on 11 stations. The print and TV ads were in both English and Spanish.

To inform Manhattan residents, building owners/managers, schools, and institutions about the change to weekly recycling collection, 767,000 postcards were mailed in June 1999. The postcards were bilingual (English/Spanish) and contained the same information and graphics (i.e., new recycling checklist and how to dispose of appliances containing CFC gas) as the weekly collection postcards sent to Staten Island.



Brooklyn

Brooklyn at a Glance

Population:	2,300,664
Housing density, by unit:	11.8% single family; 20.7% in buildings with 50 or more apts.
% not speaking English very well:	19.3
Number of Sanitation districts:	18
Recycling diversion rate, 6/98	16.5%

Source: 1990 Census and Department of Sanitation

Early Stages & 1st Borough-Wide Phase:

By June 1993, all of Brooklyn (Bk) was recycling newspaper, magazines/corrugated, metal/glass, and plastic. Before that time, five districts had been phased in and were already recycling these materials, and parts of two districts (Bk 5 and Bk 6) were recycling even more materials as part of an Intensive Recycling Zone study. Outreach included the preliminary meetings with elected officials and District Managers. Residential mailings totaled 890,000; mailings to landlords and building managers, 64,000; and sites that received mechanized waste collection, 110. In addition, at least 2,971 pieces were mailed to key people, community associations, and organizations. Outreach staff



Brooklyn Recycling Implementation Timetable

6/87	1st pilot, newspaper, Bk 10
10/88	newspaper & metal/glass, Bk 2
4/89	newspaper & mag/corr, Bk 6
4/90	metal/glass, Bk 6
5/90	mag/corr, & metal/glass, Bk 10
6/90	newspaper, mag/corr, & metal/glass, Bk 13
8/90	newspaper, m/c, & m/g, Bk 3
10/90	plastic, Bk 6
12/90	mag/corr, Bk 2; plastic Bk 2, 10, 13
1/91	special materials, parts of Bk 6
9/91	food waste, parts of Bk 6
5/93	special materials, Starrett City (Bk 5)
6/93	remaining districts added for plastic *4 material groups now borough-wide
1/96	mixed paper, beverage cartons, & household and bulk metal, Bk 6
9/97	remaining districts added for expanded materials * 7 material groups now borough-wide
6/99	borough-wide weekly recycling collection

followed up the mechanized-site letters with visits to the borough's 12 non-NYCHA locations (covering 72 buildings and 8,841 apartments).

BWPRR hosted seven kick-off events. These included a special event at Borough Hall, a movie screening (sponsored by Warner Bros.) at the Brooklyn Museum, and neighborhood lot clean-up days. BWPRR set up information tables at 41 events sponsored by arts festivals, local churches,



community organizations, and community development corporations. Starret City, a major residential development, was the site of one of the events. In addition, on five weekends during late May and June 1993, staff provided information to shoppers at Kings Plaza, Brooklyn's largest shopping center.

The mailing to organizations resulted in 362 general presentations in the 18 community districts. In downtown Brooklyn, BWPRR staff spoke at Metro Tech, NY Technical College, and the Brooklyn House of Detention. Many clergy and church groups were addressed, particularly in Bk 4 (for example, the Pastors' Conference, the Organization of Lutheran Churches, and the Brooklyn Baptists Evangelical Union). Homeowner, neighborhood, tenant, block, and civic associations, particularly in the center and southern parts of the borough, provided important forums. Residents of one- and two-family homes attended meetings sponsored by local associations to learn about recycling and ask questions. Presentations were also given at senior centers, libraries, and community organizations, where materials were distributed in English, Spanish, Chinese, Korean, Yiddish, French Creole, and Russian.

The Department held 14 residential recycling seminars for landlords and building managers, three of which were conducted in Spanish. To publicize the seminars, the Department mailed flyers to all 64,000 Brooklyn landlords and ran 40 ads in local newspapers. Also, recycling presentations were given at 210 school assemblies.

In June 1993, a print advertising campaign ran in Brooklyn (and the three other expanded boroughs: Staten Island, Manhattan and the Bronx). The campaign consisted of 132 print ads in 38 publications, including the City dailies, local community papers (in various languages, including Spanish, Chinese, Korean, French Creole, Russian, Yiddish, and Polish), and real estate trade publications. These initial messages were reinforced during July and August with 22 ads in 17 papers telling residents where they could get recycling decals. Fourteen radio stations ran ads in both English and Spanish to advertise the Brooklyn expansion and reinforce recycling in the other three boroughs. In addition, an outdoor transit campaign included ads on 350 buses, 125 bus shelters, 300 subway stations, 240 billboards, and 1 street blimp.

The following winter, central Brooklyn (parts of Bk 17) was chosen for intensive follow-up outreach. Sanitation personnel sorted through garbage and recyclables that large apartment buildings had placed at the curb for pick-up. Outreach staff provided building superintendents and residents with evaluation forms and on-site education when they found that recycling was being done incorrectly.

2nd Borough-wide Phase: For the mixed paper, beverage carton, and household and bulk metal expansion in September 1997, information was mailed to 900,000 residences, 64,000 building owners/managers, and all schools and institutions. Staff met with Brooklyn District Managers and elected officials in early September. All were provided with a set of ten recycling videos for their

offices and were sent a follow-up letter from the DOS Commissioner that included sample materials. A separate meeting was held with Brooklyn and Queens City Council representatives (the Queens expansion started the same time as the Brooklyn expansion) and



with Council President Vallone. Other expansion mailings included one to the 76 Brooklyn mechanized sites, the Brooklyn SWAB, and a large mailing (almost 1,400) to institutions, organizations, churches, and civic and other community groups. Institutions in the City's White Paper Recycling Program received a special letter explaining how the program may be impacted by the collection of mixed paper. There was also a special mailing to major management companies.

As a result of these mailings and contact with elected officials, staff gave 95 presentations to landlords, superintendents, community groups, and District Managers. A dedicated training session was held for superintendents in NYC HPD-run buildings. Informational materials (Yes/No flyers, decals, and posters) were delivered to all Sanitation garages. The



Yes/No flyer was produced in Russian for distribution in Brighton Beach (Bk 13). In Sunset Park (Bk 7), staff gave presentations in Chinese and distributed the Chinese Yes/No flyer.

Also, BWPRR met with the recycling coordinator for NYCHA. As a result, Department staff attended a borough meeting where they briefed NYCHA staff about recycling and distributed copies of the residential recycling videos. There was a special mailing to residents of all 62 Brooklyn NYCHA facilities in October 1997.

During late September and early October 1997, 21 expansion ads were placed in 13 community papers and real estate publications. During the same period, approximately 1,007 spots ran on Brooklyn cable channels. Outdoor ads were placed on 125 subway

platforms, 70 bus shelters, and 150 storefronts from September through November.

Brooklyn began receiving weekly recycling pick-ups in June 1999. Over 900,000 postcards (the same design and content as the



Manhattan weekly collection postcard) were mailed to all residents, landlords, schools, and institutions to inform them of the change in the collection schedule.

Brooklyn Intensive Recycling Zones

During the early 1990s, parts of two Brooklyn neighborhoods served as Intensive Recycling Zones. They were demographically representative of the City's population and allowed the Department to study a wide range of program elements and alternatives (and their feasibility) such as:

- ways to set out material: type of bin, type of bag, requirements for tying paper;
- the interaction of set-out requirements and material quality;
- types of public education;
- the collection of new materials; and
- outreach and collection costs.

In FY 90, the southeastern part of Bk 6 (Park Slope) was chosen as the first Intensive Recycling Zone. The Zone occupied about a third of the community district's area and housed almost half of its population. (The area also served as a locale for a household hazardous waste collection pilot program described in Part 4.) The Intensive Recycling pilot



ended in January 1996, when all of Bk 6 joined Staten Island in recycling all seven material groups. In March 1997, the Department mailed a recycling reminder postcard to all Bk 6 residents.

In addition to newspapers, magazines, catalogs, corrugated cardboard, metal cans, aluminum foil, glass bottles and jars, and plastic bottles and jugs, the materials collected over the course of the Intensive Recycling program included:

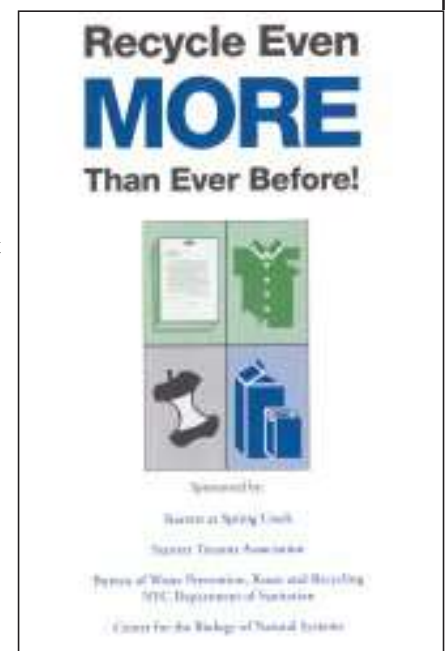
- mixed paper; film and foam plastics (1/91 - 1/96)
- food waste for composting (part of the Zone, 1/91 - 1/96)
- wax paper, textiles (3/93 - 1/96)



Outreach and public education was extensive. A billboard campaign ran in the area that encouraged residents to join the “Invasion of the Green People” to save planet earth. Many community groups were consulted in the planning and implementation phase, and the program received active support from the local City Council Member, the Borough President, and the community District Manager. With some

outside support, DOS contracted to work with the Queens College Center for the Biology of Natural Systems (CBNS), which created a local base for outreach, program implementation, and monitoring. CBNS worked with existing community groups and neighborhood volunteers in conducting door-to-door distribution of information and recycling containers. Volunteers also helped staff an office and maintain a telephone hotline. The program received local and national press coverage from eight different publications. Coverage in local organization newsletters provided additional outreach. More detail, both about the program and education/outreach, is documented in earlier reports.⁸

May 1993 marked the start of a 16-month pilot program in five of the high-rise apartment buildings in Starrett City (located in Bk 5). Tenants separated materials into three recycling streams: 1) mixed paper (including newspaper, magazines, mail, envelopes, paper bags, and cardboard), and textiles; 2) metal cans, aluminum foil, glass bottles and jars, plastic bottles and jugs, milk and juice cartons, and drink boxes; and 3) organic waste (food scraps). The Department collected and weighed the recyclables and delivered them to facilities for processing. Outreach for this program was conducted by CBNS, in cooperation with the Department. It included the distribution of information through brochures (in English, Spanish, and Russian), newsletters, tenant meetings, door-to-door surveys, and a telephone hotline.



Bronx

The Bronx at a Glance

Population:	1,203,789
Housing density, by unit:	10.0% single family; 38.3% in buildings with 50 or more apts.
% not speaking English very well:	22.8
Number of Sanitation districts:	12
Recycling diversion rate, 6/98	14.8%

Source: 1990 Census and Department of Sanitation

Early Stages & 1st Borough-Wide Phase: The Bronx (Bx) began borough-wide recycling of newspaper, magazines/corrugated, metal/glass, and plastic in December 1992. The eastern-most Bronx community district, Bx 10, began recycling newspaper in March 1987, and three districts (Bx 10, Bx 11, and Bx 12) were recycling the first four



material groups before the rest of the borough. Outreach included preliminary meetings with elected officials and District Managers. Residential direct mailings totaled 400,000; mailings to landlords/building managers, 16,000, and all the sites that received mechanized waste collection, 112. Additional mailings went to 1,497 key people, institutions, and organizations.

DOS staff was invited to give presentations to 114 of the groups who had received letters. These groups included tenant and neighborhood associations, Community Board committees, local development corporations, merchants' groups, senior centers, churches, and building management companies. The

Bronx Recycling Implementation Timetable

3/87	1st pilot, newspaper, Bx 10
5/89	newspaper & metal/glass, Bx 12
5/90	newspaper, mag/corr & metal/glass, Bx 11 mag/corr & metal/glass, Bx 10
3/91	plastic, Bx 10, 11
5/91	mag/corr and plastic, Bx 12
12/92	remaining 9 districts added * 4 material groups now borough-wide
4/96	mixed paper, beverage cartons, household and bulk metal added * 7 material groups now borough-wide
4/00	borough-wide weekly recycling collection (to be implemented)

response to the mailings was somewhat limited in the Bronx relative to Brooklyn and Queens (the other large "outer" boroughs), probably for two reasons. The level of housing distress and poverty limited responses in some of the districts, and building managers in the three districts already recycling did not believe that additional outreach was needed.

BWPRR outreach staff followed up the letters to mechanized sites with visits and demonstrations at the borough's non-NYCHA locations. These visits included both Parkchester (12,271 units) and Co-Op City (15,800 units). (Co-Op City had been voluntarily recycling some materials since 1989.) Even though most NYCHA sites were not yet recycling, in 1991 a pilot program covering a total of 4,092 units was set up at Mott Haven houses in Bx 1 and four NYCHA sites in Bx 12.

Outreach staff hosted seven kick-off events. At one, children brought recyclables to "Thomas the Tank Engine" at the NY Botanic Garden. Recycling was featured at a DOS-initiated neighborhood clean-up in Crotona, and Bronx Borough Hall was the site of another recycling event that included a Christmas celebration. In the initial months, 51 information tables were staffed at places or events with high-pedestrian traffic, such as Fordham Rd, 149th Street,

church bazaars, and street fairs. Staff hosted four seminars for landlords (two in Spanish) and made recycling presentations at 77 school assemblies.

In late 1992, ads were placed on 100 subway station platforms, 145 bus shelters, and 300 billboards. There were also 340 radio spots on seven local stations. More advertising was done in mid-1993 as part of a Bronx/Manhattan



enforcement campaign. In addition to sending an enforcement postcard to building owners/managers reminding them of their recycling obligations, close to 80 print ads ran in local and citywide papers and real estate trade publications. A total of 1,320 enforcement radio spots were placed on 13 stations.



A year after the borough-wide expansion, intensive follow-up outreach was conducted in large apartment houses in the northwest Bronx (Bx 8), similar to what was done in Brooklyn. Staff sorted through materials placed at the curb for garbage and recycling pick-up and provided building superintendents and residents with evaluation forms and on-site education when recycling regulations were not being followed.

2nd Borough-wide Phase: The mixed paper, beverage carton, and household and bulk metal expansion began in April 1996. Just prior to implementation, BWPRR staff briefed Sanitation Operations on the expansion and delivered mixed paper decals and flyers to Bronx Sanitation garages. Direct mail announcements and information went to 457,000 residences and 16,000 landlords/building managers, as well as all Bronx schools and institutions. Outreach staff visited the 100 mechanized collection sites to distribute information. In addition, brochures, flyers, and decals were sent to 800 key individuals and organizations (including the Bronx SWAB).

All District Managers and elected officials, with the exception of Bx 6, responded to outreach calls and met with BWPRR's Bronx borough coordinator. They were given sample packets of expansion information, a supply of green and blue decals, and flyers for their offices. Meetings were held with Housing Authority officials that also included staff from DOS Operations. BWPRR staff also led workshops for new immigrants at Department of Employment sites.

Expansion advertising included 66 print ads in the Bronx edition of the *Daily News*, community papers, and real estate publications. From late March through early May 1996, 576 television spots ran on 7 Bronx cable stations. Posters were distributed to local hardware stores and outdoor ads were placed on 60 subway platforms and 40 bus shelters. All ads were in both English and Spanish.

A year after the expansion (April-June 1997), the Department ran a Bronx reminder campaign, which included 48 ads in eleven newspapers, 1,030 cable TV spots, and outdoor advertising on bus shelters and storefronts. Bilingual reminder postcards, which included a copy of the mini-flyer, were mailed to all residents and landlords.



Queens

Queens at a Glance

Population:	1,951,598
Housing density, by unit:	28.2% single family; 22.0% in buildings with 50 or more apts.
% not speaking English very well:	22.1
Number of Sanitation districts:	12
Recycling diversion rate, 6/98	19.2%

Source: 1990 Census and Department of Sanitation

Early Stages & 1st Borough-Wide Phase: In September 1993, Queens (Qn) was the last borough to recycle all four material groups: newspaper, magazines/corrugated, metal/glass, and plastic. Recycling in Queens began in 1987 with Qn 6 (Rego Park and Forest Hills) recycling newspaper. By mid-1991, six more districts had been added to the program and were recycling the first four material groups. Two years later, the rest of the districts joined the recycling program.

The main outreach activities were conducted in the Summer and Fall of 1993. Outreach included preliminary meetings with elected officials and District Managers. There was a mass mailing to 739,000 residences, 35,000 landlords/building managers, 227 sites that mechanized collection sites, and all Queens schools and institutions. Separate mailings were sent to 2,778 key individuals, community associations, and organizations. Staff visited all residential mechanized collection sites to follow-up the mailing. These sites encompassed over 81,000 units, including Lefrak City and Rochdale Village, which together have close to 11,000 units.

Staffing levels and the completion of other borough expansions allowed for particularly intense outreach efforts in Queens. During the Summer and Fall of 1993, BWPRR gave presentations to almost 500 groups, an average of 35 per district. In addition to meeting with civic, block, tenant, and co-op associations, staff chaired meetings at libraries, veterans groups, senior centers, summer

Queens Recycling Implementation Timetable

4/87	newspaper, Qn 6
6/88	newspaper, Qn 11; metal/glass, Qn 6
11/88	metal/glass, Qn 11
2/90	newspaper, mag/corr, metal/glass, Qn 7
4/90	newspaper, m/c, m/g, Qn 8
10/90	mag/corr & plastic, Qn 6; Qn 12, 13 begin 4 material groups
12/90	mag/corr & plastic, Q 11; plastic, Q 8
9/93	4 material groups, Q 1-5, 9, 10, 14 * 4 material groups now borough-wide
9/97	mixed paper, beverage cartons, and household and bulk metal added * 7 material groups now borough-wide
10/99	borough-wide weekly recycling collection

camp, and churches. In certain districts, educational materials were distributed in Chinese and Korean, and meetings were conducted in Chinese.



BWPRR held 11 residential recycling seminars for landlords and building managers; three were in Spanish. Announced via a 35,000-piece mailing and widely advertised in Queens editions of the major newspapers, local papers, and real estate publications, the seminars were well attended. They generated requests for thousands of posters, decals, brochures, and superintendents' handbooks. In



addition, the Department conducted a "how to" seminar for District Managers and local politicians at

Queens Borough Hall. There were also 171 recycling assemblies at 112 schools and information tables were staffed at 51 fairs and public events. A street blimp, used at some events and other strategic locations, carried messages in English, Spanish, Chinese, and Korean.

A print, radio, and outdoor advertising campaign promoted Queens borough-wide recycling in the Fall and Summer of 1993. As part of the campaign, 200 print ads ran in 15 publications, including the Queens editions of the major City dailies, community papers, and real estate trade publications. Other advertising included 1,600 radio ads on 17 stations and outdoor ads on 275 buses, 50 bus shelters, 200 subway cars, and 160 billboards. In September, a decal campaign informed residents, through 16 ads in local papers and Queens editions of citywide papers, about locations where recycling container decals were available. A follow-up print ad campaign ran from November 1993 through January 1994 and included 81 ads.

During Winter 1995, intensive follow-up outreach was conducted in apartment houses in the Rockaways (Qn 14). As in Brooklyn and the Bronx, staff sorted through materials placed at the curb for garbage and recycling pick-up and provided building superintendents and residents with evaluation forms and on-site education when recycling was not being done correctly.

2nd Borough-wide Phase: In September 1997, all of Queens began recycling mixed paper, beverage cartons, and household and bulk metal. Most of the advertising and outreach elements were the same as in Brooklyn, since both boroughs expanded their programs at the same time. Information packets were mailed to 748,000 residences, 35,000 landlords/building managers, 154 mechanized collection sites, and all Queens schools and institutions. Additional mailings were sent to 1,100 key organizations and individuals, as well as to major building management companies. Also, training sessions were provided for superintendents in HPD-owned buildings. Overall, organizations and

community groups in Queens were the most responsive in the City, as these mailings resulted in 162 meetings and 34 requests for batches of material for the Chinese community. Upon request, materials and presentations were given in Chinese.

In early September, BWPRR convened a meeting for elected officials and District Managers to explain the mixed paper expansion. The Commissioner sent a follow-up letter with sample materials and videotapes. Queens City Council members attended the Brooklyn/Queens meeting with Council President Vallone. Institutions participating in the City's White Paper Program received a letter explaining how the program would be affected by the mixed paper expansion; other institutions received the general expansion letter.

BWPRR also met with the NYCHA recycling coordinator. All 20 Queens facilities received a mailing with instructions for both mechanized and curbside recycling. Briefings were held for DOS district personnel and Sanitation garages were provided with brochures, flyers, and decals to distribute (including information in Chinese).

The local advertising campaign paralleled the Brooklyn campaign. Posters went up on 70 bus shelters, on 125 subway platforms, and in 100 storefronts from September through November 1997. Commercials ran on Queens and Brooklyn cable stations with almost 1,007 spots between late September and early October. At the same time, Blue/Green expansion advertisements were placed in 15 different local and community newspapers and real estate publications. Store posters were also distributed in English, Spanish, Chinese, and Korean.

PART 2: CITYWIDE ADVERTISING AND OUTREACH CAMPAIGNS

In addition to the local advertising described in Part 1 that accompanied each borough's recycling implementation schedule, the Department launched various citywide advertising campaigns when all five boroughs were recycling the same materials. The first citywide campaigns began in 1993, after the first expansion. When the entire city was recycling mixed paper, beverage cartons, and household and bulk metal in 1997, a new citywide campaign — featuring animated characters — was unveiled.

In 1995, the Department began conducting market research (described in Part 7) using telephone surveys and focus groups. This research helped delineate the public's perceptions and understanding of recycling. The subsequent advertising campaigns and related print materials have benefited from this research.

Since Fall 1997, the Department has run citywide advertising campaigns every Spring and Fall. Each campaign has built upon the previous campaign and focused on specific issues highlighted by the Department's market research, which was conducted after each advertising flight. Appendix 3 lists the media outlets and shows sample creative from each campaign.

In addition to the general recycling campaigns, the Department engaged in other advertising efforts, which were either seasonal in nature (i.e., Fall Leaf Collection, Christmas Tree Collection, and Fall/Spring Compost Givebacks) or targeted districts with low recycling diversion rates. These other campaigns are described in Parts 3 and 4 of this report.

1st Citywide Phase:

In the Spring of 1993, when the citywide expansion to include the first four material groups (newspapers; magazines and corrugated; metal and glass; and plastic) was almost complete, the Department

launched several advertising campaigns to promote awareness and understanding of the City's recycling program. Staten Island, Manhattan, and the Bronx were already phased in, and borough-wide recycling was scheduled to begin in June and September for Brooklyn and Queens, respectively.



The first campaign was the Milestones campaign, which ran from May through June 1993, in print media. The goal of this campaign was to inform the general public about the City's successful efforts to implement recycling and to promote positive feelings about the program. The ad featured a schematic map of the City with flags announcing each borough's recycling implementation dates and the materials recycled. It appeared 60 times in 23 different publications, targeted to reach a diverse City audience.

Also in June 1993, the Department ran a Blue Bag campaign to promote the use of translucent blue plastic bags as a simple way to handle metal, glass, and plastic recyclables. The ads contained store locations, by borough, where the bags were sold and reinforced information people had received, or were soon to receive, as part of the Department's borough mailings. Fifty-eight print ads ran in 23 general interest, neighborhood, and community papers. To reach the City's Latino community, ads ran on Spanish-language TV and were coordinated with in-store events and additional print media exposure.

New York Knicks fans heard recycling messages from November 1993 to May 1994 through a WFAN-Knicks sponsorship. Each night, during the post-game radio program, Knicks announcers highlighted the “Dunk of the Game” (they reannounced the play-by-play of one of the most exciting moments of the game). Before and after the segment, listeners were reminded to reduce, reuse and recycle, and were told to call the Sanitation Action Center for more information.

[illegible]

The New York City Recycles campaign, which showed icons that represented recyclable materials on a bright yellow background, started in April 1993. A total of 9,600 ads — in English and Spanish— were placed inside buses (3,600) and subways (6,000 cars) through June. During May and June, 448 TV spots ran on 9 cable and broadcast stations (including Spanish-language TV). The campaign also involved sponsorship of various community events, in both English and Spanish.

An expanded New York City Recycles campaign continued from July to October 1993. In addition to the posters in 3,600 buses and 6,000 subway



cars, ads ran on 220 billboards, 250 subway platforms, 300 bus sides, and 200 bus shelters. Also, three street blimps — in English/Spanish, English/Chinese, and English/Korean — traveled City streets reminding residents to recycle. For a year, from September 1993 to August 1994, ads were also displayed at 85 check cashing locations throughout the City in back-lit boxes over tellers' windows.

In the Spring of 1995, the Department initiated a citywide recycling enforcement campaign. The



campaign was similar to the enforcement campaign that ran in Manhattan and the Bronx in 1993. Enforcement ads (including versions in Spanish, Chinese, and Korean) were placed in a total of 24 publications, including the City's major dailies, neighborhood and community papers, and real estate publications. The ads contained the following message: *We want you to recycle. We gave you recycling brochures. We gave free seminars. We gave you advertisements. We gave you a hotline. We gave you free residential decals. We gave you free posters. We gave you educational warnings. But just in case you still don't get it: Now we're giving you tickets.* Also, readers were encouraged to call the Sanitation Action Center for more information or free literature. Radio ads with a similar message (in English and Spanish) were played 1,566 times on 15 radio stations from May through June 1995.

2nd Citywide Phase:

By mid-1996, Staten Island and the Bronx were recycling mixed paper, beverage cartons, and household and bulk metal in addition to the original four material groups. Manhattan was scheduled to start recycling the expanded materials in April 1997, and Brooklyn and Queens started the following September.

Before the entire City was recycling the expanded materials, an interim Celebrity and Groups print campaign ran from May through June 1996. Celebrity ads featured Oscar the Grouch and The Dance Theater of Harlem. The Groups included the Astoria Poker Dots, The New York Entomological Society, The Cross Island Motorcycle Club, the Amateur Astronomers Association, The Pug Dog Club of Greater New York, a Staten Island Girl Scout Troop,

and the St. John's Red Storm basketball team. Nearly 300 print ads (in English and Spanish) were placed in 46 different citywide, neighborhood, and community papers.

The interim campaign continued on TV in June, August, and September 1997. Three spots featuring Jerry Orbach, Oscar the Grouch, and the Dance Theater of Harlem ran 400 times on 14 different broadcast and cable TV stations. The Dance Theatre of Harlem spot ran in both English and Spanish.

In October 1997, after all five boroughs were recycling all seven material groups, the Animation campaign was launched. Animated characters — including a green recycling bin and clear bag, a blue recycling bin and bag, a garbage can, and a stray cat — were introduced to New Yorkers.



Through their interactions, and with some humor, they taught audiences what, why, and how to recycle.

Three TV commercials were developed: a 30-second



spot featuring both the green and blue bins, a 15-second spot focusing on the blue bin, and a 15-second spot focusing on the green bin. Four radio commercials were also produced: two 60-second spots featuring all the characters and two 30-second spots, one featuring the green bin and the other featuring the blue bin. All commercials were produced in both English and Spanish.

The first phase of the Animation campaign ran from October through November 1997 and included 149 print ads in 40 different publications, 266 spots on 7 radio stations, 1,069 spots on 15 broadcast and cable TV stations, and 80 bus shelter posters. The TV and radio spots are described above. The print and bus shelter campaign included individual and group shots of the characters in addition to ads with the words Green and Blue in large block letters that listed the recyclable items that go in green and blue recycling bins. All ads included versions in Spanish and some of the media outlets were part of the targeted outreach to low-diversion rate Community Districts (see Part 3).

The Department used the animated characters as the basis for 10 short informational videos, with the collective heading of *Without You, It's All Just Trash*:

Recycling in 1- and 2-Family Homes

Recycling in Apartment Buildings (also in Spanish)

Recycling for Businesses

Recycling in Institutions



Recycling at School, for Administrators, Faculty and Staff

Recycling at School, Grades K-6

Recycling at School, Grades 7-12

Home Composting

Institutional Composting

What Happens to Your Recyclables?

The videos were distributed to elected officials, public schools, and libraries. Using a mix of animation and live action, the recycling videos show what materials to recycle, how to place materials out for collection, how materials are processed for recycling, and waste reduction tips. The compost videos show how to compost food and yard waste, and *What Happens to Your Recyclables?* focuses on the workings of a MRF (Material Recovery Facility).

The second phase of the Animation campaign ran from March through June 1998 and featured ads on 120 bus shelters, 570 subway brand trains, and 500 storefronts. The brand trains contained a comic strip featuring the animated characters as well as the same ads that ran on bus shelters the previous Fall. The storefront posters featured the bin characters as well as the Green/Blue ad described above, which appeared in English, Spanish, Chinese, and Korean.



In addition to the outdoor ads, the campaign included 105 print ads in 26 different publications, 250 spots on nine radio stations, and 411 spots on 12 broadcast and cable TV stations. During baseball



season, TV viewers also saw a spot called *The Mayor and the Manager*, featuring Mayor Giuliani and Yankees manager Joe Torre. As in the previous Fall, many print, outdoor, and radio ads were in



Spanish and some of the media outlets targeted the low-diversion districts.

Fall and Spring Animation Campaigns

Since the introduction of the animated characters in 1997, the Department has used them in citywide advertising campaigns. Each campaign has built upon the last, based on the findings of on-going market research. The objective of the Fall 1998 animation campaign (Animation 2) was to reinforce

the blue/green recycling message while emphasizing specific items that confused the public. From October through November, 570 subway brand trains and 375 storefront posters showed cartoon images of representative recyclable items going into the appropriate blue and green animated recycling bins and bags.



The aim was to describe with images (instead of words) the items that New Yorkers were required to recycle. Subway ads included an ad in Spanish and Chinese. Storefront posters were situated in low-diversion neighborhoods and were in English, Spanish, and Chinese according to neighborhood demographics.

Here's exactly how New York City Recycles.



Así es como la Ciudad de Nueva York Recicla.



Subway ads also featured items that the public found confusing, such as yogurt containers and egg cartons. For example, since the City's recycling program only takes plastic bottles and jugs, a poster showed a cartoon image of a yogurt container with the headline *Good for you. Garbage to us.* and the text explained that only plastic bottles and jugs are recycled in NYC.

Ads on 200 telephone kiosks during October and November 1998 encouraged New Yorkers to refer to the Department's Yes/No flyer to figure out "exactly where everything goes." The ads appeared in English, Spanish, and Chinese and encouraged residents to call for copies or consult their Bell Atlantic Yellow Pages for more information.



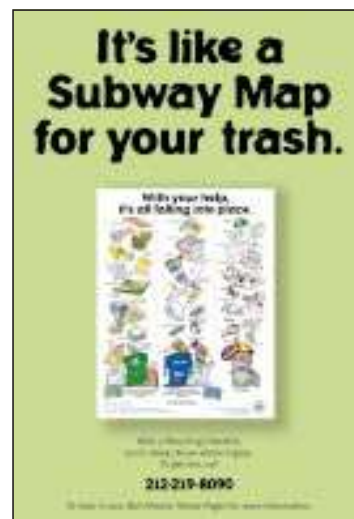
Fall 1998 broadcast and cable TV spots (195) included the same three animated commercials that were developed for the first animation campaign, as well as *The Mayor and the Manager* commercial, which ran during the World Series. For additional exposure via a new media vehicle, TV commercials ran on three giant screens during the New York City Marathon.

A Spanish radio station (Caliente 105.9 FM/WADO 1280 AM) was enlisted to help reach Spanish-speaking City residents. October 1998 was declared "Recycling Month" and the station promoted recycling on air and at special events at nine supermarkets in



low-diversion neighborhoods. The blue and green recycling bin characters (actors in costumes) appeared at each event, along with radio station DJs and BWPRR outreach staff, to distribute public education materials and prizes, and answer recycling questions.

The Spring 1999 animation campaign (Animation 3) focused specifically on recycling mixed paper and promoted the Department's new Recycling Checklist



flyer. The flyer was based upon the storefront poster, developed in the Fall 1998 outdoor campaign, that showed cartoon images of recyclable items falling into the appropriate bins and bags. However, in addition to showing what items should be recycled,

the new flyer showed items commonly thought to be recyclable that should be placed in the trash, such as yogurt containers, plastic bags, and salad bar containers.

Most of the Spring 1999 ads contained a green background to emphasize the green bin and green decal for mixed paper recycling. To promote the Recycling Checklist flyer, 15 full-page "Clip and Save" ads, including a version in Spanish, ran in eight major papers. The 4-color ads showed a copy of the flyer surrounded by a dotted line and encouraged readers to cut it out and save it and call the Sanitation Action Center to request additional copies. Another ad, which advised residential building owners/managers to set their buildings up for mixed paper recycling or risk being fined, ran in four real estate trade publications. Seven citywide newspapers also ran an ad encouraging readers to call the Sanitation Action Center to request green mixed paper recycling decals.

At the same time that the trade ad ran, all building owners/managers were sent a letter warning that buildings that were not properly set up for recycling would be fined. The mailing included an order form for residential recycling materials (decals, building posters, flyers, and superintendent handbooks). The response to the mailing was overwhelming. The Department fulfilled over 9,000 requests for materials from landlords and building management companies from April through July 1999. In fulfilling these requests, the Department distributed over 225,000 green and blue decals, over 109,000 building posters, nearly 743,000 checklist flyers, and more than 35,000 superintendent's handbooks during a four-month period.

Outdoor advertising for the Spring 1999 campaign included ads on 570 subway brand trains, 200 telephone kiosks, 375 storefronts, and 6 mall kiosks.

According to neighborhood demographics, storefront posters were printed in English, Chinese, and Spanish; telephone kiosk ads appeared in



English and Spanish.

From April through June 1999, over 1,000 spots ran on 25 different broadcast and cable television stations. The spots included English and Spanish

animation commercials that were modified to promote the Department's Recycling Checklist flyer and *The Mayor and the Manager* spot, which ran during sports programming. Recycling was also promoted through 2,760 spots that were part of sponsorships on various cable stations.



PART 3: OTHER COMMUNITY-BASED RECYCLING OUTREACH AND EDUCATION

Public Schools

The Department's outreach activities aimed at public school recycling are described separately here because they were implemented on a schedule that was not directly related to borough implementation. Given the LL19 mandates and the Department of Sanitation's provision of (free) waste collection and disposal to the Board of Education, the Board itself bears the responsibility for recycling within its jurisdiction — its offices and the over 1,100 schools that make up the NYC public school system.

The Department provided schools with information and technical assistance on how to set up school recycling programs and linked school recycling to the City's curbside program as it evolved. BWPRR's school outreach activities were intended as a supplement to the Board of Education's actions. The Sanitation Commissioner wrote the Chancellor. BWPRR sent several letters to various parties within the Board (this is in addition to the borough-wide mailings described elsewhere in this report) including the district superintendents, principals, assistant principals for administration, custodians, teachers, and their unions. While some mailings were operational in content, all were designed to inform recipients about the obligation to recycle in public schools and offered assistance in implementing school recycling programs.

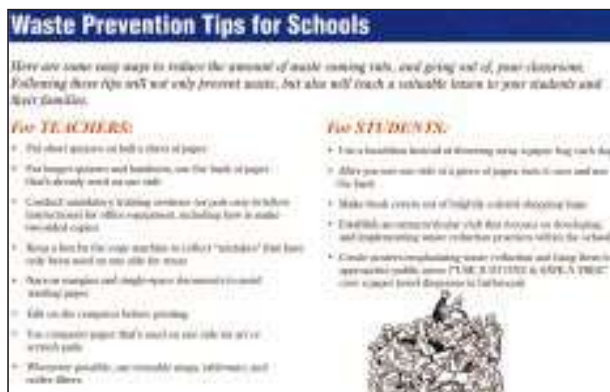
Educating children — and adults — about what, how, and why we recycle has long-term benefits for New York City. Knowledge about recycling helps people prepare materials properly in both the classroom and the cafeteria, and accustoms them to view recycling as the normal way of handling discarded materials in any setting — home, school, etc. In general, BWPRR and the Board have agreed that education is the Board's jurisdiction. The major exception occurred between 1993 and 1995 (the

years after recycling became standardized citywide) when BWPRR offered recycling assemblies to every school as a way to present recycling information to students. The Bureau responded to every request, with outreach staff making about 600 school assembly presentations, covering every borough and over 30% of the City's public schools (borough-level data are included in Part 1).



In 1993, the Department teamed up with Reynolds for an event called “Great Balls of Foil” to promote aluminum foil recycling in schools. Kids were enlisted to wrap a Sanitation truck in aluminum foil in Central Park. Then there were two contests: one to see which school could collect the biggest ball of foil and the other (held at the Queens Hall of Science) to see which school could make the best foil sculpture.

In 1993 and 1995, the Department reached out to educators via four educational publications that teachers receive. In 1993, a special 8-page recycling pull-out ran in *NY Teacher*, the publication of the NY State United Teachers (AFL-CIO), which goes to virtually all public-school teachers in New York City. The pull-out contained complete recycling information for New York City including instructions and diagrams showing what and how to recycle, color maps of each borough with district-level recycling collection schedules, and waste prevention tips. The 1995 teacher campaign included 48 ads in teachers' journals that ran in the Fall when school started. Ads also ran in the educational sections of the City's major daily newspapers.



During the 1994-95 school year, the Board and its custodial union selected 10 pilot districts in Brooklyn, Queens, and Staten Island for concentrated DOS school outreach. Later, one district each in Manhattan and the Bronx was added to the pilot. The Bureau provided printed materials, including decals, posters, and flyers to principals and held borough-wide “how-to” meetings with custodians, arranged by the custodial union’s executive staff. Every public school located in the selected districts (a total of 448 schools covering grades K-12) was visited twice, first to distribute decals and information and then to conduct a follow-up survey to see if the program had been implemented.

The surveys documented a large recycling deficit. More than half of the schools were not recycling properly, although many recycled at least some of the required materials, particularly from the food service areas. Some schools were not recycling at all. A follow-up survey, conducted a few weeks after the first one, documented an improvement but also showed that many gaps remained.

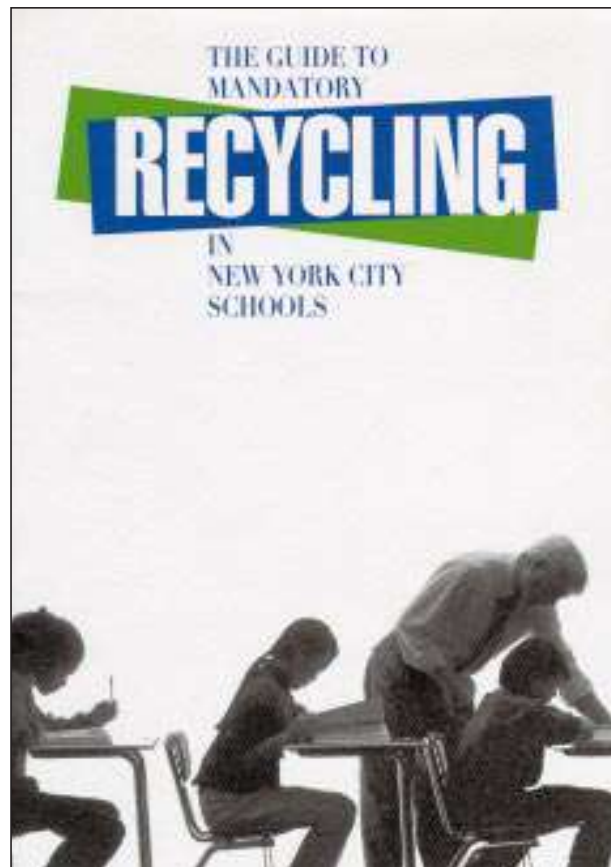
In 1996, the year following the pilot, the Department invited all school custodians to recycling conferences that were jointly organized by the Department and the Board. There were eight conferences, one in both Manhattan and Staten Island and two each in the Bronx, Brooklyn, and Queens. Each custodian who attended a conference received a package of recycling decals and other educational material.



Between 1995 and 1997 as the mixed paper expansion was phased in, the Department provided large outdoor dumpsters for mechanized collection to 100 schools. This was in addition to the 61 schools that already had containerized collection

since the early 1990s. (In some cases, the dumpsters were repaired and delivered by the Board of Education.) In all, 161 schools received close to 400 dumpsters. During this time, the Board also finished providing schools with blue recycling bins for all classrooms, and blue and clear bags for curbside set-out of recyclables.

In 1997, in the context of the fully expanded curbside program and ongoing advertising campaign, the Bureau again wrote to each of the City's 37 Board-of-Ed district superintendents. They were reminded of the program expansion and were encouraged to invite the Department to district-level principals' meetings. The Department wanted to use these meetings as a forum to explain recycling program requirements and distribute the instructional videos for staff and students (see Part 2). Out of a total of 31 meetings, BWPRR outreach staff was invited to 15, at which they distributed videos to 355 elementary and middle schools.



Since high schools do not fall under the jurisdiction of the 37 district superintendents, the Department sent letters to the five high school superintendents asking to be invited to address their principals at division meetings. Only the Bronx and Manhattan representatives responded. As a result, BWPRR outreach staff distributed recycling videos to all public high school principals in the Bronx (26 schools) and Manhattan (47 schools).

In 1998, BWPRR outreach staff reached out to over 200 private and parochial schools (grades K-8) in the City's low-diversion districts. During the visits, they delivered videos and other recycling information and answered questions about recycling requirements. Also during the 1998-99 school year, the Department stepped up its enforcement of school recycling by issuing tickets directly to principals. This prompted 167 schools to contact DOS and request materials. BWPRR responded to each request by personally delivering recycling videos, decals, posters, flyers, and handbooks.

In May 1998, the Board and DOS co-sponsored a full-day instructional seminar to begin the process of incorporating recycling, composting, and waste prevention into the existing school curriculum. Attended by 90 elementary and middle school teachers and science coordinators, the intent of the seminar was to build lesson plans that could teach students about recycling and related topics and at the same time meet the Chancellor's new academic achievement standards. Initial ideas developed in workshops held throughout the day were presented at the end of the seminar. In cooperation with the Board of Education, DOS is using these ideas to develop a recycling and waste prevention resource guide for teachers.



During the school seminar, BWPRR showed teachers the new educational recycling games available on the DOS website (www.ci.nyc.ny.us/strongest, see Part 6). The games were designed to take advantage of internet technology to further promote recycling to young people. For grades K-6, there is a click and drag game called Sort It! that involves placing items in the correct container green bin, blue bin, or trash bin. For older kids, there is Teen Trashy Trivia! that tests knowledge of recycling and waste prevention facts.

Low-Diversion Districts

As recycling was being phased in, it was clear that there were higher- and lower-performing areas of the City, as measured by the monthly diversion rates of each of the 59 community districts. At that time, it was difficult to focus on any particular group of districts, because program expansions limited the ability to make consistent comparisons. Thus, the Department waited to target outreach to low-diversion districts until Fall 1997, when the expanded program was implemented citywide.

The 23 districts targeted for additional outreach and education had the lowest recycling diversion rates — all were under 12%, with 15 of them under 10%. The average diversion rate for these 23 districts was 9.0%, while the average for the City's other 36 districts was 19.2%.

To prepare for the targeted outreach effort to the low-diversion districts, BWPRR reviewed previous outreach activity and compiled information on schools and other institutional sites. Having already concentrated separately on public schools, staff visited private and parochial schools, in addition to police and fire stations. The Department also reviewed district demographics. According to the 1990 Census, in 12 of the low-diversion districts, 40% or more of the residents reported speaking Spanish at home. Since the citywide average was 22%, particular efforts were devoted to reaching Spanish-speakers.

With funding allocated by the City Council to promote outreach in low-diversion districts, the Department:

- developed and distributed additional educational materials (brochures and videos) in Spanish;
- convened a series of high-profile seminars for building superintendents;
- brought training materials to over 200 private and parochial schools;
- placed targeted advertisements; and
- conducted a waste composition study to update information about the potential recyclable material available from these districts.⁹

Despite the low diversion rates, the Department was aware that earlier program rollouts and expansions made many people feel that they needed no further information. Thus, while there was a need to reach as many building superintendents as possible with updated recycling information, another round of district-level explanatory meetings was bound to result in a disappointing turnout. Instead, the Department produced a few large-scale seminars using professional entertainment to help communicate the recycling message.

To encourage attendance, arrangements were made to use the clubhouses at Yankee and Shea Stadiums. Invitations were distributed through a special mailing and 1,000 building superintendents responded. An experienced improvisational group

(Chicago City Limits) began each session with recycling-related skits and songs. Two videos were shown: one about recycling in apartment buildings (see Part 2) and one that highlighted apartment recycling success stories. The superintendents heard from Sanitation operations and enforcement



personnel and were able to ask questions. Each attendee took home a “goody bag” (tote bag) filled with the apartment building recycling video (in English and Spanish), assorted printed materials (a Superintendent’s Recycling Handbook, a Yes/No flyer, a building poster, decals to label recycling areas and bins, an order form to request additional copies of materials, and a list of helpful Sanitation phone numbers), a t-shirt, and a mug.

As described in the previous section, the Department reached out to private and parochial schools in the 23 low-diversion rate districts. Staff delivered recycling videos and, where requested, reviewed the school’s recycling program.

The advertising effort that was part of the low-diversion campaign featured television, radio, and newspaper ads, with heavy placement in Spanish-language media outlets. Bus shelter and store window posters were concentrated in these neighborhoods and additional subway ads were placed on selected routes.

Finally, the focus on low-diversion districts gave the Department the resources to begin to address important questions about the current composition of waste. The City had undertaken extensive waste composition studies in 1989 and 1990 as the recycling program was getting started, in preparation for its 1992 Solid Waste Management Plan. Those studies indicated a theoretical “recyclable” waste composition ceiling of slightly more than 40% based on the items currently designated in the program. The actual recyclable composition would be less, by an unknown amount, because the ceiling rate was based on a degree of sorting that an actual recycling processing facility does not do.

With respect to the low-diversion districts today, did the under-10% diversion rates necessarily mean that residents were recycling only about one quarter of the recyclables available (10% of the 40% that could be recycled) and throwing out the rest with the garbage? Or had the composition of waste changed, thus reducing the potential recycling rate (meaning

there was actually less than 40% available to be recycled)? If the latter was the case, the low-diversion districts would be doing a better job of recycling than had previously been assumed.

To address this question, the Department expanded a planned pilot test of mixed waste processing to include waste composition sampling in low-diversion districts. In December 1997, waste and recyclables were collected from randomly selected routes in representative low-diversion districts and were sorted to determine the overall recyclables composition. This measure, while not necessarily comparable to the theoretical rate established in 1990, would indicate how the low-diversion districts were doing relative to what they actually could achieve today. As with any sampling, the results carry the normal qualifications and are limited by season and district. However, they do indicate that the highest achievable recycling rates for these districts are probably closer to 25% than 40%, even with full participation.¹⁰

PART 4: OUTREACH FOR PARTICULAR WASTE STREAMS

Special Seasonal Programs and Composting

The Department used advertising and outreach to inform New Yorkers about its seasonal programs, including Christmas tree and holiday gift wrap recycling, Fall leaf collection, “Leave It On The Lawn” grass recycling, and various composting projects.

Christmas Tree Recycling

The Department first sponsored a Christmas tree recycling program during the 1988-89 holiday season, placing local ads and contracting with three community organizations to help with chipping and mulch distribution. Trees were brought to specified locations in three of the City’s five boroughs, through limited DOS collection and citizen drop-off. This program continued for the 1989-90 and 1990-91 holiday seasons, but was suspended the following year because of budget constraints.

In 1992-93, Christmas trees were collected from the curb in Manhattan and Staten Island. Residents of Brooklyn, Queens, and the Bronx could bring trees to a Sanitation truck parked at a location in their borough. Since 1993-94, DOS has been collecting Christmas trees placed at the curb, citywide. From 1992 through 1994, the Christmas tree recycling program was promoted through print ads and announcer-read radio spots (the major daily newspapers and up to 13 radio stations).

Beginning in December 1995, the Christmas tree advertising campaign became more elaborate. Print ads and truck posters featured Santa Claus riding a rear-loader recycling truck with Christmas trees sticking out of the back. The repeated use of the image through Christmas 1998 reminded the public that this was an annual program. Also, a radio spot, *What Santa Does After Christmas*, was produced and aired on several stations from 1995 through 1998. Information about Christmas tree recycling was also included in the Department’s updated



Superintendent’s Recycling Handbook.

The key elements of the Christmas tree ad campaigns were:

- Print advertisements: Including the major dailies, local, and community papers.
- Radio spots: A two-week campaign during late December and early January. The produced spot aired on English stations; on Spanish stations the spots were announcer-read.
- Truck posters: Placed on both sides of all DOS collection trucks from the end of December through mid-January.



- Telephone hotline information: During the first two weeks of January, callers to the SAC hotline were reminded to remove tinsel, lights, stands, and plastic bags from Christmas trees and place trees at the curb before the collection cut-off date.
- Website information: Similar to what was provided by SAC.
- Outreach: Throughout December, outreach staff included information about Christmas tree recycling at community meetings.

Holiday Wrapping Paper Recycling



In 1997, the Department began to promote the recycling of holiday wrapping paper along with mixed paper. An ad featuring the animated green bin character was created and placed in some neighborhood papers, on flyers, and on Sanitation truck posters

during the month of December. Since then, truck posters with the image are displayed every holiday season.

Fall Leaf Collection

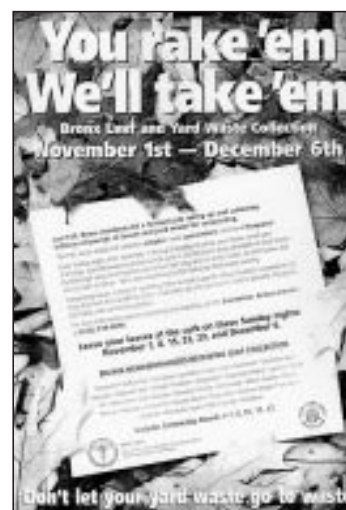
In 1990, the Department began collecting Fall leaves from homes on Staten Island for composting at an outdoor facility at the Fresh Kills landfill. Later, the leaf collection program expanded to include neighborhoods in the Bronx (1997), and Brooklyn (1998). The entire borough of Queens is scheduled to join the program in the Fall of 1999.

Fall Leaf Collection Implementation

DATE	BOROUGH	COMMUNITY BOARDS
1990	Staten Island	all
1997	Bronx	7, 8, 10, 11, 12
1998	Brooklyn	2, 5, 7, 9, 10, 11, 12, 14, 15, 17, 18
1999	Queens	all

In NYC, it is feasible to collect leaves only in residential neighborhoods that generate lots of leaves. That is why leaves are collected in all of Staten Island and Queens, only in select community districts in the Bronx and Brooklyn, and not at all in Manhattan. Collecting leaves only in specific districts presents several challenges, both for public education and operations.

Special mailing lists are compiled to send postcards describing the program to all residents and institutions in the participating districts, and advertising is limited to ads in neighborhood newspapers and posters on district Sanitation trucks. The Department also includes information about the program on the SAC information hotline and the Department's website. Operationally, the Department has experimented with various collection options in its endeavor to increase efficiency while simplifying participation requirements.



"Leave It On The Lawn" Grass Clippings Campaigns

Since 1994, the Department has asked New Yorkers to "Leave It On The Lawn" — to leave grass trimmings in place, or use the trimmings as mulch in the garden. This practice reduces waste and transportation costs, while keeping nutrients and moisture in the lawn (or in the garden). The



Department produced a brochure and mailed it to elected officials, community district offices, lawn mower equipment distributors and manufacturers, landscapers, gardening groups, and community and civic associations. The brochure was also distributed by the City's botanical gardens, and through fulfillment in response to requests. Information about the "Leave It On The Lawn" program is available

through the SAC telephone hotline and the Department's website.

In the Spring of 1996, the Department ran ads in Staten Island and Queens newspapers encouraging residents to leave grass clippings on their lawns (and announcing the compost giveback program [see



below]). Similar ads ran in 1997, and 1998; Brooklyn papers were included in 1988.

Botanical Garden Composting Projects

Since 1993, the Department has funded a composting outreach and education program at each of the City's four botanical gardens: Brooklyn Botanic Garden, The New York Botanical Garden (in the Bronx), Queens Botanical Garden, and Staten Island Botanical Garden. Through a contract developed with the Department of Cultural Affairs, each Garden hired staff to promote residential backyard composting and small-scale composting projects for City institutions and businesses.

Each Garden was required to set up compost demonstration sites (one on location and three additional sites in each borough) and provide outreach and education. In particular, the Gardens are responsible for educating the public through workshops and seminars, displaying educational material at local street fairs and other community events, and operating a help line to assist the public in finding information on composting and related topics. The activity levels from July 1994 through June 1999 are shown below.

Botanical Gardens' Composting Activities for DOS, FY 1995 – 1999

EVENT	# OF EVENTS	# OF ATTENDEES
Classes, workshops, and presentations	378	17,000
Student workshops in NYC schools	200	6,000
Fairs, tabling, and special events	253	33,000

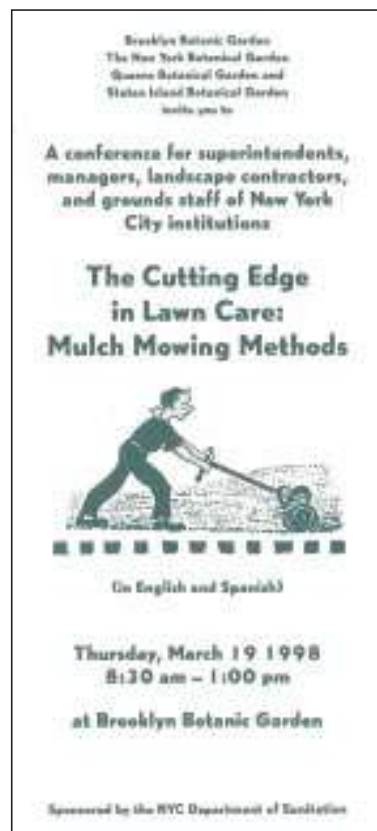
To help the Gardens promote composting in NYC, BWPRR produced The Urban Home Composting Guide. This brochure explains the science behind composting and provides step-by-step instructions on how to prepare and use compost at home. There were 250,000 brochures printed and over 125,000 have been distributed citywide through the Gardens, BWPRR staff, and in response to requests to the SAC hotline (see Part 6).

After setting up compost demonstration sites, the Gardens expanded their activities to include:

- Implementing leaf composting and grass recycling at NYC Housing Authority (NYCHA) sites, colleges and universities, cemeteries, and golf courses;
- Working with private landscapers to encourage composting and grass recycling;
- Hosting teacher training workshops about composting with worms in the classroom;
- Establishing a citywide Master Composter training course; and
- Coordinating compost giveback days each Spring and Fall, which provide City residents with free compost (made from City leaves) and subsidized compost bins.

The NYCHA compost training enabled the Authority to manage yard debris from some of its 339 developments, 1,175 acres of grounds, and 44,000 trees. By the middle of FY 1998, 115 NYCHA complexes reported leaf-composting activities.

The Queens and Brooklyn Gardens held conferences (in December 1997 and



March 1998, respectively) for landscapers that taught waste minimization techniques through natural landscaping. The conferences were attended by a total of 300 professionals from both the private and public sectors. The Queens and Staten Island Gardens

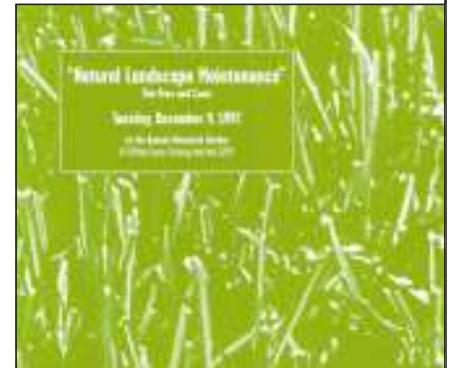
constructed small composting facilities that processed materials from local landscapers and also served as demonstration sites.

Since the Spring of 1996, the Gardens have sponsored compost givebacks, offering City residents free compost and subsidized compost bins. In 1999, a total of 16 giveback events

were held at different sites around the City. They were advertised through mailings and cable TV commercials. Over 5,700 people attended the events, with 580 cubic yards of free compost distributed and nearly 2,400 subsidized compost bins sold.

Back Yard Composting Pilot Project

In the Spring of 1997, the Department implemented a backyard composting pilot program to assess the potential for backyard composting as a solid waste management option in New York City. This program required considerable outreach and education in order to get a sufficient sample size to warrant study.



As many residents as possible in the targeted neighborhoods had to be (1) told about the pilot program, (2) educated about what backyard composting involves, (3) recruited to join the program, and (4) given a composting bin and follow-up information (if they decided to participate). A Department report¹¹ details the intensive mail, phone, and door-to-door recruitment campaign that the Gardens provided.

Office White Paper Program



NYC collects and recycles high-grade office paper through a dedicated Office White Paper Recycling Program. Started in 1985 in computer centers and storage facilities, the program was expanded over the next few years to include NYC agencies and some non-profit institutions that receive DOS waste collection.

In the Summer of 1985, the Sanitation Commissioner announced the office paper recycling program to other agency heads and encouraged their participation. Since this was prior to the beginning of curbside recycling, this was the first opportunity for City employees (most of whom are City residents) to participate in recycling. BWPRR staff followed-up on the Commissioner's request by contacting designated agency representatives and showing them how to implement the program. Multiple site visits were made to each participating location in order to interact with as many employees as possible. During these visits, outreach staff presented a slide show and distributed informational flyers and posters.



In 1997, when City agencies and institutions were required to recycle mixed paper as part of the curbside program, the Department could have terminated the small office paper program for the sake of uniformity and

simplicity. Instead, DOS renewed its commitment to collecting the high-grade paper and worked to help participants avoid confusion and set up viable collection procedures. Outreach consisted of informing agency heads and facility managers of the program requirements and providing on-site training and demonstration sessions for virtually every building custodian. Flyers, posters, and decals were also distributed.

Currently, the program serves approximately 400 locations throughout the five boroughs, collecting an average of 325 tons of paper each month, which generates revenue for the City. To maintain the program, BWPRR conducts site visits to monitor internal collection systems and provide assistance, holds training sessions to teach new staff and remind old staff of program requirements, and distributes educational materials. Up to one third of the sites are visited over the course of a year.

Commercial Recycling

Commercial waste generators in New York City contract privately for waste collection and disposal. Before tipping fee increases in 1998, most commercial waste was brought to the City landfill at Fresh Kills. When tipping fees rose from less than \$20/ton to \$40/ton, commercial waste disposal shifted to private landfills further away. Nonetheless, the City's recycling law (LL19) brought certain

recycling requirements to the commercial sector. Commercial recycling reduces regional demand for landfill space, helps meet mandated recycling and waste reduction tonnage levels (set forth in LL19), and reinforces residential recycling by requiring people to recycle in the workplace.

Initial regulations promulgated in mid-1991 gave commercial waste generators the choice between source separation (separation of recyclables at the workplace) and post-collection separation (the removal of recyclables from mixed waste after collection). In 1993, the Department revised commercial recycling regulations in response to a state law that precluded the post-collection separation option for designated recyclables. The Department conducted in-depth outreach campaigns associated with both sets of regulations.

Initial Outreach

In March 1991, the Department began a major effort to educate the business community, the general public, and those involved in handling private-sector waste (and recyclables) about commercial recycling and the attendant regulations (effective at the end of May of the same year). Brochures and flyers were developed in consultation with business associations and other groups and distributed through several mass mailings, with telephone follow-up where possible. To spread the message, BWPRR contacted elected officials and Community Boards, gave presentations to businesses groups, issued press releases, and (within budget allowances) placed ads.

Outside Group Involvement

In planning the development of educational materials and ways to reach out to the business community, BWPRR met with the following organizations:

- Solid Waste Advisory Boards (SWABs);
- Six trade associations (NY Chamber of Commerce, Council of Trade Waste Associations, Real Estate Board of NY, NYS Food Merchants Association, Institute of Scrap Metal Recyclers, and the NY Association of Dealers in Paper Mill Supplies);

- Two environmental groups (Environmental Action Coalition and the Council on the Environment); and
- The NYS Department of Economic Development.

Six weeks before the effective date, the Department sent commercial recycling regulations to 1,000 recipients, including businesses, agency officials, names gathered from the Mayor's office, and other interested parties.

Printed Materials

The Department produced a brochure, *Recycling Means Business: Mandatory Recycling in the Workplace*, and three related publications: *How to Start a Paper Recycling Program*, *How to Recycle or Reuse Almost Anything*, and *Buying Recycled Paper*. A Recycling Means Business flyer, suitable for distributing, posting, and for use as an advertisement, was also developed. The brochure

contained a detachable postcard for ordering the related publications, a guide to waste reduction, and the commercial recycling rules.



Mailings

The commercial recycling brochure was mailed to:

- 212,000 businesses listed in the Yellow Pages.
- 750 trade and business groups (from a list supplied by the NYC Office of Business Development). Those groups with an identifiable phone number were called; one-fourth requested additional brochures. Others requested speakers and/or agreed to publicize information about commercial recycling in their newsletters.
- 150 City, State, and Federal elected officials representing the five boroughs. Letters were followed up with phone calls, with over half requesting additional brochures. An additional mailing encouraged them to include commercial recycling information in their newsletters.
- 4,000 community organizations. Follow-up calls were made to those organizations with an environmental focus.
- All 59 Community Boards. Phone calls were made to each district to follow up and provide additional brochures, where requested.
- Sanitation superintendents and foremen in all 59 districts.
- The SWAB mailing list.
- The approximately 400 private waste carters licensed to operate in NYC. Follow-up calls were made to 250 for whom phone numbers could be identified. Those who did not respond to repeated phone messages received a second letter in late August. By September, over one-fourth of the carters agreed to distribute a total of almost 40,000 brochures to their commercial customers.

A letter and a copy of the commercial regulations were sent to each transfer station operator. Also, toward the end of 1991, Con Ed and Brooklyn Union Gas included notices about commercial recycling in their bills to business customers. The NYC Office of Business Development and the Department of Finance also helped distribute information to constituents or particular sectors of the business community.



Advertising

Advertising was limited because of citywide budget cuts. Some ads ran in the City's major dailies and business publications. There were also some public service announcements in local papers and on 22 radio stations.

Kick-Off Event

A City Hall press conference announced the commercial recycling regulations. Environmental supporters and HBO, which had instituted a successful recycling program, participated.

Second Year Outreach

In 1992, reminder mailings and a business recycling seminar were the main components of commercial recycling outreach. A recycling reminder brochure was produced, along with a seminar announcement flyer. The brochure, underwritten by the Institute for Scrap Recycling Industries, contained a reply card for ordering additional information and registering for the Workplace Recycling Seminar & Fair. Educational activities included the following:

Mailings

- In early June, the reminder brochure was sent to the 30,000 largest NYC commercial waste generators, who represented 15% of City businesses, and collectively generated as much as half of all commercial waste.

- The reminder brochure, a cover letter, and a seminar announcement flyer were mailed to over 650 trade and business associations. Extensive follow-up phone calls resulted in 193 organizations distributing 33,560 brochures.
- A letter from the Commissioner went to all 517 private carters known to the Department of Consumer Affairs. Follow-up phone calls resulted in 40 carters distributing over 6,500 brochures to their customers.
- The Department's Enforcement unit sent a reminder letter to all licensed transfer stations.
- Letters, brochures, flyers, and/or sample newsletter announcements were sent to 160 environmental organizations, 155 elected officials, the 59 Community Boards, and SWAB representatives.



Advertising

- In May, commercial recycling reminders were carried as PSAs on 15 radio stations and on all cable TV announcement boards.
- During February and March, a reminder ad for both commercial and residential recycling was placed on the back of one-fourth of City buses and in every subway car. The Steel Can Recycling Institute funded the bus advertising.



Seminar

- In August, the Department held a business recycling seminar and fair attended by 225 people. Hosted by American Express at the World Financial Center, the seminar included speakers and exhibitors. It was co-sponsored by the New York Chamber of Commerce, the Real Estate Board of New York, Building Owners & Managers Association, International Facilities Managers Association, the New York Association of Realty Managers, the Institute for Scrap Recycling Industries, the NYC Department of Business Services, the Manhattan Borough President, and four elected officials. The large organizations, with their various connections to commercial waste generation, helped disseminate seminar material to their members.



On-Site Visits

- BWPRR staff gave presentations upon request.

Outreach Following 1993 Rule Changes

Commercial recycling rules changed in September 1993 to conform to the NY State requirement to source separate specified materials for which economic markets were determined to exist. As a result, City food and beverage service establishments were required to source separate corrugated cardboard in addition to metal, glass, and plastic containers and aluminum foil products. All City businesses were mandated to separate corrugated cardboard, office paper, newspapers, magazines, catalogs, and telephone books. In addition, all businesses had to arrange to recycle construction waste, bulk metal, and textiles (if over 10% of a company's waste stream).



To explain the new recycling requirements, BWPRR produced a comprehensive commercial recycling handbook, *The Guide to Mandatory Recycling in the Workplace*, and a summary flyer. The mandatory workplace recycling requirements were also translated into Spanish, Chinese, Korean, and Russian. In addition, the original three commercial supplement booklets — *How to Start an Office Paper Recycling Program*, *How to Recycle or Reuse Almost Anything*, and *The Business Guide to Buying Recycled Paper and Other Recycled Products* — were revised and updated (and slightly renamed). Three more related booklets were produced: *It Makes Business Sense to Prevent Waste* (see Part 5), *A Guide to Mandatory Recycling at New York City Street*

Events, and a guide on how to start a public space recycling program.

How To Avoid A Ticket Commercial Recycling Enforcement

Enforcement

The following violations could result in a citation of violation being issued against commercial building and business owners who contract directly with a private waste or private recycling service:

1. Failure to keep designated recycling separate from garbage
2. Mixing designated and non-designated materials
3. Mixing designated and non-designated materials in recycling bins or the recycling service
4. Failure to keep designated materials in designated bins or the recycling service
5. Failure to keep designated materials in designated bins or the recycling service
6. Failure to keep designated materials in designated bins or the recycling service
7. Failure to keep designated materials in designated bins or the recycling service
8. Failure to keep designated materials in designated bins or the recycling service
9. Failure to keep designated materials in designated bins or the recycling service
10. Failure to keep designated materials in designated bins or the recycling service

Violations could also result in a citation of violation being issued against commercial building and business owners who contract directly with a private waste or private recycling service.

Violations could also result in a citation of violation being issued against commercial building and business owners who contract directly with a private waste or private recycling service.

Violations could also result in a citation of violation being issued against commercial building and business owners who contract directly with a private waste or private recycling service.

Violations could also result in a citation of violation being issued against commercial building and business owners who contract directly with a private waste or private recycling service.

Violations could also result in a citation of violation being issued against commercial building and business owners who contract directly with a private waste or private recycling service.

Violations could also result in a citation of violation being issued against commercial building and business owners who contract directly with a private waste or private recycling service.

Violations could also result in a citation of violation being issued against commercial building and business owners who contract directly with a private waste or private recycling service.

Violations could also result in a citation of violation being issued against commercial building and business owners who contract directly with a private waste or private recycling service.

Violations could also result in a citation of violation being issued against commercial building and business owners who contract directly with a private waste or private recycling service.

Violations could also result in a citation of violation being issued against commercial building and business owners who contract directly with a private waste or private recycling service.

Violations could also result in a citation of violation being issued against commercial building and business owners who contract directly with a private waste or private recycling service.

Violations could also result in a citation of violation being issued against commercial building and business owners who contract directly with a private waste or private recycling service.

Violations could also result in a citation of violation being issued against commercial building and business owners who contract directly with a private waste or private recycling service.

Violations could also result in a citation of violation being issued against commercial building and business owners who contract directly with a private waste or private recycling service.

Violations could also result in a citation of violation being issued against commercial building and business owners who contract directly with a private waste or private recycling service.

Violations could also result in a citation of violation being issued against commercial building and business owners who contract directly with a private waste or private recycling service.

Violations could also result in a citation of violation being issued against commercial building and business owners who contract directly with a private waste or private recycling service.

Violations could also result in a citation of violation being issued against commercial building and business owners who contract directly with a private waste or private recycling service.

Violations could also result in a citation of violation being issued against commercial building and business owners who contract directly with a private waste or private recycling service.

Violations could also result in a citation of violation being issued against commercial building and business owners who contract directly with a private waste or private recycling service.

Violations could also result in a citation of violation being issued against commercial building and business owners who contract directly with a private waste or private recycling service.

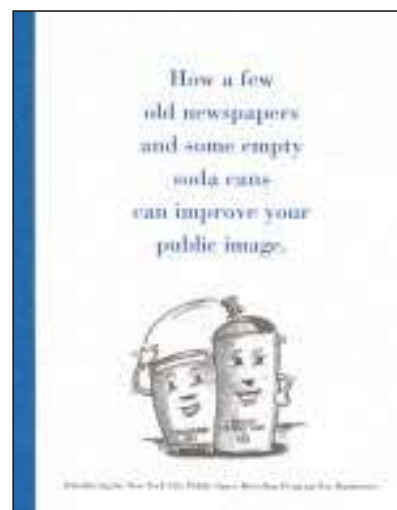
Violations could also result in a citation of violation being issued against commercial building and business owners who contract directly with a private waste or private recycling service.

Violations could also result in a citation of violation being issued against commercial building and business owners who contract directly with a private waste or private recycling service.

Violations could also result in a citation of violation being issued against commercial building and business owners who contract directly with a private waste or private recycling service.

Violations could also result in a citation of violation being issued against commercial building and business owners who contract directly with a private waste or private recycling service.

Violations could also result in a citation of violation being issued against commercial building and business owners who contract directly with a private waste or private recycling service.



Educational outreach included mailings, advertisements, seminars, and telephone/site visit follow-ups.

Mailings

- *The Guide to Mandatory Recycling in the Workplace* was mailed to all trade and business associations, private carters, elected officials, Community Boards, and 200,000 businesses. Follow-up phone calls resulted in further distribution.
- A letter, sample newsletter announcement, and summary flyer were mailed to 450 trade and business organizations, 236 elected officials, and Community Boards.
- Con Ed and Brooklyn Union Gas alerted commercial customers to the new recycling rules in the newsletters that accompanied their bills.

Advertising

From September through December 1993, 35 print ads were placed in the City's major dailies, real estate publications, and trade magazines.

Seminars

- Early in 1994, BWPRR co-sponsored two large, well-attended seminars with Earth Day New York, the Real Estate Board of New York, the New York Chamber of Commerce, the New York State Restaurant Association, the Building Owners & Managers Association, and the New York State Food Merchants Association. As in the previous seminar, these sponsors represented key constituents and provided an effective way to reach the targeted audience beyond the event itself.
- Later in 1994, DOS organized five borough-based seminars, co-sponsored with each borough's Chamber of Commerce and other local groups. Over 50 local business groups were involved, and their participation — as well as the seminars themselves — brought information and opportunities for further discussion to countless commercial waste generators.

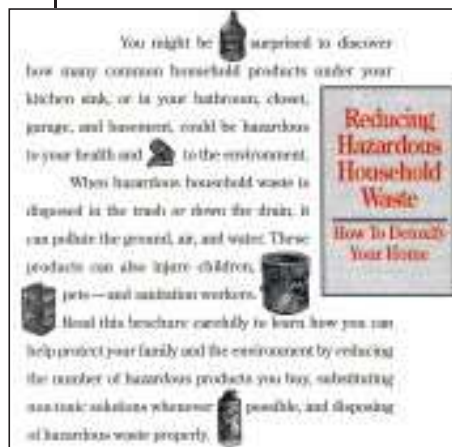
Telephone/Site Visits

In the summer of 1994, BWPRR staff made follow-up phone calls to trade associations and private carters, and conducted site visits to most commercial office buildings in lower Manhattan. Department representatives also spoke at meetings of smaller business organizations.

Subsequent/Maintenance Outreach

The Department continues to provide information on commercial recycling through several channels. Information is available in the Business-to-Business Yellow Pages, from the Sanitation Action Center, and on the DOS website (see Part 6). Also, the Department provides print and video materials to the Trade Waste Commission, which has regular contact with the City's business community. Finally, BWPRR outreach staff participate in seminars and trade shows.

Household Hazardous Waste



In 1991, the Department began to educate the public about Household Hazardous Waste (HHW). Common household products, such as pesticides, solvents, and cleaning products, can be

harmful to people and the environment, especially when used and stored improperly. Though HHW comprises less than 1% of the total waste stream, there are clear environmental benefits associated with reducing use, encouraging proper use, and promoting safe disposal. Except for auto batteries and motor oil, there are no Federal, State, or local laws prohibiting the disposal of HHW in landfills.

The Department produced a comprehensive HHW brochure and held a pilot HHW collection day in Park Slope, Brooklyn, in 1991. Since then, there

have been citywide HHW collection days and the production of an updated brochure that was mailed to every NYC household.

Park Slope Pilot Collection Day

Park Slope, Brooklyn, was chosen as the location for the HHW pilot collection day because it was the site of the Intensive Recycling Zone and represents a demographic cross section of the City population (see Brooklyn section in part 1). The event was held in June 1991, and was supported by a targeted outreach campaign that was designed to maximize participation.

Outreach included an announcement flyer, filled with HHW reduction tips, distributed in January of 1991 to NYC environmental groups; Federal, State, and local agencies; Brooklyn Community Board 6 meeting attendees; the Brooklyn SWAB; and Park Slope community groups. The comprehensive brochure was also distributed to these groups, as well as to all Council on the Environment for New York City (CENCY) members, and at DEP-funded HHW workshops in Brooklyn. In addition, sample articles were submitted to environmental groups and local newspapers.

In April, a brochure with detailed information about the HHW collection day was mailed to more than 53,000 households in the zip codes closest to the collection site, and to 4,000 others in environmental and community groups, government agencies, and block associations. Brochures were also distributed through door-to-door outreach by the Park Slope Intensive Recycling Campaign; to children at P.S. 282, where the event was held; to each principal in School District 15; at recycling drop-off centers (Village Green, Upper West Side, Prospect Park); and at Earth Day events. There were also 14 HHW presentations to Park Slope community groups and City environmental

organizations. At least 15 local newspapers and newsletters contained information about the collection day.

There was also an advertising campaign. In April and May, paid ads ran in two local weekly papers and ten radio stations aired a 30-second PSA provided by the Department. Also, one-hundred posters lined two major streets of Park Slope (5th and 7th Avenues), while several hundred more were placed throughout Park Slope, Brooklyn Heights, parts of Manhattan, and four major Brooklyn shopping areas.

1993 and 1994 Citywide Collection Days

In the Spring/early Summer of 1993 and 1994, the Department sponsored HHW collections in each of the five boroughs. The Center for the Biology of Natural Systems (CBNS) at Queens College was contracted to provide some outreach to the



community, aid in locating sites, and help at the collection days. Outreach included distributing information and speaking to 20 community groups and schools. At each collection site, the waste was collected and processed by a licensed hazardous waste contractor.

DOS produced a brochure and poster detailing collection day information. The brochures were mailed to residents in select zip codes near each collection site and distributed by BWPRR outreach staff, CBNS, select Community Boards, NYC DEP, NY State DEC, Borough Presidents' offices, and other community organizations. Posters were placed in libraries and Ferry terminals, and distributed by volunteers, BWPRR, and CBNS. Also, announcements, brochures, and sample newsletter articles were sent to approximately 1,000 environmental and community groups, as well as to elected officials. There were also ads placed in local newspapers. In 1993 only, there were also posters in 6,000 subway cars and radio and cable TV ads.

Special Waste Drop-Off Sites and Public Education

Due to the high cost of individual collection days and the advantages of providing a year-round, daily alternative, DOS decided to study the feasibility of creating voluntary drop-off sites for Special Waste. Special Waste includes latex paint, motor oil, auto and household batteries, and other items that comprised the majority of what was collected at the HHW Collection Days. The year 1996 marked the



start of a Special Waste Recycling Pilot Drop-Off Program on Staten Island, at the Fresh Kills complex on Muldoon Avenue. In the year 2000, the program will expand to include sites in each of the other boroughs.

Since the environmentally preferred solution for addressing HHW and its disposal is to educate

consumers, DOS produced a brochure called *Safeguard Your Home From Harmful Products* that was mailed to all households in 1996. It contained information on identifying harmful products, avoiding exposure, using them safely, storing them carefully, and discarding them properly. Included on the back cover of the brochure was a peel-off sticker containing NYC Poison Control Center phone numbers. Approximately 3,300,000 brochures were printed; in addition to the citywide mailing they were distributed by BWPRR outreach staff, the Poison Control Center, and in response to requests to the Sanitation Action Center. The brochure is available on the Department's website (see part 6).

PART 5: WASTE PREVENTION

Waste prevention and reuse refers to those activities intended to reduce the volume and toxicity of waste generated. For almost a decade, BWPRR's waste prevention staff has worked with residents, consumers, businesses, and non-profit and government agencies to reduce unnecessary purchases, purchase more durable goods, avoid products with excess packaging, and take advantage of repair and reuse opportunities. Of the dozen major waste prevention initiatives, some have been completed and some are ongoing.

In 1991, DOS forged public-private alliances, through the Partnership for Waste Prevention, to gather and share information, and develop waste prevention objectives and strategies. Waste prevention studies were conducted and their findings used as models to teach participants and similar businesses how to assess their purchasing and use of products.

Public education about waste prevention has taken various forms. In addition to outreach staff introducing basic waste prevention measures at community meetings and school assemblies, the Department produced brochures, flyers, postcards, posters, and reports. They were distributed at meetings and events, through special mailings, and in response to requests to the Sanitation Action Center. There have also been special waste prevention meetings and seminars.

This section provides a brief description of the Department's waste prevention programs, from the perspective of the education and outreach that was conducted around each. A more detailed report and evaluation that is part of the Department's waste prevention measurement studies is forthcoming. The programs are generally listed in chronological order.

DOS encourages residents, students, and public institutions and agencies to prevent waste because, besides benefiting the environment, waste prevented is waste that the City does not have to pay to discard. Business waste prevention also impacts City

waste-disposal costs because disposable products and packaging frequently end up in residential waste. Since businesses pay for their own waste removal, potential cost savings is their incentive to reduce waste. It is important that the City conserve valuable resources and local and regional landfill space, as well as control rising waste disposal costs.

The Partnership for Waste Prevention



In September of 1991, the Department initiated The Partnership for Waste Prevention in order to educate businesses about the economic and environmental benefits of waste prevention, provide strategies and models for waste prevention initiatives, and identify barriers to their implementation. The Partnership was a joint effort among New York City businesses, trade associations, and government.

Early Partnership efforts resulted in five mid-1993 campaigns aimed at reducing what would ultimately be household waste. They involved dry cleaners, grocery stores, restaurants, direct mail marketing, and hotels. Also, NYNEX, the local telephone carrier (which is now Bell Atlantic) partnered with DOS on several ventures. In 1997 the Department brought together Local Development Corporations (LDCs) and academic institutions for industrial waste prevention.

Partner: *The Neighborhood Cleaners Association (NCA)*

Target: *Dry Cleaners*

As part of a 1993 summer outreach effort, the Neighborhood Cleaners Association (NCA), which represents slightly more than half of the City's 2,200

dry cleaners, worked with DOS to increase their members' awareness of waste prevention and its potential cost savings. Initially, the Department mailed surveys to 1,200 stores asking about hangers and polyethylene bags. DOS also produced store posters that encouraged customers to return hangers and use reusable garment bags. The NCA distributed the posters to their members throughout the City and DOS outreach workers visited 70 stores. Contacts made through the survey resulted in small site audits and a trade association newsletter article highlighting case study savings.

Partners: *D'Agostino's and the NY State Food Merchants Association (FMA)*

Target: *Supermarkets*

The 23-store chain of D'Agostino's promoted reusable bags, worked with some suppliers to reduce packaging waste, and gave customers a brochure with waste prevention tips. For its part, DOS, in cooperation with the Food Merchants Association, sent a grocery store survey on waste prevention activities — designed both to gather information and increase awareness — to 350



recipients, including individual stores and chain headquarters. The Department also produced laminated signs encouraging shoppers to bring their own bags or refuse a bag if they did not need one. Stores ordered hundreds of signs as a result of the mail survey, and some stores received follow-up visits. DOS continues to promote grocery waste prevention with FMA (now known as the Food Industry Alliance of NY State) through NYC WasteLe\$\$, discussed below.

Partner: *Chinese American Restaurant Association*

Target: *Chinese Restaurants*

With the assistance of the Chinese American Restaurant Association, DOS surveyed almost 600 restaurants about single-use utensils and sauce packets given to take-out customers and provided them with posters reminding customers not to take more items than they needed. A low survey response was followed with over 250 outreach visits to talk with restaurant owners and managers. Many posters were distributed, and surveys were completed in over a third of the visits. This outreach



effort included neighborhoods that were part of EPA-funded waste prevention and anti-litter campaigns (Thompkinsville, Staten Island; Astoria, Queens; South Bronx; parts of Brooklyn; Washington Heights; and three other Manhattan areas with restaurants in close proximity: the West 70s, East 20s, and Chinatown).

Partner: *Direct Marketing Association*

Target: *NYC Households*

The campaign to reduce unwanted household direct mail (“junk mail”) was coordinated with the Direct Marketing Association (DMA). During the Spring and Summer of 1993, the Department sent all 2.9 million NYC households a bilingual

(English/Spanish) recycling reminder postcard that featured a tear-off, return postcard. The postcard, addressed to DMA’s Mail Preference Service, allowed residents to remove their names from third-class mailing lists. In addition, a DMA postcard

was mailed to all Brooklyn and Queens households and landlords (1.72 million recipients), along with borough-wide recycling expansion information. Eighteen thousand postcards were distributed through Borough Presidents’ offices, other public officials, and environmental organizations.

The DMA provided DOS with information on the 28,000 New Yorkers who mailed in their postcards from January through October 1993. In 1996, BWPRR



continued its efforts by producing a revised postcard and matching point-of-purchase display that explained “How to Stop the Junk Mail Bandit.” These were distributed through public offices, libraries, and organizations. Information on removing names from mailing lists is available through the Sanitation Action Center and the DOS website.

Partner: *Hotel Association of New York City*

Target: *NYC Hotels*

Through the Hotel Association of New York City, DOS surveyed NYC hotels to determine their waste prevention practices and used the information to co-sponsor a seminar featuring model programs and common waste prevention measures adopted by other hotels. In 1995, in cooperation with the NYC



DEP and the Hotel Association, DOS published a booklet called *Make Waste an Unwelcome Guest: The NYC Guide to Hotel Waste Prevention* that detailed how waste

prevention saves money. Both DOS and the Association mailed the guide to hotels and related businesses. The Department also made follow-up calls to hotels that it had surveyed. Additionally, the Hotel Association and the New York State Restaurant Association worked with DOS to convene members' seminars to discuss waste prevention opportunities (as well as recycling issues).

Partner: NYNEX (now Bell Atlantic)

Target: NYC Residents and Businesses

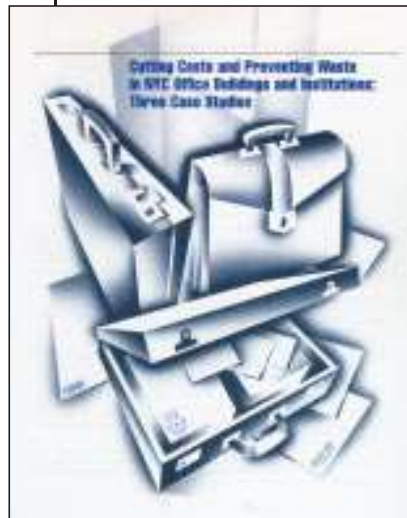
Beginning in 1993, waste prevention information was included in consumer Yellow Pages directories. The information includes tips on preventing waste at home and while shopping, as well as a list of the Yellow Pages headings that promote reuse. In 1994, two pages of waste prevention tips began appearing in the Business-to-Business Yellow Pages directory. (The directories also contain recycling information. See Part 6.) DOS continues to promote business waste prevention with Bell Atlantic through NYC WasteLe\$\$ and other initiatives.

Training Program for Local Development Corporations and Academia

In 1997, 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 LDCs, as well as working collaborations. For example, the Long Island City Business Development Corp. began working with the Fashion Institute of Technology to prevent waste in the textile manufacturing industry. Also, the Hofstra University Industrial Assessment Center offered to provide an energy conservation assessment for a manufacturing facility and a few of the LDCs began to participate in the Wa\$teMatch program (see page 64).

Waste Assessments

In 1993, the Department obtained what would become a multi-year grant from the NY State Office of Recycling Market Development to provide waste prevention assessments and assistance to representative businesses and not-for-profit organizations. The program was implemented jointly with the Council on the Environment of New York City (CENCY), along with initial input from INFORM. HBO, Kinney Shoe, and Columbia University agreed to be the subjects during the first year of the program.



The results of waste audits and subsequent implementation of operational changes to prevent waste are detailed in a guide called *Cutting Costs and Preventing Waste in NYC Office Buildings and Institutions: Three Case Studies*, which is available on the DOS website and through

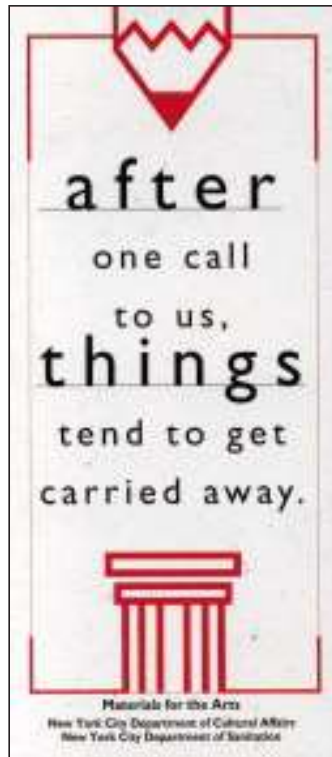
the Sanitation Action Center. To further promote business waste prevention practices and the successes outlined in the case studies guide, 2,000 copies were mailed to similar businesses.

The study with Columbia University was particularly useful as the basis for a college-oriented working conference that the Department conducted with CENCY covering waste prevention, recycling, and energy savings. All NYC colleges and institutions were invited; ten responded, sending a total of almost 100 representatives from various departments, including administration, purchasing, facilities management, and environmental compliance.

Materials for the Arts

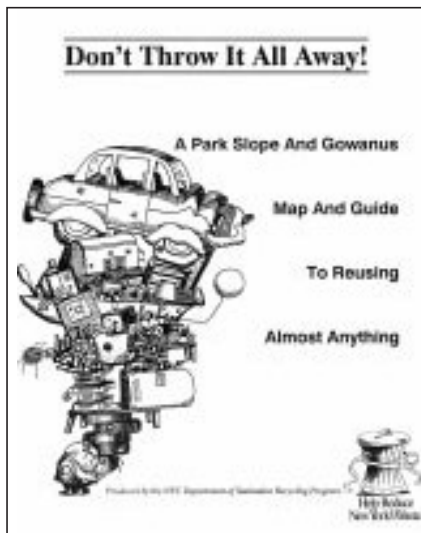
Materials for the Arts (MFA) solicits and warehouses items donated by businesses, organizations, and

individuals, and makes them available to non-profit local arts, cultural, and school groups. Jointly supported since 1990 by DOS and the Department of Cultural Affairs (DCA started the program in 1979), MFA began to receive additional foundation and Board of Education support in 1997. MFA is self-administered and provides outreach to donors and potential recipients through telephone outreach, brochures, press coverage, and word-of-mouth.



Brooklyn Community Board 6 Intensive Zone

As part of its educational efforts in the Brooklyn 6 Intensive Zone, the Department produced *Don't Throw It All Away! A Park Slope And Gowanus Map And Guide To Reusing Almost Anything*. It listed community businesses and organizations that repaired, sold, and accepted donations of used goods. This led to the development of a citywide publication and the NYC Stuff Exchange program (see page 64).



Educational Materials

In addition to the targeted waste prevention brochures already mentioned, the Department produced the following educational materials. All brochures are available on the DOS website. Appendix 2 lists all of BWPRR's current educational materials.

- **Waste Reduction Handbook.** Produced in 1991, it was a general guide designed to acquaint New Yorkers with basic practices that can prevent waste and save money. It was distributed by outreach staff, at street fairs and events, through environmental organizations, and in response to requests to the Sanitation Action Center.
- **Subway Posters.** Three posters that showed ways to reduce waste at home, at work, and while shopping were created for a three-month subway campaign that promoted the Waste Reduction Handbook. Copies of the posters were also printed and distributed to businesses, schools, City agencies, and various organizations.
- **Waste Prevention Holiday Cards.** In 1991 and 1992, BWPRR distributed holiday cards, *'Tis The Season To Reduce Waste* and *'Tis the season to be an environmental angel!* They included economical ways to reduce excess waste when planning parties and giving gifts.

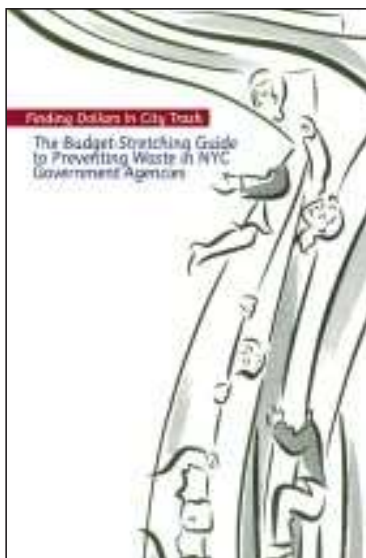


- ***Reuse It, Repair It, Rent It, Donate It — But Don't Throw It Away!***, a guide to reuse in NYC, was



produced in 1993 to provide residents with tips and lists of Yellow Pages subject headings for the repair, rental, purchase, and donation of used goods. It has been distributed in the same manner as the Waste Reduction Handbook.

- ***It Makes Business Cents to Prevent Waste*** was produced in 1994 to offer businesses waste prevention strategies. It includes real examples of cost-saving initiatives adopted by companies and a list of organizations that accept donations. In addition to the distribution methods listed above, the guide was included in commercial recycling packets and listed on the waste prevention page in the Business-to-Business telephone directory.



- ***Finding Dollars in City Trash: The Budget Stretching Guide to Preventing Waste in NYC Government Agencies***. This guide was produced and distributed to City agency employees in 1996.
- ***Save Paper! Make Double-Sided Copies*** poster. Also produced in 1996, the poster was distributed to

City agencies for placement in their copy rooms. It offers tips on how to successfully make two-sided copies.

Programs in Progress

Currently, five ambitious waste prevention programs are in various stages of completion.

NY Wa\$teMatch is a materials matching service for industrial and commercial generators, developed in 1997 under a contract with the Department. The program's contractors (the Industrial Assistance Corporation [ITAC] and the Long Island Business Development Corporation) conduct outreach through mailings, mass faxes, phone calls, and press releases. A website is in progress.



The **NYC Stuff Exchange** is an automated telephone system with information about where residents can donate, buy, sell, rent, or repair reusable goods. As development nears completion, an advertising campaign utilizing print and outdoor media is planned first in Staten Island, as a test pilot, and then will expand citywide.

The **NY CitySen\$e** program conducted waste assessments in parts of representative City agencies. Based on its findings, the Department held seminars for all agencies on various waste prevention and recycling topics. An updated waste prevention and resource guide for City agencies is in development.

NYC Wastele\$\$ is a waste prevention technical assistance program that grew from the Partnership for Waste Prevention. Focusing on 9 business and institutional sectors, the Wastele\$\$ program developed newsletters and seminars, and is working on a video and website that will promote waste and cost savings practices and policies. The Department primarily funds the program with some co-funding from the NY State Energy Research and Development Authority (NYSERDA) and EPA Region 2.

Measurement Studies are being conducted to quantify the waste prevention achieved in NYC and to help form public education goals.

PART 6: OUTREACH USING CENTRALIZED INFORMATION DELIVERY

The Bureau provides detailed recycling information to the public through three centralized information delivery systems, which it has developed or augmented: the Sanitation Action Center telephone line, dedicated sections in Yellow Pages directories, and the Sanitation Department website. Considerable effort goes into organizing and updating these systems, which function as extremely efficient means of citywide outreach.

Sanitation Action Center (SAC)

The Sanitation Action Center (SAC) is a telephone answering system with both automated and operator-assisted components. SAC pre-dated recycling, but BWPRR expanded it greatly in 1993 to better promote the citywide recycling program. The system enables New Yorkers to get 24-hour automated information about recycling and other Department of Sanitation programs. Operators are available to assist callers during weekday business hours. Since July 1994, SAC has maintained a language line that allows callers to converse in their choice of 140 languages.

Recycling information available through SAC includes the following:

- Recycling collection schedules for any street address, including special holiday pick-ups.
- What materials to recycle.
- What kinds of recycling containers are allowed and how to place material at the curb for collection.
- Availability of decals, posters, and assorted literature.
- Recycling requirements for residents, businesses, schools, non-profit institutions, and City agencies.
- Composting information.
- Waste prevention information.
- Seasonal program information, such as Fall leaf and Christmas tree collection.



The SAC system is continually updated to keep the information current. On average, SAC receives about 7,000 recycling calls each month. In response, about 22,000 pieces of information — including decals, posters, flyers, and brochures — are sent to NYC residents. The SAC phone number (212-219-8090) appears in nearly all of BWPRR's printed materials and advertising campaigns.

Yellow Pages Directories

Since 1992, recycling information has been featured in NYC's Yellow Pages directories. Each borough phone book includes a map, holiday schedule, and information on what, how, and when to recycle. Waste prevention



information was added to all books in 1993, information in Spanish was added to the Bronx book in 1994, and a Chinese Yellow Pages was introduced in 1997. The cover of each directory indicates that recycling information can be found inside. Currently,

the pages are in the back, right before the zip code map. Commercial recycling information has been included in the Business-to-Business Yellow Pages since 1994.

Sanitation Website

Since mid-1997, the Department has had a presence on the World Wide Web, through the DOS website: www.ci.nyc.ny.us/strongest. Connected to official NYC sites, the DOS home page provides a gateway to a full range of information about recycling, composting, and waste prevention in New York City.

Once recycling is chosen on the Department's home page, the viewer can choose from one of seven related topics:

- A general introduction to recycling in NYC
- Residential information
- Commercial information
- School/Institutional information
- Composting
- Waste prevention
- What happens to recyclables

Within each topic, there are subtopics, which allow users to download formatted brochures and videos. The school section contains two web games (one for grades K-6 and the other for teenagers) that teach users about recycling. Also, a special system was developed by BWPRR that provides collection schedule information according to address. NYC residents simply type in their house number and street, and select their borough, and the program tells them their recycling and garbage collection days. As general web access and use grows, the Department's site will become an increasingly important center for efficiently and cost-effectively dispensing large volumes of information (without any paper waste!).



PART 7: MARKET RESEARCH

Beginning in the Fall of 1995, the Department secured funding for market research. A professional market research firm, under contract with DOS, conducted focus groups and surveys to assess what New Yorkers know and think about recycling, waste prevention, and related topics. Research results helped shape more effective educational materials and advertising campaigns.

The Department is preparing a separate report that summarizes the large amount of data generated by the market research and details the many findings.¹² This section simply summarizes the topics covered and types of research conducted; it does not draw general conclusions. However, for the baseline, benchmark, and follow-up recycling studies, a few key findings are noted.

Baseline Research on Recycling, Fall 1995

In Fall 1995, when the recycling program began its mixed paper expansion, the Department conducted baseline market research to gain an accurate understanding of recycling attitudes and behavior among NYC residents. The information was used to decide the focus of the citywide advertising campaign that began when all five boroughs were part of the program.

Telephone surveys focused on respondents':

- Overall approval of the recycling program and its perceived benefits and/or disadvantages
- Beliefs about why recycling is required in NYC
- Experience complying with program requirements
- Opinions about enforcement under the recycling law
- Knowledge of materials or items accepted under the 1995 program

The telephone survey questionnaire was administered to 800 NYC residents; 500 were from the general population, while 200 were Spanish-speaking and 100 were Housing Authority residents. To be selected, respondents had to be between the

ages of 25 and 64, personally involved in decisions of which items to recycle, and residing in a home that was currently recycling. Further screening ensured that those chosen were, as a group, representative of the NYC population with respect to age, income, and sex, and reflected a variety of recycling attitudes and behaviors.

The research revealed that the majority of respondents viewed the recycling program positively. Most also believed that recycling had been initiated in NYC for environmental reasons — to protect natural resources, reduce landfills, and keep neighborhoods clean. Many respondents were aware that recycling is mandatory; they most commonly cited tickets and fines as the perceived consequences of noncompliance, though a fair portion thought that no action would result if they failed to recycle or recycled improperly. The roughly one-third of participants who rated the program negatively cited lack of citizen compliance and enforcement problems as their most common reasons.

The research also revealed a gap between residents' assessments of their own knowledge about the program and their knowledge when directly tested. The majority of respondents rated themselves as extremely or very knowledgeable about recycling. While over 80% of all respondents — regardless of how they assessed their own knowledge — did correctly identify the major categories of recyclable materials, there was a tendency to be over-inclusive about which items were accepted under the program. Roughly half incorrectly identified one or more items as recyclable that were not part of the program in 1995.

Additional Studies by Subject, 1996-1998

Textile Recycling, Spring 1996

A telephone survey interviewed 150 Park Slope residents that had participated in the textile recycling pilot program from March 1993 through 1995.

Expansion Follow-Up, Spring and Summer 1996

The Department conducted random telephone surveys with residents in Staten Island and the Bronx six

weeks after their recycling programs expanded to include mixed paper, beverage cartons, and household and bulk metal. Of the two hundred calls made in Staten Island, only 2% were terminated due to lack of awareness of the program expansion. Out of three hundred calls made in the Bronx, 7% were terminated because of lack of awareness of the expansion. The Bronx calls included 50 to Spanish-speaking residents and 50 to Housing Authority residents.

School Recycling, Spring 1996

The Department conducted 10 focus groups to obtain information on how to help bring City schools into recycling compliance. Six groups were comprised of teachers and four were principals and assistant principals. Participants represented all five boroughs and public school levels (grades K through 12).

Sanitation Route Workers, Spring 1996

Five focus groups, one from each borough, were conducted with Sanitation employees assigned to recycling collection trucks. Workers were recruited voluntarily, through a request from the First Deputy Commissioner, and sessions were held after work hours. They discussed their assessments of program understanding and participation by residents, program compliance, and enforcement. The focus group participants were assured that their responses would not be used in any job evaluation.

Waste Prevention, Spring 1996

The Department held a series of eight focus groups, followed by a telephone survey, to gain insight into the public's perception of waste prevention. Efforts were made to balance participants by borough, building size, and family size. Further effort was made to choose participants who would, overall, reflect the diversity of NYC in terms of ethnic background, age, and income. The focus group results were used to design a survey on waste prevention understanding and practices. A total of 800 interviews were conducted, based on random selection from subgroups: 100 from each borough; 200 Spanish-speakers from the Bronx, Brooklyn, Manhattan, and Queens (50 each); and 100 Housing Authority residents.

Recycling And Waste Prevention in the Chinese Community, Summer 1997

To measure the level of awareness of recycling and waste prevention in the Chinese American community, the Department held two focus groups and then conducted a telephone survey. The focus groups were comprised of community leaders and people in community-related jobs in the Manhattan and Flushing Chinatown areas. Participants were recruited from lists of church and political leaders, school principals, business professionals, and members of civic associations. The resulting telephone survey was conducted in Chinese with 200 respondents, half in Flushing and half in Manhattan.

Backyard Composting, Summer/Fall 1997 and Spring 1998

As part of a campaign to develop, implement, and then assess a Backyard Composting Pilot Program, the Department conducted a series of market research segments.

Summer 1997

For the first segment, 14 different focus groups were convened to gauge general receptivity to programs that involve the composting of food and yard waste. There were four groups of residents, all from Park Slope (the site of the Intensive Recycling Zone), balanced to include those who had reported both positive and negative experiences with composting. Two groups were composed of building superintendents, selected to represent a variety of sizes and types of apartment buildings, condominiums, and co-ops throughout the five boroughs. Further research was then conducted among eight groups recruited from the general public, screened to reflect the diverse incomes, ethnic groups, dwelling types, and household sizes throughout the five boroughs.

The focus group responses helped the Department prepare a telephone survey that was administered to 800 New Yorkers: 100 from each borough (who were representative of the City's overall population in terms of dwelling type, household size, income,

gender, and ethnicity), 100 Housing Authority residents, and 200 Spanish-speaking New Yorkers.

Fall 1997

Participants in the Department's voluntary Backyard Composting Pilot program, which began in mid-1997, were brought together in focus groups with randomly selected NYC residents who lived in homes with backyards. The purpose was to compare the opinions of those who had joined the program with those of nonparticipants.

Spring 1998

The Department conducted additional market research, involving both participants (volunteers) and nonparticipants (nonvolunteers) in the composting pilot program, to learn about the successes and failures of program recruitment, as well as to understand residents' attitudes about composting. This segment included focus group interviews with nonvolunteers and then a telephone survey of both volunteers and nonvolunteers.

User Based Fees, Summer 1997

Questions soliciting attitudes about quantity-based user fees (QBUFs) were included in the Summer 1997 backyard composting focus groups and survey (see above). QBUFs are charges that could be applied to residents, agencies, institutions, or their landlords to pay for garbage removal. This issue was explored because other municipalities encourage recycling by setting fees based on the quantity of garbage removed, excluding recyclables from the fee base.

Benchmark and Follow-up Research on Recycling, Fall 1997 and Summer 1998

In Fall 1997, after the second-round expansion of the City's recycling program was completed in all boroughs, a telephone survey was conducted on a random sampling of 1,050 New Yorkers. The following Summer, the same survey was repeated. This research measured attitudes towards recycling at two important junctures — just after the citywide expansion when a new advertising campaign had started; and after the program expansion and

advertising had been in force for over six months. The selection methods were the same as those used in the 1995 Baseline study.

The survey focused on:

- Rating the program
- Knowledge of items accepted for recycling
- Awareness of program literature and advertising
- Current practices and attitudes towards recycling
- Perception of the changes in the program
- Perceived benefits and hindrances of the expanded program
- General compliance efforts

Findings revealed that, in general, residents continue to rate the program quite positively, mainly because they see its environmental benefits to their neighborhood and immediate surroundings. There is also enthusiasm for the wider variety of materials accepted under the expanded program and the fact that most New Yorkers are perceived as participating in this civic effort. Residents also are aware that there have been significant changes to the program and overwhelmingly consider these to be for the better. In particular, residents increasingly believe that program changes have improved their own household recycling rate.

The advertising campaigns have had an impact upon New Yorkers, as they reported an awareness of the cartoon characters as well as recycling information on TV, subway and outdoor posters, and other media outlets. As in 1995, residents continued to rate their knowledge of the program as very high and reported little confusion or questions. When their knowledge was directly tested however, nearly all correctly identified the recyclable items, but incorrectly labeled a number of nondesignated materials as recyclable. In addition, the study's measures of recycling compliance showed that about half of the residents were using a two-bin system and most were rinsing recyclables before placing them out for collection.

As part of a larger effort to better understand and increase diversion rates in the lower-performing

districts (see Part 3), the Department administered its Benchmark/Follow-Up survey to 1,150 people in the 23 community districts whose diversion rates as of September 1997 were 12% or less. This study enables the Department to compare findings between high- and low-diversion rate districts and track results over time.

WHAT WE'VE LEARNED

Since the beginning of the recycling program in 1986, the Department has learned a great deal about implementing an ambitious and complicated program in a large, demographically diverse municipality. Not only did BWPRR have to find effective ways to communicate a constantly changing, complex, and confusing message, but we had to motivate behavioral changes that require some thought and a little extra work.

In New York City, there are language and cultural barriers, space constraints, and social and economic problems. In addition, there exists the universal traits of forgetfulness, resistance to change, difficulty in breaking old habits, the avoidance of anything that seems inconvenient, and the feeling that one's little bit really will not matter. Some of these hindrances are easier to address than others, but all require much research, planning, staffing, funding, experience, creativity, patience, and hard work.

To address the language and cultural barriers, BWPRR worked with consultants and community representatives to find out how to most effectively reach different ethnic groups. The Department translated materials into more than nine languages, including Spanish, Chinese, Korean, Russian, Polish, French Creole, Greek, Hebrew, and Yiddish. The Sanitation Action Center installed a language line that enabled callers to converse in their choice of 140 languages. BWPRR staff has included outreach workers fluent in Spanish, Chinese, and Korean that translated materials, managed special projects and events, attended meetings, and worked closely with community groups. DOS contracted with foreign language translators, enlisted the help of a Spanish advertising agency, and worked with the Mayor's Office of Immigrant Affairs and Language Services to provide comprehensive outreach.

Apartment living poses its own problems. Most residents and buildings have little space to sort and store recyclables before placing them out for pick-up. The Department has helped with this problem in

several ways: 1) residents only separate two waste streams — beverage cartons, metal, glass, and plastic are collected mixed together and all paper is collected mixed together; 2) plastic bottles and metal cans can be crushed to save space; 3) buildings with large amounts of recyclables can use dumpsters, instead of maintaining a fleet of separate curbside containers; and 4) all of NYC will receive weekly collection by Spring 2000.

The advertising campaigns were created to appeal to all New Yorkers. For example, the cartoon characters have universal appeal; they can communicate in any language. They also communicate without language, as their pictures tell the story. The people portrayed in our advertising, both real and imaginary, were as ethnically diverse as the City's population. Special consideration was also given to low-diversion rate neighborhoods. Typically, these are low income, high-density areas. The Department has provided intensive outreach efforts in these neighborhoods, including site visits, targeted advertising campaigns, and special events.

The key to successful advertising lies not only in its appeal, but also in its clear and appropriate message, visibility, and consistency. The Department was able to develop and execute comprehensive and highly effective campaigns with the help of a full-service ad agency, sufficient funding, and the expansion of the recycling program to include the same materials in all five boroughs. The market research conducted was invaluable in assessing the impact of the advertising on residents' perceptions and behavior, as well as in shaping the creative direction of the subsequent campaigns. Currently, the Department adds new creative components to existing campaigns, which reinforces previous messages and boosts recognition (and saves money!). It is important that messages are planted and then reinforced over time.

THE CHALLENGES AHEAD

Though focus groups have reported overall positive feelings about the recycling program and demonstrated substantial knowledge of what, when, and how to recycle, the citywide household recycling rate hovers at around 20%. This falls short of the City's goal of 25% (as set forth in Local Law 19 in 1989) and the statewide goal of 25% to 40%. This means that even though New Yorkers have been effectively educated about recycling, they are still not participating enough.

It is a tremendous undertaking to change people's day-to-day waste disposal habits. This is evident not only in New York, but all across the United States. In fact, New Yorkers recycle at rates that compare favorably to the country as a whole. This is especially significant when considering the pricing incentives used by less dense and diverse cities to reinforce their programs.

New York City's two main challenges are: 1) substantially increasing recycling participation in low-diversion rate districts, where there are many more pressing issues other than recycling and 2) increasing participation in the high-diversion rate districts, where residents feel they are already recycling enough.

Assuming the appropriate level of political support, these challenges must be addressed in several ways, and may include some or all of the following:

- Keep educating residents.
- Continue producing citywide media campaigns. They provide effective, visible reminders that recycling is a daily part of life.
- Produce literature to support and supplement media campaigns.
- Use direct mail to notify residents of program changes or to remind them of program requirements. It is the most efficient way to reach every household.
- Continue to maximize outreach staff. Disseminate information via telephone, correspondence, community groups, special events, and on-site assistance. Enlist the aid of community leaders and organizations.
- Plan and execute special events. The successes of the superintendents' seminars and other community-based events prove their effectiveness in reaching specific groups.
- Capitalize on resources, such as the Sanitation Action Center, fulfillment operations, and the internet.
- Increase compliance in City agencies and institutions. Also, ensure implementation of waste prevention initiatives. It is important for these facilities to set a good example for the public.
- Increase compliance in schools. (This cannot be done without the support of the Board of Education.)
- Conduct market research on a regular basis. This invaluable tool dramatically increases the effectiveness of public education. It lets us know people's recycling attitudes, knowledge, areas of confusion, and their response to our educational materials. Focus groups help us shape the creative development of our ad campaigns and serve as test groups for new ads before they are produced.
- Conduct waste assessments to determine what is really being discarded and recycled.
- Set up pilot programs, as needed, to test the feasibility and means of collecting new materials.
- As resale markets develop, and where feasible, collect additional items for recycling.
- Implement program changes uniformly, citywide. This will maximize resources and funding, and minimize confusion.
- Increase enforcement of recycling regulations. Consistently ticket apartment buildings where too many recyclables are put in the trash. Find ways to

hold tenants accountable and institute measures such as including recycling requirements in leases. Work with elected officials and building management companies to isolate problems and formulate solutions.

- Reduce garbage collection and increase recycling collection, with the intent of increasing participation and reducing costs. This would especially make sense for public schools since they receive, on average, seven garbage collections each week (five of their own and two that serve the surrounding neighborhood).
- Charge residents directly for garbage removal.

As the Fresh Kills landfill nears closure and garbage export costs escalate, it is more important than ever to support recycling in New York City and maximize program participation. After more than a decade streamlining and fine-tuning program operations, outreach, and education, the Department has learned much from its progress and is ready to meet the solid waste management challenges ahead. Running the largest and most ambitious recycling program in the nation is quite an accomplishment. But, remember, without New Yorkers' help, it's all just trash.

APPENDIX 1: DEMOGRAPHIC CHARACTERISTICS AND DIVERSION RATES, BY BOROUGH AND COMMUNITY DISTRICT

POPULATION		EDUCATION	INCOME		HOUSING				ETHNICITY					DIVERSION		
			(1994)		% of Structures with:											
CD		HIGH SCHOOL GRADUATES	MEDIAN INCOME	RECEIVING SUPPORT	Total Housing Units	50 or More Units	1 & 2 Family Units	NYCHA SITES	NYCHA UNITS	ETHNICITY WHITE	BLACK	HISP	ASIAN	OTHER	JUNE: 1998	1999
MANHATTAN 1,487,536																
M 1	25,227	88.2%	\$47,445	33.5%	785,127	53.0%	1.8%	0	0	71%	10%	9%	10%	-	31.2%	31.1%
M 2	94,108	85.8%	\$39,592	6.7%	56,053	36.5%	2.4%	0	0	78%	3%	6%	12%	1%	30.1%	30.0%
M 3	161,822	53.9%	\$20,007	27.4%	68,849	38.3%	0.7%	12	13,344	29%	8%	32%	30%	1%	14.7%	16.8%
M 4	84,906	82.3%	\$30,450	21.7%	53,759	47.7%	0.9%	3	2,477	63%	8%	23%	5%	1%	24.4%	25.4%
M 5	43,528	89.6%	\$42,050	17.7%	30,436	73.2%	0.6%	0	0	75%	8%	10%	7%	-	25.3%	25.7%
M 6	133,196	92.6%	\$45,912	3.9%	92,829	75.4%	0.7%	0	0	81%	4%	7%	7%	1%	29.3%	30.6%
M 7	211,153	86.2%	\$40,852	11.8%	125,245	60.1%	0.6%	3	4,028	67%	11%	18%	4%	-	27.0%	26.9%
M 8	210,970	92.4%	\$53,000	3.8%	136,583	57.9%	1.2%	2	1,173	87%	3%	6%	4%	-	29.4%	30.9%
M 9	106,943	63.8%	\$20,775	33.8%	43,274	39.4%	1.4%	2	3,263	20%	39%	36%	4%	1%	14.8%	14.9%
M 10	99,183	55.8%	\$13,252	48.9%	47,054	50.4%	1.9%	6	7,519	2%	88%	10%	-	-	8.4%	9.7%
M 11	110,599	50.5%	\$14,882	46.8%	42,415	50.4%	0.8%	14	14,551	7%	39%	52%	1%	1%	9.0%	11.9%
M 12	198,159	54.0%	\$21,800	41.5%	72,553	41.9%	0.7%	5	1,951	19%	11%	67%	2%	1%	12.5%	15.6%
BRONX 1,203,789																
Bx 1	76,826	37.4%	\$9,725	60.5%	440,955	38.3%	4.1%	11	11,189	2%	31%	67%	-	-	8.4%	10.4%
Bx 2	39,708	36.3%	\$10,165	61.1%	12,688	14.4%	5.9%	0	0	1%	19%	79%	-	1%	9.9%	13.6%
Bx 3	57,058	44.5%	\$10,487	60.2%	19,584	42.3%	6.0%	7	4,894	1%	55%	43%	-	2%	6.8%	5.9%
Bx 4	119,471	49.3%	\$15,565	54.9%	41,427	47.9%	3.7%	2	1,543	2%	41%	54%	1%	2%	8.5%	10.2%
Bx 5	118,746	48.1%	\$14,605	55.8%	39,082	40.0%	4.5%	3	1,346	2%	38%	57%	2%	1%	10.5%	12.5%
Bx 6	68,031	42.5%	\$12,610	53.8%	23,024	24.0%	8.2%	1	531	14%	25%	59%	1%	1%	8.8%	10.0%
Bx 7	127,962	59.7%	\$22,790	38.4%	49,022	36.9%	4.8%	2	466	24%	17%	51%	7%	1%	16.7%	18.2%
Bx 8	96,923	75.4%	\$34,045	17.0%	42,269	64.2%	9.5%	1	1,682	59%	12%	24%	4%	1%	22.5%	24.7%
Bx 9	166,104	59.2%	\$24,440	33.7%	62,112	40.9%	20.3%	6	7,034	11%	31%	54%	3%	1%	10.9%	12.6%
Bx 10	98,028	70.5%	\$33,417	10.0%	41,737	38.9%	38.4%	1	1,185	67%	18%	14%	1%	-	22.6%	24.5%
Bx 11	97,863	66.3%	\$27,875	21.0%	40,739	30.5%	35.2%	3	2,556	60%	12%	24%	4%	-	21.0%	19.1%
Bx 12	130,451	68.1%	\$30,485	23.0%	46,899	15.8%	43.5%	4	4,092	19%	60%	18%	2%	1%	21.1%	21.8%
BROOKLYN 2,300,664																
Bk 1	153,951	48.0%	\$18,905	38.9%	873,671	20.7%	13.7%	8	6,539	46%	7%	44%	3%	-	13.4%	15.9%
Bk 2	95,090	75.0%	\$31,372	23.6%	42,789	32.3%	11.4%	4	5,191	32%	47%	17%	3%	1%	21.9%	23.7%
Bk 3	138,319	55.1%	\$17,210	44.3%	54,344	10.5%	22.1%	9	7,831	1%	82%	16%	-	1%	9.1%	11.2%
Bk 4	102,979	42.7%	\$16,285	48.2%	31,921	2.9%	22.1%	2	1,315	5%	25%	65%	4%	1%	10.8%	13.1%
Bk 5	161,306	53.3%	\$20,682	42.0%	51,558	24.2%	36.0%	7	7,168	9%	48%	38%	3%	2%	12.3%	14.1%
Bk 6	102,523	73.4%	\$33,897	21.1%	46,742	6.6%	20.2%	4	4,545	55%	16%	25%	3%	1%	25.9%	26.7%
Bk 7	102,697	56.7%	\$25,875	32.1%	37,187	6.2%	37.2%	0	0	34%	4%	51%	10%	1%	18.5%	24.1%
Bk 8	96,878	60.5%	\$21,295	34.5%	38,125	14.5%	15.7%	2	2,395	5%	83%	10%	1%	1%	11.2%	14.5%
Bk 9	110,822	66.5%	\$25,855	25.1%	37,556	34.7%	20.4%	1	230	11%	78%	9%	1%	1%	11.8%	13.7%
Bk 10	109,915	71.8%	\$32,112	12.3%	51,474	22.0%	38.9%	0	0	84%	1%	7%	7%	1%	25.9%	26.5%
Bk 11	149,860	61.0%	\$27,125	20.6%	61,654	10.0%	40.9%	0	0	80%	-	8%	11%	1%	20.9%	23.3%

APPENDIX 1 (cont'd)

POPULATION		EDUCATION	INCOME		HOUSING						ETHNICITY				DIVERSION	
CD	HIGH SCHOOL GRADUATES	(1994) MEDIAN INCOME RECEIVING SUPPORT	% of Structures with: Total Housing Units						ETHNICITY				JUNE: 1998	1999		
			50 or More Units	1 & 2 Family Units	NYCHA SITES	NYCHA UNITS	WHITE	BLACK	HISP	ASIAN	OTHER					
BROOKLYN		2,300,664	873,671	20.7%	36.1%	0	0	74%	3%	14%	9%	-	17.6%	19.6%		
Bk 12	160,164	\$25,817	57,288	15.8%	15.1%	7	5,854	57%	20%	17%	6%	-	14.7%	16.5%		
Bk 13	102,204	\$18,350	43,889	62.2%	19.8%	0	0	38%	40%	14%	7%	1%	14.5%	16.6%		
Bk 14	160,961	\$27,620	58,726	39.9%	43.8%	2	2,204	84%	2%	6%	7%	1%	20.4%	23.3%		
Bk 15	144,083	\$31,272	62,101	28.4%	18.1%	13	7,941	1%	81%	17%	-	1%	8.4%	10.1%		
Bk 16	85,252	\$15,042	28,485	31.6%	36.7%	0	0	3%	88%	7%	1%	1%	11.9%	14.6%		
Bk 17	161,163	\$30,367	53,607	14.3%	72.5%	3	4,393	70%	19%	7%	4%	-	20.3%	21.7%		
Bk 18	162,497	\$37,982	60,931	7.1%												
QUEENS		1,951,598	752,690	22.0%	25.5%	5	7,776	54%	11%	16%	9%	-	21.3%	22.0%		
Q 1	189,007	\$27,237	74,542	10.3%	22.9%	0	0	46%	2%	31%	21%	-	20.1%	24.0%		
Q 2	95,391	\$29,065	39,736	28.2%	33.7%	0	0	28%	15%	44%	12%	1%	15.1%	17.3%		
Q 3	128,359	\$31,357	48,986	29.1%	24.2%	0	0	19%	10%	42%	28%	1%	15.6%	18.3%		
Q 4	136,776	\$30,112	48,234	38.0%	57.5%	0	0	80%	-	14%	5%	1%	25.7%	26.9%		
Q 5	147,817	\$31,320	62,178	1.1%	18.9%	1	430	75%	2%	9%	13%	1%	23.3%	23.3%		
Q 6	106,955	\$35,910	54,588	64.5%	44.5%	3	906	68%	4%	15%	12%	1%	24.0%	24.1%		
Q 7	221,832	\$36,000	87,103	29.6%	42.3%	1	2,071	59%	12%	14%	14%	1%	19.4%	19.6%		
Q 8	130,663	\$38,880	53,582	22.2%	56.5%	0	0	59%	7%	24%	9%	1%	18.6%	20.1%		
Q 9	112,014	\$35,460	43,164	17.4%	76.6%	0	0	54%	20%	18%	6%	2%	18.3%	19.4%		
Q 10	107,068	\$38,980	37,105	5.4%	69.6%	0	0	77%	2%	7%	13%	1%	23.6%	23.8%		
Q 11	108,059	\$46,120	43,270	4.5%	53.9%	4	1,809	4%	77%	13%	4%	2%	13.1%	14.7%		
Q 12	202,126	\$32,417	64,540	20.7%	85.0%	0	0	34%	49%	10%	6%	1%	17.2%	18.6%		
Q 13	178,968	\$46,000	57,292	4.4%				44%	39%	15%	1%	1%	14.2%	16.8%		
Q 14	100,679	\$26,342	38,364	34.8%	40.4%	6	4,013									
STATEN ISLAND		378,977	139,726	7.7%	66.7%	7	3,440	65%	18%	12%	4%	1%	21.4%	20.5%		
SI 1	137,978	\$36,567	54,163	14.7%	80.6%	3	1,430	85%	2%	6%	7%	-	20.5%	21.1%		
SI 2	113,848	\$44,755	42,033	4.4%	90.8%	0	0	91%	1%	5%	3%	-	21.5%	21.7%		
SI 3	126,836	\$51,340	43,425	2.2%												
Average by district:		66.3%	50,715	30.3%	27.3%	3	2,751	42%	26%	25%	7%	1%	17.7%	19.2%		
Citywide rate:													17.0%	18.3%		

Notes:

Population, Education, Median Income, Housing Units, and Ethnicity data from 1990 Census.

Diversion rates from DOS, Operations Management Division, Bureau of Planning and Budget.

District and borough diversion rates exclude impact of large apartment complexes, including many NYCHA sites, where recyclables are collected through containerized service. In June 1998, the citywide diversion rate without these sites was 18.3% (with these sites it was 17.0%). In June 1999, the citywide rate without these sites was 19.8% (18.3% with them).

APPENDIX 2: CURRENT BWPRR PUBLIC EDUCATION MATERIALS

Decals

- Green Decal (to designate containers for mixed-paper recycling)
- Blue Decal (to designate containers for recycling beverage cartons, bottles, cans, metal, and aluminum foil products)
- Area Decal (to designate a recycling area)

Residential Information

- Recycling Checklist Flyer (English/Spanish, English/Chinese, English/Russian)
- Recycling Instructions Flyer (English, Spanish, Chinese, Korean, Russian, Greek, French Creole, Polish)
- Recycling Mini-Flyer (English/Spanish)
- Building Superintendents Handbook (English/Spanish)
- The Recycling Loop: What Happens to My Recyclables?
- Building Poster (English/Spanish, English/Chinese, English/Russian)
- About Plastics/Buy Recycled Flyer

Waste Prevention

(see also Commercial Information)

- How to Stop the Junk Mail Bandit postcard (English/Spanish)
- How to Stop the Junk Mail Bandit postcard display (for post offices, libraries, etc.)
- Safeguard Your Home from Harmful Products Brochure
- The DOS Guide to Reuse in NYC
- NYC Waste Reduction Handbook
- Waste Prevention in NYC Office Buildings and Institutions: Three Case Studies
- The NYC Guide to Hotel Waste Prevention

City Agencies

- Guide to Preventing Waste in NYC Government Agencies
- Office White Paper Recycling Program (flyer and poster)
- How to Copy Double-Sided (copy room poster)

School Information

- School Recycling Handbook
- School Recycling Instructions (flyer and poster)
- Laminated School Kitchen Poster
- K-6 Classroom Poster
- 7-12 Classroom Poster
- Recycling Checklist Poster (poster version of residential checklist flyer)
- School Blue Decals (to designate containers for recycling beverage cartons, bottles, cans, metal, and aluminum foil products)
- School Green Decals (for mixed paper recycling)

Commercial Information

- Commercial Recycling Handbook
- How to Start an Office Paper Recycling Program
- How to Recycle or Reuse Almost Anything
- The Business Guide to Buying Recycled Paper and Other Recycled Products
- It Makes Business Cents to Prevent Waste—A Business Guide to Waste Prevention
- Public Space Recycling for Businesses
- A Guide to Mandatory Recycling at NYC Street Fairs

Composting Information

- Leave It On The Lawn! (information on grass recycling and mulching)
- The Urban Home Composting Guide

Recycling Videos

- Recycling in 1- and 2-Family Homes
- Recycling in Apartment Buildings (also in Spanish)
- What Happens to Your Recyclables?
- Recycling at School for Administrators, Faculty and Staff
- Recycling at School, Grades K-6
- Recycling at School, Grades 7-12
- Recycling for Businesses
- Recycling in Institutions
- Home Composting
- Institutional Composting

APPENDIX 3: MEDIA OUTLETS AND SELECT SAMPLES FOR CITYWIDE RECYCLING ADVERTISING CAMPAIGNS

(campaigns are not shown in their entirety)

Milestones Campaign (May – June 1993)

Print:

Amsterdam News	City Sun	Daily News
El Diario	El Especial	NY Post
NY Times	NY Times Magazine	New York Magazine
New York Observer	Newsday	Newsweek
The New Yorker	Noticias del Mundo	People
Playbill	Rolling Stone	SI Advance
Stagebill	Time	Thirteen
Village Voice		

also Tennis Magazine – US Open Program (August 1993)



Blue Bag Campaign (June 1993)

Print:

Bronx Press Review	Bronx Times Reporter	Brooklyn Journal Pubs
Brooklyn Paper Pubs	Courier Life Pubs	Daily Challenge Group
Daily News	Enlightenment Press	Good Fortune
Greenline	Greenpoint Gazette	Haggedorn Newspapers
Home Reporter Group	NY Post	NY Press
NY Times	News Communications	Newsday
Noticias del Mundo	Norwood News	Resident Newspapers
Riverdale Press	The Villager	

**The NYC Department of Sanitation
Bureau of Waste Prevention, Reuse and Recycling
would like to thank the following stores
for showing their support of recycle in New York City
by stocking blue recycling bags.**

Manhattan	Brooklyn	Queens	All locations of these approximate stores
Cityline	Fresh Fruit Grocery	751 14th Ave.	Green
East Village	Lane Store Grocery	152 First Ave.	G-Town
	Mimi's Bakery	173 East 2nd Street	(Taj Mahal)
St. George	St. Nicholas Grocery	9541 22 Hudson Ave.	Food Emporium
Harlem	Spiced Grocery	2241 7th Ave.	General Trading
Lower East Side	Eden's Grocery	133 Broadway St.	Green Union
	Green's Supermarket	66 7th Street	Scholar's
Midtownville	Quaker's Grocery	338 West 145th St.	Key Foods
Midtown	Shaker Candy Corner	50 Duane St.	Max Food
Washington Hts.	2857 Corp.	2857 10th Ave.	Pathmark
	St. Nick's	3750 Broadway	Produce
	Family Grocery	338 W. 105th St.	Real Apple
	Fresh Market	1543 Amsterdam Ave.	Shady
	La Min Grocery	3425 Broadway	
	La Palma Grocery	3385 Amsterdam Ave.	
	Mimi's Grocery	311 10th Ave.	

**All Manhattan, Bronx, Brooklyn, and Staten Island residents now recycle.
All Queens residents start September 13.**

Buildings receiving curbside recycling pick-up may use either blue recycling bags or containers designated for recycling to place out their plastic bottles and jars, glass bottles and jars, metal cans, and aluminum foil wrap and trays. Newspapers, magazines, phone books, and flattened corrugated cardboard should be tied together in bundles up to 18 inches high.

© 1993 New York City Department of Sanitation
Reprinted with permission from the Department of Sanitation
All rights reserved. No part of this publication may be reproduced without written permission from the Department of Sanitation.

**Help Us Recycle
New York's Future
Recycle, Reuse, Recycle**

Television:

WNJU (Spanish)

New York City Recycles Campaign

Outdoor (April – June 1993):

Bus (inside); Subway (inside)

Television (May – June 1993):

Cablevision	NY 1	WCBS
WNBC	WNJU (Spanish)	WNYW
WPIX (Spanish)	WWOR	WXTV (Spanish)

Outdoor (July – October 1993):

Billboards	Bus (inside and outside)	Bus Shelters
Street Blimps	Subway (inside)	Subway Platforms

also Check Cashing Locations (September 1993 – August 1994)



Reduce, Reuse, Recycle Campaign

Outdoor (July – August 1993):

Bus (inside and outside); Subway (inside)



Radio (November 1993 – May 1994):

WFAN-Dunk of the Game

Spring Recycling Enforcement Campaign (May – June 1995)

Print:

Amsterdam News	Brooklyn Paper Pubs	Caribbean News
City Sun	Community Pubs	Courier Life Pubs
Crains NY Business	Daily News	El Diario
El Especial	Jewish Week	The Jewish Press
Korea News	Las Noticias	NY Co-op
NY Post	NY Newsday	NY Times
Queens Chronicle	Real Estate News	Real Estate Weekly
SI Advance	Village Voice	World Journal

NYC Residents, Landlords, and Businesses

We Want You To Recycle

We gave you recycling brochures, refrigerator magnets, and posters — mailed to every resident and landlord — explaining what, how, and when to recycle.

We gave free seminars to help set up recycling systems in apartment buildings and businesses.

We gave you advertisements in newspapers, every subway station, on billboards, sides of buses, bus shelters, street facades, radio and TV.

We gave you a hotline to call for information or free literature.

We gave you free residential decals to designate a container for recycling, and to label your building's Recycling Area.

We gave you free posters for your lobby or refrigerator.

We gave you educational warnings since recycling began.

But just in case you still don't get it:

NOW WE'RE GIVING YOU TICKETS

Recycling is the law in New York City. Fines for non-compliance with Department of Sanitation recycling regulations start at \$35 and can escalate to \$900 per violation.

For more information or free literature, call the Sanitation Action Center at **(212) 219-8080**

TAM to 6PM Monday - Friday
8AM to 4PM Saturday

City of New York, Building & Housing, Mayor
Department of Sanitation, John J. Sabatelli, Commissioner

Help Reduce New York's Waste. Reduce, Reuse, Recycle.

Radio:

WADO-AM	WBLS-FM	WCBS-AM
WCBS-FM	WINS-AM	WLIB-AM
WLTW-FM	WMXV-FM	WNCY-AM/FM
WPAT-AM/FM	WQCD-FM	WQHT-FM
WRKS-FM	WSKQ-FM	WWRL-AM

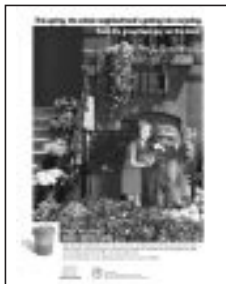
Celebrity and Groups Campaign

Print (May – June 1996):

Amsterdam News
Co-op City News
Courier Life Pubs
Jewish Week
NY Post
Newsday-Queens
Riverdale Press
SI Register/Pennysaver

The Bronx News
Brooklyn Paper Pubs
Courier Life: Caribb. Life
Mark 1 Pubs
NY Times
Parkchester
Riverdale Review
Time Out NY

Bronx Press Review
Caribbean News
Jewish Press
NY Daily News
News Communications
Resident Pubs
SI Advance
Village Voice



Television (June; August – September 1997):

WABC
WNYW
CNN
Galavision
Sports Package

WCBS
WPIX
BET
Lifetime
USA

WNBC
WWOR
ESPN
MTV

also NY 1 News: Rail & Road Sponsorship



Animation Campaign (Fall 1997)

– same creative used for print and outdoor –



Print:

Amsterdam News
Brooklyn Paper Pubs
Caribbean News
El Diario
Irish Voice
Korea News
News Communications
NY Post
Parkchester News
Queens Times/Ledger
Resident Pubs
SI Register/Pennysaver
Village Voice
World Journal

The Bronx News
Brooklyn Skyline
Co-op City News
El Especial
Jewish Press
La Voz Hispana
Norwood News
NY Press
Queens Chronicle
Queens Tribune
Riverdale Press
Time Out
Villager

Bronx Press Review
Caribbean Life
Courier Life Group
Irish Echo
Jewish Week
Las Noticias del Mundo
NY Daily News
NY Times
Queens Resident
Real Estate Weekly
SI Advance
Town & Village
The Wave

Outdoor:

Bus Shelters

Radio:

WBLS-FM
WQCD-FM
WSKQ-FM

WINS-AM
WQHT-FM

WKTU-FM
WRKS-FM

also traffic sponsorships on Shadow Traffic, Metro Networks/Metro Traffic

Television:

WABC
WNYW
WWOR
CNN
Lifetime
Nick at Nite

WCBS
WPIX
WXTV (Spanish)
ESPN
MTV
USA

WNBC
WNJU (Spanish)
BET
Galavision
NY 1 News



Animation Campaign (Spring 1998)

– same creative as Fall 1997 with additional outdoor ads –

Print:

Amsterdam News	The Bronx News	Brooklyn Paper Pubs
Caribbean Life	Caribbean News	City Family
Courier Life Group	El Diario	El Especial
Irish Echo	Irish Voice	Jewish Press
Jewish Week	Jewish World	La Voz Hispana
Las Noticias del Mundo	NY Cooperator	NY Daily News
NY Habitat	NY Post	Queens Chronicle
Queens Resident	Queens Times/Ledger	Queens Tribune
Real Estate Weekly	The Wave	

Outdoor:

Bus Shelters	Subway (brand train)	Storefront Posters
--------------	----------------------	--------------------



Radio:

WBLS-FM	WINS-AM	WKTU-FM
WLTW-FM	WPAT-FM	WQCD-FM
WQHT-FM	WRKS-FM	WSKU-FM

also WEVD-FM trade sponsorship: Real Estate Nightmares

Television:

WABC
WNYW
WWOR
Discovery
MTV

WCBS
WPIX
WXTV (Spanish)
ESPN
Nick at Nite

WNBC
WNJU (Spanish)
BET
Lifetime
USA



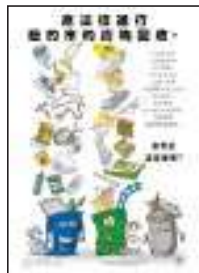
Animation 2 (Fall 1998)

Outdoor:

Phone Kiosks

Storefront Posters

Subway (brand trains)



Radio:

WCAA/WADO – Spanish radio promotion

Television:

Fox/5
WB/11
WNJU (Spanish)

UPN/9
WCBS
WXTV (Spanish)

WABC
WNBC
NY1 News

also Global Media: NYC Marathon outdoor screens

Animation 3 (Spring 1999)

Print:

Daily News Viva
NY Post
Noticias del Mundo
NY Habitat

El Diario
NY Times
SI Advance
Real Estate Weekly

NY Daily News
Newsday
NY Cooperator

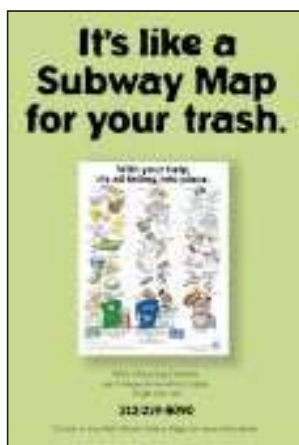


Outdoor:

Phone Kiosks
Subway (brand trains)

Mall Kiosks

Storefront Posters





Television:

WABC
WNJU (Spanish)
WPIX
WWOR
Comedy Central
Food Network
Lifetime
TLC
USA

WCBS
WNIZ
WPXN
A & E
Discovery
Fox
MSG
TNT

WNBC
WNYW
WXTV (Spanish)
CNN
ESPN
H & G TV
NY1
TBS

also Metro Family, Metro Gardening, and Metro School's Out sponsorship

ENDNOTES

¹ *Gotham, A History of New York City to 1898* (Edwin G. Burrows and Mike Wallace, Oxford University Press, New York: 1999).

² Residential Recycling Diversion Report for June 1999, Bureau of Planning and Budget, DOS.

³ A 1990 report from DOS's Office of Operations Planning, *New York City Recycles: Preliminary Recycling Plan FY 1991*, projected a need for as many as 10 MRFs, located throughout the City to minimize truck travel time, and recognized the siting challenges that this would entail. At the time, DOS was gaining direct experience with its own small MRF (the East Harlem Recycling Center), in use from 1988 through 1994, with day-to-day operations handled by a private contractor. The 1992 *Comprehensive Solid Waste Management Plan for New York City* (SWMP) set forth a near-term (3- to 5-year) reliance on private processing for the time needed to go through land use review procedures (ULURP) to site 5 or 6 MRFs, and then bid, design, and construct them (Chapters 3 and 19). Construction of the first MRF was expected to begin in FY 93 and be completed in 2 years; it was to be located in Staten Island, and built by the City but run under contract with a private processor. Subsequent delays with the SI MRF due to local siting objections, coupled with the development of a well-functioning private processing system, resulted in modifications, as submitted in the 1995 SWMP *Compliance Report*.

⁴ For example, in reviewing markets for recyclables for the first SWMP, DOS's contractor reported "limited productive capacity" and "weak end-product demand" for many of the materials that the City was beginning to collect curbside. For paper in particular, which was the largest part of the program, the 1990 estimates of the regional supply of used paper exceeded demand by a few million tons (*Markets for Recyclables*, SWMP Appendix Volume 3.1, Table 29).

⁵ US Census data reported in *The New York Times*, 3/18/98 ("Population of New York Rises Slightly").

⁶ 1990 US Census data, compiled in *Socioeconomic Profiles, A Portrait of New York City's Community Districts*, NYC Dept. of City Planning, DCP# 93-12, March 1993.

⁷ Chapter 2 of *Why Do We Recycle? Markets, Values, and Public Policy* (Frank Ackerman, Island Press, Washington, DC: 1997) summarizes and cites a number of recent studies of quantity-based disposal fees.

⁸ *Intensive Waste Prevention, Reuse, and Recycling Program Interim Report: March 1992*; NYC DOS, Recycling Programs & Planning Division. *Development of Innovative Procedures to Achieve High Rates of Recycling in Urban Low-Income Neighborhoods, Final Report*, CBNS, April 1992.

⁹ Findings from the mixed waste composition study are detailed in *Mixed Waste Processing in New York City: A Pilot Test Evaluation*, DOS, October 1999.

¹⁰ Ibid.

¹¹ *Backyard Composting in New York City: A Comprehensive Program Evaluation*, DOS, June 1999.

¹² *Recycling: What Do New Yorkers Think? Five Years of Market Research, 1995 – 1999*, DOS, Fall 1999.